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Uniformity and diversity in superannuation fund investment portfolios

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1. Introduction

This is my tenth paper presented to the Colloquium of Superannuation Researchers, and my ninth consecutive paper, which may well be a record. I may not have the longevity record of some attendees (rather than paper givers), in that back in the early 1990s my day job involved me in other areas of research, such as regional economics and household debt (the other side of the household ledger) which would have made attendance at the Colloquium hard to justify. However, I would claim involvement in superannuation issues at a time which even predates the Colloquium. In particular, it may now be safe for me to claim to be the father of compulsory superannuation in Australia in that I bodged up the national productivity estimates that were used by the Commonwealth Government in the national wage case that sort of led to award superannuation.

This was a non-trivial task, as one of my colleagues at Treasury (who has since gone on to much greater fame and fortune than I have) made some arithmetical errors in the calculations. We needed some rather fast footwork to come up with the sort of numbers needed to support the Commonwealth's claims. I learnt some rather useful research skills from that episode, including the ability to bury very deeply and without any real trace being left any errors that have been made during the course of research. This is a useful skill for any researcher, particularly a new one. I of course have not had to draw on this particular research skill for some decades.

A decade or more of superannuation research has given me an at least partial understanding of the Australian superannuation (private pension) system. It is not an easy system to understand. Observers from other countries sometimes (usually?) have difficulty understanding it. Quite a few local observers also struggle to follow it, but at least individuals from other countries have the excuse that the Australian system is rather different from pension and superannuation systems in other countries. Our economy and investment markets are also a little different. These differences (and similarities) with other countries lead to differences (and similarities) in how Australian superannuation funds invest. There is also diversity (and similarities) amongst Australian superannuation funds in their investment approach.

One important difference from a number of European and North American countries is that most individuals in Australia are in defined contribution schemes where the member bears the investment risk. Even amongst those who are in defined benefit schemes, the predominant form of benefit for those in private sector funded schemes is a lump sum set as some sort of multiple of salary which is payable at the time of retirement. While there still are a significant number of government employees in defined benefit schemes which pay pensions, these schemes are with very few exceptions at best only partially funded by contributions along the way. In Australia there are not that many occupational pensions paid to retirees, and when they are paid they generally are funded out of general tax revenue of the Commonwealth Government or the State or Territory government concerned.

Table 1 provides details of the split between defined benefit and defined contribution schemes in other than small funds. There is also another $155.8 billion in 300,000 or so Self Managed Superannuation Funds and Small APRA Funds. These funds have less than five members, and generally have only one or two members unless dad puts in the

kids as well for some reason. These funds by their very nature are accumulation funds, although there are a relatively few SMSFs that purport to provide their members in retirement with a defined benefit pension. In the case of these small funds provision of a defined benefit pension generally is more of a route to estate planning and avoiding Reasonable Benefit Limits (limits in the taxation law on the amount of retirement benefits that receive concessional tax treatment) than what most overseas observers would regard a defined benefit pension scheme to be. You do not get much pooling of longevity risk in a pool of one, although some proponents of SMSFs beg to differ on this point.

Table 1 - Benefit Structure (for funds with more than 4 members)

	Accumulation	Defined Benefit	Hybrid	Total
Member Accounts -(000's)				
	19,002	*422*	*6,992*	*26,416*
Assets ($b)				
	251.7	*16.6*	*200.2*	*468.6*
Funds				
	1,292	*120*	*374*	*1,786*

Source: APRA Annual Statistics, June 2004, issued May 2005

Data for the top 50 listed companies in Australia indicate that the majority of those companies have defined benefit obligations to their employees, with the total of such liabilities exceeding $50 billion in 2002 (Fitch Ratings, 2003). This suggests that the bulk of the liabilities of the private sector hybrid schemes in the table above relate to defined benefit elements given that the assets of private sector pure defined benefit schemes were only $9.7 billion in 2002.

The figures suggest that there are not a lot of pure defined benefits in the hybrid schemes. While some of these hybrid schemes involve a mix of benefits (such as a defined benefit in retirement and an accumulation benefit on resignation) many of them are schemes with different divisions. Long closed divisions or not generally available divisions might provide defined benefits, with the majority of members and assets in new divisions which are essentially defined contribution arrangements.

In the case of public sector superannuation schemes it is not unusual for the closed defined benefit division or divisions to be largely or wholly unfunded, with actual money and assets in the defined contribution division. For these public sector schemes the matching of pension liabilities generally is with the ability of the government concerned to collect taxes in the future rather than with income from any set of financial assets.

