

AN ANALYSIS OF THE EQUITY IMPLICATIONS OF RECENT TAXATION CHANGES TO AUSTRALIAN SUPERANNUATION

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Abstract

The Australian superannuation system has been subject to constant taxation changes during the last 15 years. The Coalition Government has introduced further changes including the introduction of the superannuation surcharge and the savings rebate. In both cases, the Government has argued that these changes are designed to increase the fairness of the superannuation system. This paper investigates this suggestion and concludes that the changes have not made a significant contribution to improving the equity of the Australian retirement income system. Instead, they have increased complexity and made superannuation less attractive.

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1 Introduction

The Australian superannuation system has been subject to constant changes of taxation, legislation and Government policy during the last 15 years as the federal Government has attempted to tackle the problem of establishing a robust and affordable retirement income system in view of an ageing population.

In brief, the Australian retirement income system currently comprises the following three components.

- A means tested age pension payable to those aged over 65 (males) and 61 (females) who satisfy the requirements of both an income test and an assets test;
- A virtually compulsory superannuation system (SGC) for employees earning more than \$450 per month with employers required to contribute 6% of earnings, increasing to 9% of earnings in 2002-03; and
- Some taxation incentives for individuals to save within superannuation beyond the SGC levels.

There remain significant problems and shortcomings in the Australian system (see Institute of Actuaries of Australia, 1994, Disney and Krever, 1996) and it is not the purpose of this paper to elaborate further on them. Rather, this paper will analyse the

equity implications of the taxation changes announced in the last two federal budgets, following the election of the Coalition Government.

In particular, the paper will investigate the implications for equity of:

1. the introduction of the superannuation surcharge announced in the 1996-97 budget;
2. the introduction of the savings rebate announced in the 1997-98 budget; and
3. the abolition of compulsory member contributions.

At the outset, it is acknowledged that equity is difficult to define and therefore this analysis will consider two contrasting perspectives. The first will be to consider the impact of these changes on the distribution of lifetime income for a cohort of individuals through the use of the Gini coefficient. The second approach will consider the changes in the context of the criteria for equity in national retirement income systems proposed by Knox and Cornish (1997). In both cases, the LITES model will be used to simulate a cohort of individuals through their working and retirement years.

The next section of the paper will briefly describe the LITES model and the benchmark established to assess the recent changes. Section 3 of the paper will assess the changes that occur as a result of the Government's announcements. Section 4 reviews the consequences using the Knox and Cornish proposals and Section 5 concludes the paper.

2 The framework for the study

2.1 The LITES model

The results in this paper are based on the LITES (Lifetime Income, Taxation, Expenditure and Superannuation) model, which is a micro simulation model where each individual receives a unique earnings profile during their pre-retirement years, based on Australian earnings data for 1995. Each individual's earnings profile contains an annual increase which is based on the assumed average increase, the shape of the lifetime earnings profile plus a random variable designed to reflect the uncertainty of an individual's career earnings. In effect, this means that individuals do not receive the same proportion of the average wage throughout their life but a more realistic lifetime earnings profile. A detailed description of the model is in Atkinson, Creedy and Knox (1994).

The model also allows for earnings, superannuation contributions, taxes throughout the person's life (both before and after retirement), receipt of the age pension (subject to means tests) and a range of alternatives in terms of expending the superannuation benefit at retirement.

Naturally, the model also requires a number of economic assumptions as it projects an individual's earnings, expenditures and savings over several decades. The most important assumptions relate to the relativities between the various rates. For instance, the results presented in this paper assume that the pre-tax rate of return for superannuation funds is 3% per annum greater than the increase in the average wage.

The LITES model is able to produce a number of summary measures in respect of the cohort of individuals. For this paper, each cohort consists of 3000 males in full time work, each of whom commenced earning at the age of 20 and retired at the age of 65.

2.2 *The benchmark*

The primary objective of this paper is to assess, in terms of equity, the effects of the recent announced changes to the taxation of superannuation. It is therefore necessary to establish, at least initially, a benchmark that can represent the situation before the changes.

The previous Labor Government had proposed an increasing level of SGC employer contributions, rising to 9% of earning in 2001-02. The Coalition Government has retained this plan and it is therefore assumed that employers will contribute 9% of earnings to superannuation throughout an individual's working career.

