A projection of age-specific employment for the US within a comparative framework based on a dynamic microsimulation accounting for education and health

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Trust Fund projections are largely based on a top-down methodology which places high demands on ensuring consistency between the various assumptions (TPAM 2019; SSA 2019). TPAM recommends the use of microsimulation techniques, that are more bottom-up and may be better placed to assure internal consistency of assumptions when conducting projections. Moreover, the Technical Panel highlights the need to model dynamic impacts and what-if scenarios to gain insights on the potential effects of policy changes on macro-economic indicators.

The proposed project aims at the development of a dynamic microsimulation model for the US to project age-specific employment while accounting for education and health. The analysis is embedded in an internationally comparative framework, comprising European countries and Japan. The model produces employment projections accounting for changes in cohorts' educational attainments and the dynamic effects of education on health and employment. A focus will be on the projection of the labor market participation of persons with health limitations in various policy settings.

While multi-country comparative applications are a recent development in dynamic microsimulation, the benefits are well demonstrated in tax-benefit microsimulations (e.g., Euromod).[1] The project builds on current microsimulation work at the Austrian Institute of Economic Research (WIFO), which is concerned with the development of a comparative model for various EU countries. The model can be used to contrast policy scenarios and allows an assessment of how sensitive employment projections are to underlying assumptions, e.g., changes in the interaction of education, health or employment. The microsimulation model is based on micro data (CPS for the US or EU-SILC for European countries) and uses information such as age, gender, education or employment status. Information on the health status will be extracted from harmonized micro data for the US (HRS), Europe (SHARE), and Japan (JSTAR).

The output from the project will consist of a technical report with comparative what-if scenarios, to highlight the potential effect of policy changes on employment projections. This technical report will be accompanied by a non-technical summary. In addition, the proposed research could be made available to the SSA via open source codes that could be developed further for future research projects.

[1] For population projections based on labor force participation rates – but lacking health -- for OECD countries see Marois et al. (2018). For a portable model for population, education, and health applications for developing countries, see Spielauer and Dupriez (2019). For a comparative model for the study of ageing in the context of the re-distributive systems of four welfare state regimes, see Spielauer et al. (2019).

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