There are a number of reasons for the preponderance of defined contribution assets and members. Accumulation schemes have been the more practical option for most of the new entrants to superannuation, particularly for individuals who regularly move between jobs. Employers have also been increasingly wary of taking on investment risks and increasingly reluctant to pay more in contributions than required by the Superannuation Guarantee (SG). Most defined benefit schemes involve contributions that equal or exceed the maximum SG rate.

Accordingly in Australia there has been an almost complete lack of any debate about whether pension fund liabilities should be matched by interest bearing assets rather than equities. It is not an issue that you could run a conference on, and it barely rates a mention in the trade press, other than to fill up a few column centimetres on a quiet day reporting the views of some visiting "expert". Medium to large funds almost without exception have a preponderance of their investments in growth assets. Even in the case of funds with a relatively high level of assets in cash or bonds this is generally associated with issues of market timing (waiting for equity markets to bottom out) rather than faith in superior qualities of debt assets.

The underlying reason for most investment by funds being in equities is the existence of the equity premium. History tells us that over the long term the investment return to equities (such as shares in local and overseas companies) and ownership of real estate of various types will exceed that of bank deposits and government bonds. One study suggests that over the last 100 years shares have returned about 11% a year compared to a mere 4% from bank deposits and the like, implying a premium return to shares of around 7% a year in order to compensate for the volatility of returns (the fact that returns from holding shares fluctuates from year to year, and the value of shares may go down).

Other studies using different time periods and/or adjusting for factors such as share prices reaching unsustainable highs in relatively recent periods suggest a lower premium for returns to shares, perhaps in the order of 4% to 5%. It is difficult to find any decade where the equity premium is less than 2% per annum. Looking at these numbers the real mystery might be why superannuation funds invest in anything other than growth assets. However, a decade is a long time for a superannuation fund and superannuation fund members. The need to be able to provide liquidity and to not exceed the tolerance of members for variation from year to year in returns and in the capital value of member balances means that funds will have a proportion of assets in income producing, so-called defensive assets.

2. Who (or what) determines the asset allocation of superannuation funds?

There are a variety of players who have a role in determining the allocation of assets of superannuation funds.

In the case of Self Managed Superannuation Funds (SMSFs)all members are Trustees, and all Trustees are members, so at least nominally investment decisions are made by members. This is most likely the case in practice in most instances as well, with the investment portfolios of SMSFs not that dissimilar to what ordinary punters, albeit ordinary punters with some savings, do. Shares in a few companies, direct residential property, term deposits and retail like managed investments feature in the investment portfolios of such funds. There generally is only limited diversification in such portfolios.

However, in terms of aggregate figures, the overall asset split of SMSFs does not look that much different to larger funds (Roberts, 2002). The main exception is that SMSFs have only a small proportion (2% or so in aggregate) of their investments in overseas

assets, and cash accounts for over 20% of assets. There has been some debate over the validity of that latter figure. Some argue that it is misleading high, as the 30 June figure for such funds reflects contributions going in just before the end of the tax year, with this eventually being invested in other sort of investments. However, other commentators point to some trustees/members being slack, in that they may appreciate getting a tax deduction for superannuation contributions, like the theory of being in control, but find the actual practice of investing challenging and time consuming.

For funds with 5 or more members decisions about asset allocation are made by trustees, advisers and individual members, most likely more or less in that order of importance in practice. Trustees have the legal responsibility to formulate an investment strategy for their fund. In doing this they often draw on the opinions of advisers of various sorts. Along with investment advisers of various sorts, the opinion of actuaries might also be sought in the case of a defined benefit fund.

Individual members also will have a role, particularly through the exercise of choice of investment option when this is offered. Even in the latter case, trustees have a role in selecting the options presented to members and in selecting the individual investments that make up blended investment options such as “balanced” or “growth”.

The regulator of funds, the Australian Prudential Regulatory Authority (APRA), has actually gone further and suggested that trustees have a duty to place limitations on what an individual can choose so as to avoid unduly risky investment portfolios on an individual basis (Ramani, 2004). This will not usually be an issue for a fund which has half a dozen investment options ranging from capital guaranteed to a growth portfolio, but it can well be an issue where access is allowed to some hundreds of investment products covering much of the risk and return spectrum. While there is some logic in APRA’s argument that it may well be unwise for an individual to have 100% of their superannuation backed by, say, Japanese technology stocks, the fact that individuals wanting to make such investment choices will usually have significant assets outside of superannuation provides support for the counter-argument. As usual, the views of the regulator are likely to prevail regardless of the strength of any contrary arguments. The final outcome of this debate can be expected relatively soon.

