



WIC Hybrid Colloquium

A microsimulation model for population projections in official statistics

10th May, 2023
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Abstract:

The cohort-component method is the predominant approach for population projections in official statistics. It is computationally simple, does not require a broad range of input data, and is well-established in the literature. However, it cannot account for complex and dynamic demographic processes, model interactions, or produce detailed results concerning individual-level characteristics. Statistics Austria has implemented a microsimulation model to overcome these limitations. To mitigate the effect of this methodological break on the comparability of projection results over time, we start by replicating the cohort-component method results and introducing new model features stepwise. As a first step, we incorporate a model of international migration, which explicitly accounts for the place of birth grouped into detailed country clusters. In addition, emigration risks are modeled by the duration of residence. The model will be gradually refined and it can be extended with additional modules for education, employment, health and other socioeconomic characteristics.

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About the presenters:

Pauline Pohl leads the population projections team at Statistics Austria. She previously worked as an applied econometrician at the German Economic Institute in Cologne and as a junior researcher at the Economica Institute of Economic Research in Vienna. She holds an MSc in Economics from the University of Vienna.

Philip Slepecki is currently working on the microsimulation model for population projections at Statistics Austria as well as on demographic indicators. He has previously worked in the banking sector in credit risk modelling as well as in data science consulting. He holds a Master's degree in Econometrics from Tilburg University.

Martin Spielauer is a senior economist at WIFO, developing dynamic microsimulation models. In two EU-funded projects, he leads the implementation of the comparative microWELT model for welfare transfers in the context of aging. He is a project partner for the Slovenian pension model and supports the microsimulation implementation of population projections at Statistics Austria. He previously consulted for the World Bank and gained international experience at Statistics Canada and the Max Planck Institute. He holds a Ph.D. from the University of Vienna.

The Wittgenstein Centre is a collaboration among the Austrian Academy of Sciences (OeAW), the International Institute for Applied Systems Analysis (IIASA) and the University of Vienna.

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