Multi-Agent General Equilibrium Modeling of the U.S. Health Care Sector

PI: JUERGEN JUNG
TOWSON UNIVERSITY

CO-PI: CHUNG TRAN
AUSTRALIAN NATIONAL UNIVERSITY

CO-PI: MATT CHAMBERS
TOWSON UNIVERSITY

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2 Corresponding author: Juergen Jung, Department of Economics, Towson University, U.S.A. Tel.: 1 (812) 345-9182, E-mail: jjung@towson.edu
3 Research School of Economics, The Australian National University, Canberra, ACT 0200, Australia, Tel: +61 2 6125 5638, Email: chung.tran@anu.edu.au
4 Department of Economics, Towson University, U.S.A.
Executive Summary

In this project we develop a stochastic dynamic general equilibrium overlapping generations (OLG) model with endogenous health capital to study the macroeconomic effects of population aging in combination with the effects of the Affordable Care Act (ACA). The model is calibrated to match the key features of the U.S. economy before 2010. To simulate aging we use population projections from CMS/OACT. Our main findings are summarized as follows:

• **Aging**
  - Population aging leads to large increases in medical expenditures from currently 17.7 of household income up 24 percent by 2040.
  - Population aging reduces the fraction of workers in the group based health insurance (GHI) market while increasing the fraction of workers in the individual based health insurance market (IHI) and Medicaid. The overall insurance coverage rate for workers increases from 78.3 percent to 83.8 percent without any reform.
  - We observe large increases in the fiscal costs of age-related government spending programs. Specifically, the Medicare payroll tax rate would have to more than double by 2040 to keep Medicare/Medicaid for the retired population viable at current reimbursement levels.

• **The Affordable Care Act (ACA) without aging**
  - The ACA leads to a significant expansion of IHI and Medicaid for the working age population while causing small decreases in the GHI insurance take-up rate.
  - The effects on health expenditures are relatively small.
  - The reform can be financed by a 0.52 percent tax on income over $200,000 plus a value added tax of about 0.3 percent.
  - In order to reach an insurance take-up rate of 95 percent for workers, either a further expansion of Medicaid or much larger subsidies or penalties are required.
  - Imposing an insurance mandate with more aggressive penalties or subsidies leads to smaller losses in GDP than reaching similar increases in insurance take-up via a Medicaid expansion.

• **Aging and the Affordable Care Act**
  - In combination with aging, the ACA reform increases the fraction of insured workers to 92.5 percent by 2060 compared to 83.8 percent without the ACA reform. This expansion is mainly driven by the expansion of Medicaid as losses in GHI take-up cancel gains in IHI take-up.
  - The ACA reform reduces health care spending by shifting uninsured workers who pay a high price for medical services into Medicaid which pays much lower prices.
  - The ACA adds to the fiscal costs due to population aging.