In terms of employee contributions, the Labor Government had proposed a compulsory level of employee contributions of 3% of earnings, with an income tested matching Government co-contribution. However, the co-contribution concept has been abandoned by the Coalition Government and therefore does not appear in these results. The Government has also abolished the requirement for compulsory employee contributions. However, it is also recognised that many employees currently contribute to superannuation and therefore the benchmark will assume an employer

contribution of 9% and an employee contribution of 3%. The next section will also investigate the effects of changing this assumption.

As noted above, the basic model will assume that all individuals enter the workforce at age 20 and retire at age 65, when the means tested male age pension becomes available. However, it is recognised that most employees are now retiring in their late 50s or early 60s and the effect of alternative retirement ages will also be investigated in the next section.

3 The results

3.1 The basic results

This paper is investigating the effects of the introduction of the superannuation surcharge and the savings rebate introduced in successive federal Government budgets.

The superannuation contribution surcharge applies to employer and deductible superannuation contributions in respect of individuals whose adjusted taxable income exceeds \$70,000 (in 1996-97 dollars). This new definition of income includes the individual's taxable income and their surchargeable superannuation contributions. The rate of surcharge in 1996-97 increases from zero at an adjusted taxable income of \$70,000 to a maximum of 15% for those with an adjusted taxable income in excess of \$85,000. The surcharge is an additional tax paid by the relevant superannuation fund. In most cases, it is expected that it will reduce the individual's future superannuation benefit.

An important argument proposed by the Government for the introduction of the surcharge was that it would improve the equity of the taxation treatment of superannuation. Indeed, the Treasurer noted that "the measures ... are designed to make superannuation fairer." (Costello, 1996)

The savings rebate was announced in the 1997-98 budget and will be fully implemented in 1999-2000. This 15% rebate will be paid to individual taxpayers in respect of their personal after tax contributions to superannuation and/or in respect of any investment income received from a wide range of savings and investments, which can include interest, dividends, rent and pension payments. The rebate will be capped

at \$450 per annum per person. Again, the Government highlighted the equity implications of the rebate when the Treasurer noted that “the bulk of the benefit will flow to individuals with taxable incomes under \$40,000.” (Costello, 1997) Hence, it was suggested that the rebate is targeted towards lower and middle income earners.

Table 1 shows the Gini coefficients for lifetime consumption for the existing benchmark and the effects of introducing the surcharge, the rebate and both measures. It should be noted that these Gini coefficients are in respect of consumption and therefore allow for the effects of lifetime taxation. The results also assume three different behaviours at retirement. Atkinson, Creedy and Knox (1996) have shown that the individual’s decision on how to invest or spend their superannuation benefit can have a significant influence on the results. Each behaviour assumption assumes that all individuals in the cohort exercise the same decision at retirement – namely the purchase of a lifetime annuity, immediate spending of the full superannuation benefit at retirement, or a combination of both.

Before considering the results, it should be stressed that there are some limitations when using the Gini measure as it cannot highlight how a particular group of individuals have been affected when compared to another group of individuals within the same cohort. For instance, the same Gini coefficient can occur for a range of different income distributions. Nevertheless this measure is helpful in highlighting certain cohort trends and the effects of the new measures.

Table 1: Gini coefficients of net lifetime earnings assuming retirement at age 65

Behaviour at retirement	Structure			
	Benchmark	Benchmark + surcharge	Benchmark + rebate	Benchmark + surcharge + rebate
100% annuity	0.1876	0.1860	0.1881	0.1866
50% annuity 50% immediate consumption	0.1848	0.1834	0.1855	0.1841
100% immediate consumption	0.1875	0.1863	0.1878	0.1866

The following general results are suggested.

- The introduction of the surcharge has a very minor impact, although the change is in the expected direction (namely a reduction in Gini coefficient). This negligible result is not surprising as the surcharge only affects individuals with adjusted taxable incomes in excess of \$70,000 (indexed) and the small proportion of income earners who reach this level will tend to do so for a limited number of years. Hence in terms of equity within the total cohort, its introduction is insignificant. It should also be added that the surcharge raises a number of horizontal inequities as some individuals will be able to avoid it (either through a remuneration package or other means) and all members will pay for its introduction through additional administration costs. The effect of this will be considered in the next section.
- The introduction of the rebate causes a minor increase to the Gini coefficient, when compared to the benchmark. The reason for this minor effect is simple. The rebate is received by virtually all members in respect of their personal

contributions during their pre-retirement years as most individual's contributions are assumed to be less than the \$3,000 maximum as a 3% employee contribution rate has been assumed. In almost all cases the value of the rebate during the pre-retirement years is 0.45% of earnings (0.15 times 3% of earnings) and this reduction in tax is relatively more valuable to lower income earners. This result has assumed that all individuals are contributing 3% of earnings and therefore have the same capacity to contribute to superannuation. In reality, this is unlikely to be the case and will be reviewed in the next section.

