

# **TAXATION OF SUPERANNUATION AND DISPOSABLE INCOME IN RETIREMENT**

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**Paper prepared for the Women and Superannuation Seminar,**

**Canberra 24 and 25 February 1994**

## **ABSTRACT**

*This paper examines the taxation treatment of superannuation and the effect of interacting superannuation, taxation and Social Security policies on retirement incomes, with a particular emphasis on women. Some of the implications for progressivity and equity are discussed.*

*The comparative effects of superannuation provisions on women in various circumstances are discussed using results obtained from the Retirement Income Modelling Task Force's hypothetical model, INDMOD.*

\* The Retirement Income Modelling (RIM) Task Force is equally financed by the Departments of Treasury, Finance and Social Security from the reallocation of existing resources.

## ACKNOWLEDGMENTS

The author would like to thank Phil Gallagher, Director of the RIM Task Force, and Colin Brown, also of the Task Force for their assistance in drafting this paper and modelling the examples presented.

*The views expressed in this paper are those of the author and do not necessarily reflect the views of the Departments financing RIM or of their Ministers or advisers.*

## 1. INTRODUCTION

Tax assisted superannuation has, until the last decade, played a relatively subordinate role in the Government's retirement incomes policy. Superannuation tended to be the preserve of better off, male white collar workers. For most Australians, the Social Security or Veteran's Age Pension, was seen as the foundation of income in retirement, supplemented by whatever savings people were able and willing to make in their working years.

In the 1980's it became clear that the continuance of this tradition was neither desirable nor sustainable. Both the community and pensioners themselves expect that the living standards of the aged should rise in line with those of the general community. On the other hand, the ageing of the 'baby boom' generation and increased longevity mean that better retirement incomes would need to be provided for a much larger number of retirees for a longer duration. With Australia's 'pay as you go' financing of the Social Security system and our low savings ratio (Fitzgerald, 1993), this would place an enormous burden on the comparatively small workforce of the next generation.

Both prudence and considerations of intergenerational equity require that provision is begun now for the retirement of the present generation of workers. To meet demands for better provision requires contributions from both individuals and the Government. Workers contribute by sacrificing present consumption and the Government through forgone revenue, that is, tax concessions on superannuation.

The aim of the Government's superannuation policy is to ensure, in a cost efficient manner, that more future retirees enjoy a standard of living closer to that which they had before retirement. That is, in the context of superannuation policy, the goal is income maintenance rather than poverty alleviation, and adequacy is relative to the individual rather than some absolute universal measure. Poverty alleviation is properly the function of the Social Security system and the age pension will continue to act both as a safety net for those who are unable to provide for themselves, and as a supplement to most people's superannuation income. The interaction of superannuation, the age pension income and assets tests and taxation is intended to ensure the progressivity of the Government's retirement incomes policy.

Section 2 of this paper briefly outlines the taxation provisions relating to superannuation in both its accrual and payout phases. The effect of the interaction of the taxation and social security systems is described and some of the implications for progressivity and equity discussed.

Section 3 discusses the comparative effects of superannuation provisions on women and couples in various hypothetical situations. This discussion is based on results obtained from the Retirement Income Modelling Task Force's hypothetical model, INDMOD.

## **2. TAXATION PROVISIONS**

### **Tax on contributions**

Contributions by an employer on behalf of an employee are a deductible expense of the employer. From 1 July 1994 an employer's deductions for superannuation contributions will be limited to \$9,000 for employees aged less than 35, \$25,000 for those aged 35 to 49 and \$62,000 for those aged over 50. These amounts are indexed for future years. Employers with more than 10 employees can elect to be limited instead by a standard contribution limit of \$25,000 (indexed) multiplied by the number of full year employee positions. At present there is no limit on non-deductible contributions.

Employer contributions are effectively made from untaxed income but are include in the assessable income of the superannuation fund and taxed at the fund rate of 15%. The effective employer contribution is thus reduced to 85%.

Contributions by the member are made from ordinary taxed income. As they have effectively already been taxed at the member's marginal rate, they are not included in the taxable income of the fund.

Self employed persons and employees with no employer superannuation employer support (including no SGC ) are entitled to a tax deduction for contributions up to \$3,000, plus 75% of contributions in excess of \$3,000 up to the annual limits which apply in respect of employer contributions. Where the member claims this deduction, the deductible contributions are included in the fund's assessable income and taxed at 15%.

Employees with assessable income less than \$31,000 and with employer support can claim a tax rebate of 10% for personal contributions of up to \$1,000 per year. The maximum level of contributions is reduced by 25 cents for each dollar of assessable income over \$27,000. Rebatable contributions are not assessable income of the fund and count as undeducted contributions in the assessment of lump sums, superannuation pensions and rollover annuities.

### **Tax on fund earnings**

Superannuation funds are subject to a nominal tax rate of 15% their assessable income, which includes employer and deductible member contributions and investment earnings. However, superannuation funds can often face a considerably lower effective tax rate on their investment

earnings. Dividend imputation rebates reduce the tax payable and capital gains tax provisions reduce the tax base of the fund by taxing only real capital gains on realisation.

The tax rate on the assessable income of superannuation funds is lower than the company rate or the rate for life offices. Both the nominal and the effective tax rates on fund earnings are lower than the lowest non-zero personal tax rate of 20%. This means that investment in superannuation funds is tax advantaged for almost all members, including married women who interrupt their careers to care for children, leaving their accrued superannuation in the fund.

For a woman in this situation, with no other income, the only savings vehicle more tax effective than leaving the money in the superannuation fund (as she must with preserved amounts) would be to invest in the family home. However, the purpose of superannuation policy ( and the tax concessions) is to assure and increase retirement incomes, and this purpose would be compromised by such a switch in savings.

The effective tax rate on other investments the woman might make is not necessarily her personal marginal tax rate. For example, if the woman had no other income and were to invest her accumulation elsewhere, receiving a return of less than the tax threshold, her personal tax rate would be zero. However her husband's tax liability would be affected. The dependent spouse rebate\* would be reduced by 25 cents for each dollar of income over \$282 per annum the woman earned from investments. In the case of a low income family, the husband's medicare liability could also be increased by up to 20 cents for each dollar of the wife's income, giving an effective marginal tax rate of 45%. Low income families could also lose additional family payments from Social Security at the rate of 50 cents in the dollar, whilst higher income couples could lose all entitlement to basic family payment. In contrast, earnings on preserved superannuation are not considered income for either personal income tax or Social Security purposes.

