

## CONTEMPORARY PROBLEMS IN THE SPACE ECONOMY

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**ABSTRACT.** The article provides a definition of the space economy, spatial organization and spatial order, and characterizes the main elements affecting the spatial organization of actively understood economic systems: 1) subjects of the space economy, 2) its targets, 3) its objects and 4) ways and means of its operation.

The aim of the study is a synthetic presentation of a conception and problems of Poland's space economy. Preliminary remarks will be followed by a discussion of the notions of the space economy and spatial order, and of main factors controlling the space economy.

Before the space economy is characterized, two points should be noted at the very start: 1) a bad state of Poland's space economy, and 2) its underestimation in the planning of the economy and material culture of the country.

There is a fairly wide-spread opinion about a bad, or even disastrous, state of the country's space economy. It is based on such facts as: an increasingly chaotic spatial development of the country, its regions and localities, a rapidly advancing deterioration of the environment, a colossal waste of natural resources, and an insufficient development of the technical infrastructure. The necessity to change this state of affairs means treating these problems as threats to the very being of society and hence as issues of much social significance (cf. Szczepański 1989).

One of the conditions of changes is the understanding of the character and role of the space economy in the socio-economic life of the country. This understanding seems to be poor, both in the social consciousness and among

economic decision-makers. This is so despite the growing ecological movement, which, however, is fairly one-sided and radical in its orientation.

The changes should be based on further, deeper studies of the space economy. The predominant approach to it is a multi-disciplinary one, embracing geographical, sociological, economic and town-planning investigations. Despite differences in the goals, assumptions and notional apparatuses, and partly also in methods, techniques and factographic bases, the results of these studies have helped to build a body of knowledge primarily fulfilling an informative function in solutions of various practical problems. Another approach, gaining in importance recently, is an inter-disciplinary one which has developed its own integrated subject matter and notional apparatus, and which has achieved conceptual unity of its research field (cf. Chojnicki 1990). This approach seeks to reveal mechanisms controlling the space economy. The present work adopts it to define conceptual foundations of the space economy.

## 1. The notion of the space economy

Let us first establish what the space economy is. This is a difficult task, usually passed over in considerations, or dismissed with the statement that it is e.g. the economy in a spatial approach, or the management of (or in) space, often without any further explanation.

Leaving various definitions out of consideration, we can risk the statement that the space economy is an activity organizing an economic system in space, or a spatial organization of this system. This is so because the economy can be understood either as an activity (management) or as its effects. Let us consider our definition in more detail.

1.1. Economic systems are parts, or subsystems, or global social systems which are territorial in character (the world, national, regional or local economies) (cf. Chojnicki 1988a, b). As any real system, they have their composition, surroundings, and structure.

The *composition* is the totality of human beings engaged in economic and extra-economic activities (consumers and producers), various economic units (family farms, enterprises and their associations), and goods produced.

The *internal surroundings* are the natural environment and artificial systems (facilities, buildings, machines, technical infrastructure). The *external surroundings* are other, territorially distinct, economic systems (the economies of other countries and regions) with which our system is connected, and other subsystems (political, cultural) of the given global social system.

The *structure*, in turn, is the whole of relations, or interactions, among the components of the system, and between them and the environment and

surroundings. These relations can be economic (production, services), ecological, social (management, communication), etc.

In economic systems there are also subsystems of special kinds of economic activity: industry, agriculture, services, trade, transport, etc.

1.2. Spatial organizing is an intentional and rational (i.e. following a plan) ordering of objects in a real spatial or spatio-temporal pattern. Thus, the spatial organizing of an economic system consists in the transformation of its spatial pattern, its distribution of people and economic units, the natural and artificial environments (the settlement network, technical infrastructure, etc.) and interactions among them. A proper spatial pattern of the system crucially determines its efficiency, its correct functioning through a network of connections among its elements, and its performance of specified economic functions.