- As in previous results, the greatest effect is caused by the behaviour of individuals at retirement. That is, 50%/50% option has a greater effect on the Gini coefficient than the tax changes. This suggests that changing behaviour at retirement may have a greater effect on equity within the cohort than relatively minor adjustments to the tax system.

3.2 *Alternative scenarios*

The previous section considered the introduction of the surcharge and savings rebate assuming that each individual retires at age 65 together with some other simplifying assumptions. This section will elaborate on these results, with some modifications to these assumptions. Firstly, we will consider the results for different retirement ages (namely 55 and 60), as many males are now retiring prior to the pension age.

Secondly, the introduction of this surcharge has increased the administration costs for all superannuation funds and this effect will be considered. Thirdly, the previous

results assumed all individuals contributed 3% of earnings. This assumption will also be varied.

Table 2 shows the Gini measures for the three behaviour options at retirement and retirement ages at 55, 60 and 65. For retirement before age 65, the consumption option assumes spreading the consumption from the retirement age to age 65. The overall results are very similar to those discussed earlier. That is, the introduction of the surcharge and rebate causes a marginal reduction in the Gini coefficient. As may be expected, the assumption of earlier retirement ages results in a lower Gini coefficient, as the distribution of lifetime incomes becomes more compact.

However, in the context of this paper, the important conclusion is that compared to an earlier retirement age or different behaviour at retirement, the introduction of the surcharge and rebate has very little effect.

Table 2: The effects of different retirement ages on the Gini coefficient of net lifetime earnings

Retirement age	55		60		65	
Behaviour at retirement	Benchmark	Benchmark + surcharge + rebate	Benchmark	Benchmark + surcharge + rebate	Benchmark	Benchmark + surcharge + rebate
100% annuity	0.1785	0.1779	0.1816	0.1811	0.1876	0.1866
50% annuity 50% consumption to age 65	0.1781	0.1772	0.1816	0.1807	0.1848	0.1841
100% consumption to age 65	0.1786	0.1779	0.1836	0.1827	0.1875	0.1866

The introduction of the surcharge has caused considerable additional costs to the administration of superannuation funds. The funds are now required to provide the Australian Taxation Office with a return showing the level of employer and deductible contributions for each member and then, when informed of the individual's surcharge rate, to reduce the member's benefit by the appropriate amount. This administration is required for all funds, irrespective of the number of members likely to be affected by the surcharge. In most cases, these extra administrative costs must be borne by all members. With this extra cost in mind, a reduction in each member's benefit equal to \$50 per year has been assumed.

Assuming a retirement age of 65, this additional annual cost for all members caused the Gini coefficient to increase by an amount between 0.0001 and 0.0004, depending on the behaviour chosen. This increase was equivalent to up to one third of the decrease, caused by the introduction of the surcharge.

Although the actual size of the assumed additional administration costs per member may be debated, the trend is clear. Whilst the surcharge was introduced to improve equity it will, in certain circumstances, provide greater inequity as the costs involved in the extra administration required to be carried out by the funds must be shared by all members.

The above results assumed that each member would contribute 3% of their after tax earnings to superannuation. As this is not a compulsory contribution, it is likely that many low and middle income earners will not make this contribution. To assess the

impact of this choice on these results, it has been assumed that individuals with lifetime earnings below the mean will make no personal contributions whereas those with contributions above the mean will contribute 3% of earnings. This simplifying assumption is broadly consistent with the fact that higher income earners have a higher propensity to save. Table 3 shows the results.

Table 3: The effect of voluntary member contributions on the Gini coefficient

	Benchmark	Benchmark + surcharge + rebate	Benchmark + surcharge + rebate
Member contributions	3%	3%	0% and 3%
100% annuity	0.1876	0.1866	0.1873
50% annuity 50% immediate consumption	0.1848	0.1841	0.1865
100% immediate consumption	0.1875	0.1866	0.1899

This result shows that the removal of compulsory member contributions, and the assumption that only the higher income earners will choose to contribute, causes a less equitable system than the assumed benchmark. In essence, voluntary contributions combined with the most likely behaviour at retirement (i.e. not 100% annuity), more than offsets the gains made by the surcharge and rebate. This conclusion is clear and not surprising. A voluntary system which encourages higher income earners to receive a greater share of the taxation incentives available in the superannuation system is likely to be less equitable than a system which compels all individuals to be part of a tax supported retirement income system.