The tax rate of an alternative investment vehicle will be higher than that of a superannuation fund, effectively adding a further tax on investment income. Unlike the superannuation fund, neither partner would be able to take advantage of any imputation credits in respect of the woman's investment earnings. The woman has no tax liability against which to offset the credit and it cannot be offset against her separate net income in assessing the husband's entitlement to a dependent spouse rebate or her entitlement to a home child care allowance.

Earnings on the woman's superannuation accumulation will be subject to tax at the time of retirement. However, the deferral of tax means tax has been saved and earnings have been greater. The end taxation is also concessional, with smaller amounts being effectively tax free.

Provisions permitting contributions to continue for up to two years while a person is not in paid employment allow women to take further advantage of tax assisted savings. It should be noted that where a woman has only a small accumulation, fees and charges may offset any tax advantage.

*\* Legislation currently before Parliament will replace the dependent spouse rebate for couples with children with a home child care allowance*

## **Tax on Benefits**

Essentially concessional rates of tax on end benefits compensate for tax on contributions and fund earnings, but with limits on concessions to high income earners. The taxation provisions are also intended to encourage retirees to invest their benefit in a continuing income stream. Different components of the final benefit paid to a person on retirement are subject to different taxation treatment.

### Benefits in Excess of RBL

A person's gross superannuation benefits (less undeducted contributions) are subject to assessment against the Reasonable Benefit Limit (RBL). Presently the person's RBL is expressed as a multiple of the person's highest average salary in any 3 consecutive years. From 1 July 1994 this rule will be replaced by a flat dollar amount for all people. The limit will be \$400,000 for benefits taken as a lump sum, and \$800,000 for people who take at least half their total benefits as a complying pension or annuity. These limits are indexed to average weekly ordinary time earnings.

The new RBL arrangements are not only simpler but limit the degree of tax concessions given to very high income earners. The new limits also permit a relatively higher level of benefit to low income earners. This will allow women with lower levels of personal income but limited calls on that income, to top up their superannuation and benefit from concessional savings. The majority of employees will have benefits below the RBL.

The treatment of excessive benefits will depend upon whether they are taken as a lump sum or as a pension or annuity. Currently, a person must commute to a lump sum the excessive component of the capital value of a pension or annuity. From 1 July 1994 this will no longer be required. Instead, a proportion of the pension or annuity payments equal to the proportion of the capital value that is excessive will not be rebatable. That is, it will be taxed at the person's full marginal rate in the year of receipt. Currently excess lump sum benefits are included in the person's assessable income and therefore effectively taxed at the person's marginal rate plus the medicare levy. From 1 July 1994 they will be taxed at a flat rate equal to the highest marginal personal tax rate plus the medicare levy (ie, 48.4%).

### Lump sum benefits

The portion of a lump sum benefit attributable to service prior to July 1983 is comparatively lightly taxed. Only 5% of this amount is included in the recipient's assessable income and taxed at the person's marginal rate. Thus, for example, a person with a marginal tax rate (with medicare) of 31.4% would effectively pay tax of 1.57% on this part of the benefit.

The amount of the lump sum attributable to service after June 1983 is taxed after deducting the member's own undeducted contributions included in the lump sum. That is, only the employer contributions and the earnings on all contributions are taxed. If the person is aged less than 55, except in cases of invalidity, tax applies at the greater of the person's marginal rate or 20%, plus the Medicare levy. For those over 55, the first \$77,769 (indexed to average weekly ordinary time earnings) is tax free. The remainder is taxed at the greater of the person's marginal rate or 20%, plus the Medicare levy.

Benefits paid from untaxed funds (for example, the employer component of an unfunded defined benefit) are subject to an additional tax of 15%, including benefits below the zero tax threshold.

### Superannuation pensions and rollover annuities

Superannuation pensions and rollover annuities are both continuing income streams. A superannuation pension is paid from a continuing superannuation fund and payment is by right of fund membership. A rollover annuity is purchased from a life office. Since 1 July 1983 there has been little distinction between them for most taxation purposes. Both are included in the recipient's assessable income in the year of receipt.

A deduction is allowed for the return of the portion of the person's own undeducted contributions included in the purchase price of the pension or annuity. The undeducted purchase price (UPP) deduction for each year is calculated by dividing the UPP, less any residual capital value, by the number of years the pension or annuity is expected to be paid. Currently, the UPP for a rollover annuity, but not a superannuation pension, includes the whole of the pre-July 1983 component of the purchase price. From 1 July 1994 the UPP will be limited to the person's post-June 1983 undeducted contributions. Because the value of the UPP deduction is not indexed, and a complying pension or annuity is, the relative value of the deduction will decline over time.

From 1 July 1994 the person is entitled to a rebate of 15% of the assessable amount of a rebatable pension or annuity. Any amount of pension or annuity payments attributable to an untaxed source or an excessive component is not rebatable. The 15% rebate replaces a rebate of between 3% and 15% phased in, depending on commencement date, for pensions and annuities that became payable after 30 June 1988.

Under the new rebate arrangements tax will not be payable on a rebatable pension or annuity under about \$21,600, where the person has no other income. However, the person's Medicare liability cannot be offset by this rebate. Tax may also be payable if the person receives the age pension or other income. Any age or service pension rebate and the age or service pension itself may be also reduced.



The taxation arrangements for superannuation can, in general, be summarised as follows:

MEMBER CONTRIBUTIONS	Taxed once only, at the time of contribution and at member's then marginal rate
EMPLOYER CONTRIBUTIONS	Untaxed at source, concessional tax on receipt by fund, concessional tax at payout
FUND EARNINGS	Concessional tax in the fund, concessional tax at payout

### **Age and Service pensioner rebates**

Age and Service (age) pensioners are entitled to a tax rebate equal to the amount of tax that would normally be payable on the full year maximum base pension plus the annual income test free area. The rebate is reduced by 12.5 cents for each dollar of taxable income in excess of the pensioner tax threshold. This threshold is calculated each year and equals the maximum base pension plus the free area. Where one partner of a couple does not use the whole rebate, the excess is transferred to the other partner and that partner's threshold recalculated. Since the age pension is reduced by 50 cents for each dollar over the free area, the effective reduction in the rebate is only 6.25 cents for each dollar of other income.

Where one spouse has more income than the other, the higher income spouse may also be entitled to the dependent spouse rebate.

### **Effective marginal tax rates**

For some years there has been criticism of the high effective marginal tax rates (EMTRs) affecting welfare recipients. While EMTRs resulting in negative gain for additional private income are an obvious policy problem, critics often ignore the reality that EMTRs in excess of ordinary marginal tax rates are an essential element in directing adequate assistance to those most in need and limiting concessions for the more affluent.

