

Health Insurance Reform and the
Re-distribution of Welfare:
A Dynamic Lifecycle Analysis of
Heterogeneity in Willingness to Pay
for the Affordable Care Act

By

Ahmed Khwaja and Matthew White

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Prior Work on ACA – Dynamic Models

- Pashchenko and Porapakkarm (RED, 2013), Jung and Tran (RED, 2016)
 - In these papers everyone has the same health process, so there is **little heterogeneity and no scope for adverse selection.**
- Aizawa and Fang (JPE, 2020)
 - Main focus is on firms' decisions to offer health insurance and how it is affected by ACA (which P-P and J-T do not consider).
 - Good and Bad latent health types, so some limited scope for selection.
 - Observed health states evolve exogenously (except it depends on insurance).
 - It is not really a life-cycle model as being single vs. married and kids vs. no kids are fixed types.
 - **Don't look at heterogeneity in welfare impacts.**

Prior Work – Dynamic Life-cycle models with Insurance

- DeNardi, Pashchenko, Porapakkarm (ReStud, forthcoming)
- Capatina and Keane (2024)
 - These are life-cycle models with consumption and insurance choices.
 - But they do model the impact of the ACA.
 - In DPP people without ESHI can buy private insurance where premium depends on health and age. So their model does not have adverse selection.
 - Capatina-Keane model selection into ESHI (advantageous), but don't have an individual private insurance option.
 - We do simulate mandating the purchase of community rated public insurance by the uninsured.

Summary

- The key thing here is to look at the impact of the “exchanges” created by the ACA:
 - Replace the individual insurance whose price depends on health...
...with government subsidized community rated private insurance.
- And the focus of this paper is on the heterogeneity in the welfare impacts of this policy. Who is better or worse off?
- Prior work does not look at heterogeneous welfare impacts of the policy (and lacks enough heterogeneity to look at it sensibly).

Baseline Model

- The model has much richer heterogeneity than prior work:
- Three Education levels (dropout, high school, college)
 - Life-cycle income process differs by education
- Initial draw of persistent part of income at age 22
 - Generates heterogeneity in income within education types
- Initial health status at age 22
 - Drawn from a distribution that differs by education
 - Captures that less educated are less healthy
- Probability of being offered ESHI depends on income

Baseline Model

- Men aged 22 to 84, retirement at age 65.
- Health and Income evolve exogenously. 5 levels of health.
- Agents draw ESHI offer status – correlated with income.
- If not offered ESHI can buy private insurance
 - Premium depends on health and age
- Medical need shock η --- Mean/variance depend on 5 health levels
- Utility is CRRA in consumption and medical spending if $\eta > 0$:

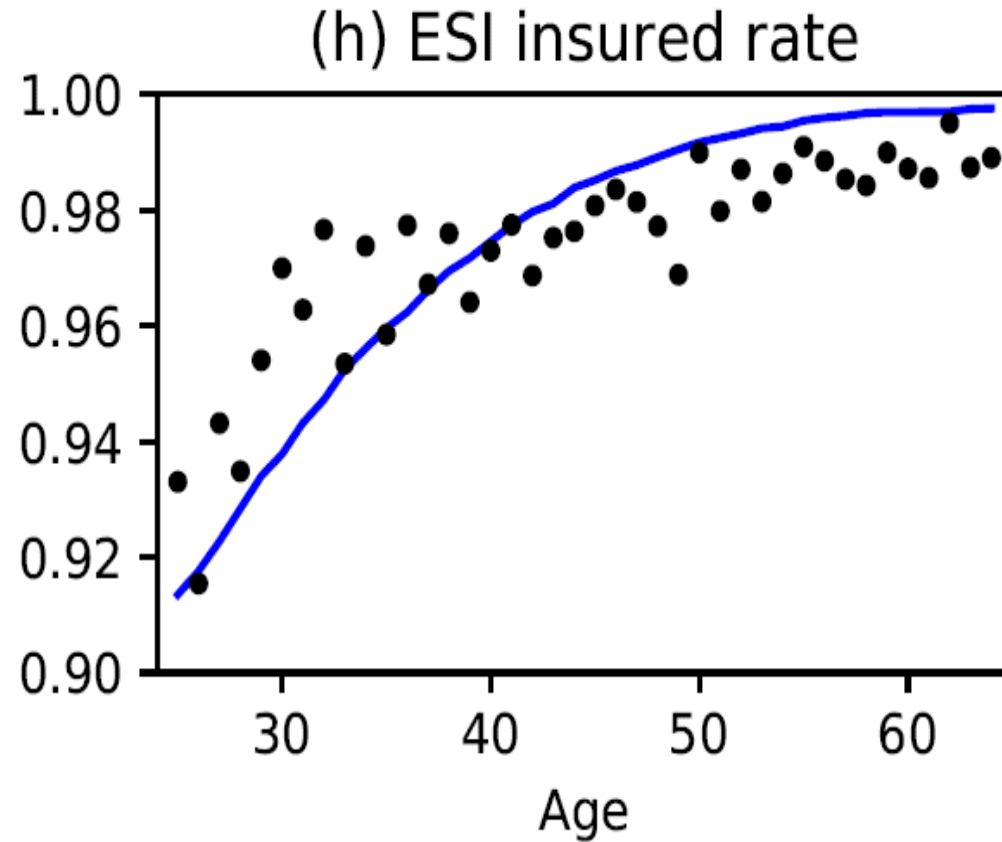
$$u(c, m|\eta) = \frac{c^{1-\rho}}{1-\rho} + \frac{(m/\eta)^{1-v}}{1-v} \quad v = 29$$

