

**What Drives Individuals' Superannuation Investment Choices?
Preliminary Evidence on Return Chasing**

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Abstract

Australian superannuation funds have increased the investment choice available to 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 be unduly influenced by historical returns in making their investment choices. Such a bias may produce a sub-optimal investment over the longer-term. This paper investigates the investment choices of members of four major not-for-profit superannuation funds in Australia. We find significant evidence that choices are driven by the historical return performance of the investment alternatives available.

1.0 Introduction

More than 89 percent of the assets of defined contribution superannuation funds are in funds which offer some level of investment choice to their members (APRA, 2005). This paper seeks to explore one possible factor in individuals' superannuation investment decisions: historical returns on the investment alternatives offered by the fund. The dataset employed covers the investment choices of members from four large not-for-profit superannuation funds.

The choice offered to members of superannuation funds 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. Commentators both in academia and in the superannuation industry have expressed concern about whether employees have an appropriate level of financial education to enable them to make the relatively complex choices that are being placed before them (Delpachitra & Beal, 2002; Dunstan, 1999; Marshall, 1999). If inappropriate choices are made then, as has been demonstrated by the experience in the UK (Album, 1998), people's ultimate retirement incomes can be significantly reduced. This is a problem not just for the individual but also for policymakers who are seeking to reduce the reliance on state provided age pensions.

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 standard of living in retirement, it is opportune to investigate the drivers of members' investment choice. The present study finds evidence of return chasing as one significant driver.

The rest of this paper is organised as follows: the next section outlines the literature related to evidence of return chasing in investment decisions. The third section details the literature relating to member choice in Australia and overseas. The fourth section presents details of the dataset used in the present study. Section five sets out a preliminary investigation into return chasing as a possible influence on investment choice and discusses the results obtained. The final section summarises the work and identifies areas of future research.

2.0 Return Chasing

Future returns from the range of financial investment asset classes involve uncertainty and are impossible to predict with precision. When making judgements under uncertainty it appears individuals can be influenced by factors not necessarily relevant to the final outcome. For example Tversky and Kahneman (1974) describe evidence that people exhibit poor ability when estimating the likelihood of particular events. Instead of using relevant factors which may be too numerous or complex for them to process, individuals rely on heuristics, or “rules of thumb” that help to reduce the complexity of the task into simpler judgements. While many such heuristics serve us well, Tversky and Kahneman (1974) demonstrate situations where these heuristics are shown to be unreliable. The use of heuristics in financial decisions has been widely documented in the behavioural finance literature (see, for example, Shefrin, (2000)). Return chasing, i.e. allowing the investment decision to be unduly influenced by past performance, may be one such heuristic.

Evidence of return chasing in retirement savings decisions has previously been identified by Cronqvist and Thaler (2004) who found that out of a large pool of funds available to Swedish fund members the one with the highest five-year trailing return attracted the largest market share. There are also signs of past performance as a factor in superannuation fund choice in

Australia; Clare (2006) finds that both those deciding to change from one fund to another and those deciding to remain with their existing fund identified past performance as a significant factor in their decision.

Studies of mutual fund cash flows and investment have also found evidence of return chasing behaviour. In an Australian context Gerrans (2004) finds that the largest group in a sample of individual mutual fund investors rated historical performance highly as a factor influencing their decision to invest. In an earlier American study Capon, Fitzsimons and Prince (1996) also find that a fund's performance track record was the most important criteria for individual investors. Examining the cash flows of funds a range of studies have identified a positive link between past performance and cash inflows to the fund (see, for example Chevalier & Ellison (1997), Karceski (2002), Sapp (2004); Ippolito (1992); Sirri & Tufano, (1998)).

The use of historical performance as a decision heuristic is not confined to individual (and arguably less expert) investors. Mei and Saunders (1997) find that past returns in the real estate market are a significant driver of property investment by American banks while Frazzini (2005) finds the stock choices of the mutual funds themselves exhibit return chasing behaviour. The use of return chasing as a heuristic to aid decision making when the investment area is unfamiliar is supported by studies into investment in overseas markets. Bohn and Tesar (1996) find that return chasing is a significant factor in U.S. equity investors' decisions about investments in foreign markets. Choe, Kho and Stulz (2005) cite evidence of return chasing by foreign investors in the Korean stock market as a reason for their poor performance relative to local investors.

