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The Economics of Choice of Superannuation Fund

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THE ECONOMICS OF CHOICE OF SUPERANNUATION FUND

Michael E. Drew^{*} and Jon D. Stanford

Introduction

Under the Australian superannuation system there are two compulsory contributions to superannuation funds made on behalf of employees. The first is the award superannuation contribution of three per cent of wage or salary arising from the Conciliation and Arbitration Commission's decision in 1988 to pay wage increases as superannuation. The second is the Superannuation Guarantee Charge (SGC), introduced in 1992, which requires employers to pay a specified proportion of wage and salary (eight per cent from July 2000) into a superannuation fund. Contributions under award superannuation are paid to the superannuation fund specified in the award while the SGC is paid to a fund chosen by the employer.

Thus, employees have no choice as to which fund their contributions are to be paid.

However, self-employed persons are able to set up their own superannuation funds, the "DIY funds", and self-manage these funds.

This compulsory direction of employee contributions stands in contrast with the highly market oriented approach to other decisions, such as asset selection or portfolio composition, which have to be made by superannuation funds.

The Commonwealth Government has announced a policy of choice of fund in 1996 and introduced a detailed proposal in the 1997 Budget. Specific proposals for choice of fund were introduced into Parliament in December 1997. Originally introduced as Schedule 5 to the Taxation Laws Amendment Bill (No &) 1997, the choice legislation was re-introduced on November 12, 1998 in revised form as the Superannuation Legislation Amendment (Choice of Superannuation Funds) Bill 1998. This Bill passed in the House of Representatives on February 16, 1999, but debate on the Bill in the Senate was adjourned on February 1999 and the Bill remains in limbo.

The Wallis Committee endorsed choice of fund with some caveats in their 1997 Report.

We examine whether employees should have a choice of superannuation fund and whether this choice should be unrestricted. The basis of our examination is how can a contributor to a superannuation fund maximize their retirement balance. In doing so, we review the decisions that have to be made about investment of superannuation fund balances and examine whether

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these decisions by trustees and managers of superannuation funds are efficient, rational and likely to maximize the retirement benefits of contributors.

The Current Superannuation Arrangements

Current government policy has a policy of compulsory superannuation, which requires that contributions to a superannuation fund be made for each employed person. Contributions are of two kinds:

1. Under industrial agreements and awards; and
2. Under the Superannuation Guarantee Charge (SGC).

Prior to 1992 many awards had specified that wage and salary increases were to be paid as superannuation and not direct to employees. The National Wage case of 1987 had prescribed that three per cent of salary and wages was to be paid to a fund as specified under the agreement or award. Payments under these arrangements continue to be made for a large number of employees after the introduction of the Superannuation Guarantee Charge.

From July 1, 1992 employers have been required to pay a specified percentage of an employee's wage or salary into a superannuation fund. The Superannuation Guarantee Charge was originally set at three per cent with the intention that it would increase to 9 per cent by 2003. The current level, from July 2000, is eight per cent. Coverage of the employed workforce is high¹. The two types of contributions mean that most contributors have at least two superannuation funds. Some, particularly part-time and casual workers, would have more. In 2000, there were over 22 million individual superannuation accounts while the workforce was less than 10 million.

Rationale of Compulsory Superannuation

Compulsory superannuation is hoped to increase national savings, to reduce dependence on government age pensions and to provide retirement benefits for contributors. The focus of this article will be on the accumulation of funds to finance retirement.

Individual contributors to a superannuation fund wish to maximize the accumulated balance of their superannuation account at retirement. However, we do not examine the options for obtaining post-retirement income².

¹ It was estimated in 1992 that that 79 per cent of the work force is covered by award superannuation. The estimates made by the ACTU are cited in the Second Report of the Senate Select Committee on Superannuation (SSCS) (p.14). Some employees, particularly casual or part time employees may not earn the minimum threshold as provided for in the SGC. The minimum threshold for award superannuation is lower than that for the SGC. APRA (2000) gives ABS data showing that 91 per cent of employees are covered by superannuation with 81 per cent of all workers and 36 per cent of employers, including self employed, covered by superannuation.

