ASSESSING THE TAX ADVANTAGES OF INVESTMENT IN SUPERANNUATION

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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].

The introduction of the superannuation surcharge on contributions for high income earners in 1996 generated some controversy as to whether significant tax advantages remained for those subject to the surcharge. Most commentators agreed that they did. With the new marginal tax rates of the ANTS package and the Ralph capital gains tax changes, the issue has now been raised as to whether superannuation remains a tax advantaged (or concessional) investment in this new environment.

This paper considers this issue from the individual's viewpoint, particularly in two broad areas:

- For those contributing at Superannuation Guarantee (SG) level over a working lifetime; and
- For one off investments, mostly by persons over their $96,600 ETP free threshhold.

Further, we distinguish between member and employer contributions for the one off investments and consider a wide range of alternative investment portfolios, including fixed interest, a balanced investment portfolio, shares only and negatively geared investments.

To set the scene we set out a brief summary of the taxation rules and rates for superannuation. This is followed by an explanation of the analysis framework and the range of cases considered. Results are then considered and compared with the views of other commentators and analysts.

TAXATION RULES AND RATES FOR 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. We will consider the basic framework below and a more comprehensive statement on the taxation treatment of superannuation is at Attachment A.

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.

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[1] The Treasury's estimate of the level of concessions uses a personal income tax benchmark and assumes a fixed interest investment as the counterfactual portfolio. The estimate is published regularly in the Tax Expenditure Statements and the Budget papers; for 2000-2001 it is estimated at $8.7 billion.

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 $78,208 pa. The surcharge rate reaches its peak of 15% where 1999-2000 'surchargeable income' exceeds $94,966.

'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.

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 entitled to a 'low income superannuation rebate' of up to $100 for contributions made from after tax income to a complying superannuation fund.

Earnings

Tax on the earnings of a complying superannuation fund is payable at the concessional nominal rate of 15%. 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 $96,637 of the post 1983 component of an ETP is tax free and the remainder is taxed at 16.5%. This first $96,637 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.

Changes to the Tax Arrangements

In this paper the tax advantages of superannuation are assessed primarily by comparison. The after taxes outcome for a person investing in the superannuation system with the above rules is compared with the (after taxes) outcome for a person in the same tax bracket, using the same investment portfolio to invest available post tax monies outside of the superannuation system.

The taxation arrangements applying to superannuation are as outlined above except for:

- the capital gains tax changes related to the Ralph review of Business Taxation, whereby only 2/3 of capital gains realised by superannuation funds are included in taxable income compared with the previous inclusion of the whole capital gain assessed against an indexed cost base; and

- the change from July 2000 onwards whereby excess imputation tax credits from franked share dividends are refundable.

The Government's tax reforms have brought about significant changes to personal income tax rates and rules:

- The new tax system applying from 1 July 2000 has substantially reduced personal income tax marginal rates and increased related thresholds; and

- capital gains tax changes related to the Ralph review whereby for individuals only 1/2 of realised capital gains are taxable income, compared with the previous inclusion of the whole capital gain assessed against an indexed cost base; and

- the change from 1 July 2000 onwards whereby excess imputation tax credits from franked share dividends are refundable to individuals.

The phased reduction of the Company tax rate to 30% also needs to be allowed for in the analysis.

The combined effect of these changes has reduced the tax payable on individual savings outside superannuation. As mentioned earlier, this paper examines whether investment in superannuation remains a relatively tax advantaged (or concessional) investment in this new environment.

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 $971,382; if not, the lump sum RBL of half this level applies. The age based limits are relatively generous ($75,283 annual allowable employer contribution aged 50 or over) and only a very small number of contributors reach this or their RBL limit.

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), are unhelpful even where technically accurate, except perhaps to point out that the limits constitute an integral safeguard for the system and need to be respected.

ANALYSIS FRAMEWORK

The basic framework 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 its rules and taxes as described above and the second where the same person invests the 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 we 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. Some commentators in this situation put the same investment amount in all cases into the investment vehicle inside or outside of superannuation and then proceed to draw the wrong conclusions.

