

Member Investment Choice and International Asset Exposure: A Preliminary
Investigation of Home Bias

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Abstract

Australian superannuation funds have increased investment choice available for their members. Fund members can typically choose from a range of ready-made options or select their own asset allocations. Evidence suggests that individuals may display a home-bias in these allocations by favouring domestic assets at the expense of international assets. Such a bias may produce a sub-optimal investment. This paper investigates the asset allocations of members of the Government Employees Superannuation Board (GESB), the superannuation fund for Western Australian public sector employees. Asset allocations appear to be in line with normal allocation to international equity, especially at the time of their first choice. Subsequent choices however appear to be driven more by historical performance of the asset classes offered, rather than a home-bias.

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1.0 Introduction

More than 80 percent of members of defined contribution retirement superannuation funds in Australia have some level of investment choice. This can include a choice from a menu of ready-made investment options, typically with a default option and lower and higher risk options. Choice can also extend to a do-it-yourself option where a member constructs their own selection from a menu of asset classes, for example cash, fixed interest securities and equity. This paper is interested in this latter type of choice that members make by reviewing the history of choice of members of the Government Employees Superannuation Board (GESB), the fund for public sector employees in Western Australia, and in particular their investment in international asset classes.

Evidence suggests that individual's exhibit a bias towards their own asset markets when constructing their investment portfolio. The Australian market comprises less than two percent of global market capitalisation but the holdings of Australian equity by Australian households and, to a lesser extent, institutions is significantly greater than two percent. Of the \$293 billion of equity held by Australian households, only \$2.7 billion is held in international equity. At an institutional level, of the \$318 billion of the direct equity held by Australian superannuation funds, \$85 billion or 27% is invested in international equity (Australian Bureau of Statistics, 2004).

The benefit of international diversification is an apparently obvious application of modern portfolio theory. Solnik (1974) demonstrated the benefits to shareholders from a range of countries, of diversifying their portfolio internationally. In contrast French and Poterba (1991) documented widespread portfolio concentration where investors in the U.S., U.K., Japan, Germany and France held very low levels of international assets.

French and Poterba (1991) suggested this was due to investor choice rather than institutional constraints. More recently, Aggarwal (2004) identified this home-bias as one of the persistent puzzles in international finance.

Future returns from the range of financial investment asset classes involve uncertainty and are impossible to predict with precision. People are notoriously inaccurate when making judgements under uncertainty and appear to be influenced by factors that are not necessarily relevant to the final outcome. For example, Tversky and Kahneman (1974) describe several situations in which people exhibit poor ability at estimating the likelihood of particular events. Tversky and Kahneman suggest this is because relevant factors that determine the probability of an event are often too numerous or complex for people to process with facility. As a result, they rely on heuristics, or “rules of thumb”, that serve to reduce the complexity of assessing probabilities into simpler judgements. Most of the time these heuristics serve us well, but under specific situations, such as those described by Tversky and Kahneman, these heuristics are shown to be unreliable.

The home-bias is one such heuristic. Several explanations exist for why people might adopt this heuristic. They include the idea that being more knowledgeable of home assets makes people more confident about their performance, and hence the prospect of higher returns on investment (Kilka & Weber, 2000). An alternative view is that the home bias is a reflection of the more general principle that people tend to feel more optimistic toward outcomes that involve things they feel an affinity towards (Huberman, 2001). A further possibility is that the bias is a manifestation of the recognition heuristic (Goldstein & Gigerenzer, 2002), which predicts that recognised objects are chosen more often than unrecognised objects.

Given the trend towards increased investment and fund choice for members of Australian superannuation funds, and the importance of superannuation performance as a determinant of the retirement standard of living, it is opportune to investigate what choices members make in regard to international asset exposure.

The next section details the literature relating to member choice in Australia and overseas. The third section presents an analysis of the choices available to GESB members with a preliminary investigation into possible influences. The fourth section summarises the results and identifies areas of future work.

