

## **VID Colloquium**

\*\*\*\*\*

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

### **Martin Spielauer**

WIFO, Austrian Institute of Economic Research

Wednesday, 15. March 2017

11:00-12:00am

### **"Comparing Welfare Transfers in the Context of Demographic Change in Four Welfare State Regimes: The microWELT Model"**

This talk introduces microWELT, a new model currently being developed alongside an international research program studying the distributional effects of four welfare state regimes - Liberal, Universalistic, Conservative, and Mediterranean - in the context of demographic change. The microWELT model focuses on demographic behaviors combined with a highly abstract implementation of the key features of the different welfare state regimes. The study uses four country examples representing the four welfare state regimes, namely Austria, Finland, the UK, and Spain. Dynamic microsimulation can be understood as a computer-simulation of a society represented by a large sample of individuals and their characteristics. As people age, they enroll and graduate from school, form and dissolve partnerships, have children, participate in the labor force, find and lose employment, receive earnings, make contributions to and receive benefits from tax-benefit and social insurance systems, provide and receive care, retire, and eventually die while new persons enter the population due to birth or immigration. Tracing individuals and families over their life-course allows leading individual accounts and aggregating the flows of welfare transfers in its various dimensions over time and between population groups. The project emphasizes the integration of dynamic microsimulation with static approaches, namely National Transfer Accounts (NTA), and static microsimulation. This approach supports model validation and calibration for specific years as well as future refinements. National Transfer Accounts break down social transfers by age groups. Also feeding into the microsimulation are the result of a study on typical demographic patterns associated with the welfare state regimes like distribution of family sizes and childlessness by education. MicroWELT is a competing risk continuous time model with interacting agents. While it aims at producing realistic life-courses and distributions, the aggregate outcomes of most processes can be aligned to external projections (e.g. the demographic and economic projections of the EC Ageing Report). In this project we aim at capturing the essence of the various welfare state systems by identifying and implementing their key policies in simplified / stylized models. This will serve as a study tool which can be refined for individual countries, implementing behaviors as well as social insurance and tax systems in more detail. In this sense, microWELT is not only seen as a model application, but also a versatile and highly modular modeling platform. The MicroWELT model will be implemented in Modgen/openM++, a freely available generic microsimulation language developed and maintained at Statistics Canada, respectively its open source implementation..

### **About the presenter**

Dr. Martin Spielauer is a social scientist with over 15 years of experience in the design and implementation of dynamic microsimulation models. Martin recently joined WIFO, the Austrian Institute of Economic Research, where he leads the development of the microWELT model, a dynamic microsimulation of the operations of four welfare state regimes in the context of demographic change. In a second project at WIFO, he is engaged in modeling the economic integration of immigrants in Austria. In parallel, since 2015, Martin contributes to a microsimulation project at The World Bank - a portable population projection model for developing countries - currently tested in country case studies. From 2007-2015 Martin was mainly based at Statistics Canada involved in the development of the population microsimulation model Demosim - world's first population projection microsimulation model used for official population projections by a statistical office - and LifePaths, a complex socio-economic microsimulation model, depicting the socio-economic development of Canada including demography, education, employment, income, the tax-benefit system, social insurance, retirement income, and health. Over the past decade, Martin also shared his experience as consultant supporting model developments around the world. Current and recent engagements include pension models in Slovenia (Institute for Economic Research) and Spain (University Barcelona), health models in the US (FTI Consulting) and New Zealand (Atlantis Healthcare), and education models in the US (Anderson Consulting) and New Zealand (University of Auckland; NZ Institute of Economic Research). Before 2003 Martin worked as researcher at the Max Planck Institute for Demography in Rostock (2003-2006), as research scholar at the International Institute for Applied Systems Analysis (IIASA, 1999-2002), as researcher and head of the socio-economic research department of the Austrian Institute for Family Studies (ÖIF, 2000-2003), and as research assistant at the Technical University of Vienna.