As indicated above we assume all cases are within age contribution and RBL limits. We also take a conservative simplified framework which assumes taking all benefits as a post preservation age ETP and applying the full 16.5% tax rate 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 $96,600 ETP free threshhold.

Where appropriate we also distinguish:

- between persons on different tax brackets;
- between employer and member contributions; and
- between different investment portfolios, covering fixed interest, a balanced portfolio, an all shares portfolio and negative gearing of a balanced or share portfolio.

The analysis consists of two parts. Firstly we calculate for each nominal tax bracket the effective earning tax rate for a given portfolio eg for a person on 31.5% nominal tax rate investing outside superannuation, the effective tax rate for fixed interest is 31.5% but for a (simplified) balanced portfolio of about 40% fixed interest, 40% fully franked Australian shares[2] and 20% international shares, the effective marginal tax rate is 19.4% or 62% of their nominal tax rate ie if the person receives income from interest, dividend and nominal realised capital gains totalling $1000 the net tax payable after credits is $194. 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.

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[2] For both the local and international shares it is assumed dividends are 4 percent and capital gains 5 per cent of the current value of the investment.

Table 1. Effective Marginal Tax Rate On Earnings From Investments, Using Various Portfolios Outside Superannuation.

nominal marginal tax rate	fixed term	shares	balanced
	effective marginal tax rate		
18.5%	18.5%	1.2%	7.8%
31.5%	31.5%	12.6%	19.4%
48.5%	48.5%	27.4%	34.6%

Given the 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 shows 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% 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. This scheme requires employers to make superannuation contributions on behalf of their employees to complying superannuation funds. The required contribution level commenced at 3% and is being increased gradually. Currently it is 8% and will rise to 9% in 2002, when it will be fully phased in.

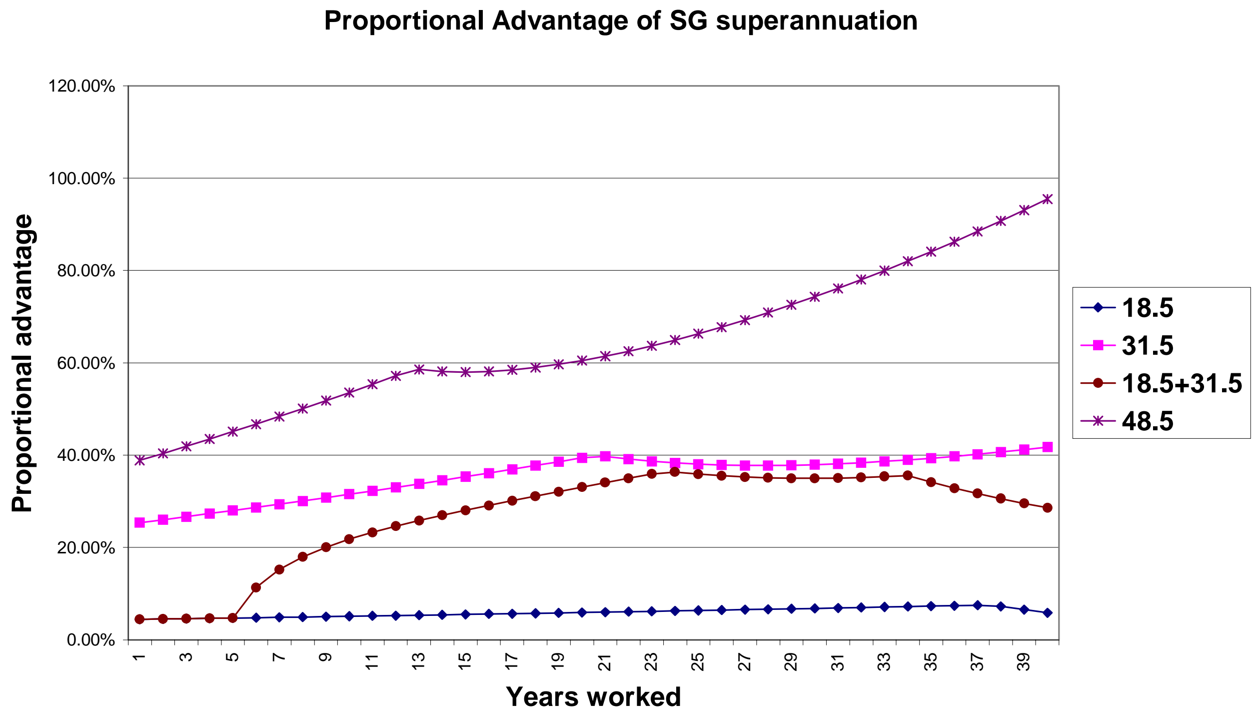
The SG is aimed at:

- providing better incomes in retirement than can be expected from the age pension alone;
- boosting national saving; and
- reducing, over time, future growth in age pension outlays as the population ages.

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. It is assumed that the fully implemented SG rates apply throughout. 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, using a similar balanced investment portfolio.

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[3], 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 and 42% more after 40 years than the accumulation of the equivalent post tax contributions outside of the superannuation system. For the 18.5+31.5 case the advantage of superannuation is 36% after 24 years and 29% after 40 years.

The slight dips in the curves[4] indicate when the ETP tax free threshold is exceeded eg after 21 years for the person consistently on 31.5%, and 13 years for the person on 48.5%.

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 SG has not yet reached the full 9% rate, and given the history of superannuation coverage described

[3] Minimum award wages for full time adult work now exceed $20000 pa, which is the upper bound of the 18.5% range.

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

earlier, most of those currently on the 18.5% rate will be substantially under the ETP tax free threshold[5] 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, superannuation is a tax preferred investment over a working lifetime for persons in all tax brackets.

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 $96,600 ETP tax free threshhold. As well as differentiating between persons on different tax brackets, we also distinguish between employer and member contributions and between different investment portfolios, namely fixed interest, a balanced portfolio, and an all shares portfolio. The comparisons assume like 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 2 and 3 show the comparative advantage of employer and member superannuation, using a balanced portfolio for both the within and outside superannuation investments.

The analysis allows for a small differential in entry fees between the within and outside superannuation investments[6]; to the extent that entry fees are often much higher outside superannuation, the analysis understates the relative advantage of superannuation.

In all tax brackets 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; the exception is the '18.5 + rebate' case as explained below.

[5] 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.

[6] 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. For the fixed term portfolio, the differential used is zero, as many fixed term investments are readily available without entry fees; for the all shares portfolio, including overseas shares, the differential used is 2 per cent.

