Journal of Macroeconomics 33 (2011) 61–79

Contents lists available at ScienceDirect

Journal of Macroeconomics

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

An inter-temporal general equilibrium analysis of the Australian age pension means test

George Kudrna *, Alan Woodland

School of Economics, Australian School of Business, The University of New South Wales, Sydney 2052, Australia

ARTICLE INFO

Article history:
Received 29 July 2009
Accepted 15 September 2010
Available online 7 October 2010

JEL classification:
H55
J26
C68

Keywords:
Retirement
Pension reform
Means test
Dynamic OLG model

ABSTRACT

The Australian age pension is somewhat unusual among developed countries in that it is means tested against both the claimant's income and assets. While means testing of age pensions facilitates the aims of directing public pensions to those senior individuals most in need and of containing pension expenditures by governments, it also has the effect of changing the incentives of individuals to work and save. This paper examines the implications of the Australian means tested age pension for incentives of individuals to save and work, for government financial commitments and for the welfare of individuals. To this end, we develop an overlapping generations model of the Australian economy that incorporates the essential features of the Australian pension, superannuation and taxation policy settings and use it to explore the implications of several hypothetical policy changes that relax the means test of the age pension. Our results confirm that the existing means-tested, age pension represents a disincentive for some older Australians to work.

1. Introduction

The Australian age pension provides a safety net payment to older people unable to support themselves financially in their retirement. The Australian pension is somewhat unusual among developed countries in that it is means tested against both the claimant's income and assets. Although 18 OECD countries have targeted pension programs, many of these countries also pay some flat-rate basic pension that is not means tested (OECD, 2005). Furthermore, in most countries targeted public pensions are only income tested and not subject to both income and asset means tests as in Australia.

While the targeting or means testing of age pensions facilitates the aims of directing public pensions to those senior individuals most in need and of containing pension expenditures by governments, it also has the effect of changing the incentives of individuals to work and save. By reducing the pension payments as private income from labour earnings or interest income from past asset accumulations increase, the effective marginal tax rates are increased for those in receipt of pensions. This has the potential to alter retirement and labour supply decisions by eligible pensioners and, moreover, to alter their labour supply and savings decisions throughout the life cycle.

The purpose of the present paper is to examine the implications of the Australian means tested age pension for incentives of individuals to save and work, for government financial commitments and for the welfare of individuals. One specific aim is to determine whether the age pension means test provides disincentives for senior Australians to engage in some part-time work and incentives to bring forward retirement. Other aims are to determine the effects upon saving over the life cycle and upon individual welfare, and to draw out the macroeconomic and fiscal implications.

* Corresponding author. Tel.: +61 2 9385 1446; fax: +61 2 9313 6337.
E-mail address: g.kudrna@unsw.edu.au (G. Kudrna).

0164-0704/$ - see front matter © 2010 Elsevier Inc. All rights reserved.
doi:10.1016/j.jmacro.2010.09.006

To this end, we develop an overlapping generations model of the Australian economy that incorporates the essential features of the Australian pension, superannuation and taxation policy settings and use it to explore the implications of several hypothetical policy changes that relax the means test of the age pension. In contrast with Australian micro-simulation models with limited or no behavioural policy effects (Atkinson et al., 1996; Rothman, 1998), our inter-temporal general equilibrium model with overlapping generations of heterogeneous households allows us to deal with life-cycle saving, consumption and hours of work decisions of households and, moreover, allows us to numerically determine the inter-generational, welfare and macroeconomic implications of the age pension policy and potential changes to this policy.

We explore the implications of several hypothetical policy changes that relax the means test of the Australian age pension. The first of these is the complete removal of the means test, which amounts to installing a universal pension for all seniors of at least 65 years of age. As variations on this theme, we also give brief consideration to the removal of the income test alone and then removal of the assets test alone. Second, we simulate the implications of several hypothetical policies that partially relax the income means test, since it is the income test that is binding for most households. We consider three partial relaxations to the income test: (i) the halving of the taper rate applied to the income test, (ii) halving the labour earnings to be included as assessable income for the test and (iii) halving the investment earnings to be included as assessable income for the test. The first of these policies relaxes the income means test in a manner neutral to the source of income, while the other two bias the relaxation to labour and investment earnings respectively.