2.1 The incidence of investment choice

According to data from APRA, in 2000-01 around 520 funds offered between 2 and 5 choices, 140 offered between 6 and 50 choices, and 23 funds offered more than 50 choices. More recent data show the incidence of investment choice by fund sector, and an apparent increase in the offering of investment choice to the point where it is the norm for large funds. Most superannuation assets in defined contribution superannuation are in funds with investment choice, and most assets in such schemes are in the default option (Table 2).

Table 2 – Incidence of investment choice as reported to APRA

Fund type	Corporate	Industry	Public sector	Retail	Total
Proportion of funds offering investment choice	31%	78%	60%	76%	40%
Proportion of sector assets in funds with choice	74%	98%	57%	88%	85%
Average number of options	4	7	6	59	
Proportion of assets in default option in funds with investment choice	88%	71%	nph	60%	

Source: APRA Annual Statistics, June 2004, issued May 2005

nph: data as published by APRA are not particularly helpful for these funds, as more assets recorded in default option than in funds with investment choice.

A more limited survey of funds carried out by Chant West Financial Services for the Investment and Financial Services Association which was published in June 2005 (Chant West, 2005) indicates that in the retail sector wrap-style products typically have 150-300 investment options, plus a wide range of direct shareholdings, while traditional master trusts offer between 20 and 70 options for both personal retail products and retail corporate master trusts. In comparison the average for industry funds was 12, for in-house corporate funds it was 5, and for public sector funds it was 7.

The proliferation of investment options might be in part explained by a belief that if 3 choices are good, 5 is better and 300 is really great, or at least by the perception that offering more choices will be rewarded by rating agencies and the market. However, while an increase in investment choice might satisfy the needs of some if not many consumers, the providers of retail superannuation products have to take into account the needs and preferences of financial planners. Most personal retail superannuation products are distributed through involvement of financial planners from a variety of financial planning chains and firms.

Such financial planners seldom are content with a pre-blended investment option, instead preferring to construct a client specific investment mix. Different planning groups will have different preferences in regard to investment managers, and having a large number of investment options on the investment choice menu allows for a greater number of planners to be able to make use of the product. Despite the complexity of the process the outcome for most individuals in retail products will be to have a balanced investment portfolio using a variety of managers, a sort of custom mixed balanced fund.

In the absence of involvement of financial planners there are actually grounds for believing that the more investment choices that are available, the less likely a member is to actively exercise a choice in the absence of involvement of a financial adviser in effect making the choice on part of the member. More choice can lead to greater confusion and uncertainty, and this applies whether it is types of jam on offer, or investment options within a superannuation fund.

However, a range of factors will influence the active exercise of investment choice. The take-up of investment choice varies from fund to fund, depending on the nature of the options available, how the investment options are marketed or presented to members, the suitability of the age based or more general default option in place, the level of investment education provided to fund members, and the age, education levels and other characteristics of the membership itself.

The experience of one industry fund was that for its 60,000 members, around 3,900 responded to a mail-out requesting nomination of an investment option. Of those who nominated an option, 70% selected high growth, 18% selected medium growth, and 9% stable growth and only 2% capital secure (cash). A small number also would have liked the option to invest in a single distinct asset class such as Australian equities. Such an option is beginning to be offered by some industry funds, subject usually to qualifying criteria such as achieving a specified account balance.

A survey of industry funds conducted by ASFA in December 2002 indicated that for the funds surveyed the take-up rate for investment choice ranged between around 1% of members up to 25% or so. Another survey conducted in mid-2004 by ASFA explored whether there was any marked difference between men and women in their use of investment choice (Clare, 2004). The results of that survey do not indicate much difference between men and women in regard to taking up different investment choices, in part due to only a relatively small proportion of men and women exercising investment choice. In some industry funds less than one per cent of members actively exercise investment choice, and when they do there is no clear pattern of differences between men and women in what they choose. Some men choose more aggressive investment strategies, while others choose more capital stable options, and this also applies to women. Changes to investment choices are even less common, and again there is no real discernable difference between men and women in regard to responses to declines (and increases) in investment returns from equities and other investment classes.

In those funds which offer a specific socially responsible or ethical option there is no real evidence of stronger support by either men or women for such an option, with relatively low take-up of such options by both genders.

As noted above, the take-up rates in retail funds for investment choice are likely to be even higher, especially if you take adviser recommendations to be member exercises of choice.