The present study seeks to add to this literature by exploring the investment decisions of individual members of four large not-for-profit Australian superannuation funds. There is an important difference between this population and the mutual fund investors considered by most previous studies. Australia's superannuation regime means that virtually all employees have mandated contributions made to a fund by their employers. Thus these investors are involuntary investors who may have no experience or interest in financial investment and yet are asked to make relatively complex investment decisions with significant implications for their income and lifestyle in retirement. By contrast those who invest in mutual funds have chosen to do so and are thus voluntary rather than involuntary investors. It may be reasonable to expect that involuntary, and possibly inexperienced, investors are more likely to employ a return chasing heuristic.

3.0 Investment Choice

The literature examining individual choice in a retirement savings framework is now large. A number of studies have examined the trend towards accumulation type DCF accounts, from the prescribed DBF accounts (Gustman and Steinmeier, 1992; Clare and Connor, 1999; Clark and Pitts, 1999; Dulebohn, Murray and Sun, 2000) Clark-Murphy and Gerrans (2001) and Gallery, Gallery et al. (2000) provide an analysis of the DBF/DCF choice in Australia. There is consistent Australian evidence that employees report feeling ill-informed and ill-equipped for the decisions presented to them relating to their superannuation decisions (Clare, 2002; Clark-Murphy & Gerrans, 2001; Plum Financial Services, 2001) though a recent survey suggests that this situation may be improving (Tuck, 2006).

Several studies have suggest gender differences in risk aversion in general and in retirement investments in particular. The majority find women show greater risk aversion in the allocation

of funds to pension assets (Bernasek and Shwiff, 2001; Bajtelsmit, Bernasek and Jianakopolos, 1999; VanDerhei and Olsen, 2000,) and this is supported by Australian evidence (Gerrans and Clark-Murphy, 2004; Quinlivan, 1997). However Dwyer, Gilkeson and List (2002) find the level of risk aversion falls with increased financial education. Schubert, Brown, Gysler, & Brachinger (1999) find that women are not more risk-averse than men when financial decisions are put in context and more recently Brown, da Silva Rosa and McNaughton (2006) using an extensive Australian managed fund database suggest males are more risk averse.

Agnew, Balduzzi and Sunden (2003), in a study of 7,000 401(k) plans, find that men are more likely to make equity investments, that asset allocations tend to be extreme, with very high or very low allocations to equities, and very limited movement in allocations. Chernev (2004) discusses evidence of extremeness aversion in choice and a tendency to go for the compromise option. This suggestion may support the experience of most Australian superannuation funds that the majority of fund members remain in the default option.

By contrast Benartzi and Thaler (2001) find that employees, whether male or female, are 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 identify a tendency to choose a ‘middle’ option (Benartzi & Thaler, 2002). Evidence of naïve diversification has also been found in Sweden (Hedesstrom, Svedsater, & Garling, 2004) in a study which supports extremeness aversion. Thus it has been suggested that plan design, the alternatives offered and the way funds can be divided, may all significantly influence the choices made (Chernev, 2004). However the relationship between naïve diversification and plan design has been questioned by Huberman & Jiang (2006).

Literature from other fields of consumption suggests that too many options may not facilitate good or satisfying choices and this is now being applied to superannuation decisions (Sethi-Iyengar, Huberman, & Jiang, 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.

Taken as a whole the existing literature suggests that a wide range of factors may influence individuals' investment decision making. Many of these factors are behavioural in nature and go beyond the inputs employed in modern portfolio theory as part of the rational decision making framework.

4.0 Overview of Funds and Data

Four superannuation funds have allowed access to their membership data to enable examination of member investment strategy choices. The Health Employees Superannuation Trust Australia (HESTA), the Superannuation Trust of Australia (STA), the Government Employees Superannuation Board (GESB) and UniSuper have combined assets of \$39 billion and 1.8 million members. HESTA, STA and UniSuper are industry funds whereas GESB is a public-sector fund. HESTA's 508,665 members¹ are predominantly from health and community services; it was one of the first industry funds to offer choice to its members in 1995. STA started as the fund for the manufacturing sector though it now has members in a variety of industries including automotive, entertainment and transport and total members of 515,000². Choice was introduced to STA members in July 1997. The majority of GESB members receive automatic membership into the West State Super Scheme when they join the Western Australia public sector. West State Super has 232,677 members and first offered choice in April 2001.

