

# **MODELLING THE DYNAMICS OF DEVELOPMENT OF URBAN INFORMATION SOCIETIES USING THE ECONOPHYSICAL APPROACH OF PHASE TRANSITIONS**

## **Summary**

Urban societies around the world, similarly to substances in physical processes, undergo various transformations. One type of such transformations are transitions between the states of aggregation - phase transitions. In case of modelling the development of urban information societies there appears to be a need for a synthetic indicator

which, similarly to temperature in thermodynamics, would allow to determine, quantify and explain whether society of a given city has undergone, undergoes, or moves towards undergoing a phase transition. The indicator suggested in the paper is defined as a weighted arithmetic mean of the rates of change of explanatory variables, where weights are expressed using multinomial logit function depending on time and parameters describing the significance of the explanatory variable in shaping development of urban information society of a city.

*Translated by Zbyszko Pawlak*