TAX ADVANTAGES OF INVESTMENT IN SUPERANNUATION

–In Bad Times as well as Good

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INTRODUCTION

Superannuation in Australia has always been intended as a tax preferred investment where tax concessions are provided to encourage (and increase the level of) saving for retirement and provide an offset to 'locking up' superannuation until preservation age[1]. A paper by the author to the 2000 Colloquium (Rothman, 2000) examined in some detail the extent to which superannuation is a tax advantaged (or concessional) investment compared with investing in comparable portfolios outside superannuation. It found that for persons in all tax brackets receiving SG employer contributions only, superannuation is a tax preferred investment over a working lifetime of up to 40 years duration.

Further, that for persons in the 31.5 per cent and higher tax brackets, one off investments through superannuation are relatively advantaged for all ungeared investment portfolios; making the investments through employer contributions, rather than member, generally gives the higher level of advantage.

This follow up paper has two parts. In the first the framework of the earlier paper is used to consider how the concessionality of superannuation is impacted by significant periods of low or negative returns, ie by volatile and scary markets. In this part there is also an update of announced policy changes impacting on the relative advantage of superannuation, such as the co-contribution policy. The second part considers some tax advantaged alternatives among the saving vehicles outside superannuation. In particular it assesses making additional voluntary payments towards one's own home loan or saving for retirement through investing in one's actively managed small business. The modelled after tax outcomes of these alternatives are compared with superannuation.

To set the scene we briefly summarise the taxation rules and rates for superannuation in Australia, emphasising recent and proposed changes. This is followed by an explanation of the analysis framework and the range of cases considered. Results are then considered and some conclusions drawn.

Tax Arrangements and Proposed Changes

Saving for retirement can be taxed at three stages - when contributions are made to a superannuation fund (by an employer or a member); when investments in superannuation funds earn income; and when superannuation benefits are paid out. Different tax arrangements are distinguished by the level of taxation applied at each stage: T means fully taxed, E means tax exempt, and t means concessionally taxed.

In terms of this nomenclature, TTE represents a comprehensive income tax system[2], EET (or TEE) represents the expenditure tax model (because only benefits are taxed effectively taxing the consumption, or expenditure arising); ttt represents the model for taxing superannuation in Australia.

The taxation arrangements applying to superannuation in Australia are as outlined in Appendix A.

Changes to the tax arrangements for Australia are proposed from time to time. Of note is the recommendation of the Senate Select Committee on Superannuation recommending that Australia move to an EET system over the longer term.

While there are a number of Government tax measures that are yet to be enacted, two are particularly important in the context of this paper, namely:

- Reduction of the surcharge rate; and
- Introduction of the Government co-contribution.

A contribution surcharge of up to 15% applies where the 'surchargeable income' of the member exceeds $90,527 pa. The Government is committed to reducing the superannuation surcharge by a tenth of its current level in each of the three years commencing from 1 July 2002. Accordingly, the maximum surcharge rates are to be reduced to 13½ per cent in 2002-03, 12 per cent in 2003-04 and 10½ per cent in 2004-05 and succeeding years.

The second measure is the replacement of the existing low-income earners superannuation rebate with a more generous Government superannuation co-contribution of up to $1,000, effective for qualifying low-income earners on personal contributions made on or after 1 July 2002.

- The maximum co-contribution is to apply to those qualifying low-income earners with an assessable income and reportable fringe benefits of $20,000 or less and tapers off for those earning between $20,000 and $32,500.

These measures have been stalled in the Senate but were re introduced into Parliament on 29 May 2003. This base cases in this paper assume that the co-contribution measure is in place and that the surcharge rates are reduced in line with the Government's Bill[3].

Limits to Superannuation Tax Concessions

There are a number of limits in the overall taxation of superannuation intended to limit the tax concessions available to an individual over a working lifetime. The age based contribution limits are one such limit and arguably, the contributions surcharge is another. The other key limit is the Reasonable Benefit Limit or RBL. If at least half of the benefit is taken as a complying pension or annuity, the higher pension RBL applies, currently $1,124,384; if not, the lump sum RBL of half this level applies. The age based limits are relatively generous ($87,141 annual allowable employer contribution aged 50 or over) and only a very small number of contributors reach this or their RBL limit.

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[2] This is equivalent in concept and outcome for an individual to ETT but the timing of the Government's tax receipts is of course different.

[3] Sensitivity analysis shows that reductions in surcharge rate improve concessionality for those in the surcharge income range, but do not markedly change the pattern of results nor change conclusions.

All the analysis in this paper assumes that contributions are within the age limits and that the relevant RBL is not exceeded over a person's working life. This covers an overwhelming majority of cases and analyses showing very high tax rates if these two limits are exceeded (eg Smith, 2000) merely reflect the policy intent that the tax concessions should not apply once the RBLs are exceeded.

ANALYSIS FRAMEWORK

The framework follows that developed in the 2000 paper. It uses Excel spreadsheets to compare the amounts accumulated at retirement after all taxes in two situations:

- the first where the person invests in the superannuation system with all its rules and taxes and;
- the second where the same person invests equivalent monies as available post income tax outside of the superannuation system, using the same investment portfolio as used for the superannuation investment.

We are trying to compare like with like and in so doing have to be careful. To make a sensible comparison we have to focus on pre tax money as the starting point. Say a person on an annual taxable income of $40,000 wants to invest $1000 of their pre tax earnings in superannuation. If they do this through an employer contribution (salary sacrifice), ignoring fees and charges, they will have $850 in the superannuation fund working for them. If they invest through member contributions they will have only $685 working for them, as full personal income tax at 31.5% (including the Medicare levy) needs to be paid first. Similarly the amount invested in the investment vehicle outside of superannuation is $685

All cases are assumed to be within age contribution and RBL limits. We also take a conservative simplified framework which assumes all benefits are taken as a post preservation age ETP with the full 16.5% tax rate applicable above the ETP tax free threshold (where the threshold applies). We therefore somewhat understate the relative advantage of superannuation. Those who choose retirement income stream products will not pay ETP tax on these benefits and may also gain a 15% tax rebate; generally this will result in a higher standard of living in retirement than taking all benefits as an ETP (see Tinnion and Rothman, 1999).