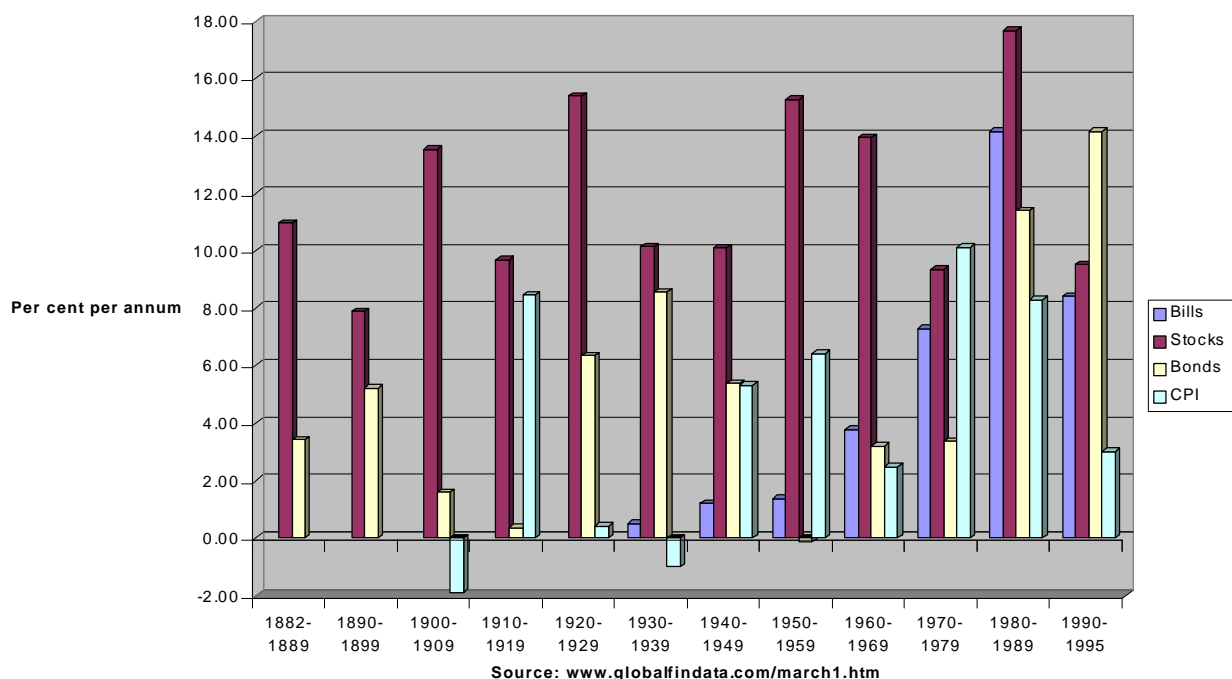
² Government policy is to encourage retired person to take retirement benefits in an income stream instead of the currently preferred lump sum benefit largely to discourage "double-dipping," i.e., spending the lump sum and then taking out the age pension.

Goal of a Contributor to a Superannuation Fund

The goal of a contributor to an accumulation fund is to maximize the accumulated benefits at the date of retirement as this will purchase the highest value annuity or pension. There may be other strategies such as restricting the accumulation to the limit of the assets test for the age pension; however we shall ignore any such strategic behaviour.

For a given contributions schedule and given taxation structure, this goal requires that the superannuation fund earn the highest rate of return consistent with a given risk exposure. The problem for the fund is to place the fund contributions into assets, which will produce the highest rate of return. Future rates of return are uncertain; past experience is a guide but not a complete one. Previous experience suggests that over the long term the highest returns will be obtained from exposure to equities so that the *equity premium* can be obtained. The proposition that investors with a relatively long investment horizon should hold equities is supported by Levy and Cohen (1998). Mehra and Prescott (1985) give historical evidence on the equity premium and calculate it as in excess of six percentage points a year. Siegel (1999) reviews the historical evidence and claims that the forward – looking equity premium may be considerably lower than the historical average. Kingston, Piggott and Bateman (1992) through numerical simulations demonstrate that an age-phased investment strategy embracing substantial allocations to a risky asset in the early decades of working life can generate a substantially greater final accumulation.

Nominal Returns to Bills, Stocks and Bonds, Australia, 1882-1995



A rational strategy for contributors is to select a superannuation fund whose portfolio contains a high proportion of equities. We do not discuss the optimum proportion of equities in this paper but note that it is an important question. Conventional wisdom maintains that this proportion should diminish with the age of contributor. As will be seen later, Australian superannuation funds in the aggregate hold over 60 per cent of their funds in equities. Thaler and Williamson (1994) suggest a strategy of holding 100 per cent equities at all times while Bierman (1998) advances qualifications to this proposition but support a high level of equity holdings.

At juncture, it is sufficient to note that the return on equities will be the single most significant determinant of returns to a superannuation fund.

Types of Superannuation Funds

Superannuation contributions on behalf of an individual employee are paid into a superannuation fund which has been established or designated under an award or is a complying superannuation fund under the SIS legislation. The SIS legislation provides for prudential supervision of superannuation funds.

Superannuation funds are defined in the following way by the regulatory authority:

1. Corporate funds which are sponsored by a single non-government employer or group of employers;
2. Public sector funds which are sponsored by government employers or by government business enterprises;
3. Industry funds which are established under an award or agreement;
4. Retail funds which are pooled super products marketed by intermediaries to the general public; they include master trusts and personal superannuation products offered by life insurance companies and other financial institutions;
5. RSA are superannuation products offered by banks and other deposit taking financial institutions;

Excluded funds which are commonly referred to as “DIY funds” and which have fewer than five members³.

The relative size of each class of funds is shown below in Table 1:

Table 1: Proportion of Superannuation Balances held by each type of fund

Type of Superannuation Fund	Proportion of Total Balance of Superannuation Funds, per cent
Corporate funds	16
Public sector funds	22
Industry funds	8
Retail funds	30
RSA	1
Excluded funds or “DIY” funds	15

Source: APRA (2000)

For our purposes it is also important to know whether funds are accumulation, or defined contribution, funds because this type of fund is the one for which the SGC was effectively designed⁴.

³ The DIY funds have a special place in the superannuation arrangements being designed for self employed contributors and may not include other employees. Amendments to the Superannuation Industry (Supervision) Act 1993 in 1999 changed the position regarding excluded funds considerably. Small funds with fewer than five members from March 31, 2000 have to be either:

1. Self-managed superannuation funds (SMSFs); or,
2. Small APRA funds (SAFs).

Self-managed superannuation funds (SMSFs) have the following characteristics:

1. Fewer than five members;
2. All members are trustees (or directors of the trustee if a corporate trustee) and no other persons are trustees;
3. No member is an employee of another member unless the members concerned are relatives; and
4. Single member funds may have one additional trustee/director provided the member is not an employee of the other trustee/director; and,
5. Trustees must not receive remuneration for their services as a trustee.