The age pension provides a safety net for those unable to save for their retirement and a supplement for those able to make some provision. At the same time, the income and assets tests withdraw assistance as private means increase. The progressive tax scale and tax rebates adjust the tax burden according to ability to pay and claw back assistance and concessions from the better off. The 'tax' rates of the two systems are not cumulative but interactive.

For example, if the person has no other private income but an annuity in excess of the age pension income test free area the person's effective marginal tax rate (EMTR) may comprise:

• reduction in age pension ( <i>this halves the tax related components</i> )	.50
• reduction in age pension rebate	.0625
• tax on assessable income	.10
• Medicare levy (if total income is beyond the medicare levy shade in)	.007
• <i>less</i> rebate for annuity	(.15)
<hr/>	
• TOTAL	.5195

Although higher than the highest ordinary marginal tax rate, this is only marginally higher than the pension withdrawal rate. If the income were from investments rather than an annuity the EMTR would be 66.95%.

The converse of this example is that for persons in this range of incomes, a lower superannuation benefit does not result in an equivalent reduction in disposable income. This is particularly important for women, who, at least for the next few decades, are likely to have less superannuation and smaller annuity payments.

### **Disposable income in retirement**

The appropriate measure of a person's retirement income is not just the size of the superannuation payout, or the annuity that can be purchased with that amount, but the real net disposable income they have from all sources after tax, in comparison to the disposable income they had whilst working. The hypothetical examples in the next section demonstrate the effect of varying income levels and intermittent workforce participation on the real retirement income of women.

It is important to realise that most women at retirement are not dependent entirely on their own income and pension, but share the resources of their spouse. According to the 1990 ABS Income Distribution Survey, 69.3% of women then aged 60 to 64 were married or living in a de facto relationship. A further 26.6% were separated, widowed or divorced. With superannuation, many widows would benefit from reversionary or death benefits, whilst proposed amendments to the Family Law Act will, if enacted, ensure that divorcees receive a share of their ex-partner's accumulated superannuation. The 4.1 % who have never married would generally not have experienced the interruptions to labour force participation that married women have in caring for a family. However, older women will generally have experienced quite low wage levels and lack of superannuation coverage and this would certainly affect their ability to provide for retirement. It is plausible to assume that the distribution of marital status on retirement will remain roughly the same, but the participation rate, income levels and superannuation coverage of women have improved and this is likely to continue. Therefore it is likely that in future women will have much better opportunities to provide for their retirement.

### 3. DISPOSABLE INCOMES AND COST/BENEFIT ANALYSIS

#### Cost/Benefit methodology

The following examples use the methodology developed for the RIM project and set out in Brown (1993) for measuring the costs and benefits of retirement income policy in terms of net present value.

The benefit to the individual is defined as the increase in the present value of net disposable income in retirement for the person or couple. The costs to the Government are the net present value of:

the difference between tax on contributions, fund earnings and payouts under the concessional provisions and the tax that would have been payable in a non-concessional environment;

*plus* the difference between the age pension payable with a concessional tax superannuation accumulation and the age pension payable with a non-concessionally taxed accumulation.

The calculations for the non-concessional environment assume that the employer contributions are paid, and taxed, as wages. It is then assumed that a proportion (50% in the following examples) of the increased wage income is saved for retirement and the interest taxed at the individual's marginal rate.

The net policy gain or loss for the Government is the net gain to the person's retirement income (the goal of the policy) less the net cost to Government.

#### Analysis of projected outcomes for individuals

The following examples are the result of modelling a set of plausible assumptions on the RIM model INDMOD. The results cannot be read as 'predictions', due to the sensitivity of results to the assumptions made, particularly over a period of some forty years. The model cannot capture the diversity of human circumstances or even of economic factors. What they do demonstrate is the difference the Government's policy or an individual's behaviour and characteristics make, all other things being equal. For this purpose somewhat simplistic scenarios are adequate.

The scenarios modelled are:

For single women:

**A.** A woman aged 25 in 1992 with SGC employer support only. The woman's salary is a set percentage of AWE throughout her working life. She retires at age 65 and uses all of her benefit to purchase a rollover annuity.

**B.** A member co-contribution is phased in, commencing at 1 % in 1998-99 and rising to 3% in 2000-01. This example is merely illustrative of one way in which a member contribution could be implemented. No decision has yet been made by the Government as to the timing of this measure. Otherwise the same as for A.

**C.** Instead of purchasing an annuity, the woman takes the entire lump sum, invests it and draws on it in an annuity pattern. The woman's life expectancy is factored into the annuity drawdown pattern. Otherwise the same as for A.

**D.** The woman was born in 1950. Otherwise the same as for A.

For Couples:

**A.** Both partners are aged 25 in 1992 and have SGC employer cover only. Both have the same level of full time equivalent salary and retire at age 65, taking all benefits as rollover annuities. The woman leaves work for six years at age 27 and, on return, works 67% of full time hours for a further six years. Thereafter she is employed full time.

**B.** Both partners were born in 1950. The woman earns half as much as the man, but has no interruptions to her career after the SGC start date of 1992. Otherwise the same as for A.

General assumptions

These scenarios assume that the persons modelled had no superannuation cover prior to the implementation of the SGC in 1992. The administrative charges of superannuation funds are set at a flat rate of \$1.70 per week ( which includes the typical death and disability insurance premium). The assumed effective tax rate of superannuation funds is 7%, allowing for the effect of imputation credits and capital gains provisions.

Unless otherwise stated, all benefits are taken as a rollover annuity. For couples a reversion factor of 85% is assumed. Where a lump sum is taken, the investment is drawn upon in an annuity pattern, designed to exhaust the amount in the year the person dies. The person's actual life expectancy is factored into this pattern.

In these scenarios we have used very conservative economic assumptions. That is, the results could be seen as pessimistic. AWE growth is 4 %, but wages are discounted for the effect of the SGC. CPI is 3% and both funds and investments earn at the bond rate of 6%. A plausible range for the bond rate in this type of long term analysis might be in the range of 6 to 6½% (ie, 3 to 3½% above inflation). We have deliberately used the figure at the lower end of the range in order to give a conservative estimate. Differences in the relativities of these parameters will result in different outcomes (Brown 1993, Knox,1993). The modelling results shown in this paper are not comparable to previous examples in Gallagher et al 1993, as different parameters were used for that series.

The base age pension rate is indexed to AWE as it is current Government policy to adjust the rate to a benchmark of 25% of AWE. Because of real wages growth this gives a base pension rate in 1992 dollars higher than the current rate. The income and assets test thresholds are indexed to CPI in accordance with legislation. Tax scales are indexed to AWE.