In the analysis we consider two broad areas:

- contributing at SG level over a working lifetime; and
- one off investments, mostly by persons over their $112,405 ETP free threshhold.

Where appropriate we also distinguish:

- between persons on different tax brackets; and
- between employer and member contributions.

The analysis consists of two parts. Firstly we calculate for each nominal tax bracket the effective earning tax rate for a given portfolio and rate of return. For example for a person on 31.5% nominal marginal tax rate investing outside superannuation, the effective tax rate for fixed interest is 31.5%. Our simplified balanced portfolio consists of 40% fixed interest, 40% fully franked Australian shares and 20% international shares; for this balanced portfolio at a 7 per cent gross return, the effective marginal tax rate is 18.5% or 59% of the person's nominal marginal tax rate. If the person receives income from interest, dividend and nominal realised capital gains totalling $1000 the net tax payable after credits is $185. The reduction reflects the impact of franked dividends and the capital gains tax rules. Table 1 below sets out the results of this preliminary step.

Table 1. Effective Marginal Tax Rate On Earnings From Investments, Outside Superannuation, varying returns.

		balanced portfolio yielding		
	fixed interest any return	7 per cent	5 per cent	3 per cent
nominal rate		effective marginal tax rate		
18.5	18.5%	6.8%	6.9%	4.5%
31.5	31.5%	18.5%	20.1%	19.8%
48.5	48.5%	33.8%	37.5%	39.7%

Given these effective tax rates, it is not difficult to create a spreadsheet calculator which accumulates the investment in both the within superannuation and outside superannuation tax environments and compares the results. While a considerable number of specific assumptions such as the composition and investment returns of the balanced portfolio have to be made to do the comparisons, sensitivity analysis varying the assumptions indicates that the pattern of results is quite robust.

RESULTS

A) Compulsory Superannuation – The Superannuation Guarantee

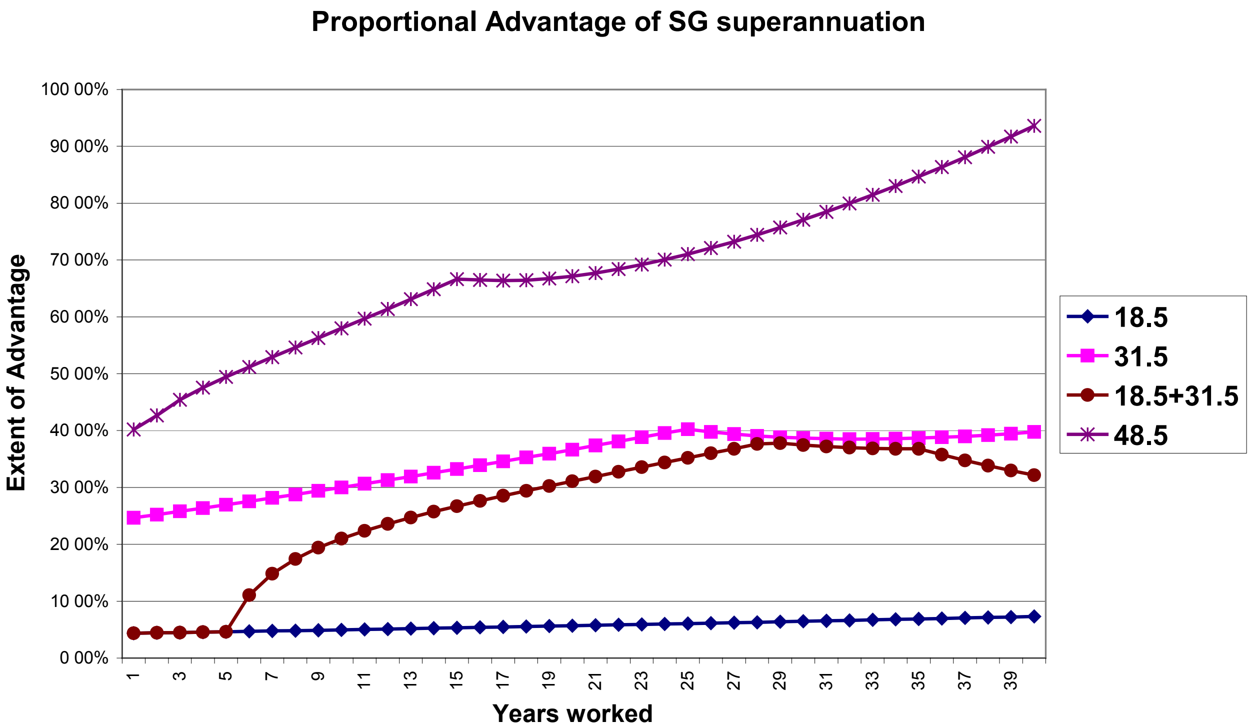
Until the mid 1980s superannuation was generally only available to public sector employees and the employees of large private sector organisations, and even in these organisations it was frequently not available to all employees, or not taken up by those eligible. The coverage rate was about 40% of employees in a range of defined benefit and defined contribution schemes. Coverage was extended to about 80% of employees between 1987 and 1990 through the award based superannuation system with contributions of 3 per cent of wages in lieu of wage increases.

Access to superannuation became widespread from 1992 on when the then Government introduced legislation to provide for the Superannuation Guarantee (SG) arrangements. The main aim of the SG is to provide better incomes in retirement than can be expected from the age pension alone. This scheme requires employers to make superannuation contributions on behalf of their employees to complying superannuation funds. The required contribution level commenced at 3 per cent and was increased gradually. In July 2002 it reached its fully phased in level of 9 per cent.

The analysis framework described in the previous section has been used to assess the extent of tax advantage given to SG only contributions over a working lifetime made up of any number of years up to 40. The fully implemented SG rates apply throughout and the analysis is done by marginal tax bracket.

The results in the following graph set out the percentage advantage of the ‘all taxes paid’ outcome for superannuation compared with the ‘all taxes paid’ outcome for money invested outside of superannuation. For this base case a balanced investment portfolio is assumed yielding 7 per cent; this reflects the long term nominal return from Australian superannuation assuming 2.5% inflation.