The spatial organization of an economic system is functional in nature since it serves the accomplishment of specific goals, not solely economic, but also social, like living conditions and the quality of life.

The space economy, therefore, is not a special, distinct system, e.g. an economic spatial system.

1.3. Spatial organization determines the levels of systems. The structure of social reality and its components is a multi-level one. The territorial character of global social (and hence also economic) systems, which are manifestations of its spatial organization, makes those systems occur at various levels: global (world), international (supra-national), national, regional, and local. Without going into the question of the multi-level character of social reality, it should be noted that it is an expression of the processes of diversification and integration that are universal properties of the structure of the world.

1.4. Thus, spatial organization includes what we call "the management of space" and "management in space" (cf. Kukliński 1977). The management of space is the spatial organizing of the natural and artificial environments (resource management and land use). Management in space is the spatial organizing of a system's performance. Both these aspects determine each other, because there is feedback between them in which an important role is played by ecological factors.

A transformation of this pattern cannot rest on economic criteria alone, but must try to impose spatial order.

In order to realize what spatial organization is, it is enough to consider the way we arrange our dwellings, filling them with furniture and various utensils. We have a technical environment with specified dimensions, shapes and connections. What we want to have in our dwelling depends on its size: the

arrangement of the furniture, its size and number of pieces. The functionality of this arrangement influences interactions, and these determine the quality of life.

## 2. The notion of spatial order

The spatial, or spatial-ecological, order of an economic system is its spatial organization and performance in spatial-ecological terms which meet criteria of social rationality. Hence, spatial order is not a geometrically or typologically regular arrangement of objects, but an arrangement satisfying the criteria of social rationality and conforming to regularities observed in the economic system.

We should first of all distinguish between (1) a model of spatial order, i.e. its standard defined by criteria of social rationality, and (2) a concrete spatial order, i.e. the state of spatial organization of a given economic system satisfying certain criteria of social rationality.

2.1. A model of spatial order is a notional construct presenting a desired spatial organization and performance of an economic system in spatial terms. The presentation may take various forms and have a varying degree of concreteness: a draft, a plan, a vision, a map, etc.

The model rests on certain principles and criteria of social rationality. They are functional, i.e. they express some social values and aspirations, and multi-dimensional, i.e. they concern various aspects: economic, political, cultural, ecological, aesthetic, etc. It is a difficult task to establish their relations and to reconcile them.

The criteria may optimise certain functions, e.g. the quality of life, economic performance, etc.; or they may lessen disfunctions, e.g. spatial conflicts, etc.

Naturally, the principle of pragmatic rationality requires these models to have a real character.

The construction of models of spatial order is not arbitrary, of course, and must accommodate limitations imposed by natural regularities, social regularities, social rules and principles, and the actual situation of a system and conditions of its operation.

Natural regularities control the spatial order in nature, such as climatic zones, thus providing a framework for human activity.

Social and economic regularities define the behaviour of individuals and social groups. They are not absolute, however; they appear and disappear as the character and operation of social systems change.

Social rules are norms or principles of human behaviour, usually purpose-oriented, adopted by human communities. They define what should be done in a given situation, and either develop as a product of spontaneous mass action, or are created consciously. They are not wholly arbitrary, because to be

effective they must conform to social and natural regularities. An example may be the inefficiency of rules and social actions disobeying a regularity called *lex persimoniae*.

2.2. A concrete spatial order is a state of realization or fulfilment of specific criteria of social rationality in the domain of spatial organization, or the functioning of an economic system in spatial terms. This state is approximate and gradable, and must somehow be relativized to social requirements and postulates.

It manifests itself at two levels: overt and covert. Overt order is the actual state of objects resulting from human activity and natural forces in given environmental conditions. Covert order includes natural and social mechanisms (natural and social regularities and social rules) operating under the actual conditions of the given economic system. For spatial order to be achieved or maintained, complicated technological-cultural measures conditioned by a given civilization framework are necessary.