- Utility from m is negative, smaller negative as m increases

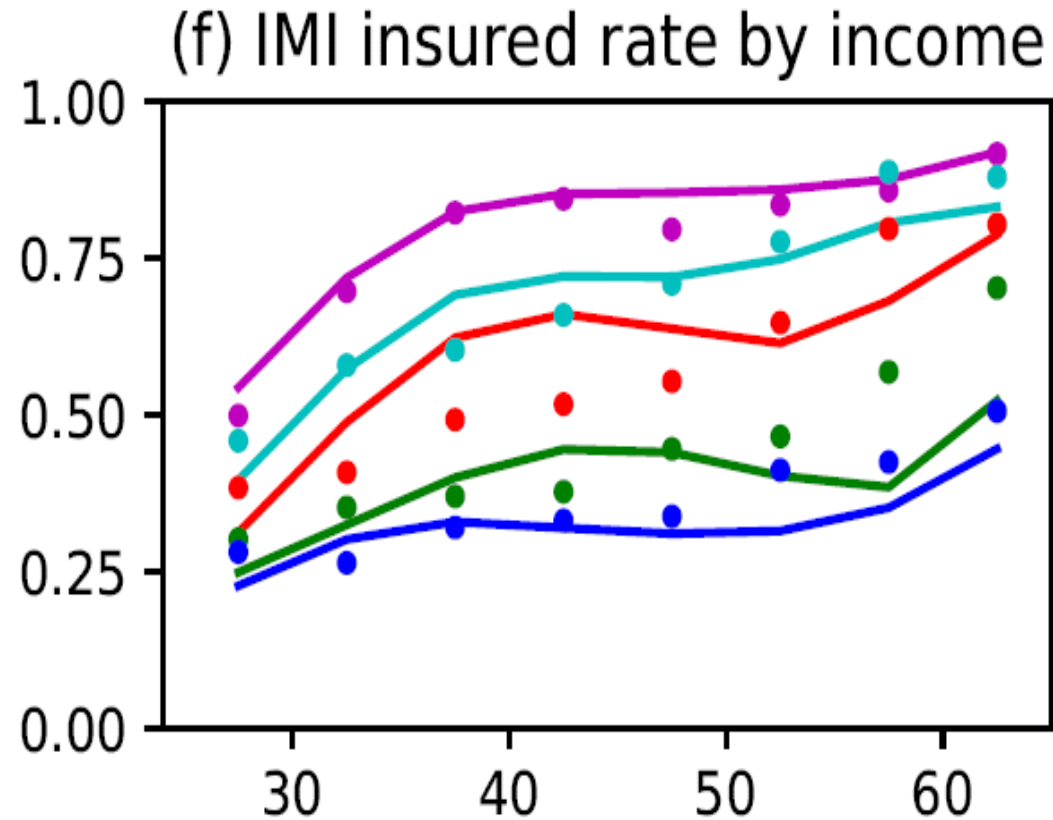
Baseline Model

- The ESHI and private individual insurance premiums are determined by expected medical expenses of people who sort into each option:
- The ESHI premium is priced by pooling all the agents who purchase the plan, regardless of age or health.
- Individual insurance premiums are conditioned on age and health status.
 - An actuarial constraint is satisfied for each age-health group.
- But insurer only observes $h \in \{poor, fair\}$ or $h \in \{good, v. g., excel.\}$
- Common premium within each of the two groups.
- A consumption floor captures in a simple way the array of benefits available to low income people:
 - Medicaid, foodstamps, unemployment benefits, etc.

Model Fit: Purchase ESHI conditional on Offered ESHI, by Age



Model Fit: Purchase Individual private Insurance conditional on no ESHI, by Income Quintile



