VID Colloquium
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Vienna Institute of Demography
Welthandelsplatz 2 / Level 2
Nathan Keyfitz Library
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Dalkhat Ediev

Tuesday, 29. January 2019
13:00-14:00

"Years of life at old age: sources of instability in the Mitra model"

Earlier analysis showed that Mitra's model for the remaining life expectancy in the open age interval is most accurate among the available approaches (in addition to Mitra model, these were: classical life table method, Horiuchi-Coale model and extrapolation). Yet, unfortunately, estimates based on the Mitra model appeared to be rather unstable, occasionally leading to strong overestimates of the life expectancy. Here, I investigate the possible sources of this instability. Based on re-derivation of the Mitra formula with higher-order terms kept in it, I show that the main driver of strong upward biases in the model are due to violation of the stability assumption and inaccurate assessment of population the growth parameter. Negligence of the higher-order terms, on other hand, has only a minor (of up to three percentage points) contribution to the estimation errors of the model. In addition to a better understanding of the Mitra model, the analysis conducted provides a theoretical ground to the combined (mixed) method (Ediev 2018) that is based on taking the minimum of the classical and Mitra estimates. Our findings might be useful in constructing and improving life tables for populations with missing mortality statistics at old age and those affected by age exaggeration..

About the presenter
Dalkhat Ediev, a long-time employee of VID, is vice-rector and professor at North-Caucasian State Humanitarian-Technological Academy, is Professor at Moscow State University and guest researcher at IIASA. His main research interest is in demographic methodology, formal demography and demographic projections.