Chart 2

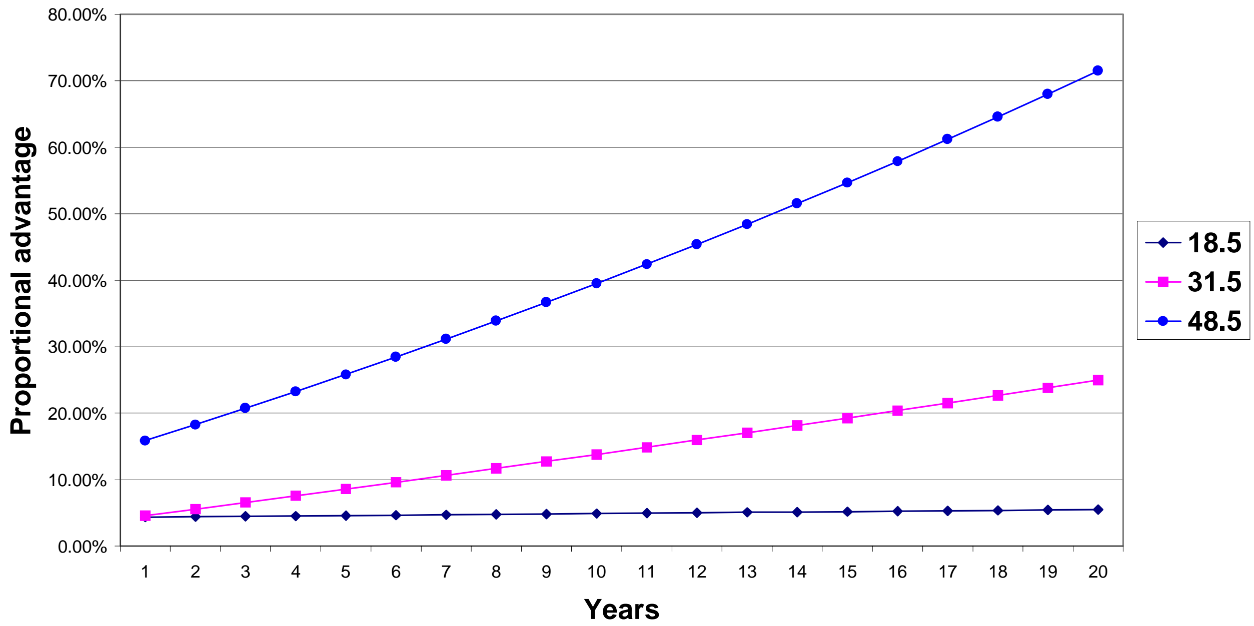
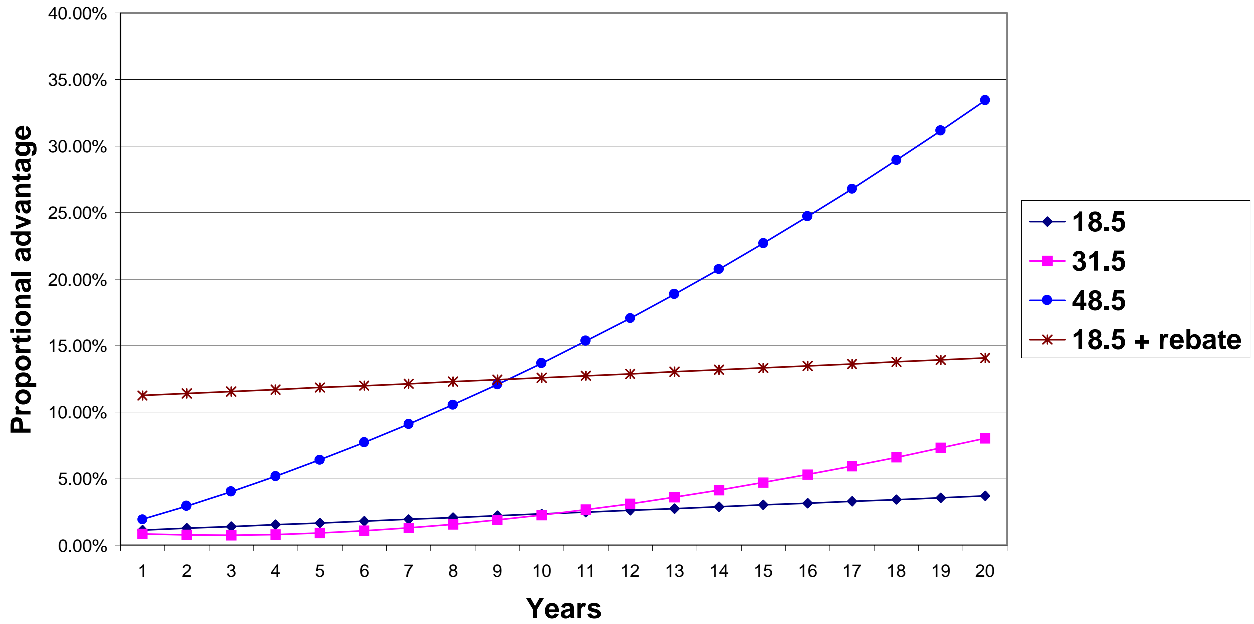


Chart 3



For the case of a person with a 18.5% marginal personal tax rate, two situations in relation to member investments are modelled: in one case titled '18.5 + rebate' the full member rebate of 10% for contributions up to $1000 is assumed to be available[7]; in the other situation which will occur much less frequently, titled '18.5', the available rebate is assumed to have been used up prior to this investment. This low income superannuation rebate will also be available for some persons in the 31.5% bracket, considerably increasing the relative advantage of member superannuation for such persons, but this has not been modelled explicitly.

Table 2 below sets out the relative advantage of superannuation after 10 years for various portfolios for both employer and member contributions. The same general relative pattern can be seen to apply independently of the portfolio chosen, with superannuation shown to be tax advantaged for all member and employer investments[8].

