

# ASSESSING THE EQUITY OF AUSTRALIA'S RETIREMENT INCOME SYSTEM

**George Rothman**

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Most analyses of Australia's retirement income system address only the accumulation phase; they draw the clear conclusion that the system strongly favours higher income earners as these make most of the concessional contributions and receive a higher tax saving per dollar contributed.

Dr Rothman's paper places emphasis on a 'whole of life' or lifecycle perspective where age pension benefits in the retirement phase are included. The **cost to government of its retirement income policies as a whole** is modelled for representative cohorts using Treasury's relatively comprehensive RIMGROUP model. This provides a framework for assessing the vertical equity of Australia's retirement income system (by lifetime income deciles) and also horizontal equity, in respect of gender.

## **Framework for the Analysis**

The analysis includes both tax expenditures on superannuation and government spending on age and service pensions. Additionally the government co-contribution towards the superannuation of low and middle income earners is included. However, there are numerous exclusions from the analysis, partly for simplicity and mainly because the author does not have the data and modelling capacity to include them. The important exclusions are:

- the concessional taxation of owner occupied housing;
- the (concessional) taxation of some other forms of saving for retirement outside of superannuation;
- government transfers during the accumulation stage such as family benefits, Newstart and disability pensions;
- Consumption taxes during both accumulation and retirement phases; and
- For most analyses personal income tax is excluded. Though of some relevance, including (progressive) personal income tax dominates the results.

The analysis uses the same general framework as in Treasury's Tax Expenditure Statement in calculating the revenue forgone because of concessional treatment while assuming no behavioural change. In practice if the concessional treatment were withdrawn in whole or part, the individual could be expected to seek another tax preferred way of saving for his or her retirement such as negatively gearing shares or rental property – this is not allowed for or estimated.

The key differences for the tax expenditure part of the analysis are the emphasis on individual cohorts and inclusion in the analysis of all relevant years of a cohort member's experience within and outside the workforce. By way of comparison, the standard published TES covers tax expenditures in a given year, not disaggregated by distributional characteristics, and does not track through consequences of actions taken in earlier years or subsequent consequences such as future pensions.

## Methodology

The analysis extracts selected cohorts from runs of Treasury's RIMGROUP model tracking their entire working life and retirement. Treasury's RIMGROUP model is relatively comprehensive and is a suitable vehicle for modelling the cost to government of its retirement income policies as a whole, within the limitations discussed above in the framework section. RIMGROUP covers the Australian population of working age and older. It starts with population and labour force models, tracks the accumulation of superannuation in a specified set of account types, estimates non-superannuation savings, and calculates tax liabilities, social security payments including pensions and the generation of other retirement incomes. These projections are done for each year of the projection period *separately for each birthyear gender decile cohort*. The model projections begin in July 2000.

(Aggregate modelling based on RIMGROUP has been of considerable policy significance. It has been used in preparing all Intergenerational reports and in the analysis of implications of the 2009 Budget changes to age and service pensions.)

The key calculations for each cohort are the net present value (NPV) of government payments and net tax expenditures; the discount rate is the (projected) long term bond rate. For a few limited analyses NPV of personal income tax paid is also calculated. To maximise time in work and allow for a sufficient retirement period within the model cohorts born in 1960 form the basis for most of this analysis. With the new pension age specified in the Budget, these cohorts retire over a range of ages but first receive age pension in 2027. RIMGROUP follows the cohorts in detail to 2060 and an allowance is made for pension payments to those still surviving.

## Results

The base case for this analysis is the retirement income framework following the 2009 budget.

Table 1 summarises the Net Present Values (NPV) of government spending in this base case by gender and decile. The cohorts considered below are all born in 1960 and are therefore become eligible for age pension in 2027. The net present values are in year 2000 dollars as this is the start year for the analysis. To give an idea of scale, the average NPV of spending per person in 2000 is about \$115,000 per person. Brought forward to 2027 the average NPV here is around \$490,000 in 2027 dollars..