2.2 What is usually in the default option

The default option, that is the investment mix when no choice is made, in most accumulation funds is generally a balanced investment portfolio which contains a range of shares, property, bonds, and cash investments using a variety of investment managers. In a few funds the default option is age based, so for members near retirement age the default might be an investment mix which is capital guaranteed or has a relatively heavy exposure to bonds and cash.

In terms of the options commonly offered by funds, “growth assets” are generally taken to be share and property investments where there is the likelihood of growth in the capital value of the investment along with dividends or other income. “Defensive

assets" or "capital secure assets" are investments such as government bonds, corporate debt and cash at bank. However, it should be noted that there is no sharp dividing line between what is described as a growth fund and what is described by its sponsors as a balanced fund. It is all a matter of a degree. A more conservative growth fund may not be that much different from a slightly aggressive (in investment terms) balanced fund. However, there may be moves to more uniformity in descriptions with the requirement for funds to produce fee examples for their investment choice which is closest to 70% growth assets and 30% defensive assets.

2.3 The role of asset consultants and investment managers

While trustees have the formal responsibility for holding and managing the assets of superannuation funds, they get a lot of help along the way. As indicated by Table 3, only a small proportion of assets in the larger superannuation funds (which account for the great bulk of assets in funds other than SMSFs) are directly held. However, individually managed mandates, where the trustees do not have direct ownership but have very substantial control, account for a significant proportion of assets, particularly the larger industry and public sector funds.

For retail funds the equivalent of the individual managed mandate is the statutory fund of the life insurance company associated with the superannuation fund. The proportion of retail superannuation assets in life office funds is still quite high, indicating that wraps and master trusts have not yet dominated the business of retail superannuation.

Pooled Superannuation Trusts are reasonably popular for corporate funds and for retail funds. Various wholesale trusts (not in the table so the columns do not add to 100%) account for the rest of the asset holding by the various types of funds.

Table 3 – Method of holding assets, funds with more than $50m assets

Fund type	Corporate	Industry	Public sector	Retail	Total
Directly held	5.2%	14.1%	2.8%	3.7%	5.6%
Individual mandate	23.3%	26.4%	60.5%	1.8%	23.0%
Life office funds	8.8%	1.3%	0.3%	53.3%	25.7%
Pooled Superannuation Trusts (PSTs)	16.2%	3.7%	2.9%	9.6%	7.6%

Source: APRA Statistics, Quarterly Superannuation Performance December 2004, issued May 2005

Funds make use of a fair number of investment managers in their use of individual mandates and wholesale trusts. As shown by Table 4 there is one fund, albeit a very large fund, that uses 62 investment managers. While some funds can get away with using just one manager, most corporate and public sector funds of those surveyed by ASFA use 10 or more managers, while the industry funds usually use 15 or more. In the case of retail funds there might be use of scores if not hundreds of different investment managers. This is a product of the investment choice offered by master trusts and wraps within retail funds, rather than a phenomenon likely to expand the waistline of retail fund trustees who are taken out for lunch by investment managers.

However, while there is a case for using a number of investment managers given that there are a variety of investment classes available and no single manager is likely to be best at all of them, there is a very real question in regard to whether using more rather

than less managers will detract from potential performance, or whether it will assist in controlling risk.

Table 4: Number of investment managers, 2003-04

	Corporate		*Industry*		*Public Sector*	
	Lowest	***Highest***	***Lowest***	***Highest***	***Lowest***	***Highest***
	1	42	1	44	1	62

Source: ASFA *Superfunds*, March to May 2005 issues.

The effects of this diversity in both the method of holding assets and use of investment managers are reduced to some degree by a layering of asset consultants on top of the investment process. Asset consultants provide advice to wholesale investors on a wide range of issues, with their main roles being to rank and recommend funds managers and to recommend the weighting to be given to various asset classes in fund investment portfolios. About 85% to 90% of wholesale mandates administered by funds managers come to them as a result of asset consultant's recommendations. All up, around 45% of the assets of funds other than SMSFs appear to be under the advice of asset consultants, with the top five asset consultants accounting for around three-quarters of funds under advice (RBA, 2003).

Some analysts place a substantial weight on the asset consultant used when ranking or rating superannuation funds. There is evidence that in recent years use of certain asset consultants has been correlated with top quartile investment performance given that these asset consultants have anticipated certain shifts in market returns and/or recommended investment of a proportion of portfolios in alternative assets, including infrastructure, private capital and hedge funds. Whether such out-performance is sustainable over the longer term remains to be seen, given that financial and economic cycles can initially favour but then penalise those who diverge from average asset allocations. This is more an argument for care, rather than a reason not to diverge from the mob.

