WWZ research seminar

Tuesday, April 16, 2019, 12:30 – 13:45 pm, WWZ, HG, S 15

Prof. Jaya Krishnakumar, Institute of Economics and Econometrics, GSEM, Genf

"Capabilities and Structural Equation Models"

Abstract:

The ‘capability approach’ to development distinguishes between what people can potentially achieve and what they actually end up achieving in life, with an emphasis on the former as the preferred evaluation space for assessing development. The biggest challenge to the operationalisation of this approach is the absence of direct measures of potential achievements or capabilities. Among the different methods proposed in the literature is the use of structural equation models to estimate capabilities from observed achievement indicators and causes. The main aim of this study is to evaluate the performance of these models in a multidimensional development space through a unique simulation exercise. We simulate an artificial society using agent-based modelling techniques. Our ‘artificial’ world is generated to closely resemble a real-life scenario in Mexico. We use our agent-based model to generate data relating to three key dimensions of human development: education, health and social networks. Our model produces information on both generally observable variables such as family background and achievements, and generally unobservable values such as capabilities. We then use these data to estimate capabilities using a structural equations model and contrast them with the true capabilities. Our results suggest that the SEM approach provides very good estimates of capabilities. We compare two different specifications of the links among the dimensions and find that the one that accounts for their interdependence produces better results. We conduct a sensitivity analysis which shows that results are relatively stable across different sets of parameter values.