This section has reviewed the Gini coefficients under a number of scenarios following the recent taxation changes to the Australian superannuation system. The introduction

of the surcharge and the rebate, by itself, improves the equity and progressivity of the total system, as measured by the Gini coefficients of total lifetime consumption.

However the improvement is very limited and is likely to be more than offset by:

- different behaviour at retirement;
- earlier retirement ages;
- voluntary and not compulsory member contributions; and
- the extra administration costs that have been forced on all superannuation funds.

The next section will now consider the effect of the changes from another perspective.

4 Features of an Equitable System

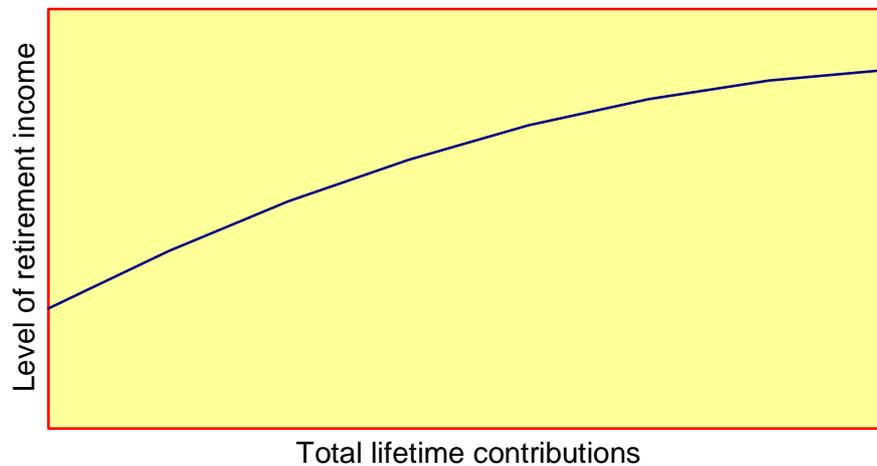
Knox and Cornish (1997) have proposed four criteria for an equitable national retirement income system. They are:

1. An adequate minimum retirement income should be provided for all retirees;
2. Retirement benefits for individuals should be positively related to their lifetime contributions or taxes;
3. Redistribution should be progressive; and
4. Similar benefits should be provided to individuals in similar circumstances.

They note that issues such as the level of adequate income, the appropriate relationship between benefits and contributions and the extent of any redistribution are matters for each particular society. Nevertheless, these criteria do provide a standard for judging a system.

The first three of these criteria can also be expressed graphically as shown in Figure 1.

Figure 1: An equitable relationship between lifetime contributions and retirement incomes



An additional criterion that could be added is that the relationship between contribution and benefits should always be such to encourage savings and the provision of retirement income within the community. Again, the precise relationship should be left to each society.

It is suggested that the current Australian system satisfies the first two criteria through the provision of the means tested age pension, which provides a level of minimum income, and the Superannuation Guarantee Charge (SGC) system which ensure a relationship between lifetime contributions and retirement benefits. However, it is questionable whether the system is progressive across all income systems or if individuals in similar circumstances receive similar benefits.

The results from LITES model permit results from the assumed 3000 members of the cohort to be graphed in terms of the present value of net post-retirement income and

the present value of gross pre-retirement earnings. It is considered that the value of gross pre-retirement earnings will be a good proxy for lifetime contributions as a constant contribution rate is assumed for all members.

Figure 2 show the relationship between retirement income and lifetime earnings under the benchmark assumptions, for each member in the cohort, assuming retirees choose to spend 50% of their superannuation benefit on an annuity and 50% on immediate consumption. Figure 3 shows the results after the introduction of both the surcharge and the rebate.

Figure 2 suggests that there is no progressivity under the existing Australian retirement income system with the curve being very close to a straight line. The introduction of the surcharge and rebate do not change the shape of the curve and this is consistent with the earlier results. This result does not change under other behavioural assumptions.

Interestingly, if it is assumed that the superannuation benefit is fully converted into an annuity by all retirees, the curve becomes regressive with the slope increasing at higher incomes. This is due to the combination of the effects of taxation and the means tests but cannot be regarded as a desirable feature in an equitable system. However, such behaviour is currently very uncommon in Australia.