Table 2. Relative Advantage of Superannuation after 10 years, by nominal marginal tax bracket. One off investments using various Investment Portfolios.

	fixed term	shares	balanced
employer			
18.5	7.1%	5.8%	4.9%
31.5	17.3%	14.6%	13.8%
48.5	46.3%	40.1%	39.5%
member			
18.5	2.7%	3.5%	2.4%
18.5 + rebate	12.9%	13.9%	12.6%
31.5	4.2%	2.8%	2.3%
48.5	18.7%	14.7%	13.7%

Internal rate of return

An alternative approach to comparing investments is to compare Internal Rate of Return (IRR) of the alternatives. The IRR is the effective after tax return on the capital invested for any given period of time. The IRR is frequently quoted by promoters of various investment opportunities and used by companies choosing between alternative projects.

Table 3 below sets out the comparative IRR's for investments of various duration, comparing contributions through employer superannuation with investment outside superannuation, both using a balanced portfolio.

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[7] For analysis purposes it is assumed the rebate is also invested rather than consumed; for short periods this assumption will not make much difference.

[8] While self employed persons are not directly modelled, the results for them are necessarily a mix of employer and member results, combined roughly as 4 parts employer to 1 part member.

Table 3

Balanced Investment Portfolio, Employer Super : Comparison of Internal Rate of Return

marginal tax rate	1 year		10 years		20 years	
	using super	outside	using super	outside	using super	outside
18.5	12.0	7.4	7.9	7.4	7.7	7.4
31.5	11.3	6.4	7.8	6.4	7.6	6.4
48.5	22.0	5.2	8.9	5.2	8.1	5.2

The IRR approach gives the same relative answer as to whether an investment in superannuation is better but also demonstrates a different time perspective.

The primary perspective of this paper shows, for example, that for a person on a 48.5% marginal rate (and paying the full surcharge) the advantage of investing in super as an employer contribution using a balanced portfolio is that after all taxes, the person is 16% better off after 1 year, 40% better off after 10 years and 71% better off after 20 years (Chart 2).

Looking at this same 48.5% case from an IRR point of view, the person is still clearly better off but the time perspective is different. The IRR (after tax) investing outside super is 5.2% after any investment period[9]. The IRR of super - using the same available after tax funds as the base investment[10] - is 22% after 1 year, 8.9% after 10 years, dropping further to 8.1% after 20 years.

This very high IRR for the short term investment clearly confirms that the really big advantage of super is the contributions tax being much lower than personal income tax rates, giving you more investment working for you (and the advantage is largely maintained after ETP tax) - something that is reasonably well known but highlighted dramatically by this analysis. It confirms that for persons in 31.5% or higher tax brackets, employer contributions to superannuation are a very good investment, even when very close to retirement. This also holds for persons on the lowest tax bracket who have not used up their ETP free threshold.

Negative Gearing

All the analysis above assumes that the comparison is between situations using the same investment portfolios for the within and outside superannuation investments. However, the use of 'gearing' is an option available to those investors outside superannuation who are prepared to tolerate higher levels of risk. To make a geared investment the persons increases the size of the total amount invested by adding a borrowed amount to their own investment, with the interest payable on the

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[9] For an outside of superannuation investment of fixed composition and assumed fixed return, the IRR must be independent of the duration of the investment.

[10] For $10000 of pre tax monies available, the base is $5150.

borrowing usually tax deductible to the investor. The term 'negative' in relation to gearing applies when, as is usually the case, the nominal yield of the investment is less than the level of interest charged on the borrowing and therefore the attractiveness of the investment relies significantly upon the tax system. When drawing comparisons in the case of negative gearing, we use the same investment portfolios for the within and outside superannuation investments but here only the investment outside superannuation is geared, as the regulations prohibit the gearing of superannuation investments.

As well as normal assumptions on investment returns, for the 'negative gearing' scenarios it is also necessary to specify the extent of gearing and an interest rate for the loan. For all cases I assume the gearing arrangement borrows a sum equal to twice the original after tax amount available for investment - which is a 'middle of the road' geared investment. I vary the interest rate charged on the loan from 0.75 percent to 2 percentage points higher than the notional (pre tax) return of the investment. The examples shown in Table 4 below assume employer contributions are used for the superannuation investment and a balanced portfolio is utilised.