After March 31, 2000 any superannuation fund with fewer than five members, which does not satisfy the requirements to be a SMSF, is required to have an approved trustee that has met the capital, solvency and other requirements under Part 2 of SIS. SMSFs are supervised by the Australian Taxation Office and SAFs by Australian Prudential Regulation Authority. An important decision in relation to SMSFs is that unrelated employees cannot join their employer’s self managed fund for the reason that such “arms length members” cannot in the normal course of events adequately protect their interests in such a fund. However, SAFs are no longer exempted from certain SIS requirements simply because they have fewer than five members so that, unlike SMSFs, SAFs will be required to establish a complaints handling procedure. Both SMSFs and SAFs will operate under member directed investment so that members can direct the trustee where to invest. This is expressly denied to all other funds.

⁴ At June 30, 2000, according to APRA (2000) there were nearly 22 million individual superannuation accounts. Ninety per cent of member accounts in the private sector were in accumulation funds. There are some funds predominately in the public sector which are defined benefits plans; however, the trends in the public sector has been to close such funds to new entrants.

Accumulation funds are mutual investment vehicles, which pool individual contributions and distribute net earnings of the fund to individual accounts each year. The value of the individual contributor's account at any time is the sum of accumulated contributions plus net earnings. The retirement benefit provided by an accumulation fund is the value of the contributor's account at the date of retirement. The value of the retirement benefit, for given contributions, depends on the net returns earned by the fund so that the aim of the fund is to obtain the highest returns for a given risk exposure. Earning a low rate of return is the investment risk of the contributor.

Management of Superannuation Funds

Each fund is managed by a trustee who, in addition to being the legal owner of superannuation funds assets, is responsible for the administration of the fund and who makes the asset allocation or portfolio choice decision regarding investment of contributions.

Trustees have common law responsibilities and explicit legislative injunctions to act in the best interests of contributors and the main fiduciary duties of trustees in regard to investment strategy have been codified. Under the SIS Act, the trustee of a superannuation fund must formulate and give effect to an investment strategy that has regard to the whole of the circumstances of the entity including the risks and likely return of the fund's investments having regard to its objectives and its expected cash flow requirements, the diversification of the investments, the liquidity of the fund's investments, and the ability to meet existing and prospective liabilities.

There is a common set of standards applicable to all complying superannuation funds; among these standards relevant for the issue of choice of superannuation fund are the following:

1. Superannuation funds are prohibited from levying and charges exceeding earnings in respect of account balances lower than \$1000 except when the fund suffers negative returns;
2. Equal numbers of employer and employee representatives are mandated on trustee boards of large employer sponsored funds;
3. Sole purpose test requires benefits from superannuation funds to be paid only in retirement benefits or in death benefits to contributors who die before retirement;
4. Membership reporting rules require regular reporting to members;
5. APRA is required to approve trustees for public offer superannuation funds;
6. Lodgment of audited annual reports by superannuation funds is mandated;
7. There are investment restrictions on borrowing and on lending to members;
8. Preservation of benefits is required and balances are not to be paid to contributors until they reach the age of 55 years; and,
9. Compulsory payment of benefits out of the superannuation fund is required when members reaches a specified age which is now 65 years.

Trustees may manage the contributed funds themselves or hire outside managers who are given directions, "a mandate", as to how the funds are to be invested. Trustees may choose to place contributions in retail superannuation funds or in funds managed by life insurance offices. At June 2000, only 29 per cent of superannuation assets were directly invested (APRA 2000).

Superannuation Fund Investment Strategy

Superannuation funds are required to have an investment strategy which allocates contributions to asset classes and which selects individual securities within the asset classes. Asset classes are not precisely defined and new investment vehicles arise from time to time; currently hedge funds are being promoted as suitable investments for superannuation funds.

APRA recognises six specific asset classes:

1. Cash and Deposits;
2. Loans and Placements;
3. Interest-bearing Securities;
4. Equities and Units in Trusts;
5. Direct Property; and,
6. Overseas.

The proportion of funds held in each class at June 2000 are shown below:

Table 3 Asset Allocation, Australian Superannuation Funds, June 2000

Asset Class	Proportion of Funds in Each Class
Cash and Deposits	7
Loans and Placements	5
Interest-bearing Securities	20
Equities and Units in Trusts	42
Direct Property	5
Overseas	18
Other	4
Total	100

Source: APRA (2000)

As most of the “overseas” category is international equities, about 60 per cent of total superannuation funds assets were, at this date, in equities; hence the net returns to the superannuation fund will depend significantly on the return to equities and individual fund’s selection of particular shares.

For individual contributors, the strategy is to maximize the accumulated sum at the date of retirement from the workforce. The individual contributor is faced with investment risk; the risk that the fund will earn inferior returns in relation the market return. As the benefits provided under an accumulation fund are not guaranteed or underwritten so that the investment risk is born completely by the employee.

Styles of Portfolio Management of Superannuation Funds

There are two styles of portfolio management:

1. Active management; and,
2. Passive management.

Under active management, the investment managers choose a sub-set of equities in the expectation that this sub-set will earn a higher than market return, or, in other words will earn excess returns. The sub-set of equities will be varied in the light of changing circumstances. Active managers will also change the proportion of the portfolio held in equities.