2.0 Investment Choice

There is now a reasonably substantial literature focusing on individual choice within a retirement savings context. This literature considers both choice of fund and investment choice. Gustman and Steinmeier (1992) suggested that changes in employment mix are primary contributors in the shift between shift from defined benefit funds (DBFs) to defined contribution funds (DCFs). Clare and Connor (1999) confirm a similar trend in Australia. Clark and Pitts (1999) used administrative records and a survey of staff to examine the pension plan choice of university employees found other influences. For example age, the certainty value of the DBF, mobility risk, the real benefit of the pension and the risk of real growth in earnings influenced preference for a DBF or DCF. A number of other factors have been found to influence peoples' choice between a DBF and a DCF. Dulebohn, Murray and Sun (2000) conducted a study of members of a US government pension plan. Their findings indicated that the primary predictors of choice are preferences for plan features. Attitudinal factors were identified as the determinants

of these preferences with risk being a significant predictor in its own right. Those who chose a DCF were found to value the opportunity to choose between investment options and to control the spread of funds between those options. The authors suggest members should be offered a choice among plan features rather than simply a DBF or a DCF.

In Australia Clark-Murphy and Gerrans (2001) provided an analysis of the level of difficulty and importance attached to superannuation choices, using the present data. They confirmed the findings of Gallery, Gallery et al. (2000), who conducted a survey on the same population, though with a smaller restricted sample. Those who considered the decision between DBF and DCF a difficult one to make, and those who had limited knowledge of superannuation, were more likely to stay with the DBF. Gallery et al. (2000) also examined the influence of formal financial training on the choice between DBF and DCF and found that those with financial training were more likely to move to the DCF. The issue of knowledge is significant since there is consistent evidence that employees feel they are ill-informed about superannuation and may not be equipped to make the decisions required of them (Clare, 2002; Clark-Murphy & Gerrans, 2001; Plum Financial Services, 2001).

Relating to both choice of fund and investment choice the evidence, whilst not uniform, suggests the existence of gender differences in risk aversion in general and in retirement investments in particular. Bernasek and Shwiff (2001) Bajtelsmit, Bernasek and Jianakopolos (1999) and VanDerhei and Olsen (2000) found that women show greater risk aversion in the allocation of funds to pension assets. This coincides with Australian evidence (Gerrans & Clark-Murphy, 2004; Quinlivan, 1997) and suggests that women may be more risk-averse than men when investing in financial assets. Dwyer, Gilkeson

and List (2002) found that women were more risk averse when investing in mutual funds but that the level of risk aversion fell with increased financial education. But Schubert et al (1999) found that women were not more risk-averse than men when financial decisions were put in context.

However, Agnew, Balduzzi and Sunden (2003), in a study of 7,000 401(k) plans, found that men were more likely to make equity investments. They also found that asset allocations tended to be extreme, with very high or very low allocations to equities, and that there was very limited movement in allocations. However Chernev (2004) discussed evidence of extremeness aversion in choice and a tendency to go for the compromise option. This suggestion may be supported by the experience of most Australian superannuation funds; the majority of fund members remain in the default option.

By contrast Benartzi and Thaler's (2001) found that employees, whether male or female, were likely to adopt a "naïve diversification" strategy in employer-sponsored superannuation, dividing their funds equally between each of the investment strategies offered, although they also identified a tendency to choose a 'middle' option (Benartzi & Thaler, 2002). Evidence of naïve diversification was also found in Sweden (Hedesstrom, Svedsater, & Garling, 2004) in a study which supported extremeness aversion and home bias. Thus plan design, the alternatives offered and the way funds can be divided, may all significantly influence the choices made (Chernev, 2004).

Pursuing the importance of plan design, there is literature from other fields of consumption suggesting that too many options may not facilitate good or satisfying

choices and this is now being applied to superannuation decisions (Seth-Iyengar et al., 2004). In this context it has also been suggested (Papke, 2004) that the presence of investment choice increases the proportion of funds members hold in equity and the likelihood that members will make voluntary contributions.