In all scenarios, home ownership is assumed. It is assumed that the persons modelled have no other savings or investments, aside from superannuation or the alternative 50% non-concessional amount, but have \$25,000 worth of non-financial assets at retirement (base year value, indexed to the CPI up to the time of retirement).

In these scenarios, it has been assumed that without mandated superannuation and tax concessions, wages would have been higher by an amount equivalent to the employer contributions and that each person would have saved 50% of the wage increase. It is further assumed that these savings are taxed at the person's marginal rate. The estimated policy gain is very sensitive to these assumptions. For example, if a person would have saved the full amount of the wage increase in wage and invested it in a tax advantaged vehicle, then the cost of the superannuation tax concessions and the gain to retirement income from the policy are both less. Had the person saved none of the increase, the cost of the tax concessions is greater, as is the gain to retirement income.

It should be noted that because those born in 1950 retire in 2014-15 rather than 2031-32, both the nominal and real values will be less than for those aged 25 in 1992, as will their pre-retirement disposable income.

TABLE 1: REPLACEMENT INCOMES AND COST/BENEFIT ANALYSIS OF SGC POLICY

## SCENARIOS FOR SINGLE WOMEN

SCENARIO	WAGES AS PERCENTAGE OF AWE					WAGES AS PERCENTAGE OF AWE				
	50%	100%	150%	200%	250%	50%	100%	150%	200%	250%
	(1992 \$ values)					(% Of pre-retirement disposable income)				
<b>Scenario A: superannuation commences at age 25 in 1992, employer contributions only at SGC rate,</b>										
<b>100% of benefit converted to rollover annuity,</b>										
NPV of Net Gain to retirement Income	\$6,494	\$8,167	\$9,792	\$11,410	\$13,673	34.2%	23.5%	20.2%	19.1%	19.2%
NPV of Net Cost to Government	\$3,495	\$2,914	\$3,507	\$3,062	\$3,262	18.4%	8.4%	7.3%	5.1%	4.6%
NPV of Net Policy Gain from Tax Concessions	\$2,999	\$5,253	\$6,286	\$8,348	\$10,411	15.8%	15.1%	13.0%	14.0%	14.6%
NPV of Disposable Retirement Income	\$16,007	\$18,544	\$20,367	\$23,039	\$26,355	84.3%	53.3%	42.3%	38.6%	37.0%
NPV of Income Stream	\$4,898	\$10,106	\$15,314	\$20,522	\$25,730	25.8%	29.0%	31.8%	34.4%	36.1%
NPV of Age Pension Entitlement	\$11,142	\$8,756	\$5,386	\$2,886	\$1,030	58.7%	25.2%	11.2%	4.8%	1.4%
NPV of Income Tax in Retirement	\$34	\$318	\$333	\$370	\$405	0.2%	0.9%	0.7%	0.6%	0.6%
<b>Scenario B: As for A but including member contributions phased in commencing at 1% in 1998-99 to 3% by 2000-01</b>										
NPV of Net Gain to retirement Income	\$6,931	\$8,346	\$11,042	\$14,100	\$18,144	36.5%	24.0%	22.9%	23.6%	25.5%
NPV of Net Cost to Government	\$3,096	\$1,020	\$1,645	\$1,604	\$2,547	16.3%	2.9%	3.4%	2.7%	3.6%
NPV of Net Policy Gain from Tax Concessions	\$3,835	\$7,326	\$9,397	\$12,497	\$15,597	20.2%	21.0%	19.5%	20.9%	21.9%
NPV of Disposable Retirement Income	\$17,258	\$20,038	\$23,452	\$28,083	\$33,419	90.9%	57.6%	48.7%	47.0%	46.9%
NPV of Income Stream	\$6,645	\$13,599	\$20,554	\$27,509	\$34,463	35.0%	39.1%	42.7%	46.1%	48.4%
NPV of Age Pension Entitlement	\$10,820	\$66,733	\$3,226	\$955	\$0	57.0%	19.3%	6.7%	1.6%	0.0%
NPV of Income Tax in Retirement	\$207	\$294	\$328	\$381	\$1,045	1.1%	0.8%	0.7%	6.0%	1.5%
<b>Scenario C: As for A but benefit lump sum invested and drawdown in annuity pattern</b>										
NPV of Net Gain to retirement Income	\$6,275	\$8,621	\$10,674	\$11,682	\$13,531	33.1%	24.8%	22.2%	19.6%	19.0%
NPV of Net Cost to Government	\$3,102	\$2,939	\$3,666	\$2,368	\$1,911	16.3%	8.4%	7.6%	4.0%	2.7%
NPV of Net Policy Gain from Tax Concessions	\$3,173	\$5,682	\$7,008	\$9,314	\$11,620	16.7%	16.3%	14.5%	15.6%	16.3%
NPV of Disposable Retirement Income	\$15,900	\$1,961	\$21,424	\$23,546	\$26,511	83.8%	55.1%	44.5%	39.4%	37.2%
NPV of Income Stream	\$5,185	\$10,698	\$16,211	\$21,724	\$27,237	27.3%	30.7%	33.6%	36.4%	38.3%
NPV of Age Pension Entitlement	\$10,761	\$9,351	\$6,952	\$4,929	\$3,788	56.7%	26.9%	14.4%	8.3%	5.3%
NPV of Income Tax in Retirement	\$46	\$889	\$1,740	\$3,106	\$4,514	0.2%	2.6%	3.6%	5.2%	6.3%

Scenario D: As for A but woman born in 1950										
NPV of Net Gain to retirement Income	\$3,071	\$4,647	\$5,995	\$6,362	\$6,636	19.1%	15.7%	14.7%	12.6%	11.0%
NPV of Net Cost to Government	\$1,973	\$2,759	\$3,820	\$3,477	\$3,040	12.2%	9.3%	9.3%	6.9%	5.0%
NPV of Net Policy Gain from Tax Concessions	\$1,098	\$1,889	\$2,175	\$2,885	\$3,596	6.8%	6.4%	5.3%	5.7%	6.0%
NPV of Disposable Retirement Income	\$11,448	\$13,530	\$15,015	\$15,891	\$16,673	71.1%	45.8%	36.7%	31.4%	27.6%
NPV of Income Stream	\$1,956	\$4,052	\$6,148	\$8,244	\$10,341	12.1%	13.7%	15.0%	32.1%	17.1%
NPV of Age Pension Entitlement	\$9,492	\$9,491	\$9,239	\$8,006	\$6,683	58.9%	32.1%	22.6%	16.3%	11.1%
NPV of Income Tax in Retirement	\$0	\$13	\$372	\$359	\$350	0.0%	0.0%	0.9%	0.7%	0.6%
<b>NOTES</b>										
Savings replacement factor: 50%	Alternative tax base factor: 100%									
All values discounted at the bond rate (6%)	Fund earning rate equal to bond rate									
Base age pension indexed to AWE (4%)	Non-super savings at retirement: 0									
Age pension thresholds indexed to CPI (3%)	Non-financial assets at retirement: \$25,000 (indexed to CPI)									
AWE is average weekly earnings for all males										