### 3. Main elements affecting the spatial organization of economic systems

The central problem of the space economy understood as a field of activity is the shaping of the spatial organization of economic systems. The main elements of an actively understood space economy are:

- 1) subjects of the space economy,
- 2) its targets,
- 3) objects, and
- 4) ways and means of operation.

Thus, what we are looking for are answers to the questions of (1) who runs the space economy, (2) what for, (3) what is being shaped, and (4) how. Naturally, the answers to some questions determine the answers to others (cf. Dziewoński 1988).

It should be emphasized that what we deal with here is not the actual state of affairs, but what is socially desirable considering the general drift of things in Poland towards the restoration of the society to its subjectivity.

#### 3.1. Subjects of the space economy

We should start with answering the question of who should shape the space economy. According to Dziewoński (1988: 25), the simplest answer is: "the space economy in each area (irrespective of its level) should be run by the resident community". Hence, in principle, this should be the task of the whole of society. The answer should be enlarged. We know that in socio-political

systems with highly centralized planning there is also a high concentration of decisions in the form of the so-called central planner. However, when making decisions concerning large-scale industrial enterprises, the central planner often disregards social and natural conditions, or the costs of such activities, which makes them utopian and ineffective.

Hence, decisions concerning the shaping of the space economy should be made by the society through its representative bodies at all the three levels of activity: national, regional and local, depending on the nature and scale of objects. In order to ensure the society a full and competent share in decision- and policy making in the domain of the space economy, it is necessary to decentralize these processes and shift them from central authorities onto local self-governments. That is why it is also important to establish their rights in such a way as to considerably increase the share of the society in the shaping of the space economy.

The scope of activity of a local self-government should cover everything that directly affects the level and quality of life of the population of an area, viz. providing and maintaining broadly understood services for this population (the local economy, education, culture, health care), an ecologically oriented conversion of industrial production, and the approval of the location of new industrial plants. For a local self-government to function properly, it must be independent of the state authorities in its performance, and socialized through the democratic election of its organs. These organs should not only be endowed with certain rights, but should also have the possibility of enforcing their decisions through independent sources of financing, access to information, and competent executive bodies (cf. Szul 1984: 128).

What is of great significance for an effective space economy at the local and regional levels, apart from these institutional elements, is the need for spatial order and the understanding of its role in determining the standards of living and the quality of life that are connected with specific local and regional patriotism.

### *3.2. Targets of the space economy*

The second question is about the targets of the space economy. The adoption of spatial order as a basic conception defining the spatial organization of an economic system does not directly determine the intermediate goals that are supposed to lead to this order through directives of practical activity. The realization of spatial order is based on criteria of social rationality that derive from various elements of social consciousness, that is, from needs of individuals and social groups and from the urge to satisfy them, even though restricted by the operation of natural and social regularities.

Thus, the definition of these targets is not unequivocal and gives rise to

disputes. Their fullest description is that of Malisz (1984: 90), who presented them as follows:

- 1) protection against all aggression to secure the biological development of the society,
- 2) the creation of conditions for socially rational management, and
- 3) the effort to equalize the standards of living of the population in all the regions and localities of the country.

The first target includes first of all:

- a) the protection of the natural environment against degradation caused by a noxious influence of economic activity, especially in mining, industry and transport, as well as nuclear armament,
- b) protection against natural disasters such as floods, earthquakes and hurricanes,
- c) the protection of the cultural landscape, especially of architectural monuments and their groups whose preservation is a condition of the society's cultural continuity, and
- d) the protection of the society against the aggression of social misfits.

The second target includes such partial goals as:

- a) an economical management of the country's space, that is, the formation of such a land-use pattern that would ensure each economic function enough space for development,
- b) a rational use of natural resources, especially mineral deposits, water resources and forests,
- c) a moderate concentration of the population and industry,
- d) a reduction in the transport intensity of the economy, and
- e) easy accessibility of regions.