On the other hand, a passive management investment strategy does not attempt to select equities but instead holds a portfolio, which replicates a market indicator. For example, a passive manager who seeks to obtain returns equivalent to the S&P/ASX 200 index would hold a portfolio of those equities in this index in the exact proportion of the index. For example, if a company AAA Ltd had a weight of x per cent in the index, the passive portfolio would have x per cent of its value in AAA Ltd.

The great majority of superannuation fund assets are in the hands of active managers. Active managers claim that they can achieve excess returns persistently and thus outperform passive managers. However, it is hypothesized that active managers will incur higher trading costs and higher taxation payments than passive managers.

Active and Passive Management

The net returns obtained from a passively managed portfolio are:

$$R_p = GR_p - TC_p - T_p - TE_p$$

R_p = net returns to a passively managed portfolio

GR_p = the gross investment returns to the passively managed portfolio

TC_p = trading costs of the passively managed portfolio

T_p = taxation on gross returns

TE_p = tracking error of the passive managed fund

TE_p is the difference between the market portfolio and the passively managed portfolio which will arise because of an inability to adjust the portfolio instantly. Major sources of tracking error arise from changes in the market index and through inflows of funds to the superannuation fund which are less than the minimum tranche necessary to buy the index.

TE_p may be positive or negative.

Now R_m , the equities market return, will equal $GR_p - TE_p$

The returns obtained from an actively managed portfolio are given by:

$$R_a = GR_a - TC_a - T_a$$

where

R_a = net returns to a actively managed portfolio

GR_a = the gross investment returns to the actively managed portfolio

TC_a = trading costs of the actively managed portfolio

T_a = taxation on gross returns

Active managers claim that $R_a > R_p$ because they possess superior skills in security selection.

Which implies that $R_a > R_m$, where R_m is the market return

$$R_a = GR_a - TC_a - T_a$$

$$R_p = GR_p - TC_p - T_p - TE_p$$

R_a will be greater than R_p

$$\text{If } GR_a - TC_a - T_a > (GR_p - TE_p) - TC_p - T_p$$

$$\text{Or, if: } GR_a - TC_a - T_a > R_m - TC_p - T_p$$

In general, it is likely that

$$TC_a > TC_p$$

$$T_a > T_p$$

That is, actively managed portfolios will incur higher transactions costs and taxation (particularly capital gains taxation as active trading will give effect to realised capital gains). Malkiel and Radisich (2000) point out that index funds in the USA have management fees of 20 basis points whereas the fees of actively managed funds exceed 140 basis points a year. They further disclose that, while index funds trade only when necessary, active funds have a turnover rate of 50 per cent which implies a cost of 50 basis points a year.

The Selection of a Superannuation Fund – Active or Passive Management

There has been a long running debate about the ability of active fund managers to out-perform the market and thus to earn excess returns, i.e. to achieve $R_a > R_m$. and to outperform passively managed funds i.e., to achieve $R_a > R_p$

The critical issue is thus “does active investment management add value?” This question has been the source of continued debate in financial economics since the contributions of Sharpe (1966), Treynor (1966) and Jensen (1968). One strand of literature finds that investment managers have little stock-selection ability consistent with the efficient market framework of Fama (1970) which maintains that equities markets are information ally efficient so that current prices fully reflect all information available to the market.

Research on performance from the United States by Malkiel (1995), Gruber (1996) and Carhart (1997) finds that the mutual fund management industry destroys value through under-performing benchmark returns, recommending a passive approach to the stock-selection problem. For instance, Gruber (1996) reports that the average mutual fund under-performs index returns by some 65 basis points per annum for the period 1985 through 1994. More recent results of Malkiel and Radisich (2000) show that index funds have produced rates of return exceeding those of active managers by 100 to 200 basis points a year.

By contrast, another strand of literature finds some limited evidence of stock-selection ability. Grinblatt and Titman (1989), Grinblatt, Titman and Wermers (1995) and Wermers (2000), find that mutual fund managers select stocks that outperform benchmark returns, consistent with the model of Grossman and Stiglitz (1980). However, Moskowitz (2000) notes that this second set of studies examines the individual equity holdings of funds, creating a ‘hypothetical’ portfolio for each fund that contains only stocks and does not account for transaction costs or expenses. Wermers (2000) reports that while the gross returns from equity holdings outperform a broad market index by 130 basis points per year, the net fund returns under-perform the same index by 100 basis points per year. Of this 230 basis points difference, approximately 160 basis points is split evenly between fund expenses and transaction costs, with the remainder attributed to bond and cash holdings.

We argue that the findings from the first group of studies are most relevant for superannuation fund members. This group considers the net return of funds (excluding transaction costs and management expenses) and analyses the entire portfolio return. Returns credited to superannuation accounts are the returns post transaction costs and expenses. Moreover, this approach allows fund members to evaluate the opportunity cost of active stock-selection for their superannuation assets.

The value (or otherwise) of active management for Australian superannuation investors is an area that has received little research attention. This is potentially important as active stock-selection results in a high-cost production function, as managers seek to execute stock trades at prices sufficiently different from full-informed prices to, firstly, compensate them for the cost of becoming informed and, second, to earn superior risk-adjusted returns for the investor.