Chart 1



The various lines refer to the marginal personal income tax rate of the person , with say, 31.5, meaning this marginal tax rate applies throughout the persons working life. The 48.5 line has the person paying this marginal tax rate and the full surcharge throughout their working life. The 18.5+31.5 case has the person on the 18.5% marginal personal tax rate for the first 5 years of their working life, followed by 30 years of work at 31.5%, and the rest of working life at 18.5%. Arguably, patterns such as this, combining periods of work at 18.5% with longer periods at 31.5%, are fairly typical cases. The (constant) 18.5 case, which in effect excludes any period of full time work[4], would be quite atypical but is included for completeness.

The chart shows, for example, that the SG superannuation accumulation after all taxes for a person consistently on a 31.5% marginal personal income tax rate, is 40% more after 21 years than the accumulation of the equivalent post tax contributions outside of the superannuation system; after 35 years the advantage is about 39% returning to 40% more after 40 years. For the 18.5+31.5 case the advantage of superannuation is 38% after 29 years and 32% after 40 years.

The slight dips in the curves[5] indicate when the ETP tax free threshold is exceeded eg after 24 years for the person consistently on 31.5%, and 15 years for the person on 48.5%.

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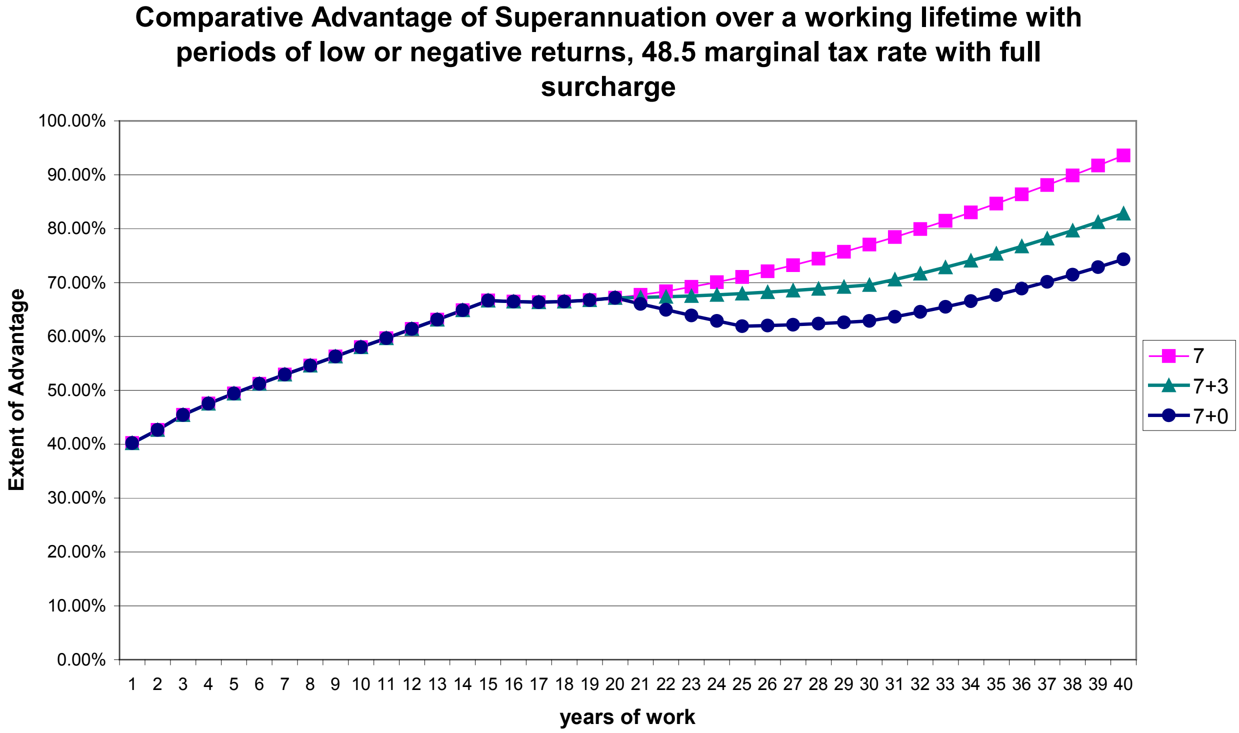
[4] Minimum award wages for full time adult work now exceed the upper bound of the 18.5% range.

[5] For the 18.5+31.5 case there is also a dip after 35 years related to the change in marginal tax rate.

The case of a person consistently on an 18.5% tax rate shows that such a person would not exceed their ETP tax free threshold until around 37 years of work receiving the full SG rate. Given the history of superannuation coverage described earlier, most of those currently on the 18.5% rate will be substantially under the ETP tax free threshold[6] and this is the framework we will adopt for the next part of the analysis.

As the proportional advantage of superannuation is always positive in Chart 1, it is clear that given SG employer contributions only and the specified base return, superannuation is a tax preferred investment over a working lifetime for persons in all non-zero tax brackets.