¹ HESTA 2005 Annual Report

² STA 2005 Annual Report

UniSuper is the industry fund for employees in Australian universities. UniSuper was formed from the merger of the Superannuation Scheme for Australian Universities (SSAU) and the Tertiary Education Superannuation Scheme (TESS) in 2000. SSAU was established as a defined benefit fund (DBF) whereas TESS was formed as a defined contribution fund (DCF). The TESS fund is now known as the Award Plus Plan (APP). A majority of tertiary sector employees were members of both. SSAU members were given the opportunity in 1998 to move from the DBF to a DCF. This newly created DCF is now known as the Investment Choice Plan (ICP). Therefore members would have either one DCF account, a DBF and DCF account, or two DCF accounts. The analysis in this paper focuses on the members who opted into the DCF and the members who also had the TESS DCF account. UniSuper subsequently simplified this system though this is outside the period of data sampled. A full description of the history of SSAU and TESS is provided in the Appendix. UniSuper had 360,382 individual members with 447,946 accounts at June 2005, 174,204 members had one DCF account, 26,542 had two DCF accounts and 49,375 had a DCF and DBF account. UniSuper's assets totalled \$15 billion at 30 June 2005.³

4.1 Overview of Investment Choice Available

The level of investment choice varies between each of the four funds who have made their member database available. HESTA, STA, and GESB allow members the choice of a selection of readymade options, which have a specified investment strategy, or a do-it-yourself (DIY) option where members choose their own investment strategy. However, members in UniSuper

³ UniSuper 2005/6 annual report

can only choose from a selection of readymade options.⁴ The three funds' current offerings are summarised in

Table 1. Each fund's options have evolved since first introduced.

<Insert Table 1>

HESTA and STA members have the most extensive range of investment options which includes individual asset classes and the readymade options. Members are free to combine any mixture in a DIY option. GESB members can only construct a DIY investment strategy from a selection of asset classes. However GESB members can still spread their investment strategy across different readymade options. During the period under analysis, UniSuper members had the most restricted investment choice. Members could choose one investment option and not spread their investment allocation across the investment options.⁵

4.2 Fund Investment Choice Data

From the introduction of choice in July 1995 until December 2004, 44,393 HESTA members made 48,874 investment changes. This includes only changes applied to future contributions as members were able to choose a different strategy for their existing balance, the changes made to existing balances will be considered in future work. In the period between July 1997, when STA introduced choice, and December 2004 22,969 members made 27,488 changes. Between July 1997 and December 2002 these changes applied to a member's existing balance and future contributions. Since January 2002 the changes applied only to future contributions. A total of 17,609 GESB members made 19,688 changes between July 2001 and June 2004. These changes applied to both the existing balance and future contributions. Between July 1998 and June 2004, 22,170 UniSuper members who moved from the DCF to the DBF made 28,386 changes to their

⁴ UniSuper has since introduced a DIY choice

⁵ As discussed in the Appendix the ability to choose more than one investment option was introduced for members in July 2005.

ICP. A total of 13,583 UniSuper members of the APP made 15,159 changes. The total of 43,545 changes applied to both the existing balance and future contributions.

5.0 Member Investment Choice and Historical Performance

The historical performance of investment alternatives is a possible external driver of member choice. To investigate this, the historical performance of the investment options offered by each fund are calculated for trailing twelve month, six month and monthly periods using the funds' published asset class monthly returns. In Table 2 the first three rows in each panel present historical performance comparisons for the old and new investment options using 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. The fourth row of each panel uses published data from the fund's annual report. This was included principally to include those members making their first choice in the first year following the introduction of choice. Given the time period elapsed these changes would otherwise not be able to be analysed for a 12-month historical period.

<Insert Table 2 >

When the historical performance of old and new choices is compared, it suggests that once member investment choice is underway, the new choices selected are likely to have performed significantly better than the old option in the trailing month, six-month, and twelve-month period. Of the 17 data points 70% show a significant positive difference between trailing returns on the old and new options.

These results establish that there is evidence of return chasing behaviour in overall choice patterns. It is appropriate to explore whether this behaviour is consistent across the first and subsequent choices made by members. Table 3 to Table 6 analyse, for each fund, the historical

returns of the investment option a member is moving from and to, according to the number of the choice the member is making. The first panel summarises results for members making their first investment choice, the second panel summarises results for members making their second investment choice, and so on, up to choice number four. (Choices beyond the fourth are not examined as the number of choices made by members is too small). Once again results indicate significant, although slightly less consistent, return chasing behaviour. Across the 64 data points 48 (75%) show a significant positive difference between trailing returns on the old and new options. Only 10 (15%) show a significant negative difference while a further 6 (10%) show no significant difference.