3.0 GESB Member Investment Choices

GESB is a not-for-profit fund and the majority of members receive automatic membership when they join the Western Australia public sector in West State Super. West State Super is a defined contribution fund which commenced in 1992 and has 217568 member accounts as at 30th June 2004. Sixty-seven percent of the members are female. GESB also has a defined benefit fund, Gold State Super, which was closed to new members from 29th December 1995 and replaced with West State Super for new members. Prior to the introduction of Gold State Super members were enrolled in a Pension Scheme. This scheme closed to new members in 1986. Continuing members of Gold State Super can also voluntarily open a West State Super account. This paper is interested in the members of the West State Super fund of GESB.

Investment choice was introduced to members in April 2001. Members have had the same four ready-made options plus My Plan; a do-it-yourself option where members can choose from a range of up to six asset classes as described in Table 1. The number of asset classes was reduced to five, effective from 1st January 2005, when the Inflation Linked Bonds asset class was removed. This followed a restructure of debt assets exposures which kept overall debt exposure constant but introduced exposure to global bonds at the expense of Australian Fixed Interest Securities. Members are restricted to 5% multiples when selecting asset classes but can change as frequently as desired at no

cost. The changes occur within two-working days and apply to the member's existing balance and future contributions.

3.1 Data Overview

Since the introduction of member investment choice in April 2004 the overwhelming majority of GESB members have not chosen to change from the default Balanced option. The database has member choice data between April 2001 and September 2004, during which time 17 616 (8%) member accounts made a total of 19 688 investment option selections. This compares with 199 559 (92%) member accounts where no change has been made. However, these figures are somewhat distorted given that many accounts can be classified as effectively inactive given their account balance and length of membership. For example, for those who have been members at least since investment choice was introduced, 30 percent have a balance of \$435 or less. The following criteria were used to classify the member as active. First, all members who had made contributions, either member or employer, in the financial year to 30th June 2004 were included. Second, all members who had been a member for at least three years and had a balance greater than \$500 were also included. This reduced the number of member accounts in the default Balanced option to 147. The reduction in the sample size did not change the overall gender split in the sample. A comparison of members who made no investment choice changes with those who had made a change is presented in Table 2.

Table 1 Member Investment Choice Ready-Made Plans and Do-It-Yourself Asset Classes

This table describes the target strategic asset allocations of the four ready-made options and the six investment asset classes available in the MyPlan option. The six asset classes were reduced to five from January 2005 when Inflation Linked Bonds were removed as an available asset class. At the same time the debt asset class was restructured with the introduction of the Global Bonds asset class. The overall debt/equity exposure of each of the ready-made options remains unchanged but the exposure to Australian Fixed Interest Securities and Inflation Linked Bonds were reduced and replaced with exposure to Global Bonds. Though the Inflation Linked Bonds asset class was eliminated as an option for the My Plan option those members retain their existing exposure. Global Bonds has not been introduced as a new asset class for My Plan.

	Asset Classes									
	Equity				Debt				Property	Cash
	Aust. Shares	Int. Shares	Fixed Interest Securities		Inflation Linked Bonds		Global Bonds		Listed Property	Cash
			2001-2004	>2005	2001-2004	>2005	2001-2004	>2005		
Ready-Made Options										
Growth	25%	40%	15%	8%	8%	4%		11%	10%	2%
Balanced	20%	30%	30%	15%	8%	4%		19%	10%	2%
Conservative	10%	15%	60%	30%	8%	4%		34%	5%	2%
Cash										100%
My Plan										
Australian Shares	100%									
International Shares		100%								
Fixed Interest Securities			100%							
Inflation Linked Bonds					100%					
Property									100%	
Cash										100%

Table 2 Comparison of Choice and No Choice Member Accounts

This table provides member account summary demographics, account balances, and total contributions in the financial year 2004. For members who have made no investment change, and remained in the Default (Balanced) option the data summarises for members who have been a member for at least three years and have a balance greater than \$500, or have made a contribution to their account within the past financial year. For members who have made a choice the data represents unique member accounts in each option. That is, some members switch between options and move back to a previously selected option and are counted once. Members however can be counted in more than one option if they have switched.