Chart 2



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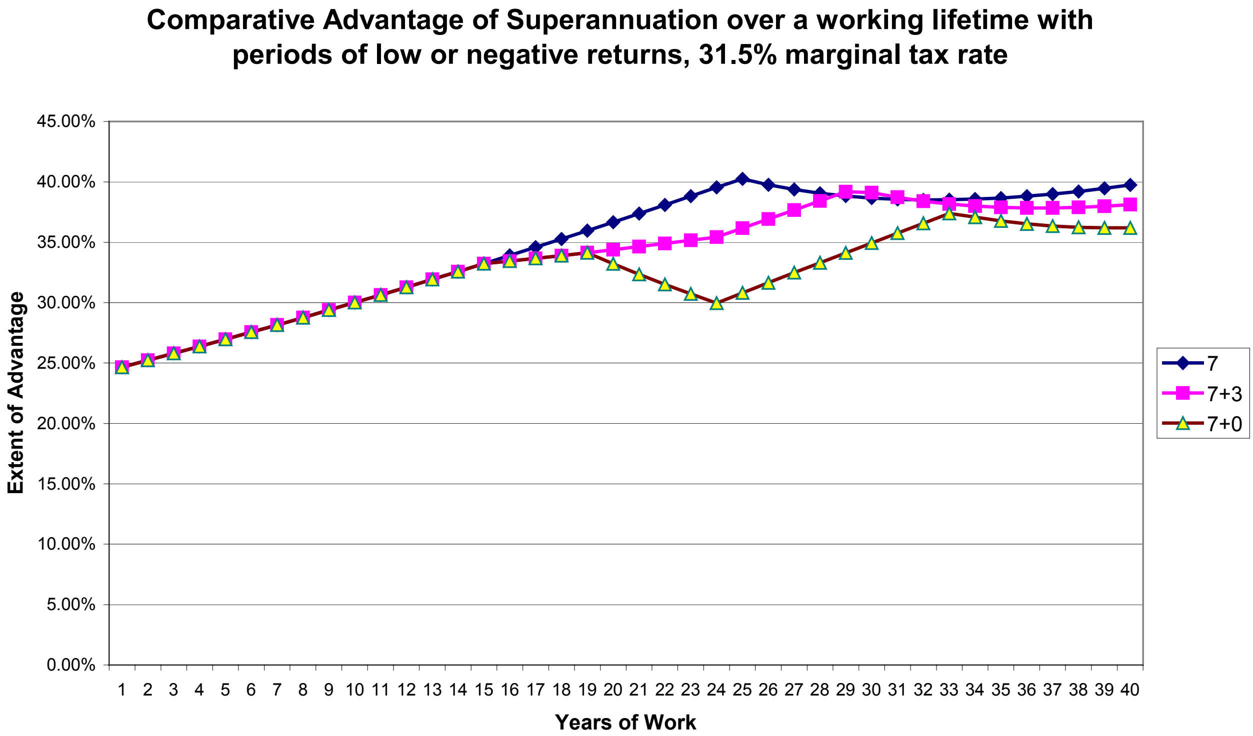
[6] Some limited number of persons previously earning higher annual salaries and now reverting, say to part time work, may have reached the ETP tax free limit.

Chart 3



Charts 2 and 3 examine the impact of periods of low or negative return compared with the base given above in Chart 1. The base case is repeated as the 7 percent return line shown as 7 in the legend. The alternative cases are shown as 7+3 and 7 +0. In the 7+3 case the return remains at 7 per cent for the first 15 (or 20) years followed by 10 years at 3 per cent nominal return. The returns of course apply both within and outside superannuation as the same portfolio is used. For the 7 + 0 case, 7 per cent return for the first 15 years is followed by 5 years at 3 per cent nominal return and a further 5 years at minus 3 per cent return. After this 10 year spell 7 per cent returns are experienced.

The extent of concessionality is reduced when there is a substantial period of lower return. The difference is greater for the 48.5 taxpayer reflecting the greater difference between the nominal tax rate on earnings of 15% for the fund and the taxpayer' marginal rate. The other interesting feature of Chart 3 is how the difference between the extent of advantage for different returns decreases for additional years of work above 23. This is because the year in which the ETP tax free threshold is exceeded is later for the cases with lower returns and this brings the extent of advantage closer together for retirement at, say, 31 years.

B) One Off Investments

The second major area of analysis is to consider the relative advantage of superannuation for one off investments, mostly by persons over their $112,400 ETP tax free threshhold. As well as differentiating between persons on different tax brackets, we also distinguish between employer and member contributions. The comparisons assume like balanced portfolios for the within and outside superannuation investments.

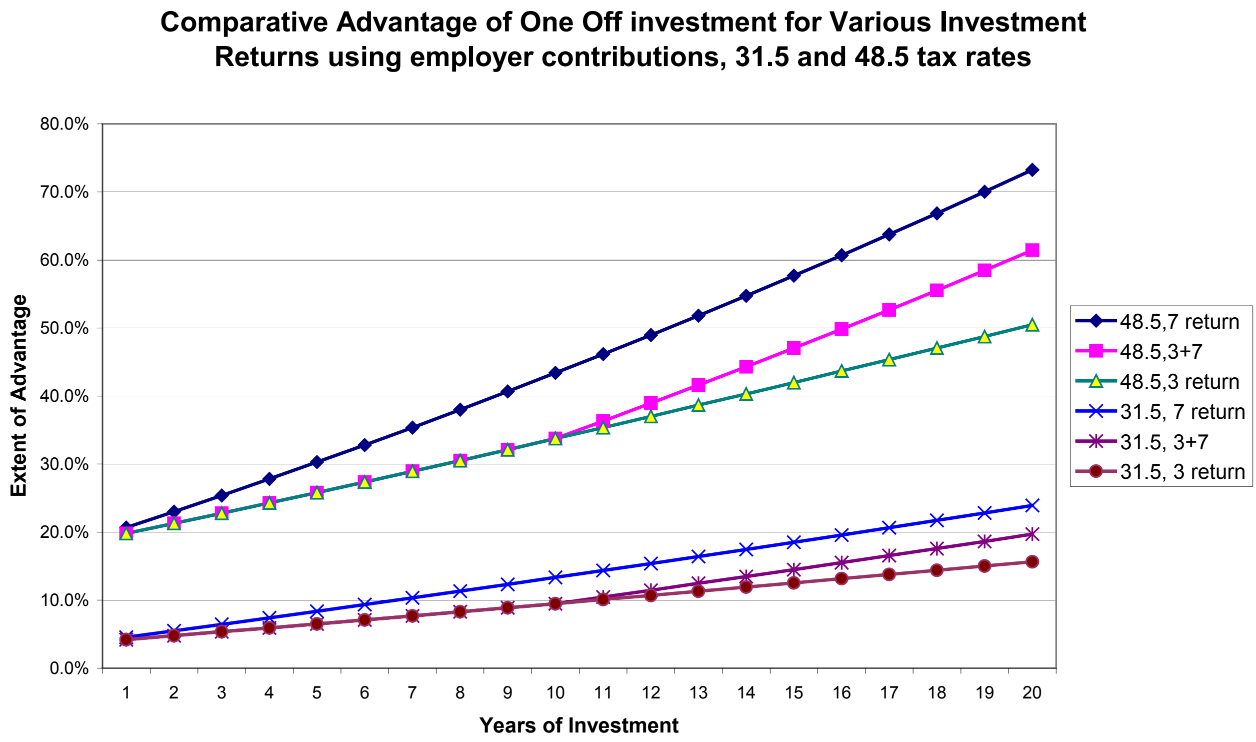
As explained in the previous section, we assume that for the 18.5% tax bracket the additional investment does not cause the ETP tax free threshold to be breached. For all higher tax brackets, however, we assume that the person will exceed the ETP tax free threshold over his/her working life and accordingly that the one off investment being considered will not benefit from the ETP tax free threshold.