<Insert Table 3,4,5,6>

The first choice made by members of HESTA provides a unique group of results with all observations showing a significant negative difference between trailing returns on the old and new options. This is reflected in the results reported in Table 2 where data for HESTA shows less positive differences than that for the other funds. Similar first choice results are not observed for STA and UniSuper although negative differences are present for the one month and annual return observations in the first choice of GESB members. It may be that material sent to members early in their membership of HESTA has some overriding influence on the nature of their first choice, after which they revert to return chasing behaviour.

It is possible that certain events, such as the publication of the fund's annual report, may be a driver of members' decisions to change their investment option. To investigate this investment changes are mapped across the year for each fund. The results appear in Figures 1 to 4. There do appear to be occasional spikes for some funds in particular years. However, there is no consistent evidence of a pattern in any fund that might link members' decisions to change their investment option to the publication of their fund's annual report or a similar regular event.

<Insert Figure 1,2,3,4>

6.0 Conclusion and Future Work

This paper presents an initial investigation of past performance and individual members' investment choice in superannuation. The dataset covers four large superannuation funds and over 135,400 individual decisions. We find consistent evidence that when fund members change their investment option the new option is likely to have exhibited significantly higher trailing returns than the old option. This suggests that past performance may be a significant driver of member investment choice. For one fund there is evidence that past performance is not a significant driver when members make their first change of investment option. This may reflect the impact of material to which members are exposed early in their membership. This possibility will be explored in future research.

We also investigate the timing of investment option changes and find no evidence of a significant increase in changes following members' receipt of the annual report. This suggests that those members who are actively managing their superannuation are engaged throughout the year and are not prompted to action by the arrival of the annual report. Significant movement of funds following dramatic market events has been identified in the mutual funds literature (Karceski, 2002) and this is a matter for future exploration.

Future research will also investigate following returns to see whether the investment options members move to continue to perform better than the option they have left behind. Previous studies in both superannuation (Cronqvist & Thaler, 2004) and managed funds (Frazzini & Lamont, 2005) suggest that the opposite may be the case. In both these studies the funds to

which people moved based, apparently, on past performance performed worse than other options in the following years.

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Appendix UniSuper History

UniSuper was formed from the merger of the Superannuation Scheme for Australian Universities (SSAU) and the Tertiary Education Superannuation Scheme (TESS) in 2000. The Superannuation Scheme for Australian Universities (SSAU) was established in 1983 as a defined benefit fund for full-time tertiary sector employees. Ongoing or fixed-term employees with at least a 50 percent service fraction or a contract with at least a two year term were required to contribute seven percent of their salary to SSAU with their employer providing a 14 percent contribution. Other employees receive contributions as per the Superannuation Guarantee.

TESS was formed in 1988 as a defined contribution fund to receive 3 percent contributions paid to all tertiary sector employees as a condition of their negotiated award. A majority of tertiary sector staff have two accounts in UniSuper: either a DBF or Investment Choice Plan (ICP) from the former SSAU, and an Award Plus Plan (APP) from the former TESS. Following the merger in 2000, eligible employees continue to contribute seven percent and the employer 17 percent (combination of 14 percent SSAU and 3 percent for TESS).

Choice was introduced to SSAU members in July 1998 and was different to the three other funds in this study given that SSAU benefits were prescribed under a DBF. These members were first offered to change their benefit to a defined contribution fund (DCF) and then required to choose from one of four investment options (the Investment Choice Plan). The choice between DBF and DCF was provided on a once only basis between July 1998 and June 1999. New tertiary sector staff eligible for UniSuper membership also have one year to choose DBF or DCF membership.

In October 2002 members with APP accounts (former TESS members) were also offered investment choice for the first time. ICP and APP members were allowed the choice of the combined set of investments options which were increased to seven from the original four options.

In July 2005, membership accounts were again altered with two separate membership categories established: Accumulation Super (1 or 2) and Defined Benefit Division. Accumulation (1) includes members who previously had an APP only and Accumulation (2) includes members who previously had the APP and ICP. This division allowed the introduction of a further range of investment options. The separate balances that Accumulation (2) members held in their APP and ICP were combined into one account with an investment strategy reflecting how their previous balances were invested. For example, a member may have had \$20 000 in the APP invested in the Balanced option and \$80 000 in the ICP invested in the Growth option. This was combined into one Accumulation (2) account of \$100 000 with an investment strategy of 20 percent Balanced and 80 percent Growth. This change also reflected that members could now spread their investment strategy across the seven options, as long as the allocation was a whole number and summed to 100 percent. Also from July 2005 members were for the first time able to nominate different strategies for their existing balance and future contributions. Previously any investment choice change applied to both the existing balance and future contributions.

