



The effect of social security, health, demography and technology on retirement [☆]



Pedro Cavalcanti Ferreira ^{a,*}, Marcelo Rodrigues dos Santos ^b

^a Graduate School of Economics (EPGE), Fundação Getúlio Vargas, Praia de Botafogo 190, 1125, Rio de Janeiro, RJ 22253-900, Brazil

^b Insper, Rua Quata 300, sala 419, São Paulo, SP 04546-042, Brazil

ARTICLE INFO

Article history:

Received 10 June 2009

Revised 17 January 2013

Available online 9 February 2013

JEL classification:

J2

E2

D5

Keywords:

Retirement

Social security

Health shocks

Medicare

Aging population

ABSTRACT

This article studies the determinants of the labor force participation of the elderly and investigates the factors that may account for the increase in retirement in the second half of the last century. We develop a lifecycle general equilibrium model with endogenous retirement that embeds Social Security legislation and Medicare. Individuals are ex ante heterogeneous with respect to their preferences for leisure and face uncertainty about labor productivity, health status and out-of-pocket medical expenses. The model is calibrated to the U.S. economy in 2000 and is able to reproduce very closely the retirement behavior of the American population. It reproduces the peaks in the distribution of Social Security applications at ages 62 and 65 and the observed facts that low earners and unhealthy individuals retire earlier. It also matches very closely the increase in retirement from 1950 to 2000. Changes in Social Security policy – which became much more generous – and the introduction of Medicare account for most of the expansion of retirement. In contrast, the isolated impact of the increase in longevity was a delaying of retirement.

© 2013 Elsevier Inc. All rights reserved.

1. Introduction

The reduction of the participation of elderly people in the labor force was one of most remarkable economic changes of the last century, particularly in the second half. In 1950, 46% of men aged 65 and over in the United States were working, but only 16.5% were in 2000. Just four out of every ten 66-year-old males were retired in 1950, but fifty years later almost seven out of ten were out of the labor force. This phenomenon is hardly exclusive to the United States. [Blondal and Scarpetta \(1999\)](#) and [Gruber and Wise \(1999\)](#) provide evidence that the workforce participation of the elderly population has declined in many countries of the OECD.

Currently, more than 50% of workers choose to retire at the age of 62, when they first become eligible for early retirement benefits under social security, although at a reduced level. In 1950, in contrast, there was no legal early retirement age and the minimum and normal retirement age coincided at 65. The decision to retire, and to do it early, is influenced by a

[☆] We wish to thank the editor Gianluca Violante, two anonymous referees, Flávio Cunha, Rodrigo Soares, Carlos Eugênio da Costa, Samuel Pessôa, Ricardo Cavalcanti, Luiz Braido and Cesar Santos as well as seminar participants at EPGE-FGV, at the 2011 SED meetings in Ghent, at the 2011 EEA annual Congress in Oslo and at the 2008 SBE meetings in Bahia for helpful comments. We are responsible for any remaining errors. The authors acknowledge the financial support of CAPES and CNPQ.

* Corresponding author.

E-mail addresses: ferreira@fgv.br (P.C. Ferreira), marcelors2@insper.edu.br (M.R. dos Santos).