	Default (Balanced)	Made Choice	Cash	Conservative	Balanced	Growth	My Plan
Balance	12597.79	25855.24	42706.74	30808.39	45863.21	22572.29	29678.94
Mean	147517	19665	781	880	380	13020	4604
Number	16197.18	34115.08	76324.32	47353.77	63123.28	23748.10	38759.90
Standard deviation	6557.70	18210.76	17490.81	17189.64	31145.08	17217.05	21038.88
Median							
Male/Female percent	31.3/68.7	41.0/59.0	43.9/56.1	35.6/64.4	45.9/54.1	38.7/61.3	50.9/49.1
Number	146739	18547	780	863	380	12851	3717
Age							
Mean years	41.96	61.06	51.58	55.43	53.68	62.38	60.43
Number	146739	18547	743	862	368	12851	3723
Standard deviation	11.40	10.16	11.19	11.91	9.45	9.52	9.88
Median	42.01	60.82	48.59	52.72	51.78	62.10	60.08
Membership length							
Mean years	8.85	8.84	8.35	7.99	8.84	8.96	8.69
(Number)	146739	18547	743	862	368	12851	3717
Standard deviation	5.42	4.00	4.76	4.66	4.27	3.87	4.05
Median	9.26	10.33	9.51	9.10	10.50	10.51	10.01
Total Contributions							
Mean \$	2529.42	5271.86	13274.08	7429.29	11723.53	4496.31	5101.01
(Number)	98873	13631	533	651	317	9331	2799
Standard Deviation	2247.03	12100.72	35352.50	19792.86	30419.38	7819.63	7498.25
Median	2247.04	3918.85	3781.16	3542.87	4820.68	3884.48	4102.54

3.2 Asset Allocations

Over the period where data has been collected, the allocation to international assets of each ready-made option available to members was limited to international equity. As noted, however, from January 2005 the debt exposure of each option has been restructured to incorporate an exposure to international debt securities. The international/domestic equity split is constant at 60/40 percent for each of the three ready-made options, aside from the Cash plan. When other asset classes are considered, exposure to international equity declines with the risk classification of the plans. The overall allocation to international equity is 40 percent in the Growth option, 30 percent in Balanced, and 15 percent in the Conservative option.

The use of the term bias implies an optimal weighting from which investors systematically vary. One method to determine an optimal allocation would be to use Markowitz optimisation using the expected covariance matrix and expected returns of each asset class. Gorman and Jorgensen (2002) suggested that “international diversification benefits are particularly difficult to capture in practice” (Gorman and Jorgensen, 2002, p.161) and suggested that an extreme home bias, or 100 percent invested in the domestic market, are not significantly different from the theoretically optimal portfolio. Herold and Maurer (2003) sought to explain the level of home-bias by U.S. investors with a Bayesian approach in estimating input parameters for a mean-variance optimisation framework. They found that the low level of international asset exposure by U.S. investors could be explained with a model that incorporates beliefs about the global efficiency of the U.S. market portfolio, and a measure of regret aversion associated with performance relative to the U.S. market benchmark. French and Poterba (1991) did not examine the optimal allocation directly. Instead

they estimated the expected return differentials required to justify observed holdings relative to a market weighted allocation, assuming wealth maximisation and a constant relative-risk-aversion utility function.