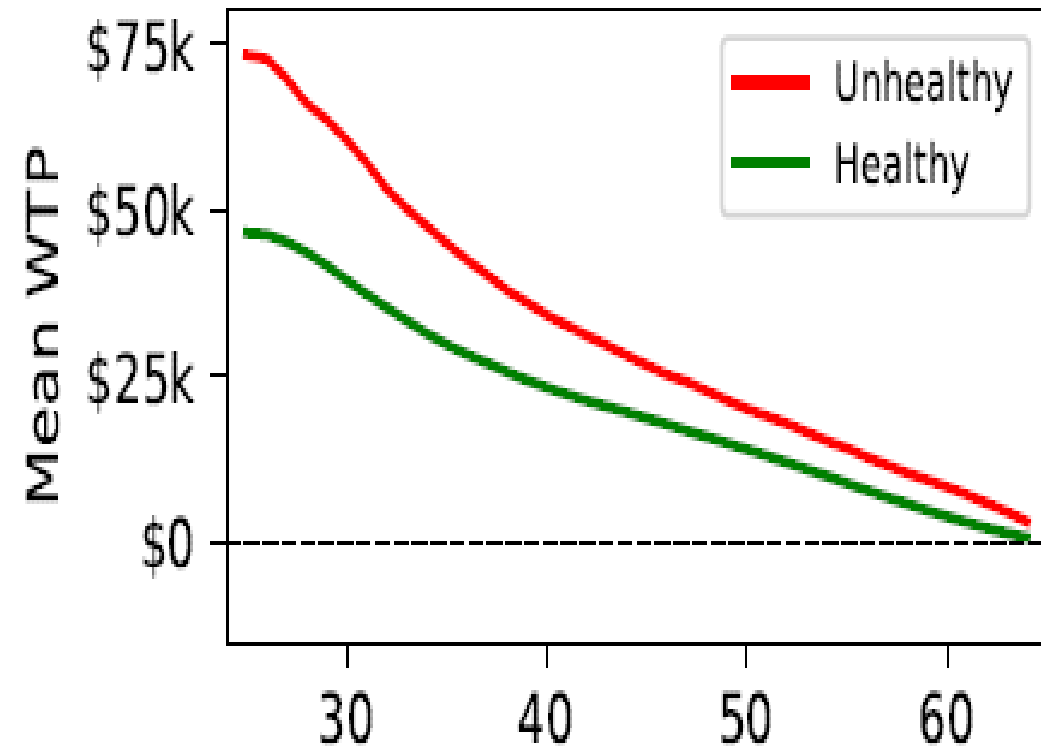
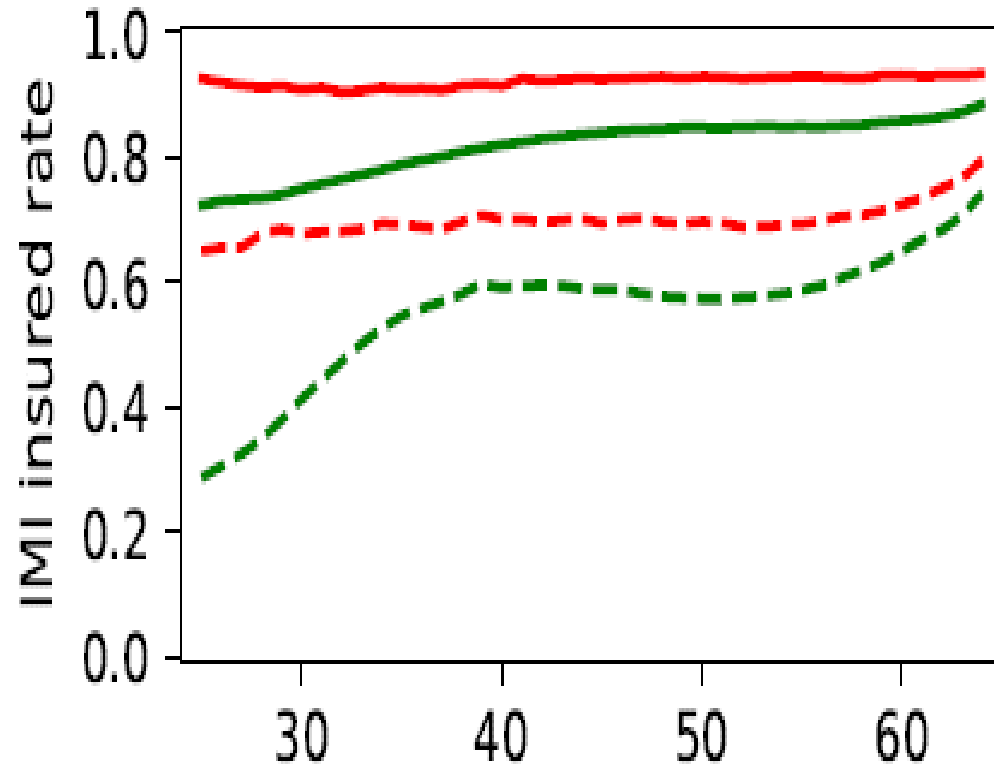
ACA Provisions

- Under the ACA, households earning 100% to 400% of poverty who lack ESHI are eligible to receive subsidized private insurance through the exchanges.
- Originally, the ACA imposed a tax penalty of 2.5% of income or \$695 per person (whichever is greater) for households that do not hold health insurance.
- ACA-compliant individual market plans cannot condition premiums on an individual's health status, history, nor habits.
- The premium depends on the medical risk profile of the entire risk pool in the exchange -- community rating.

