# 科研費

# 科学研究費助成事業 研究成果報告書

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研究課題名(和文)Wealth-Health Inequality at Retirement: an Implication for a Social Security

Reform

研究課題名(英文)Wealth-health inequality at Retirement: an Implication for a Social Security

Reform

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# 研究成果の学術的意義や社会的意義

Health and medical expense risks are closely linked to economic inequality among older adults. Our findings that factors predetermined in early stage of life are important in explaining this link implies that a policy intervention should be introduced much earlier, not only focusing on older adults.

研究成果の概要(英文): First, we documented that medical spending in the US is highly concentrated: the top 5% of spenders account for more than half of the total expenditure. This concentration decreases with age. In addition, the average medical spending of people in the bottom income quintile is higher than that of people in the top income quintile for all age groups. Our results show that medical expense or health risk is an important source of risk an individual faces over life course.

Second, we examine how health risk is linked to economic inequality among people near retirement age. We find that factors predetermined in early stage of life are very important in accounting for the link between health inequality and economic inequality. These factors explain 60% of the wealth-health inequality at retirement age. Our quantitative results show that the difference in survival probability between the healthy and unhealthy is an important channel magnifying health induced inequality over the life-cycle.

研究分野: analysis of welfare program and labor market

キーワード: health risk medical expenses risk health inequality health-wealth gradient

# 様 式 C-19、F-19-1、Z-19、CK-19(共通)

## 1.研究開始当初の背景

Our research was motivated by a well-documented relationship between health and economic outcomes. The employment rate among unhealthy people is noticeably lower than their healthy counterparts. Conditional on working, unhealthy people earn much less and, over a longer term, unhealthy people tend to accumulate much less asset. The latter observation is called wealth-health gradient. This gradient is significantly large among people closer to a retirement age. And it is still an opened question about the main channels accounting for the relationship between health inequality and economic inequality.

#### 2.研究の目的

Our research intends to examine the quantitative importance of three channels that can potentially explain the relationship between health inequality and economic inequality, or more specifically wealth-health gradient among people near retirement. The first channel is due to the poor performance of unhealthy people in the labor market. The second channel is due to the high medical expenses. And the third channel is that some early life factors can affect both health outcome and saving behavior later on in life.

## 3.研究の方法

We started by documenting some facts related to the distribution of medical expense an individual faces over life cycle from the Medical Expenditure Panel Survey in the US. We exploit the detailed records of individuals 'medical spending in the data set. Then we construct and estimate a life cycle model which can replicate various observations in the data. Specifically, our quantitative model match the difference in labor market outcomes, medical expenses, and saving behaviors between healthy and unhealthy population over their life course. Using our estimated model, we can decompose the importance of each channels that can potentially account for the health-induced inequality.

## 4. 研究成果

First, we documented that medical spending in the US is highly concentrated: the top 5% of spenders account for more than half of the total expenditure. This concentration decreases with age. In addition, the average medical spending of people in the bottom income quintile is higher than that of people in the top income quintile for all age groups. Our results show that medical expense or health risk is an important source of risk an individual faces over life course.

Second, we examine how health risk is linked to economic inequality among people near retirement age. We find that factors predetermined in early stage of life are very important in accounting for the link between health inequality and economic inequality. These factors explain 60% of the wealth-health inequality at retirement age. Our quantitative results also show that the difference in survival probability between the healthy and unhealthy is an important channel magnifying health induced inequality over the life-cycle.

Based on our findings, a promising avenue of future research is to identify factors that are predetermined early in life and can affect both health and economic outcomes in late adulthood. In our studies we have documented some potential factors which are related to genes (polygenic scores), parent background, and childhood environments. However, more detailed data and deeper studies are needed in order to provide a more conclusive evidence. In fact, some recent studies have moved along this direction by exploiting the recently available of genetic information in household survey data.

#### 5 . 主な発表論文等

#### 〔雑誌論文〕(計2件)

1. Medical Spending in the US: Facts from the Medical Expenditure Panel Survey Data Set. De Nardi, M., Pashchenko, S., and <u>Porapakkarm, P.</u>, Fiscal Studies (refereed journal), Volume 37, Issue 3-4, page 689-716, 2016, https://doi.org/10.1111/j.1475-5890.2016.12100

2. The Lifetime Costs of Bad Health.

De Nardi, M., Pashchenko, S., and <u>Porapakkarm, P.</u>, 2018, NBER Working Paper (non-refereed),

#### [学会発表](計8件)

- 1. Svetlana Pashchenko/ Lifetime Cost of Bad Health/ Midwest Macro Meeting (University of Georgia, USA)/ 2019
- 2. Svetlana Pashchenko/ Lifetime Cost of Bad Health/ China Meeting of the Econometric Society (Jinan University, China)/ 2019
- 3. <u>Ponpoje Porapakkarm</u>/ Lifetime Cost of Bad Health/ Society for the Advancement of Economic Theory Annual Meeting (Academia Sinica, Taiwan)/ 2018
- 4. Svetlana Pashchenko/ Lifetime Cost of Bad Health/ Risk Theory Society Annual Meeting (Georgia State University, USA) / 2018
- 5. <u>Ponpoje Porapakkarm</u>/ Lifetime Cost of Bad Health/ Facing Demographic Change in a Challenging Economic Environment Conference (Montreal, CA)/ 2017
- 6. <u>Ponpoje Porapakkarm</u>/ Lifetime Cost of Bad Health/ Macro labor workshop (Chinese University of Hong Kong, China)/ 2017
- 7. <u>Ponpoje Porapakkarm</u>/ Lifetime Cost of Bad Health/ Asian Econometric Society Meeting (Chinese University of Hong Kong, China)/ 2017
- 8. Mariachristina De Nardi/Lifetime Cost of Bad Health/2017 ANNUAL MEETING OF THE SOCIETY FOR ECONOMIC DYNAMICS (Edinburgh, Scotland)/2017

## [図書](計0件)

# 〔産業財産権〕

出願状況(計0件)

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名称: 発明者: 権類: 種類: 番号: 取得年: 国内外の別:

〔その他〕 ホームページ等

6. 研究組織

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