Labour Economics 38 (2016) 47–58

Contents lists available at ScienceDirect

Labour Economics

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

Non-contributory pensions

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HIGHLIGHTS

- Improve the mental health of elderly adults in the program, as their score on the Geriatric Depression Scale decreases by 12%.
- Reduce the proportion of treated individuals doing paid work is reduced by 20%, with most of these people switching from their former activities to work in family businesses.
- Increase consumption expenditures (on average, an increase of 23%).

ARTICLE INFO

Article history:
Received 23 May 2014
Received in revised form 15 November 2015
Accepted 23 November 2015
Available online 5 December 2015

JEL classification:
H4
H3
I1
I3

Keywords:
Non-contributory pensions
Poverty
Mental health and well-being

ABSTRACT

The creation of non-contributory pension schemes is becoming increasingly common as countries struggle to reduce poverty. Drawing on data from Mexico's Adultos Mayores Program (Older Adults Program) – a cash transfer scheme aimed at rural adults over 70 years of age – we evaluate the effects of this program on the well-being of the beneficiary population. Exploiting a quasi-experimental design whereby the program relies on exogenous geographical and age cutoffs to identify its target group, we find that the mental health of elderly adults in the program is significantly improved, as their score on the Geriatric Depression Scale decreases by 12%. We also find that the proportion of treated individuals doing paid work is reduced by 20%, with most of these people switching from their former activities to work in family businesses; treated households show higher levels of consumption expenditures (on average, an increase of 23%). Very importantly, we also rule out significant anticipation effects that might have been associated with the program transfers. Thus, overall, we find that non-contributory pension schemes targeting the poor in developing countries can improve the well-being of poor older adults without having any indirect impact (through potential anticipation effects) on the earnings or savings of future program participants.

1. Introduction

Undoubtedly, pensions are one of the most important components of a social security system. Pensions improve welfare by helping individuals to smooth out their consumption levels over their life cycle. By contributing to a pension, people consume less than they produce in the present so that they can consume more after they retire and are no longer earning an income. Pensions allow people to withdraw from the labor market without fear of falling into poverty or impoverishing their relatives.

The most common type of pension in the U.S. and many other high-income countries is a contributory plan that is financed by taxing own labor income. However, contributory plans have proved to be difficult to fully scale up in economies with large informal labor markets (Dethier, 2007; Galiani and Weinschelbaum, 2012; and Levy 2008). As a result, in the developing world, large segments of the population are not covered by contributory pension schemes. In Latin America, contributory pension coverage ranges from 10% to about 60% (Dethier et al., 2010). In Mexico, the site of this study, coverage is only 23%. Most of these countries have instead turned to non-contributory pension systems targeted on the basis of age and income (Holzmann and Jousten, 2010; and McKinnon and Sigg, 2006).[1]

In this paper we study the effect of an at-scale non-contributory pension program on the economic security and well-being of pensioners and their families. The *Adultos Mayores* program provides a nationwide non-contributory universal pension scheme for seniors.[2] At the time that the data used in this study were collected, adults were eligible for the pension

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[1] For further information on non-contributory pension schemes, see http://www.pension-watch.net.
[2] The program is known as "70 y más" (70-and-over).

http://dx.doi.org/10.1016/j.labeco.2015.11.003
0927-5371/

if they were over 70 years old and lived in communities with fewer than 2500 inhabitants.[3] Applicants must provide documentation to prove their age and place of residence. Beneficiaries receive a cash transfer of 1000 Mexican pesos (USD 90) every two months. The beneficiaries of the program are also invited to take part in workshops and social development activities. The program started up in 2007 and had extended coverage to 2.1 million beneficiaries living in 76,000 communities across Mexico over time. Its budget is just over 13 billion pesos, or about 0.1% of GDP, making it the second-largest social program in Mexico after the Oportunidades Program (Rubio and Garfias, 2010; Aguila et al., 2013).

The main goals of the 2007–2012 Mexican government were to promote human development and welfare through the provision of equality of opportunities for all inhabitants. Almost half of the population at the time lived under patrimony poverty and faced high inequality of opportunities. As a result, the development strategy included poverty reduction and protection for vulnerable groups. The human capital program Oportunidades benefited almost 5 million families in 2007 (SEDESOL, 2007b) but there were still vulnerable groups such as the elderly not covered by that program. As a result, the government strategy included providing support to adults at least 70 years old, giving priority to those living in communities with high marginality or that live in poverty conditions through the *Programa de Atención a Adultos Mayores en Zonas Rurales* (Assistance for Older Rural Adults Program). As a result, the budget allocated to the program was approved by congress and the program operation rules were published in February of 2007 (DOF, 2007).

In this study we look at a number of important questions. We first ask whether the economic security afforded to beneficiaries through the program increased their well-being as measured by mental health. We then investigate the extent to which a lack of economic security prevents older adults from retiring; we do this by examining the program's impact on labor-market activities. We also seek to determine whether the program reduces the economic burden on the beneficiary's family; we do this by gauging the extent to which the transfer increases shared household consumption levels. Finally, we ask whether individuals who are nearing the age at which they will become eligible for the program start to reduce their involvement in the labor market and begin to draw on their savings ahead of time in anticipation of receiving the cash transfers from this program in the near future.