For periods of investment from 1 year up to 20 years, Charts 4 and 5 show the comparative advantage of employer and member superannuation, using a balanced portfolio for both the within and outside superannuation investments. The member cases are shown without the proposed Government co-contribution. The cases use similar coding to the working life cases above: here 3+7 means the first 10 years is at 3 per cent gross return followed by 10 years at 7 per cent; 3 means all 20 years at 3 per cent gross return.

The analysis allows for a small differential in entry fees between the within and outside superannuation investments[7]; to the extent that entry fees are often much higher outside superannuation, the analysis understates the relative advantage of superannuation.

In all cases there is a clear advantage for employer superannuation building up over time. Comparing directly corresponding cases by tax bracket, the advantage of member superannuation is consistently lower than the corresponding advantage for employer superannuation. Generally the advantage for member superannuation is small for short periods for other than the top tax bracket, but builds up over time.

Chart 4



[7] The differential in entry fees used is 1 per cent of the amount invested for the balanced portfolio, with the investment outside superannuation paying the higher fee.

Chart 5

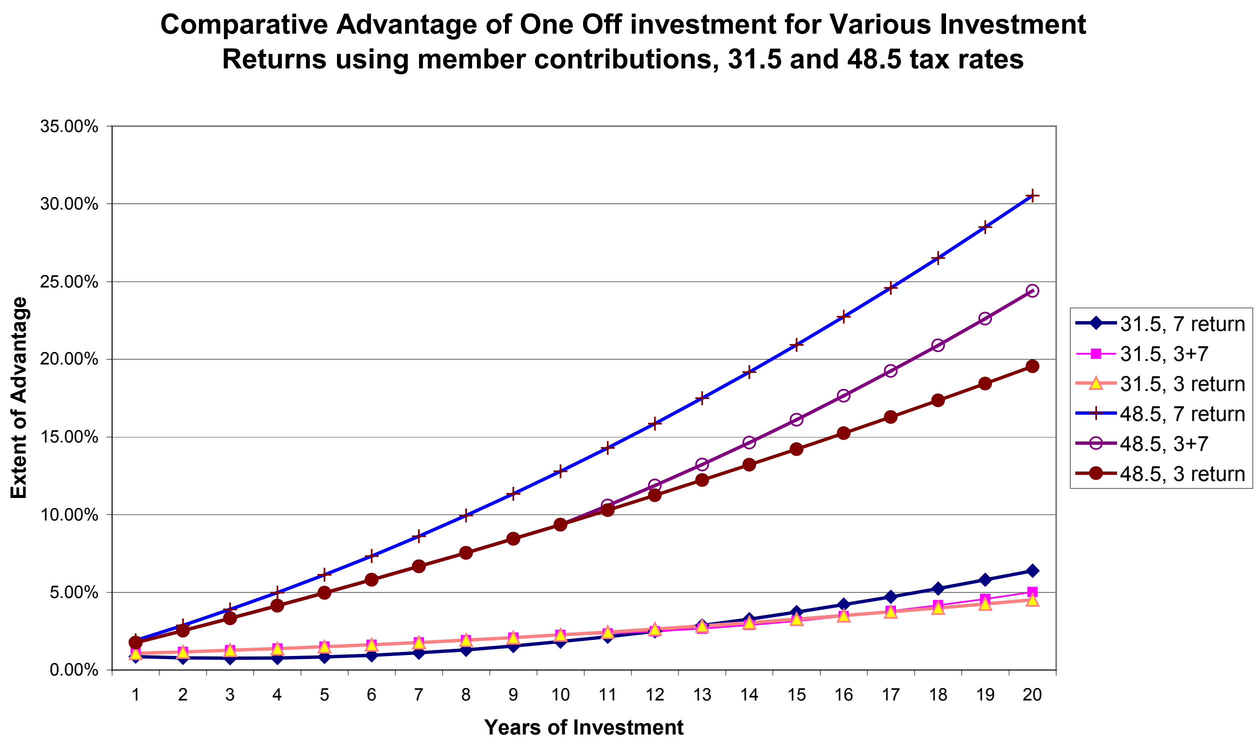


Chart 6

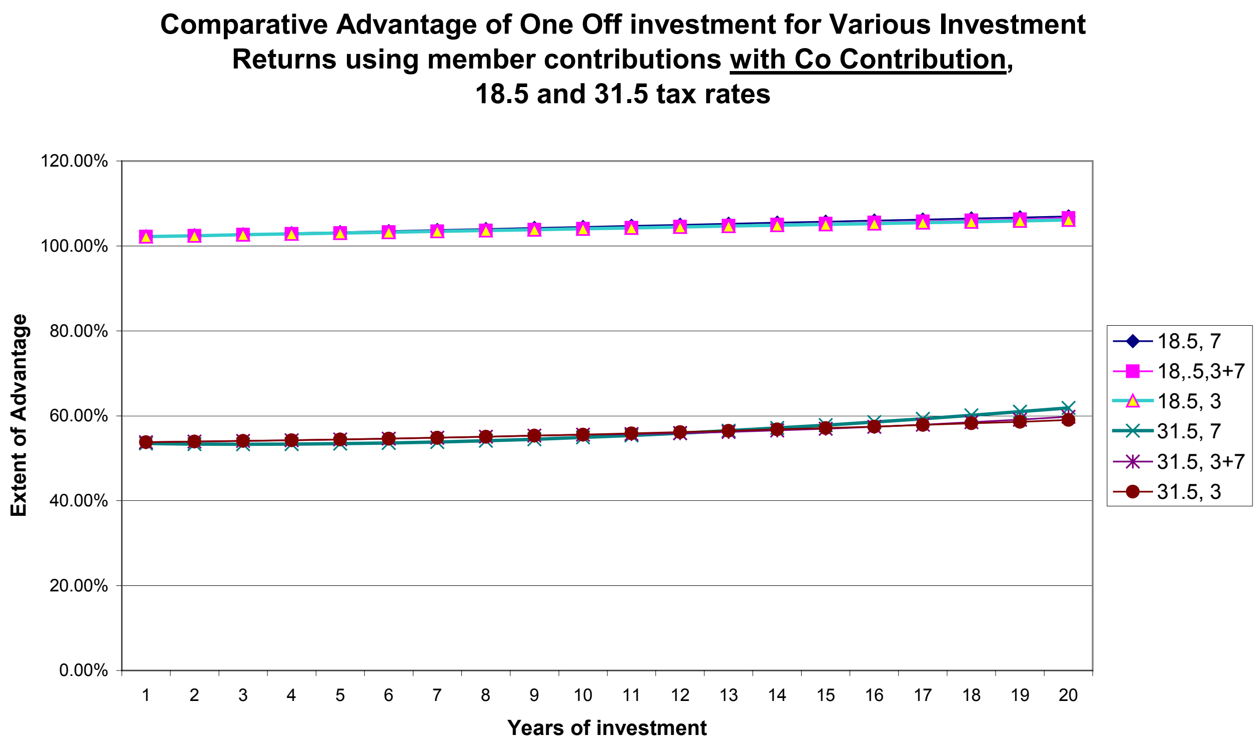


Chart 6 shows the dramatic potential impact of the Government's co-contribution policy which, as noted earlier, adds up to a maximum of $1000 (tax free) to the superannuation accounts of those eligible. The examples shown should be taken as illustrative only: the exact extent of advantage will vary by the amount contributed. In the example shown the person with 18.5 marginal tax rate contributes $1000 of after tax money and receives the full $1000 co-contribution. In the examples shown, the person with 31.5 marginal tax rate receives $500 co-contribution. The impact of different rates of return is seen to be negligible in these cases – the co-contribution drives the result and dramatically improves the extent of advantage (compare the 31.5 cases in figures 4 and 5)

IMPACT OF RETIREMENT PHASE

This analysis has ignored the retirement phase. This leads to an underestimation of the comparative advantage of superannuation for those taking a retirement income stream rather than an ETP and also ignores potentially important interactions with the Age Pension system. Analyses ignoring the retirement phase are not necessarily distorted but are to an extent incomplete. RIMHYPO is a model of the Retirement and Income Modelling Unit of Treasury which includes both working life and retirement phases (Brown and McDiarmid, 1995). However, it has limitations for this particular study in that a range of investment options outside of superannuation are not offered during working life. The broad conclusions of this study are compatible with published RIMHYPO results (eg Tinnion and Rothman, 1999). RIMHYPO based analyses emphasise the importance of the Age Pension as a component of most retirement incomes and the impact of making sound investment choices in the retirement phase as well as the accumulation phase (National Strategy for an Ageing Australia, 1999).