Within an Australian context Dimson, Marsh and Staunton (2002) calculated the benefits for an Australian investor choosing a world portfolio of equity relative to an exclusively Australian portfolio, using the Sharpe Ratio¹ for each. Over the full 20th century, they find no difference between the relative ratio of a world portfolio and Australian portfolio. However, between 1950 and 2000, the Sharpe Ratio was 50 percent higher for the World portfolio.

A review of market allocations at the time choice was introduced provides an alternative means of assessing “normal” exposures. A review of the strategic asset allocations for a range of Multisector Superannuation funds using the Morningstar TotalAccess CD is presented in

Table 3. By comparison, the GESB ready-made options have higher allocations to international equity, both within the asset class, and across all asset classes. Within the equity asset class, the mean split between international/domestic is 50/50, 40/60, and 36/64 percent for Aggressive, Growth, and Balanced funds respectively. The mean allocation to international equity across asset classes for Multisector Superannuation funds was 38 percent, marginally lower than the GESB highest allocation. Each of the Multisector fund groups also includes an International Fixed Interest Securities allocation. The mean allocations for this asset class are also lower than the allocations GESB introduced in 2005.

¹ The Sharpe Ratio is the average portfolio return in excess of the risk-free investment divided by the standard deviation of excess returns.

Table 3 Asset Allocations of Multisector Superannuation Funds

This table summarises the mean percent, median and standard deviation (SD) percentage asset allocation of Multisector Superannuation funds at the time when choice was introduced to GESB members in April 2001. Data compiled using country and investment sector data from Morningstar TotalAccess.

	Aggressive (n=20)			Growth (n=202)			Balanced (n=64)		
	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD
Australian Equity	38	35	6	37	39	5	33	30	8
International Equity	37	36	5	25	25	5	19	20	5
Australian Fixed Interest Securities	8	11	2	16	16	2	24	28	7
International Fixed Interest Securities	6	9	3	5	5	3	6	7	3
Australian Property	7	6	4	10	10	7	9	8	4
International Property	0	2	0	0	0	0	0	0	2
Cash	4	5	3	6	7	4	9	8	6
Other	1	3	1	0	0	0	0	0	0

3.3 Member International Asset Allocations

Between April 2001 and September 2004, of the 17 616 members who elected to move from the default Balanced option, 3 732 chose the My Plan option and selected their own asset allocations. In total these members made 4 604 asset allocation changes within the My Plan option.

International Equity Allocation Within Equity Asset Class

Of the allocations where equity is chosen as an asset class, that is a non-negative weighting in either International or Australian, the mean equity allocation for males (females) is 64 (62) percent, which is significantly different at 90% confidence. Within the equity allocation the international equity allocation is not significantly different to a international/domestic equity 50/50 split. There is therefore no more home-bias among these members than is evident in the average industry allocations, though the mean allocation is less than GESB's own ready-made Growth option allocation.

A number of members have made more than one change to their My Plan asset allocations and examining the equity weighting allocations in the order of allocation changes indicates an interesting pattern. The highest weighting to equity is clearly the first choice made by the member. A split by gender indicates a higher mean weighting by males which is significant for the first and fourth decision. The mean male (female) equity allocation for the first, second, third and fourth decision is 70 (67), 46 (44), 50 (48), and 58 (41) percent. The allocation within the equity asset class to international equity is also higher for the member's first decision. The overall sample International/Australian equity split is 53/47 percent. A breakdown by gender again supports a significantly higher allocation by males, with the highest allocation to international equity being a 58/42 percent split for the first choice by males. There does not appear an obvious home bias effect, at least in comparison to industry norms.

International Equity Allocation Across Asset Classes

The next analysis compares the asset allocation across all asset classes. The mean allocation for each asset class is presented in Table 4 with a breakdown by gender and the order in which the allocation was made. The mean allocation to international equity was less than the allocation in the ready-made Growth option. The allocation to international equity is significantly higher for males, and higher for cash for females.

