

Contents lists available at [ScienceDirect](#)

Journal of Macroeconomics

journal homepage: www.elsevier.com/locate/jmacro

Health capital accumulation, health insurance, and aggregate outcomes: A neoclassical approach[☆]



Mark Kelly

Baylor University, United States

ARTICLE INFO

Article history:

Received 28 September 2016

Revised 3 February 2017

Accepted 7 February 2017

Available online 10 February 2017

JEL classification:

E13

E20

E62

I12

I13

Keywords:

General equilibrium

Neoclassical

Time use

Health capital accumulation

Health insurance

Healthcare consumption

ABSTRACT

Over the past two decades, medical expenditure growth in the US has outpaced GDP growth by over 1.3% annually. To date, the literature has primarily focused on explaining the rapid rise in medical consumption relative to output, with only limited attention given to understanding the long-run macroeconomic implications of this trend. In this study, I modify the standard Neoclassical growth framework to include health capital accumulation, public and private health insurance, and GHH utility. After calibrating the model to match US data for the period 1996–2013, I systematically investigate the response of output, physical and health capital, medical and non-medical consumption, and household time allocation to one-time exogenous shocks to various potential determinants of medical expenditure growth. I find that a 10% increase in final goods and medical sector productivity shocks each have a positive effect on aggregate welfare. On the other hand, a 10% increase to the endogenous depreciation rate of health capital, or to either the public or the private health insurance share are all found to be welfare reducing.

© 2017 Elsevier Inc. All rights reserved.

1. Introduction

The elevated growth rate of health care consumption relative to GDP that has occurred throughout the last several decades is one of the most significant and challenging macroeconomic phenomena facing modern industrial nations, and has dramatically altered the structure of the US economy. Between 1963 and 2013, the GDP share of personal health care (PHC)¹ expenditures increased by a factor of nearly 3.25, rising from 4.56% to 14.72%. Many have expressed concern over the sustainability of the health care sector's current growth trend, claiming that the GDP shares of non-medical consumption, investment, and discretionary government expenditures will be diminished as household and government budgets become increasingly constrained by rising medical expenditures (see [Auerbach et al., 1992](#) and [Hsiao and Heller, 2007](#)). As a re-

[☆] I would like to thank my advisor, Santanu Chatterjee for his guidance throughout this project. I would also like to thank the remaining members of my committee, William Lastrapes, William Vogt, and David Bradford for their numerous contributions to this work. Additional thanks to the participants and discussants at the 82nd, 83rd, and 84th Annual Meetings of the Southern Economic Association, the seminar participants at Colorado College and Baylor University, and the anonymous referee from the Journal of Macroeconomics for their helpful comments. Finally, I would like to acknowledge the Earhart Foundation and the Knox Scholarship for their generous support of this research while I was a student at the University of Georgia.

E-mail address: mark_kelly@baylor.edu

¹ "The total amount spent to treat individuals with specific medical conditions." [Centers for Medicare and Medicaid Services \(2011\)](#).

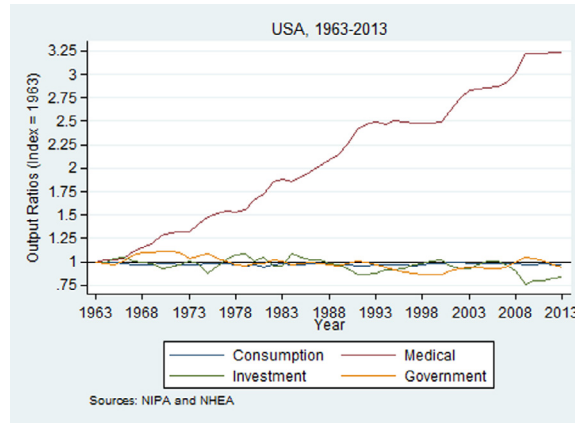


Fig. 1. Investment, non-medical government expenditures, medical and non-medical consumption to output ratios (1963–2013).

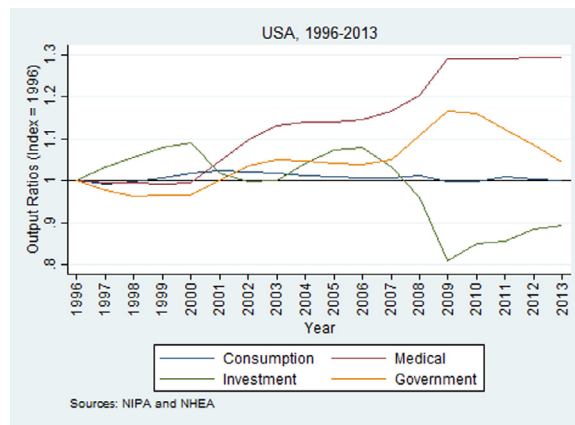


Fig. 2. Investment, non-medical government expenditures, medical and non-medical consumption to output ratios (1996–2013).

sult, there is considerable support for cost containment health care reforms that attempt to curtail the growth of medical expenditures.²

Despite these concerns, there is sufficient evidence in the literature to suggest that the growth in medical consumption relative to output may be the optimal response of households to changes in the economy that have occurred over the past 50 years, potentially contradicting the common assertion that cost containment health care reform is essential. Unfortunately, to date there has not been a systematic attempt in the literature to identify the macroeconomic consequences of the rise in medical expenditures that incorporates the significant aggregate externalities (both positive and negative) that are associated with health investment.

Therefore, in what follows I develop a benchmark neoclassical model that is useful for investigating the aggregate steady-state response to changes in the economy that are related to the growth of the health care sector. More specifically, I adapt the standard Neoclassical growth model with endogenous labor supply to include health capital accumulation following Grossman (1972). Health investment is financed in part by employer-provided private health insurance as well as a government subsidy intended to mimic the public financing of private medical consumption through programs such as Medicare and Medicaid. I assume that the household does not internalize the impact its actions have on the rate of depreciation of health capital and the private health insurance premium, generating a negative externality that may result in a non-optimal level of medical consumption. At the same time, I assume that health capital generates a positive externality on final goods production that may result in under-investment in health capital. Consequently, the response of aggregate welfare to an expansion of health insurance³ is uncertain and will depend on the relative magnitudes of these two competing externalities.

The analytical model is calibrated to match annual data for the US economy from 1996 to 2013. After calibrating the model and solving for the steady-state numerically, I analyze the transition dynamics and steady-state welfare response of

² It should be noted that there doesn't appear to be a significant decline in the income shares of private consumption, investment, and public non-medical consumption over the past 50 years. See Figs. 1 and 2, which display these income shares along with medical consumption share for the periods 1963–2013 and 1996–2013 respectively.

³ As measured by an increase to either the public or private health insurance share of total medical expenditures.

Download English Version:

<https://daneshyari.com/en/article/5101283>

Download Persian Version:

<https://daneshyari.com/article/5101283>

[Daneshyari.com](https://daneshyari.com)