Recent research considering this issue, contributed by Drew (2000), Drew and Noland (2000) and Drew and Stanford (2000; 2001a; 2001b), provides corroborating evidence of the experience in the United States. On a risk-adjusted basis, Drew and Stanford (2001a) find that the average fund under-perform benchmark returns by a range of 46 to 93 basis points per annum for the period 1991 through 1999. Moreover, Drew and Stanford (2001b) find that active funds are regularly terminated due to poor performance, with survivorship bias negatively affecting industry performance by a further 23 basis points per annum.

Drew and Stanford (2000) find that the marginal cost of active asset selection is far greater than its marginal benefit, arguing that fund members would achieve their retirement income objectives far more rapidly by engaging a low-cost, passive stock-selection technique. Evidence of the investment management industry destroying value for superannuation members has important implications for public policy. Gallery, Brown and Gallery (1996) argue that the poor performance of public and private sector superannuation funds provides no support for the assumed superiority of the private sector to deliver more efficient outcomes, challenging the market-based model for superannuation savings in Australia.

We support the calls for reform by Gallery et al (1996). The destruction of value by the investment management industry requires the development of an alternative approach to stock-selection for fund members. Economic theory provides such an alternative based on the efficient market hypothesis. The findings of Drew and Stanford (2000; 2001a; 2001b) suggest that the stock market in Australia is remarkably efficient, with prices reflecting all available information. To mitigate the impact of value destruction and fund termination, we advocate a passive model of superannuation investment management.

Efficient Markets Hypothesis, EMH, and Choice of Superannuation Fund

The Efficient Markets Hypothesis, EMH, postulates that securities markets are informationally efficient so that it is not profitable to trade on the set of information available to the market and hence predicts that active fund managers will not be able to earn excess returns on a consistent basis (Fama 1970). The EMH recommends a “buy and hold strategy”

The empirical evidence in Australia supports the EMH.

Implications of the Efficient Markets Hypothesis

The implications of the Efficient Markets Hypothesis are that:

1. No active fund manager can, over the longer term, produce higher returns than the market after allowing for risk, trading expenses and taxation;
2. Investment performance which out-performs the market in the short term will not persist in the longer run; and,
3. Short term superior investment performance is a result of luck and not skill; hence a good short term performance is not an indicator of future performance.

The recommendation of the EMH is to pursue a passive or “buy and hold” strategy. This “buy and hold” strategy in the long term will produce superior investment performance to that of any active strategy.

Given that the performance of Australian superannuation fund managers is consistent with the EMH there are five propositions which define choice of superannuation fund.

Proposition One: No employer can select a fund with a long run superior investment performance.

Proposition Two: no employee can make a rational ex-ante selection of an actively managed fund

Proposition Three: An employer is likely to persist with an under performing funds manager

Proposition Four: a low cost diversified passive index fund should be the default choice for all superannuation contributors

Proposition Five: No superannuation contributor should change funds frequently ; some changes in asset allocation may be appropriate over the life cycle..

Propositions One and Two define the extent of the adverse selection problem. Given an array of actively managed funds and information about their past performance, it is not possible for anyone to select a fund which produce excess returns in the future. Selection of an actively managed fund may be rationally and efficiently made by random selection.

Proposition One rules out paternalism by employers. Even if employers have some financial expertise, they are unable to select an actively managed fund with any more confidence than any of their employees’ random choice. If employers are confident of their ability to select superior managers, it is appropriate that they back this ability by offering to underwrite or guarantee the returns to the superannuation fund. One way to do this is to offer a defined benefit fund. It can be noted that, not only are most employees in accumulation funds, but a number of public sector defined benefit schemes have been closed to new entrants egg Commonwealth Public Service, NSW Public Service, Police Superannuation, and Australian universities.

Proposition Three defines the extent of the moral hazard problem: what mechanisms are available to ensure that an actively managed fund once selected continues to maintain its performance. An employer is likely to persist with an under performing fund. Harless and Peterson (1998) find that poor performance by US mutual funds can persist for sustained periods. Under the current superannuation system there is no automatic mechanism to relieve poor investment managers of their mandates. The choice of and employment of funds managers is the responsibility of the trustees of individual superannuation funds. While trustees review the investment performance of managers, aided by the compilation of industry league tables and with the assistance of consultants, trustees are generally loath to sack poorly performing managers because this will reflect on their initial choice. Goetzmann and Peles (1994) argue that mutual fund investors in the USA are disinclined to switch from poorly performing funds

because they are reluctant to acknowledge that their original choice of mutual fund was a mistake. Hence, trustees may persist with poor performers in the vain hope that performance will improve. Trustees, who require no specialized knowledge of funds management or superannuation, but who are elected by employees or appointed by employers, operate at a much lower level of standards than financial advisers and planners so they may simply be incompetent at making investment strategy decisions and in selecting managers. In some instances, especially in retail public offer funds, trustees and fund managers do not operate at arms length and are owned by the same entity. A usual arrangement for such funds is for the trustee and the funds manager to be owned by the same financial services provider. Finally, trustees may have other financial arrangements with funds managers or the ultimate financial services provider and may receive benefits from managers. The SIS standards do not require disclosure of any such benefits but acceptance of benefits from funds managers may breach the fiduciary duty of trustees to members of the fund.