ALTERNATIVE TAX PREFERRED INVESTMENTS

This Section considers some EET or TEE (or closely related) investment vehicles which can be found in our tax arrangements (noting that there are not many) and looks more closely at how these compare as one off investments with current superannuation.

In such a search, investment in one' own home will quickly arise as a candidate. In Australia one 'invests' in one's home using after tax monies and there is no tax on the implicit rent (earnings) nor is there capital gains tax upon sale ie this is a TEE investment. For the own home comparison I model the return from making an optional additional one off repayment off the mortgage; this is also a TEE taxed investment, paid from after tax monies but attracting in effect a tax free return equal to the mortgage rate being paid. The case modelled has the person owning their own home under either alternative and so does not address either the opportunity cost of owning one's home or the relative capital gain of housing vis a vis other investments.[8]

The other situation we will consider is using the capital gain of one's actively managed small business as an alternative method of saving for retirement, eg expanding that business as an alternative to putting the money into superannuation.

There are two relevant provisions here, both fairly recent. Firstly, capital gains arising from the sale of active small business assets are exempt from CGT, up to a maximum life time limit of $500,000, where the proceeds of the sale are used for retirement. Secondly, capital gains arising from the disposal of active small business assets that have been held continuously for 15 years by an

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[8] A similar model would apply if making some relatively minor improvement to one's home, such as renovating a kitchen or putting in an additional bathroom.

individual are exempt from CGT. This exemption is only available if the individual disposes of the assets to retire, as a result of reaching age 55 or more, or becoming incapacitated. In analysing this case I am distinguishing between the ongoing business income which is taxed normally and the built up saving over time through capital gain (goodwill or other assets) which is taxed very concessionally. The capital gain component is effectively taxed as TEE, the investment being from taxed income but with no tax along the way and no tax at retirement[9]. An example of this would be the owner operator of a taxi; the income from operating the taxi is of course subject to income tax, but over time the capital value of the taxi license generally rises and the realisation of that capital value can provide a retirement income.