Table 4. Relative Advantage of Employer Superannuation after 10 years, Negative Gearing, Balanced Portfolio

	borrowing margin		
	0.75 per cent	**1.25 per cent**	**2.0 per cent**
marginal tax rate			
18.5	**1.4%**	**7.3%**	**17.4%**
31.5	**7.0%**	**12.2%**	**21.0%**
48.5	**25.4%**	**30.0%**	**37.5%**

The results are not strongly dependent on the investment portfolio used; results for an all share portfolio are similar. In all these cases superannuation remains the preferred investment mode, though usually relatively less advantaged than the corresponding case without gearing (see Table 2). Not surprisingly, the extent of superannuation's relative advantage does vary significantly with the margin paid for the borrowing compared with the nominal return on the investment portfolio.

The continuing advantage of superannuation, even where a negatively geared strategy is used outside superannnuation, is a strong result, given that any negative gearing strategy based on growth investments necessarily involves higher risk than the corresponding superannuation investment and will have very adverse results if the investments turn sour.

Sensitivity Analysis

The exact figures in the Charts and Tables above depend on the precise details of the cases considered, including the makeup of the investment portfolio and in some cases the salary of the person.

The spreadsheets have been adapted and used to consider how the results vary by:

- the fees and charges relating to the investment;
- portfolio composition and rates of return on investments; and
- the frequency of realisation of capital gains made.

While the results for returns on individual investments do vary in response to the changes, the comparative patterns and the broad differences are generally quite robust to reasonable changes in

these parameters. For example, varying the nominal return on the balanced fund from 8 per cent down to 7 per cent gives an advantage to superannuation after 10 years for the 48.5% marginal tax payer using employer contributions of 37%, compared with the base case of 39.5% (see Table 2); the comparable change for a 31.5% taxpayer using employer contributions is 12.6%, compared with 13.8 % for the base case.

COMPARISONS AND DISCUSSION

A significant number of the results presented above are not brand new, with other commentators drawing similar conclusions but often with less comprehensive coverage. However a subset of authors and commentators have published quite different and apparently contradictory conclusions. This paper has tried to clarify the situation by presenting a more comprehensive picture, by including the latest changes to tax rates and rules and by drawing attention to the traps some commentators have fallen into, traps avoided in this analysis.

A number of these possible traps have already been mentioned. This is a opportunity to bring them together:

- The first and perhaps most obvious trap is to simply add taxation percentages together – eg 30% contributions tax (including surcharge) plus 16.5% ETP tax (and perhaps 15% earnings tax) and compare this sum with 48.5%, the top rate of personal income tax. Clearly this is wrong because the taxes apply to different quantities and need to be calculated correctly[11].

- A related mistake is to ignore the ETP tax free threshold, which is shown by the above analysis to be an integral and important part of the system.

- Another potential mistake is the failure to compare like with like and in so doing, confusing the tax status of monies available for investment. This was discussed earlier.

- More a distortion than a mistake is to focus on contributions outside the age limits and cases where the relevant RBL is exceeded over a persons working life. The overwhelming majority of actual cases do not fall into these categories.

Even where these traps are avoided, an almost universal simplification, shared by this analysis, is to ignore 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).

One commentator that appears to have avoided the traps listed above is the AMP whose work was reported in the Australian Financial Review of May 1-2, 1999. This article analyses a closely

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[11] Assuming 30% contributions tax (including surcharge) plus 16.5% ETP tax, the correct maximum effective tax rate, ignoring earnings, is 41.6% (compared with the 48.5% personal income tax marginal rate).

related subset of the one off investment analysis above, vz for a 48.5% marginal taxpayer what are the comparative outcomes for a **continuing** $10,000 investment each year through employer superannuation. For this case the 1 year results for the same interest rate (term based) are identical with mine and if you average over my 1 to 5 year cases you get exactly their '5 year' case ie after 5 years you have the sum of the one off investments made for 1,2,3,4 and 5 years. The other portfolios differ slightly because of different assumptions on composition and returns and the new rules regarding excess imputation credits and capital gains. Clearly the analytical frameworks are very similar, as are the conclusions as to attractiveness of voluntary investment in superannuation for the tax bracket covered, provided RBL's are not exceeded.