There is also an increasing trend for very large funds to employ in-house investment specialists to either manage investments directly or to supervise investment managers used by the fund.

Despite or because of these moves to centralising the formulation of investment strategies there is considerable diversity in the composition of investment portfolios, as will become apparent from the discussion in Section 3 below.

3. Trends in the investment portfolios of superannuation funds

As a result of both trustee and member decisions, superannuation funds have a reasonably balanced portfolio of investments in aggregate, albeit one that is concentrated in growth assets. Table 5 provides figures for the sector as a whole, or at least the default strategies of funds regulated by APRA (which account for less than 50% of total assets). APRA no longer publishes imputed asset allocations covering the sector as a whole, and they have also changed the classifications of assets, leading to a series break. Table 6 provides an older set of numbers for the sector as a whole on the previous reporting basis for an earlier date.

Table 5: Asset Allocation for default investment strategies

Asset Class	Amount ($billion)	% of total
Cash	19.5	6.9%
Australian Fixed Interest	40.9	14.5%
International Fixed Interest	15.9	5.6%
Australian Shares	93.1	33.0%
Listed Property	7.2	2.6%
Unlisted Property	10.7	3.8%
Other Assets	35.2	12.5%
International shares	59.4	21.1%
Total	**281.9**	**100%**

Source: APRA Annual Statistics June 2004, issued May 2005

Table 6: Asset Allocation

Asset Class	Amount ($billion)	% of total
Australian Assets		
Cash & Deposits	46	8%
Loans and Placements	22	4%
Interest Bearing Securities	89	16%
Equities & Units in Trust	261	46%
Land & Buildings	32	6%
Other Assets	17	3%
Overseas Assets	99	18%
Total	**566**	100%

Source: APRA Bulletin, December Quarter 2003 - issued April 2004

Overseas shareholdings have tended to follow the weightings that have been applied to indexes such as the Morgan Stanley Capital International (MSCI) that have been compiled covering the major international sharemarkets. North America (the USA and Canada) generally account for just over half the weighting of such indexes, with continental Europe around 20%, the United Kingdom 8%, Japan 11%, and South East Asia less than 2%. Specific superannuation funds will diverge from these weightings depending on the assessment of trustees and their advisers concerning the prospects of each sector or country, but there is not much evidence of significant divergences from such benchmarks. Emerging markets are not for the faint-hearted.

The bottom line of all these trends is that growth assets have been favoured by corporate, public sector and industry funds as well as by retail funds. As shown by Table 7, the proportions of domestic and international shares have increased in recent years, mostly at the expense of fixed interest and, to a lesser degree, property.

Table 7: Asset holdings by type of fund (%)

Investment option	*Corporate*		*Industry*		*Public Sector*		*Retail*
	1998-99	*2003-04*	*1998-99*	*2003-04*	*1998-99*	*2003-04*	*2003-04*
Australian Equities	34.8	32.5	32.7	33.3	34.7	32.7	29.5
International Equities	19.0	26.4	18.4	22.7	24.3	28.0	15.3
Property	14.1	10.7	14.6	10.7	9.3	10.1	1.9
Fixed Interest	22.8	20.0	26.8	18.1	13.4	17.8	26.8
Cash	8.5	4.9	9.7	4.8	7.0	6.9	7.3

Source: ASFA *Superfunds* Magazine sector surveys, assorted years, APRA Annual Superannuation Bulletin for Retail. Averages for sectors are asset weighted. APRA records Retail Funds having 19% of assets in "other", which includes hedge funds, certain collective investments, and (helpfully) assets not included in any other category.

Table 7 on a cursory reading would tend to suggest that there is not a great deal of variation between fund sectors and between individual funds in the broad composition of their investment portfolios. However, these reasonably similar averages for the various sectors and consistent trends disguise a great deal of variation in portfolios between funds. Table 8 provides details.

Table 8: Variation in Asset holdings by type of fund, 2003-04 (%)

Investment class	*Corporate*		*Industry*		*Public Sector*	
	Lowest	*Highest*	*Lowest*	*Highest*	*Lowest*	*Highest*
Australian Equities	23.0	64.0	21.7	42.0	25.8	42.7
International Equities	0.2	41.2	8.0	36.6	13.5	37.0
Property	3.2	16.6	4.0	37.0	5.0	22.0
Growth assets (the three categories above)	50.0	90.4	52.4	84.0	63.0	85.0
Fixed Interest	4.8	44.9	2.0	30.0	8.0	28.0
Cash	2.0	27.0	1.0	17.0	1.9	5.4

Source: ASFA *Superfunds* surveys

Corporate funds recorded the greatest variation in the composition of investments, particularly in regard to international equities and property. The variance is slightly less marked in regard to the total amounts allocated to growth assets, but the variation is still very substantial.