*NOTE: For a full explanation of the concepts used in this and the following tables, see Brown, 1993.*



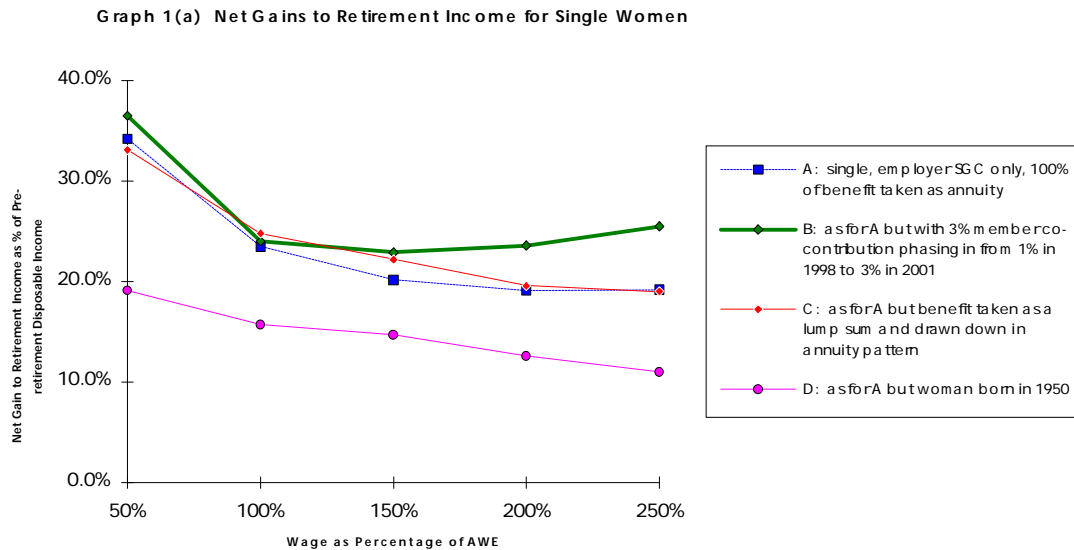
TABLE 2: REPLACEMENT INCOMES AND COST/BENEFIT ANALYSIS OF SGC POLICY  
SCENARIOS FOR COUPLES. (ALL AMOUNTS AGGREGATED FOR THE INCOME UNIT)

SCENARIO	WAGES AS PERCENTAGE OF AWE					WAGES AS PERCENTAGE OF AWE				
	50%	100%	150%	200%	250%	50%	100%	150%	200%	250%
	(1992 \$ values)					(% Of pre-retirement disposable income)				
<b>Scenario A: Couple both with salary level shown, both aged 25 in 1992 and retire at age 65. Both have employer SGC coverage only.</b>										
<b>Both take 100% rollover annuity. Woman leaves workforce for 6 years at age 27</b>										
<b>and then works only 2/3 hours for 6 years, before returning to full time.</b>										
NPV of Net Gain to retirement Income	\$10,141	\$12,748	\$15,278	\$18,389	\$22,961	28.9%	20.1%	17.4%	16.9%	17.7%
NPV of Net Cost to Government	\$5,174	\$4,536	\$5,839	\$6,003	\$7,668	14.8%	7.2%	6.7%	5.5%	5.9%
NPV of Net Policy Gain from Tax Concessions	\$4,967	\$8,211	\$9,439	\$12,386	\$15,293	14.2%	13.0%	10.8%	11.4%	11.8%
NPV of Disposable Retirement Income	\$25,261	\$29,274	\$32,258	\$37,131	\$43,370	72.1%	46.2%	36.8%	34.2%	33.5%
NPV of Income Stream	\$8,084	\$16,678	\$25,272	\$33,866	\$42,460	23.1%	26.3%	28.8%	31.2%	32.8%
NPV of Age Pension Entitlement	\$17,192	\$12,932	\$7,283	\$3,487	\$1,251	49.1%	20.4%	8.3%	3.2%	1.0%
NPV of Income Tax in Retirement	\$15	\$337	\$298	\$222	\$342	0.0%	0.5%	0.3%	0.2%	0.3%
<b>Scenario B: As for A but couple born in 1950, no interrupted participation after 1992 but woman earns half amount shown, male earns full amount</b>										
NPV of Net Gain to retirement Income	\$4,937	\$7,328	\$9,417	\$9,923	\$10,450	16.2%	13.1%	12.0%	10.0%	8.8%
NPV of Net Cost to Government	\$2,923	\$3,711	\$5,187	\$4,377	\$4,158	9.6%	6.6%	6.6%	4.4%	3.5%
NPV of Net Policy Gain from Tax Concessions	\$2,014	\$3,617	\$4,230	\$5,546	\$6,292	6.6%	6.5%	5.4%	5.6%	5.3%
NPV of Disposable Retirement Income	\$18,128	\$21,806	\$24,372	\$25,839	\$27,031	59.4%	38.9%	31.1%	26.1%	22.8%
NPV of Income Stream	\$3,446	\$7,220	\$10,995	\$14,770	\$18,544	11.3%	12.9%	14.0%	14.9%	15.7%
NPV of Age Pension Entitlement	\$14,682	\$14,613	\$13,764	\$11,544	\$8,968	48.1%	26.1%	17.6%	11.7%	7.6%
NPV of Income Tax in Retirement	\$0	\$27	\$387	\$475	\$482	0.0%	0.0%	0.5%	0.5%	0.4%
<b>NOTES</b>										
Savings replacement factor: 50%					Alternative tax base factor: 100%					
All values discounted at the bond rate (6%)					Fund earning rate equal to bond rate					
Base age pension indexed to AWE (4%)					Non-super savings at retirement: 0					
Age pension thresholds indexed to CPI (3%)					Non-financial assets at retirement: \$25,000 (indexed to CPI)					
AWE is average weekly earnings for all males										