For all these reasons, poor investment performance may persist for some time if not indefinitely. The position is compounded by the fact that there is no current consumer protection service available to members of superannuation funds to complain of investment performance. Regulatory authorities are reluctant in the extreme to hear individual complaints about investment performance and individual members have no avenue of redress for inadequate performance.

Propositions Two, Four and Five define the appropriate type of superannuation fund to maximize long-term returns. While a passively managed fund will not outperform the market, it will capture the equity premium minus minimal expenses. The choice of a passive fund will eliminate the downside risk of holding equities. The EMH recommends a “buy and hold” strategy which will ensure that the equity premium is gained. A “buy and hold” strategy necessarily requires very infrequent changes.

It is ironic that the *economics of choice of superannuation fund* indicate that there are relative few choices to be made. There are some choices for which we have inadequate analysis: one important choice is the appropriate asset allocation over the working life of a contributor. This is an area that requires further and urgent research.

It is further ironic that current practice in the Australian superannuation industry is to offer contributors “investment choice” or choice of asset allocation. There is no rational basis on which a contributor can rely to make an annual choice of asset allocation.

Our analysis suggests that Australian superannuation industry is inefficient through a high level of fees being devoted to active management of equity portfolios. Our empirical analysis of superannuation equity fund managers indicates that lower fees would not reduce net returns to contributors.

This inefficiency can be considered in another way. Even if it were possible for individual fund managers to earn persistently excess returns, and we have shown that it is not, it is not possible for all equity fund managers to do so. Aggregated up, equity fund managers cannot earn excess returns; everyone cannot be above average. As the funds under management in the Australian

superannuation industry rise, the proportion of Australian equities held by superannuation funds will rise so that by the law of large numbers the returns to equity fund managers will converge to the market return.

A further inefficiency in the Australian superannuation industry exists in the fragmentation of contributions. Persons who work on a part-time or casual basis will find that their superannuation contributions are fragmented between a number of funds. Although there is now specific provision to ensure that contributors' balances under \$1,000 are not eroded by administrative charges, balances just over \$1,000 will not earn enough to offset such administrative charges. Balances of up to \$3,000 - \$4,000 will not grow positively. Choice of fund which allowed the amalgamation of contributors' balances would be an unambiguous improvement in efficiency and welfare.

Principles of Superannuation Choice

The basic principle of superannuation choice is those who bear the risk of decisions about returns to superannuation should be able to make those decisions provided they bear the responsibility for the consequences of that choice.

Hence individual members whose Superannuation Guarantee Charge is lodged in an accumulation fund should have unrestricted choice of which fund is selected. To bear responsibility for their choice members should not be able to make poor choices and expect that the community will underwrite their inferior decision making by allowing them access to a tax funded retirement benefit. Therefore we argue that it is appropriate for the eligibility for tax funded retirement benefits be tightened in one of two ways:

1. Persons who have had a Superannuation Guarantee Charge paid into an accumulation fund of their choice for a given number of years are ineligible for a tax funded benefit; or,
2. Superannuation Guarantee Charges are deemed to earn a certain investment return and this accumulated return is included as an asset in means testing of a tax funded benefit.

The converse of this principle is that any employer who wishes to constrain employee choice of fund should be required to underwrite or guarantee the returns from that fund.

The role of employers in relation to Superannuation Guarantee Charge contributions should be limited; employers' obligations should be to pay the SGC contribution for each employee in an accumulation fund to a nominated complying superannuation fund or if no fund has been nominated to a Default Commissioner. This is the same obligation an employer has in respect of payment of wages and salaries; it is now, in effect, compulsory for employees to have an account with a financial institution into which their salary is paid by the employer. No one would think it reasonable for an employer to select a bank account for an employee. Similarly, employers now pay health insurance premiums into employee nominated accounts. Employees may change their bank account without permission of the employer. Similarly employer contributions made under an award or in excess of the SGC to an accumulation fund should be paid to a fund nominated by the employee. It may be asked what of additional employer contributions. The basic principle is

that employers should not be allowed to buy a veto over employee choice⁵. A rule which would prevent this veto is as follows: if the sum of employee contributions, award superannuation and the SGC is greater than the employer's contribution, the total superannuation contributions should be made to a fund of the employee's choice. Since most employees have award superannuation of three per cent of wage and salary and a SGC of eight per cent an employee would have to contribute a minimum of 10 per cent of salary to buy a veto. Where employees contribute more from tax paid salary the cost of the veto would be raised.

Default Fund

There is the need to provide for employees who do not make an explicit choice of fund. One suggestion we make is that contributions of such employees should be forwarded initially to a Default Commissioner whose role it would be to allocate the contributors (and thus future contributions) to a fund which had the following characteristics: a low cost passive fund and a standard asset allocation (by lifecycle). The Default Commissioner would allocate contributions randomly to approved funds.

The Government's Position

The government's position is summarised by Kemp [1999]: "One major flaw in the existing superannuation is the lack of control Australians have over which fund is entrusted with their superannuation savings.

For many people, superannuation is their largest asset apart from their house. Yet there is no general right to choose a superannuation fund. Australian can choose the house in which they live, and make decisions about their other investments. They do not have these decisions imposed on them by their employer or through an industrial award.

In the same way, the Government believes that individuals should be able to choose their superannuation fund. It is simply unfair and unjustifiable that workers have no choice as to who manages their superannuation contributions."

