

# BIHMOD: Development and use for simulation of effects of labour legislation

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# Outline

- ▶ Developing model for Bosnia and Herzegovina
  - ▶ Challenges
  - ▶ Current activities
  - ▶ Future of the model
- ▶ Example of use of BiHMOD: Simulation of effects of labour legislation

# Developing BIHMOD (1)

- ▶ The initiative started in 2015 by Centre for Development Evaluation and Social Science Research (CDESS)
- ▶ The initial support for development was received by the EU project InGRID through visiting grant to the Essex University and CERGE-EI Foundation through visiting grant to CERGE-EI, Prague, both in 2015
- ▶ The major work on the model was done in 2017 and 2018.



# Developing BIHMOD (2)

- ▶ Static microsimulation model
- ▶ Based on hybrid HBS data from 2015 (7702 households and 22483 individuals). SILC should be implemented from 2019.
- ▶ 2017 was chosen as a baseline year
- ▶ All policies at the entity level
- ▶ Syntaxes written in STATA ( .do files)
- ▶ All variables and observations are labelled to follow Euromod labeling convention

# Challenges in building BiHMOD

- ▶ Access to the HBS 2015 dataset
- ▶ Transformation of variables to be similar to those used in SILC
- ▶ Gross imputation of income - variables in dataset were in net values, needed to be transformed into gross values in order to obtain values of income tax and SSC.
- ▶ Generation of proxy variables
- ▶ Building sub-national models for Federation of BiH and Republic of Srpska

# Challenges in simulation of policies in model

- ▶ Federation of Bosnia and Herzegovina:
  - ▶ Child allowance - information about different systems in different cantons; calculation of different eligible criteria and transformation of variables
  - ▶ Maternity benefit for unemployed mothers, One-time grant for equipment of newborn, Support in child feeding up to 6 months and additional food for breastfeeding mothers - linking same information about mother and children
  - ▶ Permanent financial assistance - defining who is a person with disability in order to fulfil eligibility criteria

# Challenges in simulation of policies in model

- ▶ Republic of Srpska:
  - ▶ Family grants (One-time grant for equipment of newborn; Assistance for 3rd and 4th child) - recalculating age based on birth month and year
  - ▶ Permanent financial assistance - defining who is person with disability in order to fulfil eligibility criteria
  - ▶ Child allowance - calculation of different eligible criteria and transformation of variables

# BIHMOD - example of use

- ▶ First use of BiHMOD for policy making purposes was simulation of effects of proposed changes in labour legislation in BiH for Market Makers project on state revenues and household income
- ▶ Revisions of social contributions in order to be paid proportionally based on actual salary of the part-time employee are proposed, thereby removing practice of tax authorities that minimum contributions must be paid are the ones payable to lowest salary applicable for full-time work in FBiH
- ▶ We changed syntaxes in simulation files to produce these changes and then run the model
- ▶ Research projects about effects of changing minimum wages and introduction of basic income scheme



# Application of microsimulation techniques

- ▶ Based on experience in developing BiHMOD
- ▶ Microsimulation model for ex-ante evaluation of property tax and property transfer tax - subnational model
- ▶ Microsimulation model for ex-ante evaluation of communal taxes - subnational model
- ▶ In the future: use of microsimulation model based on LFS (Labour Force Survey) data

# BIHMOD - current and future activities

- ▶ Continuous maintenance and extension of capabilities of the model
- ▶ Redesigning the model for use of datasets that will be available from 2020 (BiH SILC 2019).
- ▶ Drafting feasibility study
- ▶ Publishing results from MarketMakers simulations, possibly as EUROMOD Working Papers
- ▶ Integrating BIHMOD into WesternBalkanMod/EUROMOD

# Thank you for your attention!

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