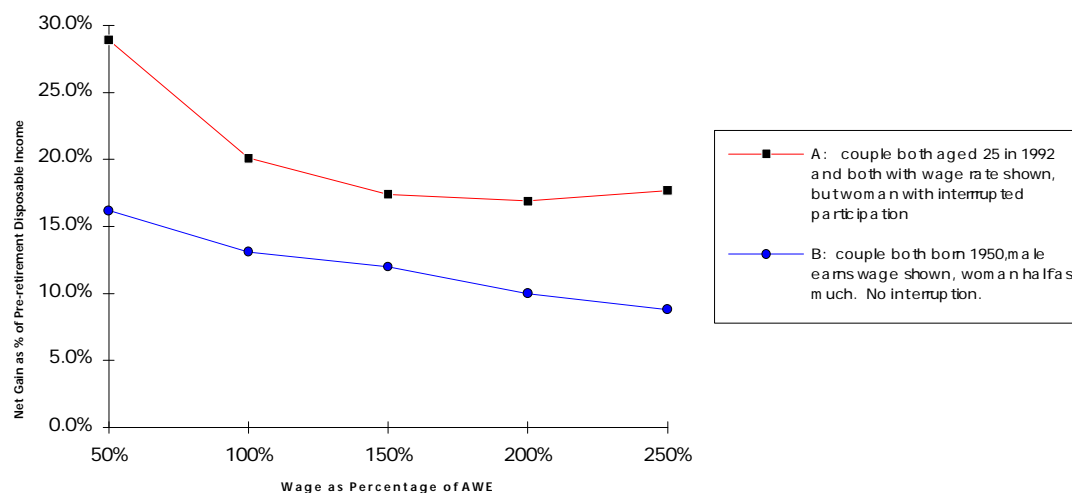


**Graphs 1(a) and (b)** show that the gain to the individual's retirement income from the SGC and tax concessions is highest, relative to pre-retirement income, for low income earners. With the exception of the scenario for member contributions, rates of gain decline more slowly at incomes higher than 100% of AWE. With member co-contributions, gains increase with income after a low point at 150% AWE. However, this result should be treated with some scepticism, bearing in mind our simplistic assumptions. In particular, even without the SGC, it is likely that high income earners will be making superannuation contributions or have other investments, many of them lightly taxed. That is, mandated co-contributions may have little effect on the savings behaviour of higher income earners and gains to their retirement incomes may be largely theoretical. At a minimum, the SGC and taxation provisions ensure that some savings are preserved, at least until the date of retirement, and that higher benefits are more highly taxed if not taken as an income stream.

**Graph 1(b)** shows that gains for couples, where the woman earns less than the male and less than single women or where her participation is interrupted, as a percentage of pre-retirement disposable income are still comparable to those of single persons. This occurs even though pre-retirement income is higher at each level because there are two earners. Although the pension income test threshold for a couple is less than twice (172%) the single threshold, the taxation concessions for superannuation apply to each partner individually.



Graph 1(b) Net Gains to Retirement Income for Couples



**Graphs 2(a) and (b)** demonstrate that, in comparing replacement rates, the interaction of superannuation, taxation provisions and the age pension income tests results in a system that is progressive for the majority of the population. Replacement rates are significantly higher for those on lower incomes, with the rate comparatively flat for incomes over 150% of AWE. Although not shown by these scenarios, for very high income earners, the replacement rate falls quite sharply once the RBL is exceeded. The age pension in particular moderates the effect of low incomes, intermittent participation and late entry into a superannuation fund. Taxation at low incomes is of little significance.

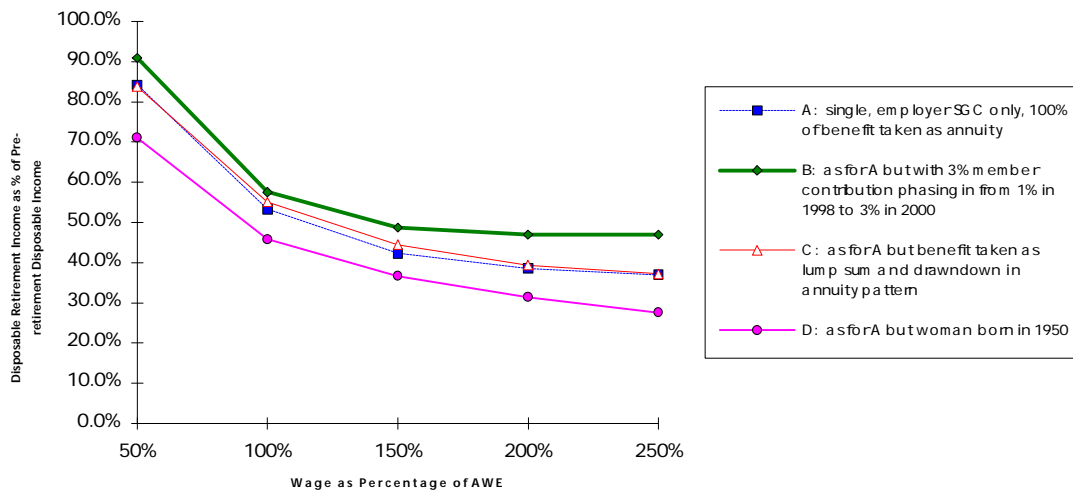
For the 'baby boomers', replacement rates drop more steeply at higher incomes than it does in the other scenarios. This reflects the fact that their superannuation, a relatively higher proportion of the retirement income of high earners, has had only 23 years to accumulate as cover commenced only with the implementation of the SGC.

The scenario for a member contribution in **Graph 2(a)** shows a difference in replacement incomes significantly greater than the extra 3% contribution at most income levels. 3% in *undeducted* member contributions is worth over 3.5% in employer contributions because the latter are taxed on receipt by the fund. Fund earnings are also higher and, in retirement, the person is eligible for a UPP deduction.