Chart 7

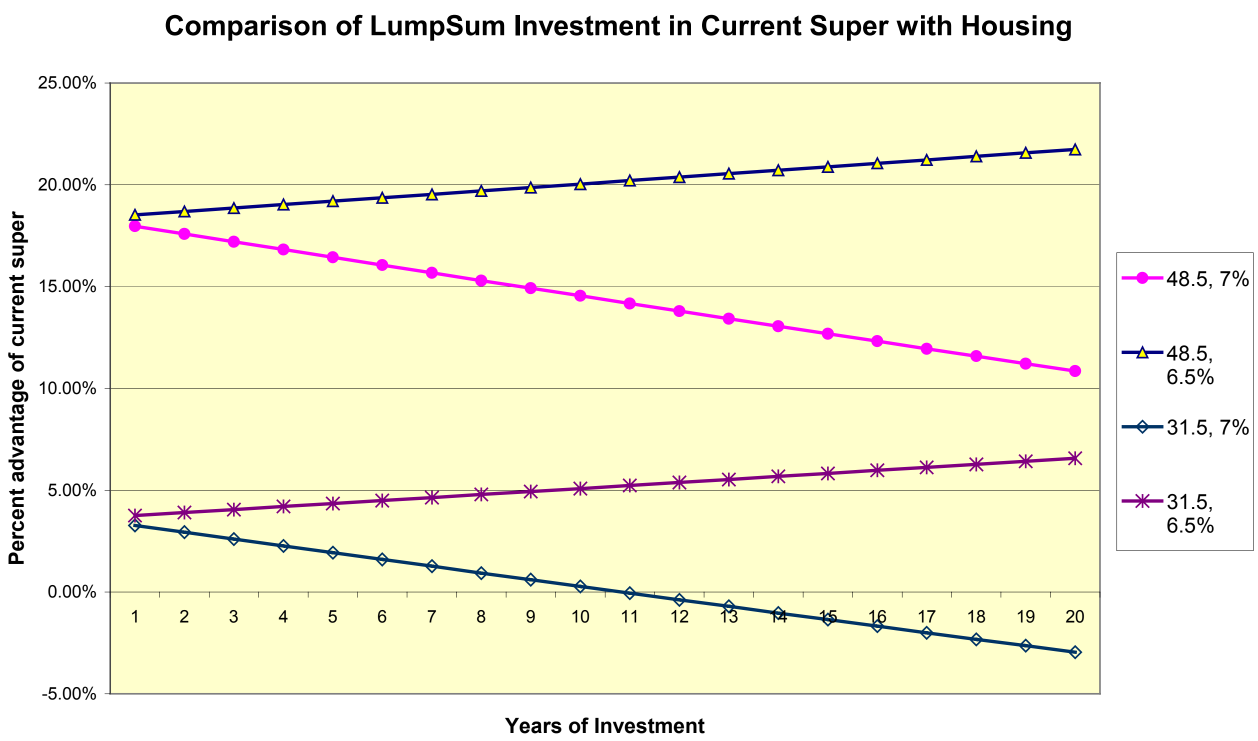


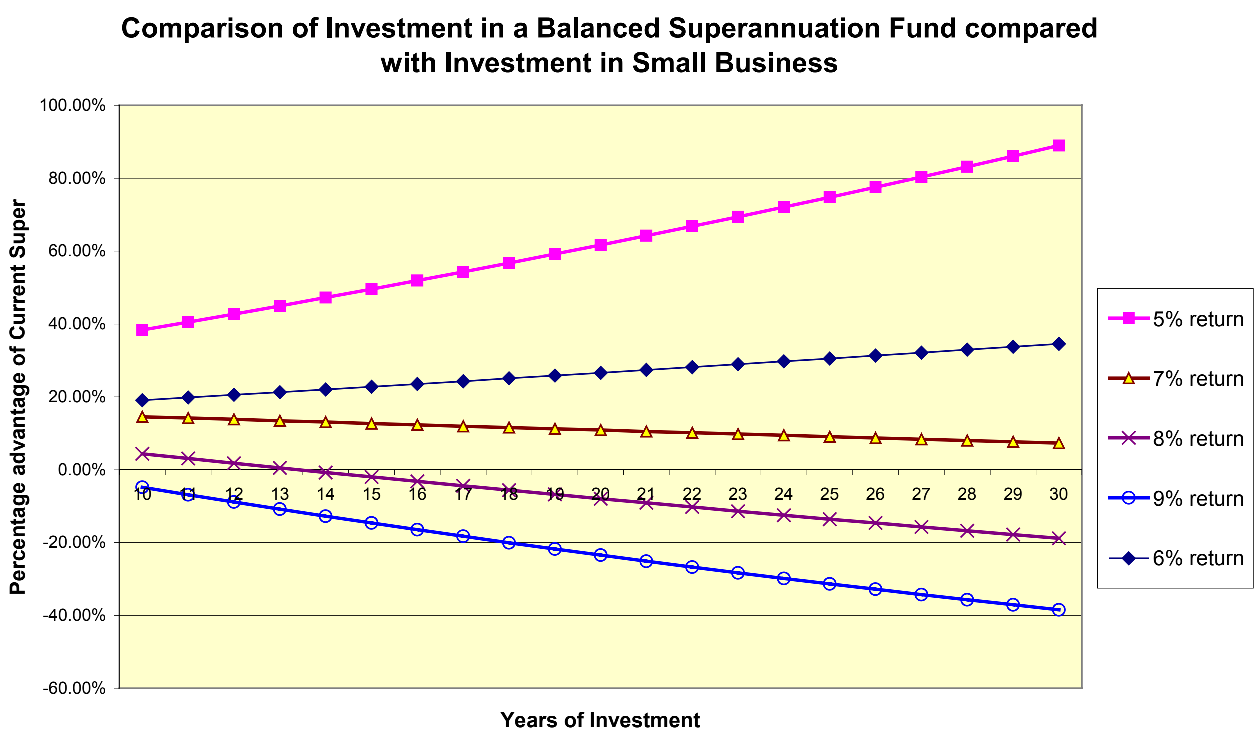
Chart 7 compares the own home investments with placing equivalent one off amounts into the current superannuation system using employer contributions (salary sacrifice) and assuming one takes a lump sum at retirement[10]. In the more realistic case where the mortgage rate is 6.5% (marked as the 6.5 cases in the Chart) and is therefore less than the gross return on the balanced superannuation fund (assumed to be 7%), there is a significant advantage to the superannuation investment, rising over time. Where the mortgage rate is assumed to be the same as the gross return from the superannuation fund (marked as the 31.5, 7 and 48.5, 7 cases in the legend) there remains a continuing advantage in superannuation for the 48.5% taxpayer, but after 11 years some small disadvantage for the 31.5 marginal rate taxpayer. The results are strongly related to the relative

[9] The capital gain made is counted as an ETP and is included within an RBL limit, but is free of CGT and also free of ETP tax.

[10] If upon retirement a pension is taken the advantage of current superannuation would be higher.

return and both returns from superannuation and mortgage rates do vary considerably over time. Additionally, the two investments have different characteristics. Most mortgages have a facility to withdraw extra payments at a later date, while superannuation locks in (preserves) one's money to the preservation age, currently age 55, except in very limited circumstances.

