



Promoting research on retirement and Social Security policy

**Research Brief 337** | July 2016

# Means Testing Social Security: Modeling and Policy Analysis

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Australia's retirement income arrangements are atypical by OECD norms: Australia has a generous noncontributory, means-tested, flat-rate pension payable from age 65, contingent only on means and residency, but not work history (the Age Pension); and a prefunded, DC-type, earnings-related pension system (the Superannuation Guarantee scheme). The Age Pension is set at about 28 percent of average male, full-time earnings for a single individual. About half of Australian retirees receive the full Age Pension, about 25 percent receive some pension, and the richest 25 percent are self-funded retirees and receive nothing. The Age Pension is more generous than means-tested pensions in other countries where targeted pensions cover a large proportion of the older population; but the design features a more aggressive income taper than seen in many of these countries.

This policy is less expensive than most OECD comparison countries, where expenditures average 9.5 percent of GDP across the member countries (OECD, 2013). In contrast, the total government spending on Australia's age pension is about 2.9 percent of GDP now, rising to 4 percent in 2050 (Australian Treasury, 2010). Means testing and the flat-rate payments largely account for this low-cost pension expenditure and its projected growth.

Means testing is often criticized for the high implicit marginal tax rates generated by a withdrawal of the pension benefit. But two points need to be borne in mind. First, only some people face the "taper"—the poor receive the full pension, no matter their behaviour; and the rich receive nothing, no matter what they do. Second, the tax on workers to finance the program is much lower than in countries with a traditional earnings-related, Pay-As-You-Go (PAYG) retirement program. To assess the overall impacts of a means-tested program such as Australia's, a whole-of-economy model is needed to capture these various effects.

To execute such an assessment, this project involved constructing a series of overlapping generations (OLG) models resembling the Australian economy, as well as one calibrated to the United States economy. Several counterfactual experiments were undertaken to highlight the impacts of a means-tested policy structure. For example, in Kudrna (2015, [MRRRC WP 2016-338](#)) the Australian means-tested pension was replaced with a

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demogrant (i.e., a universal pension paid to all households of eligible age regardless of their private means). This counterfactual policy experiment essentially removed the withdrawal distortion, but resulted in either higher personal income tax or higher consumption tax to finance the additional pension outlay. The means test was also varied in the level of taper and to exempt labor earnings from the means testing.

In Dabbs and Kumru (2015, [MRRC WP 2016-339](#)) (DK) and Kumru, Piggott, and Thanopoulos (2015, [MRRC WP 2016-340](#)) (KPT), comparisons are made between a means-tested and a PAYG earnings-related scheme, in a model setting that comprehensively introduces uncertainty into the model specification. These papers present results that specify hypothetical alternatives in which the cost of the overall program is held constant, as well as results where costs are allowed to vary. KPT is calibrated to the U.S. economy.

The Kudrna (2015) model builds upon the OLG model developed for Australia by Kudrna and Woodland (2011a, b). It is a small, open economy, general equilibrium model comprising household, production, foreign, and public sectors. Households are distinguished by age and income type, and the main aspects of Australia's retirement income policy are captured in some detail.

Kudrna finds that the means-test replacement with a demogrant (i.e., setting the pension taper to zero, but with the same maximum available benefit) raises the pension outlay by 42 percent to more than 4 percent of GDP. The increased pension outlay requires a proportional 11-percent tax hike in average and marginal income tax rates (or alternatively a 28-percent increase in the consumption tax rate). Households respond to this hypothetical policy change by reducing their life-cycle labor supply and saving. These behavioural effects are due to (i), higher pension payments acting as a substitute for private retirement income; and (ii), labor and saving disincentives arising particularly from higher progressive income taxation. Consequently, relative to the existing means-testing structure, the switch to a demogrant generates negative effects on per capita labor supply, domestic assets, and consumption, which in the long run decline by 1.4 percent, 4.4 percent, and 2.3 percent, respectively. Similarly to related literature on the means testing of public pensions (e.g., Kumru and Piggott, 2009), this counterfactual policy also reduces average welfare in the long term. The conclusion is that, relative to a universal pension, targeting is welfare-improving in the long run.

Opposite effects are found for the simulations that strengthen the existing pension means test—a policy that has been contemplated by the Australian government. In particular, an increase in the pension taper to one (reducing the pension benefit by one dollar for each dollar of private income) is shown to reduce the pension outlays by 17 percent, allowing for lower income-tax rates to maintain a balanced government budget. This counterfactual experiment has positive effects on per capita labor supply, domestic assets, and average welfare in the long run. Interestingly, average labor supply at older ages also increases, as most older households see their pensions reduced, with some elderly not qualifying for any pension and, therefore, no longer facing high effective marginal tax rates on their earnings. The results also highlight the importance of transitional effects of the changes to means-tested pensions, which show significant welfare losses to current retirees experiencing large cuts in their pensions.

The examined policy change in labor earnings exemptions has much smaller aggregate effects due to the relatively small numbers of people affected and assumed productivity rates of the elderly workforce. More importantly, Kudrna shows that the labor earnings exemptions from means testing have largely positive implications for the average labor supply of older Australians. This result supports the findings of empirical literature that examined labor supply responses to changes in the earnings tests of social security benefits in other developed countries (e.g., Friedberg, 2000, for the U.S.).

The results presented in DK indicate that the means-tested program has a small, positive impact on welfare and savings when compared with the earnings-related, PAYG-style policy. KPT also find that the cost saving from a means-tested scheme results in fewer overall distortions and increased welfare compared with an earnings-related PAYG scheme in a model calibrated to the U.S. economy. Indeed, as was shown in the model by Kudrna, the higher the taper, the better the outcomes.

In the model experiments reported in these papers, some comparisons hold the costs of the program constant, varying the benefit specification. Under this specification, results are less clear cut, and minor changes in the calibration of the models might well alter the rankings. This points to the importance of cost saving as the primary mechanism through which means testing delivers benefits. If the policy objective is to ensure all age-eligible consumers have some specified minimum level of resources, then a means-tested program delivering that minimum will likely generate efficiency gains relative to a universal pension.

Kumru, Piggott, and Thanopoulos consider a model variant in which consumers lack the self-control to save. In such a setting (and where costs are allowed to vary), means testing still appears to be more advantageous than providing universal pensions. The higher tapers are also favored, even more so than in a model where people have standard preferences. Finally, the authors find that the cost saving from any means testing, whether with a taper of 20 percent or 100 percent, is welfare-improving when compared to a PAYG, earnings-replacement scheme.

Our findings have important policy implications not only for Australia, but also for other aging economies facing large future pension liabilities. Tightening the means test generates significant reductions in overall government spending on the pension, and this leads to efficiency gains through lower required labor taxes, or equivalently, social security contributions. Furthermore, our robustness checks indicate that an endogenous interest rate framework and an aging environment, in particular, further strengthen the case for means testing public pensions.

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**Sponsor Information:** The research reported herein was performed pursuant to a grant from the U.S. Social Security Administration (SSA) through the Michigan Retirement Research Center (MRRC). The findings and conclusions expressed are solely those of the author(s) and do not represent the views of SSA, any agency of the federal government, or the MRRC.

**Regents of the University of Michigan:** Michael J. Behm, Grand Blanc; Mark J. Bernstein, Ann Arbor; Laurence B. Deitch, Bloomfield Hills; Shauna Ryder Diggs, Grosse Pointe; Denise Ilitch, Bingham Farms; Andrea Fischer Newman, Ann Arbor; Andrew C. Richner, Grosse Pointe Park; Katherine E. White, Ann Arbor; Mark S. Schlissel, *ex officio*