Industry funds and public sector funds also are not that far behind in the diversity stakes. When selections of different investment managers and different specific shares and property are layered on top of asset allocations it is not surprising that there are variations between funds in the investment returns they achieve in any given year. However, over the longer term some convergence in average investment returns might be expected, at least for funds which have vaguely similar allocations to growth assets.

4. Alternative assets

Along with the mainstream investment of assets of equities and fixed interest and the like, many funds have an allocation of investments to what might be loosely described

as alternative assets. These generally are unlisted and/or illiquid investments in assets such as infrastructure equity, private equity or venture capital, hedge funds or funds of hedge funds, alternate debt, timber forests, and even more exotics such as collaterised debt obligations, and artworks. Some attempted sales of investments are also made to funds which involve commodities (gold or other metals) or synthetic financial instruments of various kinds.

Getting good data on the extent of such investments is difficult. Funds may not separately identify such investments in published material from their mainstream equity and debt investments. There also are figures stated by various sellers of such investments, including their various industry associations. However, care needs to be taken in interpreting such estimates, as there are some factors at work which can lead to overestimates, such as wanting to get a bandwagon effect into action. Statements along the lines "that most funds now allocate 10% to 15% of their assets" to the asset class which are favoured by persons selling such investments generally means that there is one recorded case of a fund with an allocation of 10%, a few with 2% to 4%, and quite a few with no allocation. This subtlety is not always well understood by writers in the trade press or even by some fund trustees.

From responses to ASFA's *Superfunds* magazine surveys and from other sources such as asset allocation surveys published by Access Economics (Access Economics 2005), an aggregate allocation to alternative assets of 10% would tend to be at the upper end of the scale for most funds. However, given that total superannuation assets are around $700 billion with non-SMSF assets around the $550 billion mark even relatively small allocations add up to large amounts. Superannuation funds are the main investors in a number of asset classes in Australia, including infrastructure and venture capital.

4.1 Infrastructure

Infrastructure investments are often suitable investments for superannuation funds as they can provide diversification benefits, predictable cash flows and long-term capital growth. Traditionally, superannuation funds have been able to deal with illiquidity and long investment horizons better than some other investors – however this may be changing. Choice of fund may lead to perceived if not actual increases in a need for liquidity in order to be able to cope with the shift of members and assets between funds, though I have argued elsewhere (Clare, 2005) asset shifts may be modest and might take some years to occur.

Australia also has the benefit of a relatively mature private infrastructure investment market and the presence of some domestic managers and facilitators who are now exporting their skills around the world to airports, toll roads and the like.

As noted above, superannuation funds are important investors in Australia's infrastructure. In its review of strategic asset allocations by 27 industry funds with aggregate assets in excess of $63 billion as at 30 June 2004, Access Economics 2005 found an average allocation of almost 5% with larger funds invested in infrastructure move heavily. These industry funds, representing nearly one-tenth of the funds under management in superannuation, alone have over $3 billion in infrastructure. Providers of retail superannuation products, such as life insurance companies, have also traditionally been prominent investors in infrastructure of various sorts, with infrastructure forming a significant proportion of the statutory funds of life insurance

companies. However, it is not easy to unravel the mysteries of the life office statutory funds and get exact numbers.

Some individual funds have made a significant investment in infrastructure. The MTAA Superannuation Fund had an over 20% exposure to infrastructure, as at 30 June 2004 and Westscheme had a 13.9% allocation to infrastructure, as at 30 April 2004.

4.2 Venture capital and private equity

Venture capital and private equity runs at around 2% to 3% of total assets mark for larger superannuation funds, with some funds having an asset allocation above that amount and some below it. This is a category where skill and expertise in identifying potentially profitable investments are all important. These skills can be developed in-house by superannuation funds, or use can be made of specialist investment managers. The challenge for funds with the latter case is identifying which are the skilled managers. Remuneration of skilled managers might also dissipate some or all of the excess investment returns that might be delivered by venture capital investments.

Commonwealth Government tax concessions for venture capital entities do not appear to have much impact on behaviours by funds, as they either are directed at overseas resident funds or in regard to the domestic arrangements really have appeal only for taxpayers on high rates of personal tax.

4.3 Regional investments

A number of superannuation funds also pay particular attention to the regional impact of investments, and allocate a proportion of their investment portfolio to investments in regional Australia.