The third target consists of the following partial goals:

- a) full and diversified employment in all the regions of the country,
- b) healthy living conditions,
- c) good housing conditions, including the quality of buildings and providing residential areas with communal facilities, greenery, playgrounds for children and youth, and parking lots,
- d) good conditions for the service of the population: a broadly understood social infrastructure and a network of shops and restaurants,
- e) good conditions of personality formation (e.g. the development of the school network, higher educational establishments, scientific institutes and libraries, etc.),
- f) good conditions of recreation, tourism and spa treatment, and
- g) the creation of satisfactory conditions for communication (Malisz 1984: 90-98).

Without going into a detailed analysis of these goals, it should be stated that they must constitute a consistent set if they are to provide a basis for the shaping of the spatial order of an economic system.

Fundamental difficulties in attaining this or the other set of goals arise from three sources: (1) obviating spatial conflicts, (2) social acceptance of the goals, and (3) including them in socio-economic mechanisms.

When talking of spatial conflicts we do not mean the inconsistency of principles, but their realization that can lead to or cause a conflict of interests, of course in a broad sense of the word. Spatial conflicts are manifestations of spatial disorder; they reveal themselves when particular subjects, or their complex systems, try to fulfil their different functions and attain their different goals.

At a macro-scale, these are conflicts between the economy and the natural environment; settlement and industry; the town and the countryside; industry and agriculture; advanced regions and poorly developed ones, etc.

Some of these conflicts are socially subjective, that is, they follow from a wrong technology or organization of industry, e.g. pollution. There are also objective conflicts, and these are of vital importance, e.g. the mining and urban land uses, or the agricultural and mining land uses; cf. the issue of the Poznań rift valley. Such conflicts cannot be solved to promote the interests of a single economic subsystem, e.g. power engineering, but the solution must accommodate general social criteria.

Another difficulty is the social acceptance of specific goals and ways of attaining them. Of course I mean conscious acceptance, not just verbal. This may also be connected with the fact that we can hardly anticipate the consequences of achieving or abandoning certain goals. At the same time historical experience shows that both some principles and their implementation can be wrong and irrational.

What is important, then, is a proper formulation of goals and winning social acceptance for their implementation. One of the examples is the issue of the building of nuclear power plants, another – environmental protection in underdeveloped countries where it is treated as a tendency to restrict industrialization.

The most difficult matter, however, is the incorporation of the realization of the targets of spatial order into the mechanisms of an economic system. But this is part of the answer to the fourth question concerning ways and means of arranging the spatial organization of the economy.

### *3.3. Objects being shaped*

The third question, about what or what objects are shaped in the space economy, can be answered generally: all those components of an economic system that yield themselves to spatial organization.

Recently, these objects are often described as geographical space, or the space of the country. Without going into a critique of this conception, let us



note that: 1) this approach assumes a substantial nature of space as a layer or set of objects, which does not accord with the generally accepted understanding of space, and 2) it is hard to talk of a spatial structure or spatial organization of space.

However, it is difficult to define them in other ways. It seems that the components concerned are those that make up the natural and the artificial environments, the latter including technical infrastructure.

Even greater difficulties arise with the determination of what is to be the object of the space economy at particular levels. The solution of this issue depends on solving the problem of who is to be the decision-making subjects of the space economy. An answer to this question is supplied by Dziewoński (1988: 26), who says: "Without doubt, almost every issue in the space economy has aspects corresponding to different levels: local, regional or national. However, the weight of decision-making should rest with the lowest level at which key decisions should and can be made. This statement allows the determination of objects of the space economy and spatial planning specific to particular levels. What seems to be an object specific to the local level is housing estate management (including land management); at the regional level – all those problems of regional development that are capable of autonomous solution under the present circumstances, and the co-ordination of inter-estate matters; and finally, at the national level – problems in the development of the whole of the country plus the co-ordination of inter-regional actions and links".