The Commonwealth Government proposals for choice of fund have been before Parliament since December 1997 when they were introduced as Schedule 5 to the Taxation Laws Amendment Bill (No &) 1997. The choice legislation was re-introduced on November 12, 1998 in revised form as the Superannuation Legislation Amendment (Choice of Superannuation Funds) Bill 1998 which passed in the House of Representatives on February 16 1999 but has been in limbo in the Senate since February 1999.

⁵ A defined benefit fund raises different issues. The sponsor of the defined benefit fund assumes the investment risk and, as explained previously, has a potential liability capped only by the total of benefits payable. A defined benefit fund, which promised a reasonable retirement benefit, would be attractive to employees and a rational employee would prefer a defined benefit fund to an accumulation fund. Employers would offer a once only opportunity to join a defined benefit fund. However, the most important point in relation to defined benefit funds is that they are becoming very rare birds indeed. Once restricted to public service superannuation schemes and the upper echelons of the private sector, employers are closing entry to such funds and not offering new defined benefit fund. Both taxpayers and shareholders look askance at the contingent liabilities of unfunded superannuation schemes.

The choice legislation offers employees the following alternatives:

1. A choice of four or more complying funds or RSA; or,
2. Employers can offer unlimited choice; or,
3. Superannuation arrangements can be provided for in certified agreements, Australian Workplace Agreement or informal agreement.

The default is to a fund or RSA nominated by the employer.

Our analysis says that the preferred option is unlimited choice by employees and the creation of a low cost default fund.

Concerns about Choice of Fund

The 28th Report of the Senate Select Committee raised a number of concerns about choice of fund; the major ones were:

1. The level of education about choice;
2. The preparatory work necessary;
3. The cost of implementation of a choice regime;
4. The adequacy of consumer safeguards;
5. The cost of distribution;
6. The default fund; and,
7. Impact on fund members' final retirement income.

Many of these concerns are to do with transitional arrangements but the most serious comment must be directed to the matter of contributor education. The Committee and the witnesses who appeared before it were overly impressed with the *status quo* whereas our analysis clearly indicates that the present structure of actively managed equity portfolios is not the preferred structure for the Australian superannuation industry.

Investment choice

Investment choice is contributor choice of asset allocation. Our analysis shows that there is no clear-cut basis to determine objectively the appropriate asset allocation except to say that a significant proportion of the superannuation fund should be allocated to equities. Contributors to superannuation funds have a less reliable foundation to make investment choice than they do to make a choice about superannuation fund.

Objections to Superannuation Choice

Objections to or problems of superannuation choice were raised by witnesses to the Roundtable on Superannuation Choice in relation to:

1. Defined benefit schemes;
2. Industry funds; and,

3. Excluded funds.

As seen from Table 6, defined benefit funds are becoming relatively unimportant so the issue regarding these funds is not critical. More importantly, defined benefit schemes offer a once-only choice of entry in respect of future contributions unless the value attributed past service is purchased at point of entry. There is nothing in the principles regarding superannuation choice which requires defined benefit schemes to be open to new members at all times.

Industry Funds

The Senate Committee canvasses issues in relation to industry funds raised by witnesses. However, industry funds are an unnecessary hangover from the pre-SGC regime. There is no rational reason to retain award-based superannuation in an era of compulsory superannuation. The appropriate solution is to eliminate industry funds, which can be achieved by a provision that superannuation payments may be paid into the same account as an employee nominates for lodgment of Superannuation Guarantee Charge contributions. There are vested interests which would prefer that industry funds continue but if trade union officials wish to have a career in funds management it is appropriate for them to start their own public offer scheme and attract contributions by virtue of superior management and investment performance.

Excluded funds

Some witnesses to the Senate Committee had raised the point that excluded funds are not a suitable option in a choice regime; the Government has now recognised that “arms length members” are disadvantaged in an excluded fund and have legislated to prohibit such members joining SMSFs. Thus the government has taken action to remove this issue permanently from the debate about superannuation choice.

Wallis Committee Recommendations

The Wallis Committee recommended that employees should be provided with choice of fund, subject to any constraints necessary to address concerns about administrative costs and fund liquidity. The basic recommendation was that where superannuation benefits vest in a member, that member should have the right to transfer the amounts to any complying fund. Where a member chooses to exercise that right, payments should be transferred to the chosen fund as soon as practicable, subject to controls necessary to maintain orderly management for the benefit of all fund members.

The Wallis Committee saw the advantage of allowing member choice of fund would be to increase competition between funds and should, other things being equal, enhance efficiency in the industry. It also recommended that transfer costs, including those incurred as a result of regulatory requirements, should be transparent and reasonable.

Wallis Committee Concerns about Choice of Fund

However, the Wallis Committee saw member choice as raising several concerns:

1. Administrative costs for employers and funds are likely to be greater if freedom of choice is unfettered and can be exercised at will. If members exercise choice frequently, additional exit/entry fees may offset any increase in investment returns; and,
2. Choice also raises issues for fund liquidity. Investment strategies may need to be adjusted to hold more liquid assets and may result in greater focus on short-term investment performance. United States' experience suggests that investor choice has not led to higher volatility in fund liquidity.

The solution to these problems, as seen by the Wallis Committee, may be partly addressed by imposing some limitations on exit, such as a suitable notice period or limits on the frequency of change. Subject to these constraints, the additional competition engendered by choice is likely to put downward pressure on costs and to encourage rationalization of the industry.