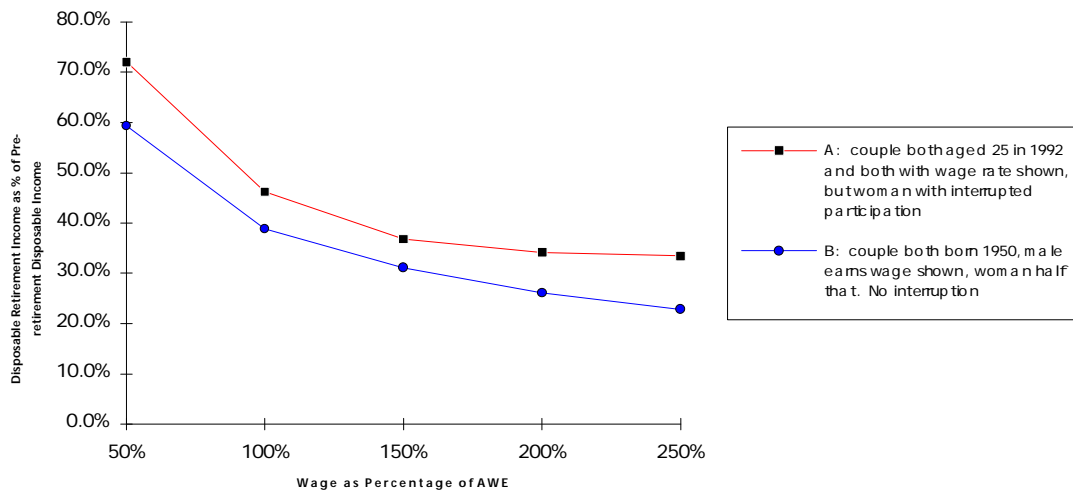
In **Graph 2(a)** it can be seen that a woman who takes her benefit as a lump sum can, in some circumstances, have a replacement rate slightly higher than that of the woman who takes an annuity. The former has the benefit of flexibility and control, the latter has security against unexpected longevity and greater protection against adverse economic conditions. It is the cost of this

insurance factor that reduces the size of the annuity payments. This scenario assumes that the woman who takes the lump sum knows she will be long-lived and draws down accordingly. The alternative of drawdowns according to normal life expectancy would leave the woman with no income aside from the pension for the last ten years of life. Drawing down interest only would of course give a much lower income, with the real value of both capital and interest declining over the retirement period. The annuity option ensures an income no matter how long the woman lives, although, as it is indexed to CPI, its real value will decline relative to both AWE and the pension. High inflation, on the other hand, could have a much more adverse effect on investment income.

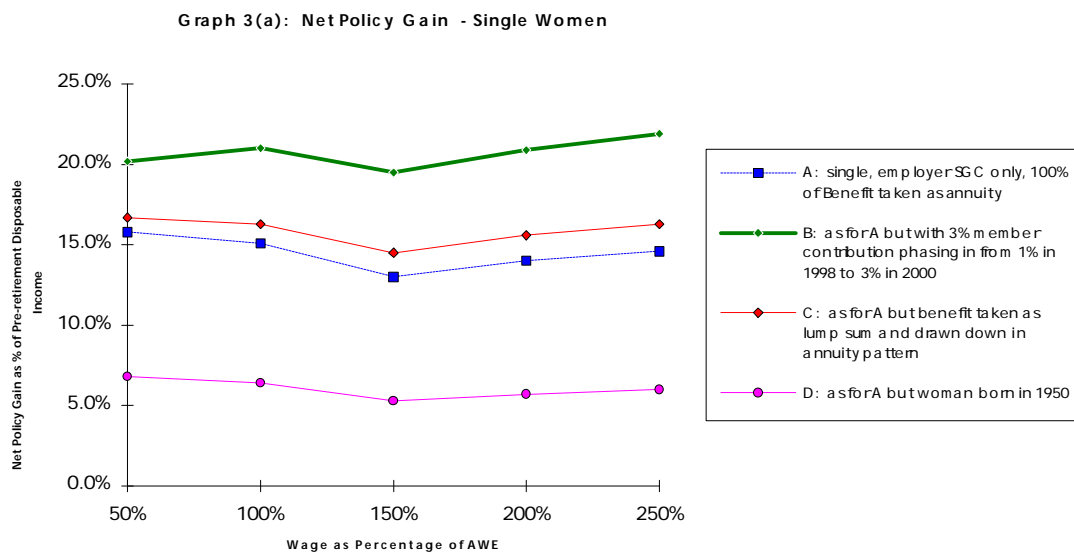
Graph 2(a): Progressivity of Replacement Incomes for Single Women



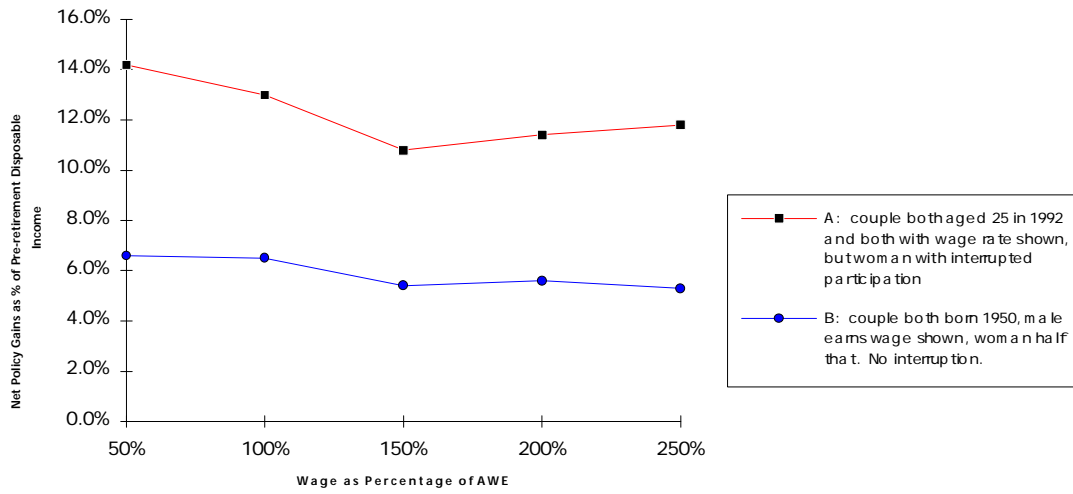
Graph 2(b): Progressivity of Replacement Income for Couples



**Graphs 3(a) and (b)** show that the policy gain to the Government from the tax concessions, calculated according to the methodology described earlier, is positive in all scenarios. That is, the cost of financing an increase in retirement incomes through tax concessions is less than the cost of general revenue financing. The policy gain can also be viewed as the extent to which the gain to retirement income of the person exceeds the cost to the Government. The distribution of policy gains across income ranges is relatively constant as a proportion of pre-retirement disposable income. For both couples and single persons the gain is highest for those on 50% of AWE, except in the scenario for member contributions. The smaller policy gain for low earners in that scenario is the result of a relatively smaller reduction in the age pension payable and the smaller impact of tax concessions on net income. For both single women and couples the policy gain is lowest at 150% of AWE and increases slowly thereafter as tax on retirement income becomes higher and gains to the individual become flatter.