The above statement can be supplemented with the following: with the decentralization of management and the economy, the protection and use of the natural environment as well as housing matters should be objects of locally made decisions; the regional level should be responsible for investments whose scope would go beyond the local level.

#### *3.4. Ways and means of shaping the space economy*

The most difficult answer is one to question four, about how to implement the established and accepted targets of the space economy. This implementation requires specified ways and means of their accomplishment to be built into the socio-economic system.

The means can be divided into theoretical and actual. The former include theories and models for the solution of problems in the spatial organization of an economic system. They describe the state of this system, tendencies in the change of natural and social regularities determining its operation, diagnoses and forecasts, and optimising solutions. From the practical point of view, what is most important is their usefulness in solving real problems.

Actual (which does not mean effective) means, in turn, are tools of practical

activity helping to attain specific goals. Their effectiveness is not complete and rather limited because they involve the whole complexity and richness of socio-economic life with its states of uncertainty and indeterminacy and a changing degree of variability. In achieving spatial-economic targets, this kind of means can be divided into:

- means of direct impact: coercive means, means of the material shaping of spatial structure, means of control, and spatial planning (cf. Malisz 1984: 154);
- means of indirect impact: economic incentives encouraging certain enterprises or discouraging from them, and information means.

Here are short explanations.

Coercive means are established in the form of legal norms restricting the freedom of decision of all economic subjects to the extent that they may influence spatial development, the condition of the environment and living conditions. These norms have the form of prohibitions (e.g. waste discharge) and prescripts, and fall under sanctions (e.g. financial). It is generally believed, however, that these sanctions are unsatisfactory in our country, e.g. fines are too low.

The means of the material shaping of the structure of space include a previous preparation of land and the installation of technical and social infrastructure (e.g. a road network, communal facilities, parks, etc.). In our country they are used too moderately.

The means of control are based on observations of the state and changes in (especially) the natural environment, and on suitable sanctions.

Finally, spatial planning, which is a synthetic tool for the shaping of the space economy at all the three levels: of the national plan, regional plans, and local plans.

It should be noted, however, that under the centralized command economy it was not spatial plans that had a decisive influence on the space economy, but socio-economic plans, which did not aim at spatial-economic targets but at the so-called developmental goals. These plans were the principal tool of shaping the country's space economy, because they were obligatory for socialised economic subjects. They were directly obliged to fulfil directives from above, and financial means were distributed centrally. Hence the influence of economic plans on the space economy was mainly at the national level.

The means of indirect impact have a different character: they encourage economic subjects, through economic incentives, to engage in certain activities in the domain of the space economy, and discourage them from some others. They must be components of economic mechanisms, but their operation is effective only under a moneyed market economy. They include: a spatial diversification of taxes, financial help with investments or change in the interest on credits, a spatial diversification of transport tariffs, and others. Thus far, such measures have been used very sparingly in our country.

It is impossible, of course, to present the complexity of the issue in a few sentences. I would like to close, however, with some reflections on the role of planning in the shaping of the space economy.

Planning, especially economic planning, under a social system with a high degree of centralization of economic and political life is the main tool for changing social reality on a large scale. The authorities use planning to introduce overall changes by transforming social mechanisms, often disregarding natural and social regularities, or even going against them. They resemble a municipal greenery worker who plants flowers on the shortest path from a tram stop to a kindergarten. Hence, these plans are utopian in character, involve huge social and economic costs, and are mostly unsuccessful.

Such planning is a component of a totalitarian social engineering which tries to radically transform the whole of social reality on the basis of social utopias. Planning, however, can have a different function, not decision-making but anticipatory, showing the effects of intended enterprises, and corrective. This type of planning must be incorporated into the mechanisms of a moneyed market economy, and must express social interest at least consistent with people's aspirations. The damages that the space economy has suffered were the result of a total, though inefficient, social engineering being applied to it. Changes in this respect are only possible on condition that such a policy is abandoned altogether.

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