More recently a few limited results based on work by BT Funds Management were published in the AFR of 18 May 2000. A single $10,000 (pre tax) investment through employer superannuation in a balanced fund by a 48.5% bracket person subject to the full surcharge was said to grow to $27,300 after 20 years within superannuation, compared with $15,811 outside - a 73% advantage comparing closely with my figure of 71% (Chart 2). The Article was headed 'Super's a Superior Sacrifice'.

CONCLUSIONS

This paper adopts the reasonable analysis framework that contributions are made within age limits and within RBL's, which covers the overwhelming majority of cases. For additional investments it adopts as the base case the likely situation, as established in the paper, 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 all recent tax changes, the paper establishes that:

- With SG employer contributions only, superannuation is a tax preferred investment over a working lifetime for persons in all tax brackets.
- The extent of relative advantage of superannuation as an investment varies by the type of portfolio used, the duration of the investment, the tax bracket of the individual and whether the investment is made through employer or member contributions.
- Generally, making one off investments through employer contributions gives a higher level of advantage than using member contributions to make the investment. The exception is for the 18.5 percent case where the low income superannuation rebate is available.
- A one off investment by a person in the 18.5% tax bracket remaining below their ETP free threshold, is tax advantaged by 4 to 7% for employer contributions, and by 11 to 14% for member contributions where the low income superannuation rebate is available.
- As the SG system matures, most individuals in the 31.5 per cent and higher tax brackets will reach their ETP tax free threshold over a working lifetime and we assume additional investments for these groups do not benefit from the threshold. For such persons investment through superannuation is relatively advantaged for all ungeared investment portfolios.
- Where a person in the 48.5% tax bracket is over their ETP tax free threshhold, employer contributions are a highly advantaged investment, even with full surcharge paid. The relative advantage rises over time from 16% after 1 year, to 40% after 10 years and 71% after 20 years. In the same tax bracket member contributions into super for a balanced portfolio are also significantly advantaged, with the advantage rising over time from 1% after 1 year, to 14% after 10 years and 33% after 20 years.
- The same pattern of relative advantage is shown using analysis based on Internal Rates of Return. This type of analysis shows investment in superannuation using employer

contributions to be very worthwhile for persons in the 31.5 per cent and higher tax brackets, even when very close to retirement and also worthwhile for persons in the 18.5% bracket provided, as is likely, they remain below their ETP tax free threshold.

- For all reasonably constructed comparisons using employer contributions and negative gearing for the outside of superannuation investment, superannuation remains the preferred investment vehicle, with the further advantage of involving much lower risk.
- The comparative patterns and the broad results of the analysis are quite robust to reasonable changes in parameters, such as fees and charges relating to the investment, portfolio composition and rates of return on investments; and
- Provided a sensible analytical framework is adopted which avoids the potential traps, conclusions along the above lines are inevitable and should not be controversial.

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ATTACHMENT A: TAXATION TREATMENT OF SUPERANNUATION

Contributions

Contributions to complying superannuation funds are fully tax deductible to employers up to the age based deduction limits, for 1999-2000 set out below:

Table 4: Deduction Limits

Age of employee	Deduction limit
Under 35	$10,929
35 to 49	$30,356
50 and over	$75,283

'Self-employed persons' (whose income from an employer is less than 10% of their total income) get a full tax deduction on the first $3,000 of contributions plus 75% of the remaining contribution up to the age based deduction limits.

Taxation

Employer and tax deductible personal contributions are included in a complying superannuation fund's income and taxed at a nominal rate of 15%.

Surcharge on contributions

All employer, certain 'golden handshakes' and tax deductible personal superannuation contributions made by or for high income earners are subject to a surcharge of up to 15%. The surcharge is currently phased in over the income levels of $78,208 to $94,966 effectively increasing by 1% for each additional $1,118 of income from $78,208.

Taxation of superannuation fund earnings

The earnings of complying superannuation funds are taxed at a nominal rate of 15% (non-complying funds are taxed at a rate of 47%).

