Journal of Economic Dynamics & Control 59 (2015) 163–178

Contents lists available at ScienceDirect

Journal of Economic Dynamics & Control

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

Social security and two-earner households

Remzi Kaygusuz

Faculty of Arts and Social Sciences, Sabanci University, Istanbul, Turkey

ARTICLE INFO

Article history:
Received 16 January 2015
Received in revised form
25 June 2015
Accepted 21 July 2015
Available online 28 July 2015

JEL classification:
E62
H31
H55
J12

Keywords:
Social security
Two-earner households
Labor force participation

ABSTRACT

In the past decades, elimination of the pay-as-you-go system in U.S. has been extensively discussed and studied. Such an elimination would also eliminate the intragenerational redistribution done by the following policies of social security. Due to spousal and survivor's benefit provisions, US Social Security system redistributes (mostly) to single-earner married households. Since retirement benefits are a concave function of past mean earnings, the system redistributes from high earners to low earners. Finally, existence of a cap on social security taxable earnings makes the system regressive. This paper quantifies redistributive, labor supply, and welfare implications of these policies using a general equilibrium life-cycle model. Agents start out as permanently married or single and with education levels and wage profiles, where the latter depend both on education and gender. The household is the decision maker and decides on labor supply of its member(s) and saving. Elimination of these policies results in a 5.5% rise in labor force participation of married females, while increasing aggregate welfare by 0.4%. A majority of households experience positive gains in welfare. Single-earner married households incur large welfare losses (as big as 1.1%), whereas two-earner households with high skilled spouses experience substantial welfare gains (as big as 1.9%).

1. Introduction

Due to aging of US population, reforming its social security system has been a hot topic for policy makers as well as academic economists in the past decades.[1] Many reform proposals, including elimination of the current pay-as-you-go system, have been widely discussed and studied. Most of the discussions overlook the fact that elimination of the current system will also eliminate the intragenerational redistribution that is built into the system. Implications of eliminating major redistributive policies of social security on labor supply and welfare have been unexplored in the dynamic equilibrium analyses in the macroeconomics and public finance literatures. This paper fills this gap.

Current workers face a flat payroll tax rate up to a cap level of earnings.[2] Monthly benefit entitlement of a retiree, i.e, Primary Insurance Amount (PIA), is a function of average past earnings. The overall system is generally thought to be progressive since this function replaces a larger fraction of past earnings for lower earners than higher earners. However, spousal and survivor's benefit provisions may break this relation between one's past earnings and retirement income.

E-mail address: rkaygusuz@sabanciuniv.edu

[1] US Social Security System is facing a serious financial imbalance over the next 75 years. Projected OASDI tax collections will only be sufficient to finance about 75% of scheduled annual benefit payments in 2037 through 2084 (Board of Trustees Report 2010).

[2] In 2014, the social security tax rate is 12.4% and the earnings cap is $117,000.

http://dx.doi.org/10.1016/j.jedc.2015.07.006
0165-1889/

Existing system gives a married retiree the right to collect the higher of own PIA and the spousal benefit, a provision that is equal to 50% of the spouse's PIA. Hence, the system pays retirement income to some individuals who never pay payroll taxes. For instance, a lifelong single-earner married household collects 150% of the PIA of the breadwinner every month upon retirement.[3] In addition, a survivor gets the higher of own PIA and the survivor's benefit, a provision that amounts to 100% of the spouse's PIA. Even though these provisions aid many married households, they potentially discourage labor force participation of secondary earners at young ages by increasing value of non-participation. Moreover, with these provisions, the system leads to an important intragenerational redistribution. The system potentially redistributes to many single-earner married households and to the two-earner households who qualify to get these provisions. Additionally, even though a greater fraction of low earner married households take advantage of spousal and survivor's benefits, these provisions do not necessarily play a progressive role. Since the spousal and survivor's benefits increase with past mean earnings of the primary earner in the household, these rules are regressive among the recipients of these benefits.

The earnings cap is another redistributive policy of the social security. Workers do not pay social security taxes for their earnings in excess of the earnings cap, hence, high earners face a lower marginal tax rate than the others. This policy makes the social security more regressive.

This paper contributes to the literature by addressing the following quantitative questions. What are the macroeconomic and welfare consequences of eliminating these policies, while keeping the pay-as-you go system intact? How much labor supply of different households, in particular, labor supply of married females, respond to this policy reform? Who gains, who loses, and by how much? What kind of an intragenerational redistribution is eliminated? Would a majority of households support such a policy reform?

With these questions in mind, I build and calibrate a general equilibrium overlapping generations model with capital and heterogenous agents. Agents start out as married or single, and their marital status do not change over the life-cycle. After retirement, each agent faces a gender and age dependent mortality risk. Agents have certain education levels and wage profiles, where the latter depend on agents' education and gender. The household is the decision maker and decides on labor supply of its member(s) and saving. The labor supply decision of a married household is a joint decision and involves a labor market participation decision for the female. The households with two earners incur an additional fixed utility cost, where the costs differ across households. Besides income and capital taxes, workers pay social security taxes. As in the current system, PIA of a retiree is determined by a piecewise-linear concave function. Qualifying married households receive the spousal benefit provision, whereas qualifying survivors receive the survival benefit provision. The calibrated model economy closely resembles features of the 2000 US economy. The benchmark economy is consistent with observations on gender wage gap, wage premia and married female labor force participation across education groups, and the structure of marital sorting. The structure of taxation closely resembles the income taxes paid in 2000.

Eliminating the spousal and survivor's benefits, the progressive calculation of benefits, and the earnings cap all at once raises output by 1.2%, while raising capital by 2.1%, and, labor by 0.7%. Only source of the rise in labor is a 5.5% rise in the labor force participation of married females. Labor supply of workers along intensive margin decreases at a negligible amount. At the same time, aggregate welfare increases by about 0.4%, while a majority of households experience positive welfare gains.

There are substantial changes in labor force participation rate of married females. The changes range between 2% and 10.7%. A larger fraction of relatively low skilled married females respond to the policy reform by starting to participate in the labor market.[4]

A substantial amount of redistribution from married households with high skilled spouses to married households with low skilled spouses is eliminated. On average, retirement benefits of married households composed of spouses with less than high school degree decrease by 22.4%, whereas retirement benefits of married households composed of spouses with more than college education increase by 23.2%.

Even though the married households with lowest skilled spouses experience the biggest decline in retirement income, they are not the biggest losers of this policy reform. Married households composed of relatively low skilled females and high skilled males, who are mostly single-earners, incur larger welfare losses (as much as 1.1%). On the other hand the ones with relatively high skilled females, who are mostly two-earners, experience substantial welfare gains (as much as 1.9%). Among single individuals, welfare of relatively high skilled individuals increase (as much as 2.7%), while welfare of very low skilled females decrease (1.2%).

To see where these overall effects are coming form, I evaluate the consequences of eliminating each of the redistributive policies one by one.

The substantial rise in female labor force participation is due to the elimination of the spousal and survivor's benefits. This provision discourages many married females from work at young ages by increasing value of non-participation.

The gains in aggregate welfare are largely due to the elimination of the spousal and survivor's benefits. Elimination of the progressive calculation contributes negatively to the aggregate welfare, while elimination of the earnings cap slightly increases the aggregate welfare.

[3] Indeed, when the spousal benefit provision was added to social security law in 1939, one of the explicit aims was to encourage traditional bread winner-home maker households. See Carlson (2005) for development of 1939 amendments to social security system.

[4] As discussed below, skill type of an individual is assumed to be captured by his/her education.