**Table 1. Net present value of cost to government of retirement income system for specified cohorts.**

|        | NPV1-women | NPV1-men | NPV1-both |
|--------|------------|----------|-----------|
| decile | \$m        | \$m      | \$m       |
| 1      | \$1,750    | \$1,600  | \$3,350   |
| 2      | \$1,700    | \$1,600  | \$3,350   |
| 3      | \$1,650    | \$1,600  | \$3,300   |
| 4      | \$1,650    | \$1,600  | \$3,300   |
| 5      | \$1,650    | \$1,600  | \$3,200   |
| 6      | \$1,650    | \$1,750  | \$3,400   |
| 7      | \$1,900    | \$1,800  | \$3,700   |
| 8      | \$1,850    | \$1,950  | \$3,800   |
| 9      | \$1,850    | \$2,050  | \$3,950   |
| 10     | \$1,800    | \$2,450  | \$4,250   |
| all    | \$17,500   | \$18,050 | \$35,550  |

Chart 1 below is a graphical representation of Table 1.

**Base Case - Cost to Government of 1960 birth cohort:  
Women relative to men**

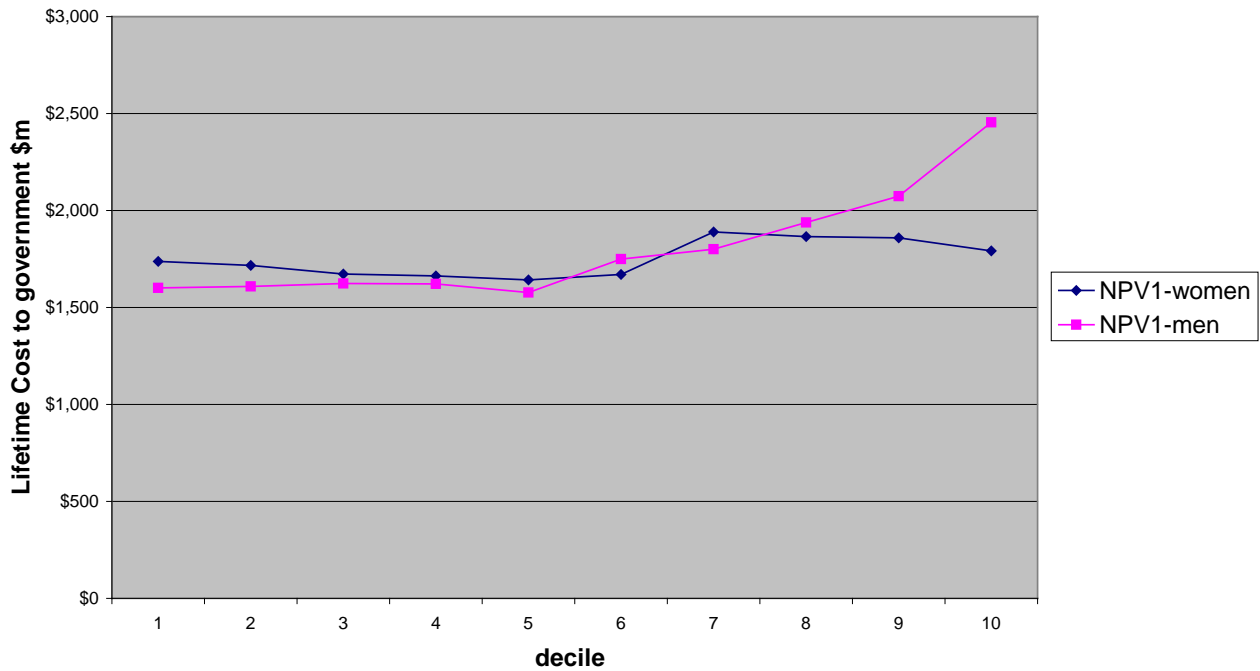


Table 2 expresses Table 1 in proportionate terms and adds additional information on tax expenditures.

