

WiC Colloquium

Vienna Institute of Demography
Welthandelsplatz 2 / Level 2
Nathan Keyfitz Library
1020 Vienna

Yuri Yegorov

University of Vienna (Chair of Industry, Energy and Environment)

Tuesday, 9. April 2019
15:00-16:00

"Growth and collapse of empires: a dynamic optimization model"

This paper addresses the spatial evolution of countries accounting for economics, geography and (military) force. Economic activity is spatially distributed following the \$AK\$ model with the output being split into consumption, investment, transport costs and military (for defense and expansion). The emperor controls the military force subject to the constraints imposed by the economy but also the geography (transport costs, border length) and the necessity to satisfy the needs of the population. The border changes depending on how much pressure the emperor can muster to counter the pressure of neighboring countries. The resulting dynamic process determines a country's size over time. The model leads to multiple steady states, large empires and small countries being separated by a threshold, and collapse. The resulting patterns can be linked to historical observations.

About the presenter

Dr. Yuri Yegorov has a Ph.D. both in mathematical physics (from St. Petersburg University, Russia) and in Economics (UPF, Barcelona, Spain). His Ph.D. thesis in Economics was devoted to general equilibrium in space and Hotelling type games. He also worked on self-organization issues being a Visitor at Santa Fe Institute (USA). He worked at the department of Applied Mathematics in Maritime University of St. Petersburg, Russia (1987-1992), as Assistant Professor of Economics in University Pompeu Fabra (Barcelona) in 1996-98, in Central European University during 1998-2002, in the Institute for Advanced Studies (Vienna) in 2002-2007. Since 2008 he works as Researcher at the Chair of Industry, Energy and Environment in the University of Vienna, focusing mainly on the research of energy markets. During the years 2008-2018 he was working on Jubileum Fund Project "Gas Markets: Spatial Pricing, Dynamics, Oligopolies, Transit Games and Politics with Focus on Europe" (2008-2010), on FWF project "Energy Threats of the 21st Century" (2012-2016) and several projects on different topics with Economica. He has 28 publications in refereed journals and book chapters and more than 90 presentations in international conferences on different topics in economics.