Funds with specific regional investment programs include the Victorian and NSW local government superannuation schemes, Bendigo Bank Superannuation Plan, Australian Primary Super Fund, Tasplan, and AMP Private Capital. Some of these programs overlap with the provision of private equity and venture capital. Businesses being assisted with start-up and ongoing capital have to be located somewhere, with a proportion of them being in regional areas.

However, it would be fair to say that the proportion of superannuation assets being specifically invested in the regions is not up to the level some regional proponents would like. This is not necessarily a bad thing, as not all investments which potentially benefit some or many individuals in the regions will benefit superannuation fund members.

4.4 Regulatory changes in superannuation fund supervision

While there have been forces leading to greater investment in alternative assets, there is some risk of regulatory controls over where superannuation funds invest containing or reversing such trends. Superannuation funds have been subject to a number of recent and significant regulatory reforms.

In particular, APRA licensing of trustees and choice of superannuation funds are driving significant change within the superannuation industry, leading to fewer and bigger funds. Considerable consolidation has already occurred and further consolidation is

expected. The ASFA Research Centre has estimated that the number of superannuation trustees regulated by APRA will decline from the current 1,800 to less than 400.

Some expect this trend to have a positive impact on the ability of superannuation fund trustees to invest in infrastructure and other alternative assets. The recent Parliamentary Library Research Note on Superannuation Investing in Infrastructure, for instance, concludes:

> "Fewer but larger funds, experiencing strong net inflows, favour continued and growing investment in infrastructure, if the right investment projects come along." (p.3)

However there are important counter-trends that work against increased infrastructure investing. The decline of defined benefit funds, often as a result of an increasing regulatory burden, and the introduction of choice of fund and portability of account balances place greater demands for liquidity on superannuation funds generally and make non-listed infrastructure investments less attractive relative to alternatives. Concerns over liquidity make it increasingly difficult for superannuation funds to be involved in the early, and more lucrative, stages of an unlisted infrastructure project – where there may not be much liquidity or immediate short-term return.

Further, the regulators responsible for superannuation funds may inadvertently favour listed and liquid assets over non-listed and illiquid investments by funds, creating regulatory barriers to early stage infrastructure (and private equity) investments by superannuation funds. For example, in its Good Practice Guide on Unit Pricing, ASIC and APRA propose that financial product providers that unit price, such as superannuation funds, develop detailed policies on mis-pricing or disruption for "hard to value" assets such as infrastructure investments, yet expect no such requirement in respect of listed securities, where similar issues may arise. Such regulatory initiatives may make infrastructure investments less attractive, due to additional compliance costs, relative to other types of investments.

As well, with the new APRA licensing regime for trustees and superannuation entities there is a requirement to develop detailed risk management plans. To the extent that alternative assets have trickier and less predictable risk characteristics, including them in investment strategies will lead to more work in risk management plans. Equally it could be argued that there is need for careful consideration of the risks (and benefits) of such investment.

5. Implications of the growth in aggregate superannuation assets

The increasing diversity in superannuation investments and resort to non-traditional investments is both chasing higher returns and finding a home for the increasing aggregate volume of superannuation assets. Both net contributions (aggregate contributions less aggregate benefits paid) and retained investment earnings are leading to substantial and continuing growth in superannuation assets under management.

As shown by Table 9, employer contributions are approaching $40 billion a year. Member contributions are also substantial. These are likely to be made up of more or less compulsory member contributions in certain public sector and corporate schemes, reinvestment of monies at the point of retirement, spouse contributions, and, increasingly, discretionary member contributions made in order to attract the government co-contribution (which itself will be another flow into superannuation assets).

Table 9: Employer, member and other contributions

	Super Guarantee (employer)	Other Employer	Member(after tax)
		$ Billion	
1999-00	18	7	20
2000-01	Total employer 28		23
2001-02	Total employer 30		22
2003-04	Total employer 39		25(a)

(a) Includes $4.7 billion other contributions, mainly spouse.
Source: Assorted APRA publications.

Superannuation assets under management have been increasing by around $50 billion a year in recent years, with marked divergences between years due to fluctuations in investment earnings. The last two years have been good years for investment earnings, with balanced funds achieving investment returns in excess of 10% in 2003-04, with a repeat performance of this expect in 2004-05.

It is investment earnings and the existing rate of the SG which will provide the bulk of the employer sourced contributions being invested through superannuation, rather than the change in the SG rate. The SG hit its current maximum legislated rate in July 2002. However, with strong growth in employment in conjunction with growth in nominal earnings employer contributions can be expected to continue to grow at a good rate. The proposed abolition of the superannuation surcharge tax on contribution made on behalf of upper income earners with effect from 2005-06 will also encourage additional salary sacrifice contributions.