Chart 8



In Chart 8 the capital gain from a small business is compared with placing equivalent one off amounts into the current superannuation system using employer contributions. In this example all lines assume a 48.5 marginal tax rate, subject to the full surcharge and periods of investment from 10 to 30 years as the long term nature of the investment is in effect mandatory. In the analysis the superannuation fund is assumed to earn 7 per cent before tax in all cases. The key variable under study is the rate of capital gain of the business, which we vary from 5 per cent (moderately successful) to 9 percent (extremely successful).

It is clear that for an assumed capital gains rate for the business of around 7 per cent or below, the investment in superannuation is more tax advantaged than the capital gain exemption. Again there are some differences between the two modes of investment including that the lack of diversification of investing in one's own business sharply increases the risk.

When comparing current superannuation with tax preferred alternatives, the rate of return of the alternative investment is likely to be different to the long term average pre tax return of the typical superannuation fund. Charts 7 and 8 clearly show that the relative return of the alternative investment is critical to the result obtained.

As different investments with different characteristics and different risks will necessarily have different gross returns, the way to focus just on the relative tax advantage is to consider the cases where the gross returns are equal. In these cases superannuation is a clear winner for the taxpayer on 48.5% marginal rate, with the degree of advantage dropping over time.

CONCLUSIONS[11]

This paper adopts the reasonable analysis framework that contributions are made within age limits and within RBL's, covering the overwhelming majority of cases. For additional investments it assumes the likely situation that persons on 18.5% marginal tax are unlikely to exceed their ETP tax free threshold but persons on higher brackets will use up their threshold through their SG contributions.

Within this analysis framework and incorporating recent and some proposed tax changes, this paper confirms that with SG employer contributions only, superannuation is a tax preferred investment over a working lifetime for persons in all tax brackets, even when periods of low or negative returns are experienced.

The paper similarly establishes that, even in volatile markets, for persons at 31.5% marginal rate and higher, investment through superannuation is relatively advantaged for all ungeared investment portfolios,. The extent of advantage is somewhat lower where returns are lower, with the difference greater for the 48.5% marginal taxpayer. This reflects the greater difference between the nominal tax rate on earnings of 15% for the fund and the taxpayer's marginal rate.

Generally, making one off investments through employer contributions gives a higher level of advantage than using member contributions to make the investment. However, the introduction of the co-contribution varies this markedly with proportional advantages exceeding 100% becoming available for lower income persons.

This paper has also extended the earlier analysis to examine some other longer term tax advantaged alternative saving vehicles, which are effectively taxed under the expenditure tax regime. Specifically, it considers making additional voluntary payments towards one's home loan or saving for retirement through investing in one's own actively managed business. Using reasonable parameters, the analysis has shown that, in many situations, saving through current superannuation arrangements is more tax advantaged than such tax advantaged alternatives. The key parameter deciding the outcome in these comparisons is the pre tax return of the alternative investment relative to the pre tax return of the typical superannuation fund.

[11] The conclusions are based on hypothetical situations and should not be taken as financial advice.

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ATTACHMENT A: TAXATION TREATMENT OF SUPERANNUATION

Superannuation in Australia is taxed at three stages - when contributions are made to a superannuation fund (by an employer or a member); when investments in superannuation funds earn income; and when superannuation benefits are paid out.

Contributions

Contributions are treated differently according to whether they are sourced from employees, employers or the self employed and whether they are for funded or unfunded schemes.

Up to the age based contribution limits, contributions paid by an employer to a superannuation fund are tax deductible to the employer, the same as other wage and salary payments, and importantly do not form part of the taxable income of the employee. In these circumstances funds pay tax in respect of contributions received. We will call such contributions 'employer contributions'. These include 'salary sacrifice' contributions, which is the term commonly used for contributions to superannuation made by the employer on behalf of the employee which exceed that required by law or the particular superannuation fund(s) to which the employee belongs.

The basic tax rate is 15% where the contributions are made to a complying fund. A contributions tax surcharge applies where the 'surchargeable income' of the member exceeds $90,527. The surcharge rate reaches its peak of 15% where 2002-2003 'surchargeable income' exceeds $109,924. 'Self-employed persons' (whose income from an employer is less than 10% of their total income) can also get tax deductions for (a part) of their payments to a complying superannuation fund and pay contributions tax on deductible contributions at the same rates as employer contributions. The part which is fully deductible has been increased from $3000 to $5000.

Contributions made directly by employees to superannuation funds are made from after tax income. No contributions of this nature are required by law but may be a condition of belonging to the fund nominated by the employer. No contributions tax applies and such contributions are also exempt from Eligible Termination Payment (ETP) tax (see below), but earnings derived from such contributions are taxable at the normal rate and are also subject to ETP tax. We will use the term 'member contributions' for such contributions.

An employee with an assessable (ie, gross) income less than $31,000 is currently entitled to a 'low income superannuation rebate' of up to $100 for contributions made from after tax income to a complying superannuation fund. This rebate is to be replaced by the much more generous co-contribution scheme.

Earnings

Tax on the earnings of a complying superannuation fund is payable at the concessional nominal rate of 15%. Capital gains for investments held for more than a year are taxed at two thirds of the nominal rate ie at 10%. The effective tax rate on earnings for a typical fund is around 6.5%, taking into account dividend imputation and other factors.

Pay Out Stage

Superannuation benefits may be taken as a lump sum, a retirement income stream or a combination of the two. Most benefits are taken as lump sums and therefore subject to Eligible Termination Payment (ETP) tax. The detailed calculation of this can be complex but the basic structure is that for those aged over 55, where contributions and earnings taxes have been paid by the fund, the first $112,405 of the post 1983 component of an ETP is tax free and the remainder is taxed at 16.5%. This first $112,405 can be termed the ETP (tax) free threshold and forms an important part of the subsequent analysis of this paper. There is no free threshold for those taking ETP's under preservation age (currently age 55) and the basic tax rate here is 21.5%.

The part of the payout used to purchase an annuity or pension income stream (including allocated pensions) does not comprise part of an ETP. Additionally income streams derived from taxed superannuation funds generate a tax rebate of 15% on the assessable part of the income stream and may also have advantages in terms of the Age Pension income and assets tests.

It is worth noting that at all stages the tax regime is the same whether the contribution to superannuation is required by law (ie the Superannuation Guarantee (SG) or is made on a voluntary basis.