Figure 2: The relationship between post-retirement net income and pre-retirement earnings for the benchmark

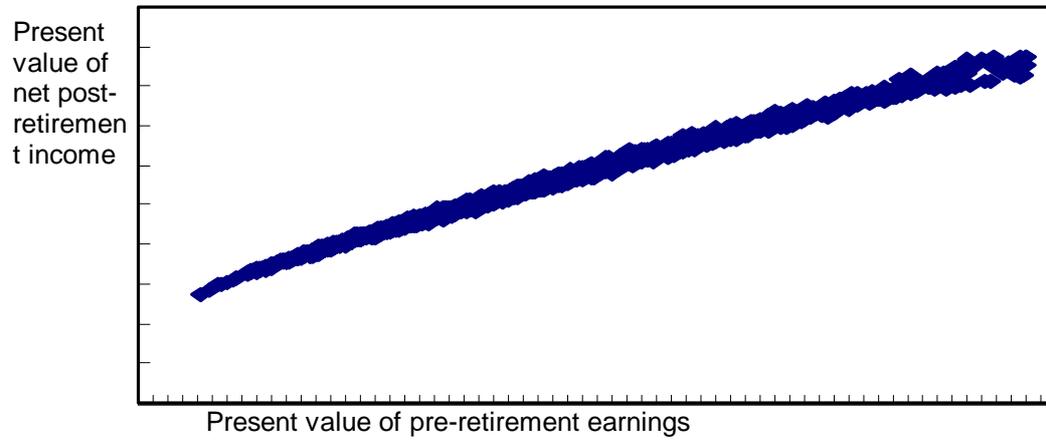
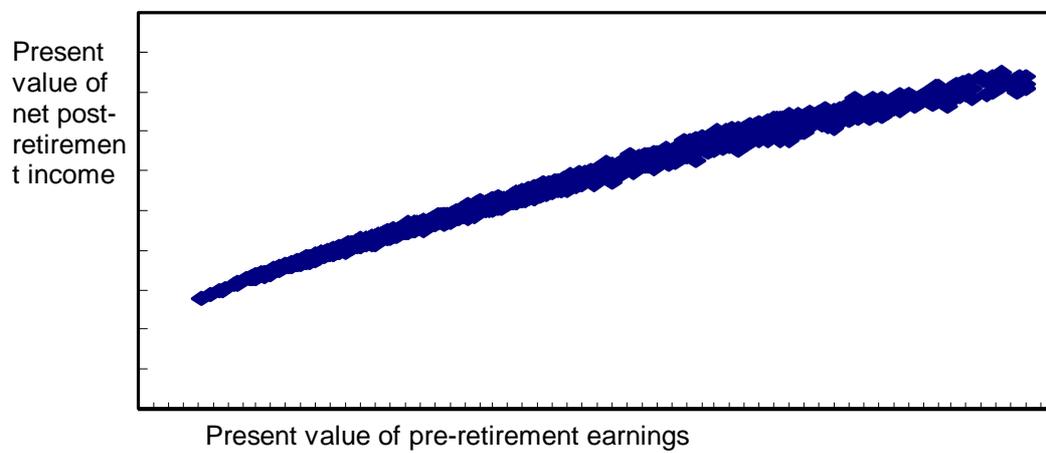


Figure 3: The relationship between post-retirement net income and pre-retirement earnings allowing for surcharge and rebate



5 Conclusions

The Coalition Government has introduced a number of changes to the Australian superannuation system. These have included the introduction of the superannuation surcharge announced in the 1996-97 budget; the introduction of the savings rebate announced in the 1997-98 budget; and the abolition of the compulsory member contributions.

In part, these changes were introduced to reduce the perceived inequity within the Australian superannuation system. However, this paper has shown that whilst the changes could, in isolation, slightly improve equity in the total system this improvement is likely to be more than offset by a number of other factors. These include the additional administration costs which must be shared by all members; the likelihood that lower income earners will choose not to contribute; and the fact that behaviour choice at retirement has a much greater effect on the fairness of the total system than tinkering at the edges.

These changes have also made the Australian retirement income system more complicated. This complexity is likely to make superannuation even less attractive to many employers and employees. In addition, regular changes to the system introduce a higher level of political risk for many contributors.

In conclusion, it cannot be claimed that the changes analysed in this paper have made a significant contribution to improving the equity of the Australian retirement income system. Rather the complexity and costs have increased and superannuation has become less attractive. This result is not consistent with a desire to encourage

Australian to save for their retirement as we face the consequences of an ageing population next century.

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