Projections of aggregate superannuation assets are not prepared very frequently, or if they are prepared frequently they are not published. Table 10 sets out the last and much re-published Treasury projections together with some ASFA projections. Both series are holding up pretty well in the light of actual outcomes, although the exuberance of equity markets in the last year or two is perhaps more than expected.

Table 10: Projected superannuation assets

Year	Treasury projection ($billion)	Treasury projection (% of GDP)	ASFA-Access Economics projection ($billion)	ASFA-Access Economics projection (% of GDP)
2003			531	69
2005	643	82	650	76
2010	931	96	1060	95
2015	1280	107	1600	110
2020	1699	117	2280	122
2025			3070	129
2030			4000	132
2035			5100	132
2040			6350	129

Source: RIM July 1999 and ASFA-Access Economics 2004

A projection of total assets in the superannuation of around $1 trillion by end of the decade assume continued growth in assets in assets under management per year of around 10% per year. This implies there will be a need to find a home for around $30 billion in new funds a year in shares listed on the Australian stock exchange assuming the share of assets invested in Australian equities remains constant. This is equal to 3% or less of the market capitalisation of domestic listed companies on the ASX. This assumes that the share of assets invested in Australian equities will remain more or less constant.

Another pressure on investment markets will be the activities of the Future Fund, which is to be established by the Commonwealth Government in order to sort of match emerging superannuation liabilities in regard to Commonwealth employees. The fund will start off with an initial $16 billion or so. It may grow to around $125 billion by 2020 (Neilson and Webb, 2005). While the investment mandate for that fund is still being settled, it could be expected that it will have substantial (but minority) holdings in a range of Australian companies.

Fortunately, domestic equities have demonstrated a substantial capacity to soak up new investment. The market capitalisation of domestic companies increased from $282 billion at the end of 1994 to $990 billion at the end of 2004, an average rate of growth of around 13% per year (D'Aloisio, 2005).

The flow of new super money into the stock market would have contributed to the past upward pressure on the price of shares, but offsetting was the effect of new listings (such as the listing of various demutualised companies and other initial public offerings). The number of IPOs did fall away for a few years, which was not altogether a bad thing given the quality of some of the batch in earlier years. There has been something of a resurgence in such listings in the last year. In quantitative terms the impact of increases in share prices was $411 billion over the ten years to 2004, compared to $297 billion in capital raisings.

5.1 Will there be enough investment opportunities?

From time to time suggestions are made that there will be insufficient domestic investment opportunities for superannuation monies, or even that there will insufficient investment opportunities internationally given that pension funds from other countries will struggle to find opportunities in their home markets hence limiting the scope for investment for funds from other countries.

The arithmetic behind such conclusions is reasonably suspect. Investment markets in Australia, together with greater use of overseas markets, has meant that both the increase in the rate of compulsory superannuation contributions and the increased allocation of investments to Australian equities by funds have been digested relatively easily. In fact capitalisation of companies listed on the ASX has been growing at the same rate or greater rate than aggregate superannuation assets.

Even if half of the Future Fund is invested in Australian shares, this will amount to less than 1% of the market capitalisation of such shares in aggregate. However, the Future Fund will be a substantial player, starting off at a size approaching that of the largest existing superannuation funds. When the Future Fund reaches its maximum size it might be equivalent to around 5% of then superannuation assets, dwarfing any other single fund unless there is considerable consolidation of existing funds.

By the year 2020 there might also be a range of other changes that have occurred in the pattern of investment by superannuation funds. If the growth in the market capitalisation of companies listed on the ASX does not continue to grow at past rates then there will be pressures on funds to invest an increasing proportion of their assets elsewhere. This may lead to an increase in the proportion of assets invested in overseas equities and debt instruments. It also might lead to a greater proportion of assets being in alternative investments, such as infrastructure, private equity and timberland. In particular, there is still much infrastructure both domestic and overseas that is waiting to be built or if already built might be privatised.

There also might be scope for increased investment in synthetic financial instruments of various kinds, or in hedge funds. However, the challenge with these will be to have a sufficient stock of counter-parties to make such investments potentially profitable. It the counter party is another superannuation or pension fund then the net outcome for superannuation and pension funds from investing in such structures might not be good, as for every winner there will be a loser. That is not strictly correct, as the managers or organisers of such investments will take a cut regardless of the outcome.

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