When allocations are examined in the decision order of the member, the allocation to international equity is significantly higher for a member's first allocation, with a similar gender difference. Notably the weighting to international equity is approximately half that of the first weighting allocation in the second allocation. The decline in international equity is in favour of Property, Fixed Interest Securities, and Cash. In subsequent allocations where the total equity exposure is increased, the

allocation is increased in Australian equity, not International. If this is taken as evidence of bias it appears only to become evident after the first choice has been made. This raises the question of what factors are associated with these first and subsequent choices.

Table 4 Asset Class Allocations in My Plan

This table presents the mean asset allocation for members who have selected the My Plan option with a breakdown by gender and the decision order. The mean allocations for the full sample are presented with a breakdown by gender and the order in which the allocations were selected. Significant gender differences within asset classes is indicated at the 90% and 95% (**) confidence level (*).

	International Equity	Australian Equity	Property	Fixed Interest Securities	Inflation Linked Bonds	Cash
Sample, n=4604 (SD)	33.41 (28.42)	29.45 (23.27)	18.60 (22.98)	8.31 (14.28)	1.89 (7.15)	5.00 (14.35)
Male (Female)	34.61** (32.04)**	29.17 (29.78)	18.43 (18.79)	8.32 (8.28)	2.05 (1.73)	4.44** (5.67)**
Allocation Order						
First	40.10**	29.48	16.16	7.03	1.21	3.16**
Male, n=1759 (Female, n=1689)	(35.84)**	(30.74)	(16.97)	(7.38)	(1.04)	(4.63)**
Second	20.93*	25.36	27.74	11.09	2.98	7.32
Male, n=391 Female (n=311)	(17.27)*	(26.69)	(26.62)	(11.88)	(3.68)	(8.56)
Third	21.87	28.62	19.61	12.69	5.78	9.27
Male, n=134 (Female, n=79)	(21.46)	(26.39)	(22.82)	(10.16)	(6.89)	(7.33)
Fourth	19.96**	38.07	22.50	10.71	3.13	3.66**
Male, n=56 (Female, n=25)	(13.40)**	(27.24)	(25.80)	(14.88)	(2.40)	(11.52)**

3.4 Member investment choice and historical performance

The historical performance of options is a possible external driver on member choice. To investigate this, the historical performance of the new and old My Plan allocations are calculated for trailing twelve, six month and monthly periods using GESB's published asset class monthly returns, readily provided to members since choice was introduced. In Table 5 the first three rows in each panel present performance comparisons for the old and new investment option made using GESB's monthly

credited returns for all decisions made after the first month of investment choice, six-monthly returns for all decisions made after the first six-months, and twelve-monthly returns after the first year.

When the historical performance of old and new choices is compared, it suggests that once member investment choice was underway, the new choices selected had performed significantly better than the old option in the trailing month, six-month, and twelve-month period. In the case of members making asset allocations in the My Plan option, the mean trailing 12-month return of the new option was twice as large as the old selection.

These results for the 12-month comparison exclude a number of members who made a change in 2001 due to insufficient data. That is, it is not until April 2002 before a twelve month history of returns is available to make a twelve month comparison. An alternative to allow an investigation of the role of the performance for these decisions, is to use the returns published in the annual report for the 2001 financial year. The first decision made by members in 2001 was compared in this way and the results are presented in the fourth line of both panels in Table 5. Curiously, the difference is now reversed. The options or asset allocations that members selected had mean returns less than the default option. Members chose their highest allocation to equity, and international equity in their first choice and yet the international equity asset class had the lowest return of -10.33 percent in the 2001 financial year. In fact the international equities had the lowest return of all asset classes over the preceding three years.

Table 5 Historical performance of investment choices

This table summarises the historical returns of the investment option a member is moving from and to, with a t-statistic for a test of the differences from zero. The first panel summarises all investment options and the second panel summarises for the My Plan allocations separately. The twelve, six and one month returns are compiled using GESB published monthly returns. The final row in each panel provides the data for decisions made in 2001 where the old and new returns are based on the 2001 financial year returns, as presented in the 2001 annual report. All t-statistics are significant at the 99% confidence level.