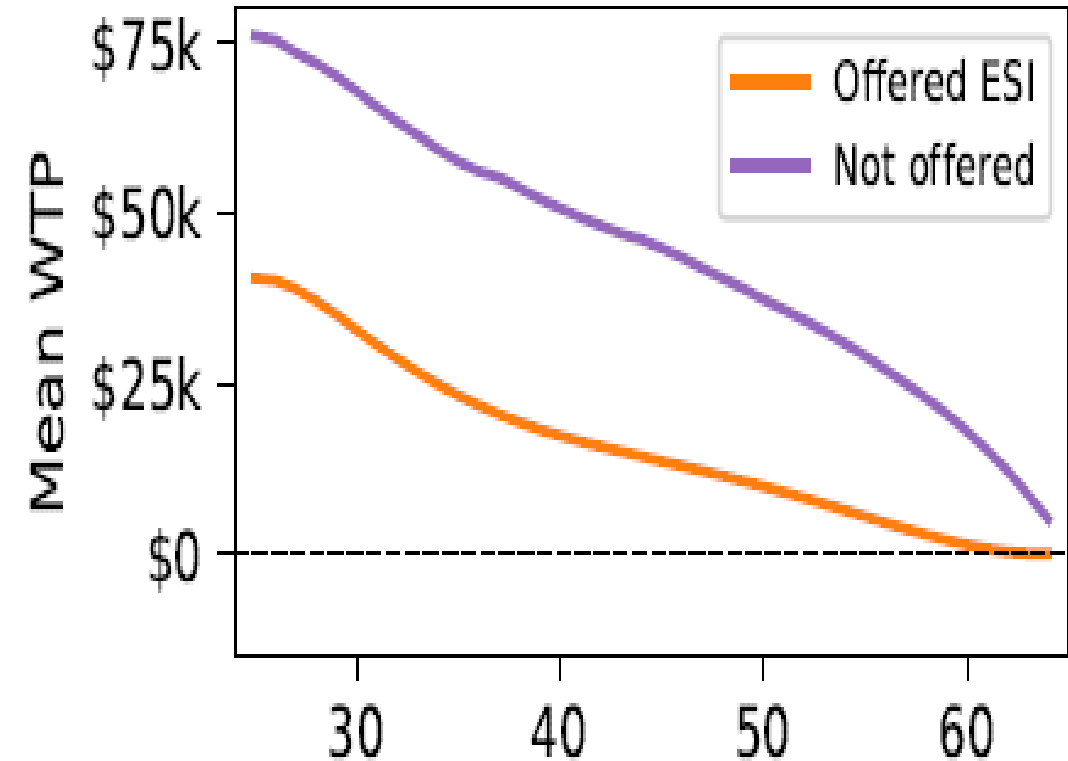
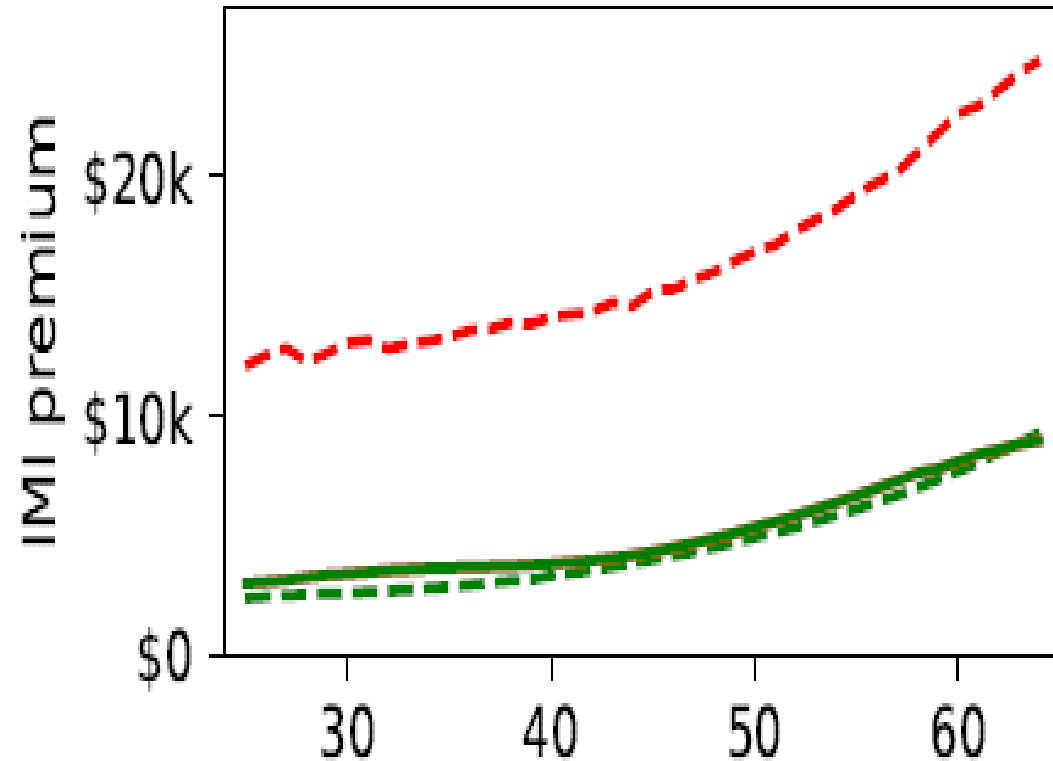
ACA Experiment