We begin by sketching out a conceptual framework to guide the empirical analysis and help us to interpret the results. The framework provides the theoretical underpinnings for our identification strategy as applied in the empirical work. We then test the predictions of the model using a quasi-experimental design that exploits discontinuities in the age and geographical eligibility requirements of the program to identify causal impacts.

Our results provide the first evidence that non-contributory pension systems significantly improve beneficiary mental health as measured by the Geriatric Depression Scale (GDS). Our results are related to the recent works of Finkelstein et al. (2012) and Baicker et al. (2013), which examine extending access to health insurance under Medicaid to a low-income, uninsured adult population. They find, within the framework of a randomized controlled experiment, that Medicaid coverage lowered self-reported depression. These results are very important since mental health is a well-accepted and critical measure of quality of life among the elderly (Campbell et al., 1976; Walker, 2005), and about 121 million people globally, many of whom are older and suffer from chronic depression (World Health Organization (WHO), 2003).

We also find that beneficiaries reduced their participation in formal gainful employment outside the home in favor of less stressful and less demanding informal unpaid work within the household. The share of beneficiaries working for pay fell from 23% to 18%, while the share who were working without pay in family enterprises rose from 13% to 19%. Analogously, hours in wage work fell by 2.6 per week, and hours in unpaid work increased by 2.2 per week. These results are consistent with an international comparison of pension schemes in 11 countries that shows that increasing social security is associated with an increase in the rate of retirement of older adults from formal employment (Gruber and Wise, 1998).

These effects of the program on labor-force participation rates are also consistent with the findings concerning improved mental health results. While the literature indicates that unemployment among adults is usually associated with lower levels of life satisfaction and higher levels of depression,[4] recent research decomposes the impact of unemployment on mental health into: (1) a "saddening" effect generated by not being able to find work, and (2) a "time-composition" effect, whereby happiness increases as people are able to devote more of their time to more pleasant activities (Knabe et al., 2010; Krueger and Muller, 2012; and Ruhm, 2001). As people age, the time-composition effect becomes more important. The economic security afforded by a pension allows older adults, who place a great deal of value on the time-composition effect, to reduce their involvement in the labor market and enjoy life.

We also show that the program is associated with a significant increase in the material well-being of the household in which the beneficiary lives. In rural Mexico, almost without exception, people over 70 years of age live with another family (usually their children or other relatives). We find that 71% of the pension is spent on shared household consumption, which translates into a 23% increase in household consumption. The marginal propensity to consume the pension is close to estimates of the marginal propensity to consume (0.78) out of Oportunidades Program cash transfers given to female heads of a household (Gertler et al., 2012). This suggests that the beneficiaries of the Assistance for Older Rural Adults Program fully share their transfers with the families with which they live. These results are also consistent with evidence from South Africa that shows that the expansion of a non-contributory pension system for older black adults after the end of apartheid was effective in reducing poverty (Case and Deaton, 1998).[5]

We also find no negative effects on the labor supply of other adults in the beneficiary's household. Gasparini et al. (2007) argue that pensions are essential to keep poverty among older adults low. However, this result assumes that there are low disincentive effects on labor supply and earnings. Our work provides some of the first evidence that non-contributory pension systems clearly have positive effects on material well-being without generating significant negative labor-supply effects on working-age members of the household.

Finally, one general concern about all pension systems is whether their implementation affects the work and savings behavior of the younger population in anticipation of a pension in the future (e.g., Feldstein, 1974). However, one of the key predications is that anticipation effects depend on a person having access to liquidity and/or credit. Most people who work in informal labor markets in developing countries are subject to major liquidity and credit constraints (Karlan and Morduch, 2010), which suggests that we are unlikely to find anticipation effects in connection with this program.[6] In this paper we

[3] The program completed its expansion to all villages with less than 2500 inhabitants in late 2008. Subsequently, it started expanding to localities up to 20,000 inhabitants (Aguila et al., 2013; Rubio and Garfias, 2010, and Sedesol, 2012). However, under agreement with the Government, the control localities included in this study were not incorporated nor informed about the possible incorporation until at least the finalization of the follow-up survey.

[4] See, for example, Clark and Oswald (1994), Winkelmann and Winkelmann (1998), Di Tella et al. (2001), Blanchflower and Oswald (2004) and Kahneman et al. (2004).

[5] Duflo (2000) also shows that the expansion of the pension system had positive effects on child health. See also Ardington et al. (2009), who quantify the labor supply responses of prime-aged adults to the presence of pensioners in their households, using longitudinal data collected in South Africa.

[6] In fact, there is also substantial evidence of credit constraints in rural Mexico, the site of our empirical investigation. See, for example, Angelucci (2012), Gertler et al. (2012) and Love and Sánchez (2009) for evidence suggesting the presence of credit constraints in both rural Mexican households and firms.