		<i>Mean (%)</i>	<i>SD (%)</i>	<i>t-stat of differences</i>
All Investment options				
Twelve month performance (n=5103)	Old Option	3.7293	8.6713	23.5532
	New Option	5.9190	9.1219	
Six month performance (n=6223)	Old Option	2.3240	4.7177	19.5169
	New Option	3.1930	5.0709	
One month performance (n=7623)	Old Option	0.1108	1.6077	7.5319
	New Option	0.2093	1.8179	
2001 - Annual Report	Old Option	2.6800	0.4145	-119.2810
12 month Performance (n=13475)	New Option	1.2400	1.3587	
My Plan				
Twelve month performance (n=1888)	Old Option	3.4179	9.3117	8.0024
	New Option	7.2284	9.4771	
Six month performance (n=2184)	Old Option	2.3102	5.0475	6.7437
	New Option	3.9471	5.4504	
One month performance (n=2485)	Old Option	0.1294	1.7522	2.1734
	New Option	0.3730	2.0337	
2001 Annual Report	Old Option	2.6564	0.7799	-61.4683
12 month Performance (n=2424)	New Option	0.0033	2.0198	

3.5 Discussion of Member Choice

The preliminary investigation suggests two clearly different types of decisions and influences. The first is the initial decision made when the fund introduced choice for members in 2001. At that time GESB conducted an extensive marketing and education programme to accompany the introduction of investment choice with a theme of ‘activate your super’. This included an investment booklet mailout to all members, direct marketing, seminars and an improved website. Fund publications at the time including the 2001 annual report suggested that the introduction of investment choice allowed members “to take control of their own financial future by choosing a balance of investment returns and risk that meets their individual superannuation needs”.

Members identifying with this message and who chose the My Plan option chose a clearly different asset allocation to the way in which their money had been invested on their behalf by the fund. Members who took the opportunity to make a choice in 2001 and move away from the default when choice was first introduced, make a choice that is noticeably different to the default. There is clearly no home bias evident in this decision, and in fact members choose a higher allocation to international assets than in the default option. There is also no evidence of performance chasing in these selections as the performance for international equity in 2001 was -10.33 percent, whereas all other asset classes had positive returns.

However, once a member makes the decision to make a change from the default option after 2001 or when new members join the fund they are possibly less influenced by the messages of the education program. They are at the very least less exposed to it. Having displayed an obvious level of engagement with their account they become more aware of the relative performance of asset classes and begin to chase performance. Given poor relative performance in 2002 for the international equity class (returns were positive in only three months) members reduced allocations and moved to property initially and then to Australian equity, when equity allocations are increased. When there is a short term problem there is a flight to what has performed well and asset classes members are more comfortable with. This is arguably supportive of a recognition heuristic rather than a home-bias per se.

4.0 Summary and Future work

The investigation into GESB member asset allocations suggests that when members choose an asset allocation they do not display evidence of a home-bias, to the extent that the fund's default allocations or industry averages are indicative of the normal allocation to international equity. This appears most convincingly in the first decision that members made at the time choice was first introduced. When subsequent changes to these allocations are made, historical performance appears a possible explanation. The reallocations that members make have performed significantly better than their existing allocation over trailing one, six and twelve month periods. They choose to decrease exposure to international equity, not so much due to a home bias but more due to its poor performance and choose asset classes such as property, cash and then Australian equity, which have performed better and are more recognisable.

Future work will firstly use a pooled time series framework with the existing data which will better investigate the interrelationship between factors and the influence of decision time. Secondly the asset allocation decisions made by two other large industry funds will be examined. These funds introduced choice much earlier than GESB, had different education programmes, and operate in different industries. This will further allow investigation of the observed patterns in decision making, and the allocation to international equity in particular.

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