- Remove dependence of the private health insurance premium on health status
- Group all levels of health status into a single pool rather than separating into healthy and unhealthy pools.
- Ratio of premiums for 64-year-olds to 24-year-olds cannot exceed 3

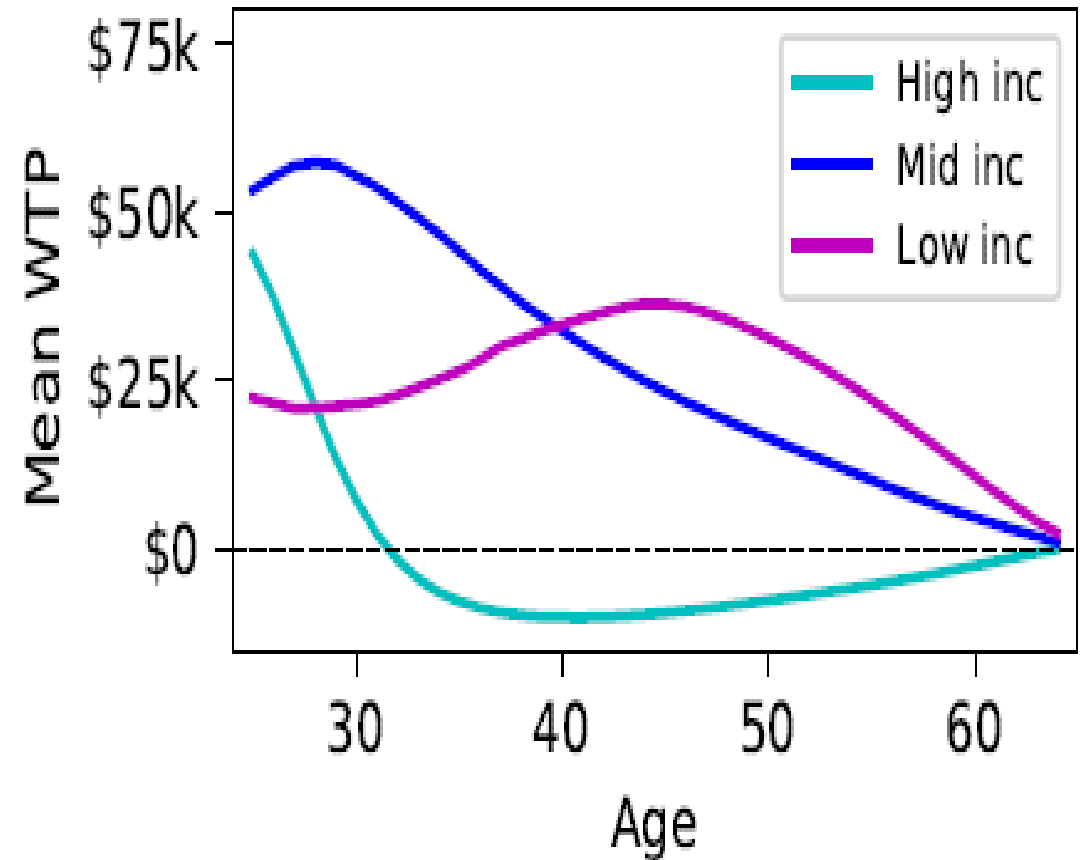
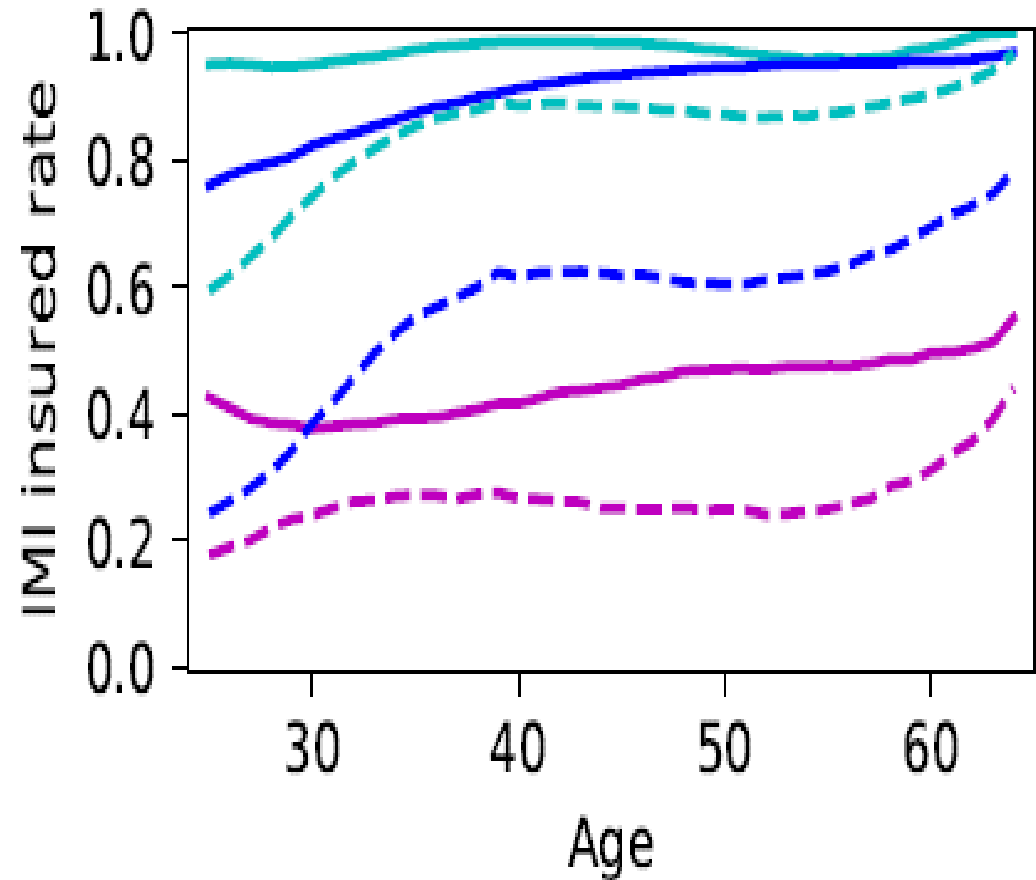
A lot of healthy young people take up private insurance:



So the premium for community rated IMI is not much higher than baseline rate for healthy:



Take up of IMI is much less for low income:

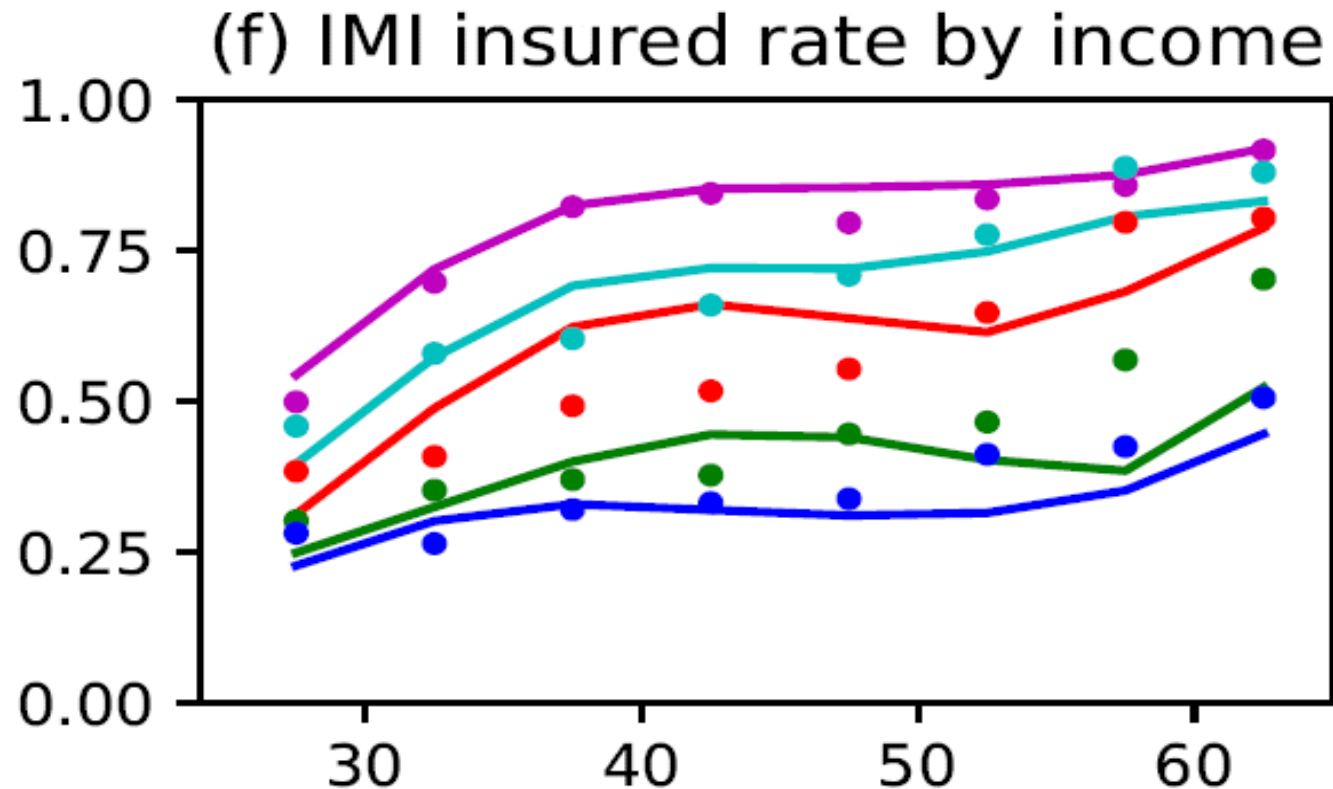


Two Criticisms of Paper:

- (1) I don't like having medical spending enter the utility function:
- It seems strange to evaluate the welfare benefit of insurance in a model where medical spending generates utility.
- I would prefer a derived demand for medical care:
 - Let health shocks cause health transitions to deteriorate.
 - Let medical spending mitigate negative effect of health shocks.

Two Criticisms of Paper:

- (2) It is strange to have 5 health types and a common private insurance premium for types 3,4,5 and types 1,2.
- This means private insurance is a good deal for types 1 and 3.



That is why you get the green line too low and the red line too high.

It would be better to let the premium increase with expected medical cost (for a persons age/health type) with a slope less than one.