Does Marriage Make Us Healthier?
- Evidence from Japanese Elderly -

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1   Background and Objectives

Married people have been repeatedly documented to enjoy better health. Particularly, many works showed positive marriage protection effect on health. But further investigation is still necessary for at least three points: (1) None of them theoretically shows the marriage-health causality, (2) Few studies explored variant marriage protection effects over life span, (3) Scant attention were paid to Asian countries in which situation differs from that of the Western countries due to diametrical culture background. Therefore, we aim to first construct a theoretical bridge between marriage and health by relaxing depreciation rate assumption in Grossman's model, then investigate marriage protection effect in Japanese elderly.

2   Theoretical Model and Empirical Strategies

We mainly follow Grossman but assume an endogenous depreciation rate δ_t. In detail, δ_t decreases with proper health investment I_{t-1} and marriage $m_t = 1$; increases with age t. Solving the utility maximization problem to derive the optimal health capital $\frac{\phi'_t w_t}{\pi^I_{t-1}} = r - \tilde{\pi}^I_{t-1} + \delta_t + \frac{\partial \delta_t}{\partial I_{t-1}} H_t$, we realize the RHS - price of health - satisfies our assumptions. Subsequently, each counterpart is specified and linearized for regression. We follow Grossman and leave out ϕ' and π^I here, while specify $\delta_t = \beta_6^{x_t} \{ t^{\beta_7} / [(m_t+1)^{\beta_8} I_{t-1}^{\beta_9}] \}^{\frac{1}{n}}$ to derive $\ln H_t = \alpha_0 + \alpha_1 \ln w_t - \alpha_1 \ln p_t + \alpha_2 E_t + \alpha_3 \ln I_{t-1} - \alpha_4 \ln t + \alpha_5 \ln(m_t + 1) - x_t \alpha_6 + u_t$. Technically, to solve the endogeneity owing to simultaneous relation of marriage and health, 2SLS - the IV method - is also implemented besides OLS.

3   Data and Measurements

The empirical analysis is based on a micro-based six-wave panel data - Health and Retirement Survey - provided by National Institute of Population and Social Security Research in Japan, in which data of respondents aged from 45 to 80 is collected. For regressand, we utilize five health indicators (e.g., probability of suffering three-killer diseases, self-rated health) to represent both the objective and subjective health. Besides to included demographic and socio-economic control variables, two instruments - region scale and provincial divorce rate - are implemented to solve potential endogeneity of our treatment, the marital status.

4   Results and Conclusion

We partially confirmed marriage protection effect for Japanese elderly as marriage significantly lead to a better self-rated health for female (marginal effect 0.127) and fewer difficulties owing to poor health regardless of gender (ME 0.150 and 0.136 for male and female); a lower probability of suffering three-killer diseases for whole sample (LATE -22.1%); while lead to a higher probability of suffering lifestyle diseases (LATE 34.0%). In short, our concern - marriage - do be conductive to subjective health, but may not be beneficial to objective ones of Japanese elderly. As subjective health, especially self-rated health, is a precise predictor of mortality among elderly, we believe marriage is a factor governments ought to consider when implement corresponding health-related policies. A very first step for policy makers on this direction is to consider family structure of targets as well as their health status.

Key Words: **Marriage protection effect, Endogenous depreciation rate, Japanese elderly**

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