The Wallis Committee considered that member choice would be successful in promoting competition only if consumers have appropriate information and it saw the joint responsibility of the industry and regulators to ensure that consumers are educated and well informed covering such issues as the rights of members, different life cycle needs and their implications for risk and return, and the benefits and costs of exercising choice.

The Wallis Committee recommendations come close to our position on superannuation choice but the Committee's views are based on the view that the present structure of superannuation in Australia is appropriate; our view is that active management of equity portfolios in superannuation is unnecessarily expensive and ineffectual. We do not deny that there will be transitional difficulties but it is critical that the correct basis for choice of fund is established.

Conclusion

Our conclusion is that the question of superannuation choice has been mis-specified and once the correct specification is applied the answer to the question is simple. The question is mis-specified because the choice is seen as being between existing funds which are predominately actively managed funds. However, application of the Efficient Markets Hypothesis, which is shown to hold in the Australian equities market, leads to the conclusion that contributors should have a free choice of superannuation fund but that a rational choice is for a low cost passively managed fund. Such a choice would reduce significantly the costs of superannuation and improve the returns available to contributors.

Adverse selection and moral hazard problems abound in the superannuation industry.

Our analysis clearly indicates that the current superannuation arrangements in Australia can be simplified to promote the long-term benefits of contributors.

Reference List

APRA, 2000, Superannuation Trends, Australian Prudential Regulation Authority

- Bierman, H., 1998, Why not 100% equities: comment, *Journal of Portfolio Management* Winter, 70-73.
- Drew, M., 2000, Market efficiency, superannuation and funds management: An economic analysis of the performance and persistence of Australian superannuation fund managers, *Unpublished PhD Thesis*, (Department of Economics, University of Queensland).
- Drew, M., and J. Noland, 2001, EMH is alive and well, *JASSA Journal of the Securities Institute of Australia* 4, 15-18.
- Drew, M. and J. Stanford, 2000, Returns from Investing in Australian Equity Superannuation Funds: 1991 to 1999, *Discussion Paper 279*, (Department of Economics, University of Queensland) and *forthcoming* 2003, *Service Industries Journal*.
- Drew, M., and J. Stanford, 2001a, Asset selection and superannuation fund performance: A note for trustees, *Economic Papers* 20, 57-65.
- Drew, M., and J. Stanford, 2001b, The impact of fund attrition on superannuation returns, *Economic Analysis and Policy* 31, 25-32.
- Fama, E., 1970, Efficient capital markets: A review of theory and empirical work, *Journal of Finance* 25, 383-417.
- Gallery, N., K. Brown and G. Gallery, 1996, Privatising the pension, *Journal of Australian Political Economy* 38, 98-124.
- Goetzmann, W., and N. Peles, 1994, Cognitive dissonance and mutual fund investors, *Journal of Financial Research*, 20, 145-158.
- Grinblatt, M., and S. Titman, 1989, Mutual fund performance: An analysis of quarterly portfolio holdings, *Journal of Business* 62, 394-415.
- Grinblatt, M., S. Titman and R. Wermers, 1995, Momentum investment strategies, portfolio performance, and herding: A study of mutual fund behaviour, *American Economic Review* 85, 1088-1105.
- Grossman, S., and J. Stiglitz, 1980, On the impossibility of information ally efficient markets, *American Economic Review* 70, 393-408.
- Gruber, M., 1996, Another puzzle: The growth in actively managed mutual funds, *Journal of Finance* 51, 781-810.
- Harless, D., and S. Peterson, 1998, Investor behaviour and the persistence of poorly-performing mutual funds, *Journal of Economic Behaviour and Organisation*, 37, 257-276.

- Jensen, M., 1968, The performance of mutual funds in the period 1945-1965, *Journal of Finance* 23, 389-416.
- Kingston, G., J. Piggott and H. Bateman, 1992, Customised investment strategies for accumulations superannuation, in Davis, K. and Harper, I., (eds), *Superannuation and the Australian financial system*, Allen and Unwin.
- Levy, H., and A. Cohen, 1998, On the risk of stocks in the long run; revisited, *Journal of Portfolio Management* Spring, 60-69.
- Malkiel, B., 1995, Returns from investing in equity mutual funds, 1971-1991, *Journal of Finance* 50, 549-572.
- Malkiel, B., and A. Radisich, 2000, The growth of index funds and the pricing of equity securities, , *Journal of Portfolio Management* Winter 9-21.
- Mehra, R., and E. Prescott, 1985, The Equity Risk premium: A Puzzle, *Journal of Monetary Economics*, 15, 145-161.
- Moskowitz, T., 2000, Discussion, *Journal of Finance* 55, 1695-1703.
- Sharpe, W., 1966, Mutual fund performance, *Journal of Business* 39, 119-138.
- Siegel, J., 1999, The shrinking equity premium, *Journal of Portfolio Management* Fall 1999, 10-17
- Treynor, J., 1966, How to rate management of mutual funds, *Harvard Business Review* 42, 63-75.
- Thaler, R., and J. Williamson, 1994, College and university endowment funds; why not 100% equities, *Journal of Portfolio Management* Fall 1994, 27-38.
- Wallis Committee, 1997, Final Report of the Financial System Inquiry, Canberra.
- Wermers, R., 2000, Mutual fund performance: An empirical decomposition into stock-picking talent, style, transaction costs, and expenses, *Journal of Finance* 55, 1655-1695.