

Aging, Healthcare System, and Interest Rates*

Reona Hagiwara[†]

January 24, 2024

Abstract

Over the past few decades, the Japanese economy has experienced a widening gap between returns on liquid bonds and illiquid capital (i.e., the liquidity premium) due to a secular decline in the real interest rate and a slight increase in the capital return. This paper investigates the impact of changes in economic structures, including demographics and medical systems, on these trends. In particular, I explore the role of the health or medical expenditure risk, using a general equilibrium overlapping generations model with two kinds of assets, liquid and illiquid, in which households face uncertain medical costs. I find that both structural changes could have resulted in the increasing liquidity premium. The aging population has pushed down both asset returns because of an increase in aggregate asset demand. On the other hand, the rise in medical costs has led to higher capital return and lower bond return by shifting the asset portfolio of older households from illiquid to liquid. Overall, the liquidity premium has expanded, and the decomposition shows that the latter contribution would be significant. The results suggest that the structural changes going forward will lead to a further increase in the premium in the future, even after accounting for the larger supply of government bonds.

Keywords: Medical Expenditure Risk; Demographic Aging; Liquidity Premium; Overlapping Generations

JEL classification: E21, G51, I10, J11

*The author is grateful for discussions with Kazuhiro Hiraki, Daisuke Ikeda, Sagiri Kitao, So Kubota, Toshitaka Sekine, and Etsuro Shioji. The author also thanks seminar and conference participants at the SWET 2023 for helpful comments. This study is financially supported by Tokio Marine Kagami Memorial Foundation. All remaining errors are my own.

[†]Waseda University (E-mail: reona.hagiwara@aoni.waseda.jp)