Reasonable Benefit Limits

The amount of concessionally taxed superannuation benefits a person is allowed to receive over his or her lifetime is limited by Reasonable Benefit Limits (RBL). The table below shows the lump sum and pension RBLs. The pension RBL is available provided at least 50% of the total benefits received by a person are taken in the form of a pension or annuity that satisfies the pension and annuity standards.

Table 5: Reasonable Benefit Limits

	Amount
Lump sum RBL	$485,692
Pension RBL	$971,382

Eligible Termination Payments

Eligible Termination Payments (ETP) are lump sums usually paid on retirement or resignation from a job and include 'golden handshakes', payments from superannuation funds, Approved Deposit Funds and Retirement Savings Accounts. ETPs are taxed differently from other income. They are broken down into several components (although not all ETPs have every component). Each is taxed in a different manner and subject to various rebates.

Table 6: Taxation Treatment

ETP COMPONENT	Maximum Tax Rate (including 1.5% Medicare levy)
Post June 1983 component – refers to superannuation benefits accrued with respect to employment or fund membership after 30 June 1983. This component is the amount of the ETP reduced by the total amount of all the other ETP components. These benefits are taxed according to whether the fund earnings were taxable and the age of the benefit recipient, as follows.	
Person less than age 55:	
• **Taxed element**: a post-June 1983 component is a taxed element if the payer is subject to 15% tax on investment earnings of the fund (ie. Most superannuation funds).	21.5%
• **Untaxed element**: a post-June 1983 component is an untaxed element if the payer is not subject to 15% tax on investment earnings (eg. some government superannuation funds and golden handshakes for employees).	31.5%
Person 55 years or over:	
• **Taxed element:**	
– from $0 to $96,637 (as at 1999-2000)	0%
– balance	16.5%
• **Untaxed element:**	
– from $0 to $96,637 (as at 1999-2000)	16.5%
– balance	31.5%
Pre July 1983 component - the amount of an ETP that relates to superannuation benefits accrued with respect to employment before 1 July 1983.	5% of amount is taxed at marginal tax rates
Undeducted contributions – member contributions (since 1 July 1983) not subject to a tax deduction (not included for RBL purposes - see below).	Exempt
Capital Gains Tax (CGT) exempt component – an exemption from CGT (on a total maximum capital gain of $500,000) can be claimed on the sale of a small business where the proceeds are used for retirement.	Exempt

Concessional component - until 1 July 1994, this included any approved early retirement scheme payment, bona fide redundancy payment or invalidity payment. From 1 July 1994, ETPs no longer have a concessional component, except where an ETP with a concessional component was rolled over (transferred to) a complying superannuation fund before 1 July 1994, and subsequently paid out by the fund.	5% of amount is taxed at marginal tax rates
Post June 1994 invalidity payments - the recipient's disability must be verified.	Exempt
Non-qualifying component – that part of an ETP that represents investment income accruing between the time of purchasing an annuity (other than by a rollover) and the time of payment.	Full amount taxed at marginal tax rates
Excessive component – the amount of an ETP in excess of a person's RBL.	48.5%

Rebates

Low income superannuation rebate

An employee who receives any form of employer superannuation support (but is not a 'self employed person') is entitled to a tax rebate of up to $100 for personal contributions made to a complying superannuation fund, provided the employee's assessable (ie, gross) income is less than $31,000. The tax rebate is 10% of the lesser of: $1,000 reduced by 25 cents for each dollar of the taxpayer's assessable income over $27,000 or the amount of the contribution actually made. These amounts are not indexed.

Low income spouse rebate

A contributing spouse is entitled to receive an 18% rebate for contributions up to $3,000 a year to a superannuation fund or RSA of a spouse with assessable income below $10,800 a year. The rebate phases out on a dollar for dollar basis, so it is no longer available where the low income spouse's assessable income is over $13,800 a year. These amounts are not indexed.

Pension and annuity rebate

Where a person receives an ETP annuity or pension from a taxed superannuation fund and the person is 55 or more years of age, the person is entitled to a tax rebate, at 15%, on the assessable part of the annuity or pension payment that is not in excess of the person's RBL.