Some of the policy changes to the age pension that we examine in this paper have been the subject of debate in the broader literature. First, our examination of the consequences of a complete removal of the means test is motivated by the fact that many countries do not have such a targeted pension (e.g., New Zealand) and by the considerable literature on whether publicly provided pension payments should be paid to all citizens from a certain age (i.e., universal age pension) or targeted to those in need (i.e., means tested pension); see, for example, Mitchell et al. (1994).[1] Arguments for the universal age pension are that it would simplify the public pension pillar, reduce administrative costs and avoid very high effective marginal tax rates, thus removing disincentives to work and save for the elderly. On the other hand, government expenditures on targeted pensions are substantially lower than on universal pension payments.

Second, others have suggested only partial adjustments to the Australian age pension means test to encourage pensioners to provide some work and to avoid substantial costs that would result from the shift to the universal pension. Dunsford and Rice (2004) propose the removal of labour earnings from the income test, while the Australian government enacted a halving of labour earnings (with a limit) to be counted as assessable income as part of its 2009/10 budget, thus motivating policy change (ii) above.

Empirical literature generally supports the view that labour supply responds positively to relaxation of earnings testing of social security benefits. The literature that examines aggregate labour supply responses by individuals eligible for pension benefits to changes in the earnings test includes studies by Baker and Benjamin (1999) for Canada, Disney and Smith (2002) for the UK, and Burtless and Moffitt (1985) and Friedberg (2000) for the US. Using a dynamic programming, structural model of households, Rust and Phelan (1997) conclude that the discretionary effects of the US progressive tax schedule and the transfer features of the social security system combine to encourage retirement earlier than otherwise would be the case. French (2005) and Benitez-Silva and Heiland (2007), also using structural models of retirement, show positive effects of the earnings test removal in the US on labour supply of those at and near the threshold of the earnings test. Similarly, Määttönen and Poutvaara (2007) simulate lower aggregate labour supply and welfare when they incorporate an earnings test of social security benefits into their general equilibrium overlapping generations model that is calibrated to the US.

In addition to work disincentives, the age pension means tests have the potential to distort saving decisions over the life-cycle of individuals. This is because the age pension declines as assets (other than the family home) increase beyond an assets threshold under the assets test, and because income from assets (such as interest, dividends and rent) is included as assessable income under the income test. Simulation results by Sefton et al. (2008) demonstrate that the reduction in the taper rate of the means tested benefits from 100% to 40% implemented in the UK in 2003 would increase labour supply and saving of low-income households but have the opposite effects on high-income households, resulting in higher overall employment and lower aggregate saving. Similarly, Neumark and Power (1998) find empirical evidence that high Supplementary Security Income benefits for the elderly in the US, which are means tested, reduce pre-retirement saving of those who are likely participants in the program.

Our simulation results demonstrate that the hypothetical pension policy changes considered have a significant behavioural impact on middle-income households that are income tested in the pre-reform case with the existing means test. These households work longer hours at older ages and postpone their full retirement as the penalty of high effective marginal tax rates is eliminated or reduced. Low-income households on the full age pension in the benchmark steady state are affected only through general equilibrium impacts on the wage rate and the consumption tax rate. High-income households, for whom the assets test binds, are directly affected only by the means test removal as they then receive the universal age pension, which has a negative income effect on their labour supply. Thus, the analysis indicates that the existing means test represents a labour supply disincentive for some older Australians. The macroeconomic simulation results show that the means test abolition would raise the government costs on age pension substantially relative to the costs arising from

[1] The Institute of Actuaries of Australia (1994) recommended abolition of the means test and payment of a universal pension to all people from age 65 in Australia.