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Greening urban economies in the context of city functions and size – analysis of the coherence of spatial and financial measures

Contemporary cities face challenges related to growing urbanization pressure and climate change, which necessitate the adaptation of public policies to address these challenges. Effective policy requires an integrated approach in which spatial planning instruments and financial tools are interlinked and support the achievement of environmental objectives. The presented research concerns the greening of the urban economy in the context of the coherence of spatial and financial actions in Polish cities. An analysis of the scientific literature indicates that, despite the development of research on the greening of the urban economy, there is a lack of systematic analyses concerning the diagnosis of greening activities in the spatial and financial economy implemented in parallel in cities, as well as the identification of the integration of activities depending on the size of the city and its function in the settlement system. Filling this gap will allow for the formulation of practical recommendations for urban policy and the development of a theory of environmental policy integration not only in Polish cities but also in cities in Central and Eastern Europe.

This **article aims** to identify the extent of coherence in greening policies in Polish cities, taking into account their size and function in the settlement system. The **following hypothesis** was adopted: Greening measures in the spatial and financial economy of Polish cities show a significant coincidence, the level of which depends on the size of the city and its function in the settlement system. It will be verified through research answering the following research questions:

1. What greening instruments are used in the spatial and financial management of Polish cities, distinguishing between their size and function in the settlement system?
2. To what extent do greening measures in spatial and financial management show consistency (coincidence)?
3. How does the extent of consistency of greening measures vary depending on the size of the city?
4. How does the function of a city in the settlement system affect the consistency of greening measures?
5. What factors promote or limit the integration of environmental instruments in the spatial and financial management of Polish cities?

The research analysis covers 135 cities, which were classified according to size (small, medium, large) and function in the settlement system (national, regional, local). The research was conducted in the form of surveys addressed to local government units responsible for spatial planning and financial policy. The questionnaires concerned the greening instruments used, the degree of their integration, coordination between departments, and limitations and barriers to the implementation of pro-environmental measures. The identification of coincidences was based on a comparison of the spatial and financial policy instruments used in Polish cities and an analysis of the variation in results depending on the size and function of the cities.

The study adopted the concept of spatial and financial policy coherence, understood as the extent to which environmental instruments and measures in spatial and financial management are interlinked and mutually support the achievement of environmental objectives.

The analysis of the data showed that the coherence of environmental measures in Polish cities varies and depends heavily on the size of the city and its function in the settlement system. Large cities are characterized by the highest level of integration of instruments, including coordinated spatial planning, investments in environmental infrastructure, and the implementation of financial mechanisms supporting environmental projects. The article also identifies factors that promote and limit the consistency of actions, such as the availability of financial resources, administrative competencies, interdepartmental coordination, and national policy support. This discussion of the results highlights that an integrated approach to the greening of the urban economy is key to meeting the contemporary climate and urbanization challenges of their development. These results suggest policy recommendations that Poland can adopt for urban policy; that is, enhance measures for the coordination of urban planning or environmental policies with each of the urban centers of Poland according to their characteristics, and

tailor the environmental policies accordingly. The results of this research also lay groundwork for further studies into how greening measures have been integrated in different European urban contexts.

Keywords: greening of cities, policy coherence, spatial management, financial management, city function, city size, sustainable development, Poland.

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