

Senior and junior supervisor research topic application for the IPhD Programme in Regional Development, 2023-24

Name/position of the senior supervisor: Tamás Sebestyén, full professor
Highest academic degree : Phd, habil.

Name/position of the junior supervisor: Norbert Szabó, assistant professor
Highest academic degree: PhD

Title of the suggested research topic:

Economic and environmental impact assessment of alternative technologies in a spatial general equilibrium model framework

The international relevance, importance, and timely of the research topic:

General equilibrium models are workhorses in economic impact assessment, widely used in evaluating the economic impact of various policy interventions. There is a long tradition in developing general equilibrium impact models at UPFBE which are able to account for productivity changes in a detailed way at the regional (subnational) levels. With this model, we can run policy impact analyses from development policies to the effect of implementing new technologies. With an adequate modelling of environmental connections, the effect of these interventions on emission can be traced as well.

Which UP-FBE research could the PhD candidate join?

RIERC research, IO analysis, supply network analysis, circular economy modelling

Possible research directions:

Developing an environmental block, modelling imperfect competition, implementing levels of human capital, modelling capital markets

The supervisor's expertise and experience in the research field

Tamás Sebestyén has been part of the development team of GMR models since 2008. The grounds of the currently flagship model (GMR-Hungary) was developed by him. He was participating in several applied works with the model and in the recent years he has taken over the leadership of model development projects from Attila Varga (HAS Research Group, NRDIO cooperation in S3 evaluation, application sin hydrogen technology, planned OTKA project in the field).

The most important publications in the research field over the last five years

Varga-Csajkás, Anna ✉ ; Sebestyén, Tamás ; Varga, Attila: Dynamics of collaboration among high-growth firms: results from an agent-based policy simulation. ANNALS OF REGIONAL SCIENCE 70 pp. 353-377. , 25 p. (2023)

VARGA, ATTILA ; Szabó, Norbert ; Sebestyén, Tamás: Az intelligens szakosodási politika gazdasági hatásainak modellezése. KÖZGAZDASÁGI SZEMLE 68 : 9 pp. 901-929. , 29 p. (2021)

Varga, Attila ; Szabó, Norbert ; Sebestyén, Tamás: A GMR modellek és az intelligens szakosodási politika gazdasági hatáselemzésének kihívásai. In: Varga, Attila (szerk.) Regionális innováció, vállalkozás és gazdasági növekedés. Pécs, Magyarország : Pécsi Tudományegyetem Közgazdaságtudományi Kar (PTE KTK) (2021) 360 p. pp. 261-272. , 12 p.

Varga, Attila ✉ ; Szabo, Norbert ; Sebestyen, Tamas: Economic impact modelling of smart specialization policy: Which industries should prioritization target? PAPERS IN REGIONAL SCIENCE: THE JOURNAL OF THE REGIONAL SCIENCE ASSOCIATION INTERNATIONAL 99 : 5 pp. 1367-1388. , 22 p. (2020)

Varga, Attila ✉ ; Sebestyén, Tamás ; Szabó, Norbert ; Szerb, László: Estimating the economic impacts of knowledge network and entrepreneurship development in smart specialisation policy. REGIONAL STUDIES 54 : 1 pp. 48-59. , 12 p. (2020)