**Table 2. Distribution of NPV of cost to government of retirement income system for specified cohorts and proportion for each decile and gender that is tax expenditure rather than pension.**

| decile | NPV1-women | NPV1-men | NPV1-both | TE-women | TE-men |
|--------|------------|----------|-----------|----------|--------|
| 1      | 9.9%       | 8.9%     | 9.4%      | 0.3%     | 0.4%   |
| 2      | 9.8%       | 8.9%     | 9.4%      | 0.5%     | 2.9%   |
| 3      | 9.6%       | 9.0%     | 9.3%      | 0.9%     | 6.8%   |
| 4      | 9.5%       | 9.0%     | 9.2%      | 5.7%     | 9.1%   |
| 5      | 9.4%       | 8.7%     | 9.1%      | 8.4%     | 14.9%  |
| 6      | 9.5%       | 9.7%     | 9.6%      | 13.2%    | 25.7%  |
| 7      | 10.8%      | 10.0%    | 10.4%     | 15.0%    | 33.3%  |
| 8      | 10.7%      | 10.7%    | 10.7%     | 22.2%    | 43.3%  |
| 9      | 10.6%      | 11.5%    | 11.1%     | 34.3%    | 55.7%  |
| 10     | 10.2%      | 13.6%    | 11.9%     | 71.3%    | 90.4%  |
| all    | 100.0%     | 100.0%   | 100.0%    | 17.7%    | 32.2%  |

For example Decile 6 women have 9.5% of the total NPV for women (would be 10% if totally evenly distributed) and of this 13.2% is tax expenditure (about 86.8% is pension). Decile 6 men have 9.7% of the total NPV for men and of this NPV a higher proportion, 25.7%, is tax expenditure (74.3% is pension).

Table 3 below sets out some summary equity measures.

**Table 3. Summary measures of the equity of NPV and tax expenditures**

|   | NPV1-women | NPV1-men | NPV1-both | TE-women | TE-men |
|---|------------|----------|-----------|----------|--------|
| share of total                          | 49.2%      | 50.8%    | 100%      | 34.8%    | 65.2%  |
| ratio top 5deciles /bottom five deciles | 1.08       | 1.25     | 1.16      | 10.9     | 9.6    |
| ratio top 3 deciles to bottom 3         | 1.08       | 1.34     | 1.20      | 81.9     | 25.8   |
| ratio decile 10 to decile 1             | 1.03       | 1.53     | 1.27      | 218.3    | 341.3  |

Table 3 uses summary measures to demonstrate the dramatic difference between the more inclusive measure of equity advocated in this paper and a tax expenditure measure. So Table 3 shows that on the recommended NPV measure there is fairly even split of cost between men and women and by income the differences are not large, particularly for women. For example taking the NPV for the top 3 deciles as a ratio of the NPV for deciles 1 to 3, we get 1.08 for women and 1.34 for men. This compares dramatically with the corresponding ratios for tax expenditure at 81.9 and 25.8 for women and men respectively. As many people will be partnered/married, the NPV averaged over men and women is also relevant.

## CONCLUSIONS

- The methodology presented in this paper clearly demonstrates the dramatic difference between considering the equity of superannuation on its own and the more comprehensive approach demonstrated in the paper.
  - Using this more comprehensive approach the retirement income system after the 2009 Budget is found to be more equitable, both vertically and by gender, than many would have expected.
- Sensitivity analyses suggest that the framework, within its noted limitations, is fairly robust and key findings do not depend on the plausible assumptions made.
- The paper also found that two key measures in the 2009 budget added considerably to the equity of Australia's retirement income system, both by gender and income. (See the full paper for this analysis not presented in this summary.) The first is the increase in age pension payments which is analysed together with the accompanying increase in the income taper rate. This measure adds considerably to equity (but with, of course, a considerable increase in government outlays). The concessional contribution caps budget measure was found to add even more to vertical equity with the saving to government impacting mostly on the top two deciles for both men and women.
- Comparison with the full pre budget arrangements showed a considerable improvement in equity overall coming from the 2009 Budget changes. This is despite the scheduled increase in age pension age having some negative impact on equity as it reduces the amount of pension paid (impacting more on lower deciles).