

## **‘Polycentric urban regions’: identification, measurement and development General public summary**

This research project aims to provide a framework for research on ‘polycentric urban regions’ (PURs) and significantly expand our understanding of their prevalence, significance, and future development. In its most basic guise, the PUR notion applies to regions that are characterised by (1) the presence of multiple, more-or-less proximate urban centres that (2) are not significantly different in terms of their relative importance. Well-known examples of PURs are the Dutch Randstad and the German Rhein-Ruhr region, both of which are densely urbanized regions but with multiple medium-sized cities rather than being organised around a single big city. In Poland, the region centred on Gdansk, Gdynia and Sopot would intuitively qualify as a PUR.

In a range of scientific literatures, PURs are assumed to be an increasingly important and prevalent regional formation. However, the lack of comprehensive efforts to identify and analyse PURs have led to a scientific literature that is wide-ranging, but also disjointed and often lacking analytical depth. In this research project, an innovative framework for multidisciplinary PUR research is developed to more comprehensively examine this increasingly central concept in urban and regional studies.

The starting point of this proposal is the suggestion that although the rapid growth in the size and scope of scientific research on PURs has clearly invigorated this research field, it is currently built on surprisingly limited comprehensive evidence and severely hampered by the lack of a coherent analytical framework. As disjointed analyses of intuitive and what are perhaps specific examples such as the Dutch Randstad, the German Rhein-Ruhr region, and the Gdansk-Gdynia-Sopot area are often used as the basis for making strong statements about its overall relevance in an increasingly diverse literature, scientific research in urban and regional studies risks missing direction and insight. This research project will address this situation by means of large-scale, coherent research effort focusing on the identification, measurement and development of PURs.

Against this background, this project has three more specific objectives. The first objective will be to systematically identify and survey regions for the presence of PUR-like tendencies, for example by looking at the geographies of cities and towns in a region. The second objective is to extend the framework of analysis by focusing on connections and interactions between cities, for example by looking at commuting patterns between cities and towns in a region. The third objective is to assess whether PURs are indeed an emergent regional form by looking at changes in the patterns discerned in the two other objectives. Each of the three objectives will be researched by a (post)doctoral researcher, who will be part of a cohesive research group.

Taken together, this project will engage in an innovative and integrated effort to address these three PUR-related research objectives, and will do this by introducing novel analytical and methodological frameworks applied to a broad set of pertinent data sources. This includes the recently released interactive map of the new Global Human Settlement Layer (GHSL) produced by the European Commission, as well as geographical data on corporate ownership structures, regional transport networks, and scientific collaboration. The tangible and intangible research output emanating from this project will significantly advance the Polish research potential in urban and regional studies in general, and in one of urban and regional studies’ most conspicuous guiding concepts (i.e. polycentric urban regions) in particular. In addition to producing research output for an international scientific audience, attention will also be paid to the findings and results for Polish regions and their implications for urban and regional policy.