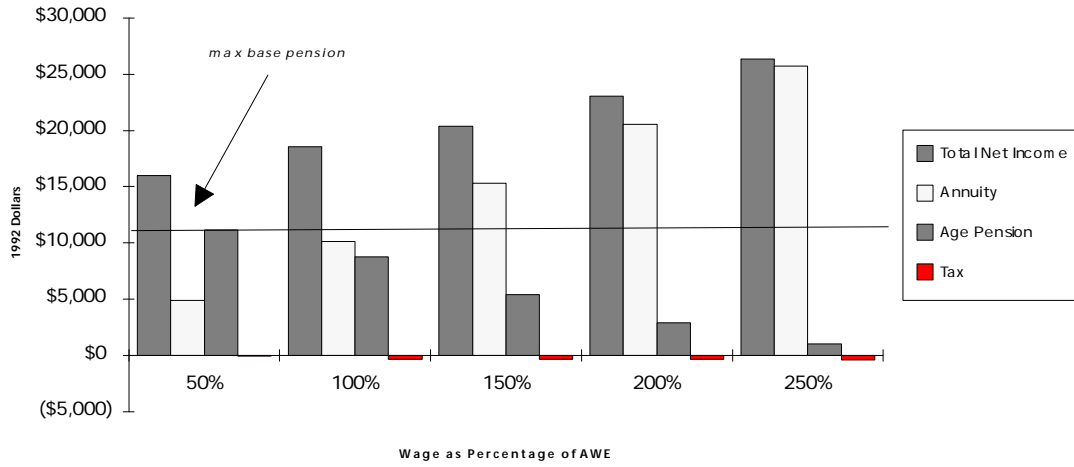
Graph 3(b) Net Policy Gain - Couples



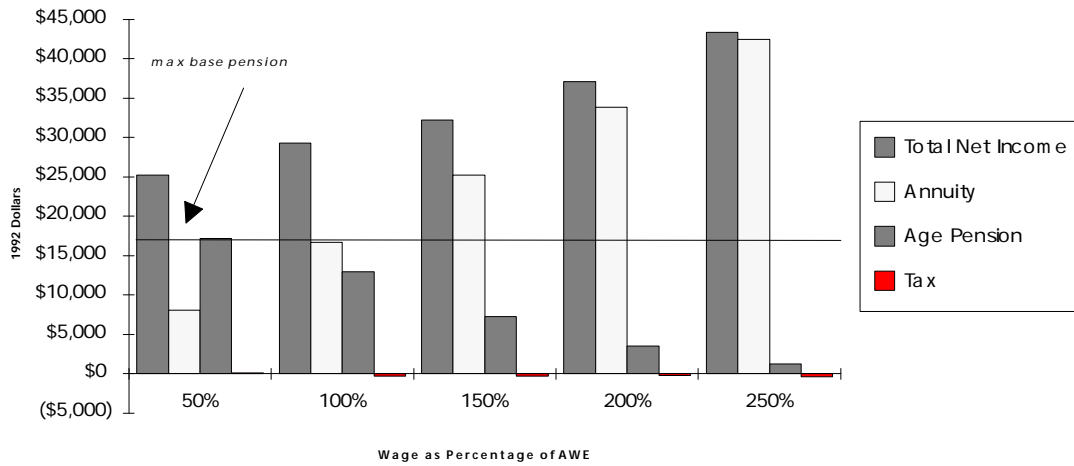
**Graph 4(a)** shows the components of retirement income for a single woman as in Scenario A. The graph shows that both annuity income and net disposable income rise with pre-retirement salary level, while the age pension entitlement necessarily declines. Even at 50% AWE, disposable retirement income is significantly higher than the base pension rate. At this low income, the age pension constitutes nearly 70% of total net income.

**Graph 4(b)** shows the components for a couple as in Scenario A, that is where the woman has interrupted participation. Results are similar to those for a single person, demonstrating that the superannuation policies do benefit women with caring responsibilities.

**Graph 4(a) Components of Retirement Income for Single Women with Employer SGC only. Aged 25 in 1992, 100% Rollover Annuity**



**Graph 4(b) Components of Retirement Income for Couples, SGC employer only, both aged 25 in 1992. Interrupted participation.**





#### 4. CONCLUSION

The objective of the Government's superannuation policy is to improve retirement incomes in an equitable and cost efficient manner by increasing vested and preserved superannuation savings. The policy must also balance the revenue and expenditure needs of today against those of the future, and address issues of equity between generations as well as between groups in the same generation. Future generations would not have thanked us for the unfunded liability of our own age pensions. This would have involved difficult choices between pension adequacy, increases in taxation or decreased expenditure on social programs.

There are costs to individuals in providing for their retirement. It is generally assumed that in the near future at least, the SGC will slow real wages growth. However, there is still likely to be real wages growth, even during the SGC phase in period. There is no doubt that many people would much rather have the money in their younger years to invest in their own home, education, or simply to raise their present standard of living. These factors are important, but need to be balanced with the urgent need to address the future costs of an ageing population, and the interests of the next generation who would bear the costs of general revenue financing. Given competing pressures to increase age pensions or provide for the needs of their own families, tomorrow's workers may quite understandably opt for the latter.

On the whole, the interaction of superannuation, taxation and age pension provisions is progressive in terms of replacement income rates. Equity is enhanced by the increased scope and improved coverage of superannuation for those who were previously had little or no access to tax advantaged savings vehicles. Improvements in retirement income are highest for low income earners. However, progressivity is by no means incompatible with high effective marginal tax rates and these could be considered a policy problem for low income earners.

The longer average life expectancy of women poses particular problems. Because of this, a woman pays more than a man for an annuity of equivalent annual value. However a lifetime annuity protects a woman from the adverse financial effects of unexpected longevity. Her income will last for as long as she lives and will be protected against inflation. As the CPI indexed annuity falls in value in comparison to wage levels, age pension entitlement will increase to compensate. A married woman, on the other hand, can generally expect to outlive her spouse. Her own annuity and a reversionary annuity or death benefit in respect of her spouse will give her an income stream higher than a single person (male or female) with a similar pre-retirement income.

The above examples demonstrate that both single and married women gain in retirement from the superannuation policies. Never-married women are increasingly experiencing work patterns, wage levels and retirement incomes similar to those of men. Married women who curtail their participation or work at lower paid jobs in order to care for their family will share the increased retirement income of their spouse as well as the (smaller) increase in their own retirement income.

It is also likely that the participation and earnings of married women will continue to increase. For divorced women, the issue of the treatment of superannuation assets in property settlements is an important issue which the Government has announced it intends to address in the near future.

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**Difference in Replacement Incomes between Fund Rate of 6% and 6.5%**