Table 1 Fund Investment Offerings

		GESB	HESTA	STA	UniSuper
Asset Classes	Equity	International Equity Australian Equity	International Shares Australian Shares	International Shares Australian Shares Australian Sustainable Shares International Sustainable Shares	
	Property	Property	Property	Listed Property	
	Fixed Interest Securities	Fixed Interest Securities Inflation linked bonds	Fixed Interest	Australian Fixed Interest International Fixed Interest	
	Cash	Cash	Cash	Cash	
	Other		Infrastructure Private Equity Absolute Return Strategies		
Readymade Options		Cash Plan		Capital Guaranteed Plan	Cash (Secure)
		Conservative Plan	Cash Plus	Low Risk Plan	Capital Stable Plan Conservative Balanced (Stable)
		Balanced Plan	Core Pool	Balanced Plan	Balanced (APP default)
		Growth Plan	Shares Plus	Shares Plus	Growth (Trustee Selection – ICP default)
					Shares
			Eco Pool		Socially Responsible Shares
			Overseas Shares Pool		
		Australian Shares Pool			

Table 2 Historical Performance of Investment Choices – All Choices

This table summarises the historical returns of the investment option a member is moving from and to, for the each fund. The twelve, six and one month returns are compiled using the fund's published monthly returns. The old and new returns in the final row of each panel are based on the financial year returns, as presented in the annual report. All differences are significant at the 99% confidence level with the exception of HESTA changes when the Annual Report data is employed

		<i>Mean (%)</i>	<i>SD (%)</i>	<i>t-stat of differences</i>
GESB				
Twelve month performance (n=5086)	Old Option	3.6510	8.6296	24.6303
	New Option	5.9582	9.0821	
Six month performance (n=6187)	Old Option	2.2735	4.7561	20.4328
	New Option	3.2022	5.1179	
One month performance (n=7598)	Old Option	0.1752	1.8167	5.9047
	New Option	0.2619	2.0040	
Annual Report 12 month Performance (n=19652)	Old Option	2.0347	2.7757	-25.6970
	New Option	1.2902	3.7363	
HESTA				
Twelve month performance (n=36261)	Old Option	5.9558	7.2440	2.9491
	New Option	6.0350	8.0296	
Six month performance (n=39845)	Old Option	3.3611	4.1821	-4.3786
	New Option	3.2960	4.7111	
One month performance (n=42349)	Old Option	0.5841	1.3227	-13.4889
	New Option	0.5202	1.5703	
Annual Report 12 month Performance (n=43680)	Old Option	4.6672	5.9368	-0.7095
	New Option	4.6516	7.4961	
STA				
Twelve month performance (n=22474)	Old Option	5.4282	6.5061	30.7442
	New Option	6.4406	7.0762	
Six month performance (n=24645)	Old Option	2.9591	4.1035	22.2388
	New Option	3.3924	4.1334	
One month performance (n=25408)	Old Option	0.5288	1.4747	11.6235
	New Option	0.6063	1.5639	
Annual Report 12 month Performance (n=22940)	Old Option	4.7911	5.4729	6.5439
	New Option	4.9657	5.9164	
UniSuper				
Twelve month performance (n=26729)	Old Option	5.6951	6.7686	39.9870
	New Option	6.9077	7.0764	
Six month performance (n=32166)	Old Option	2.5442	4.5256	50.1064
	New Option	3.4814	4.5779	
One month performance (n=20374)	Old Option	0.6618	1.2996	12.3938
	New Option	0.7575	1.4070	
Quarterly performance (n=41995)	Old Option	1.9134	3.5313	19.0472
	New Option	2.1582	3.4872	
Annual Report 12 month Performance (n=40629)	Old Option	4.3646	6.5510	-3.6618
	New Option	4.2778	6.7109	

Table 3 - Historical Performance By Choice Number - GESB

This table analyses, for the GESB fund, the historical returns of the investment option a member is moving from and to, according to the number of the choice the member is making. The first panel summarises results for a members making their first investment choice, the second panel summarises results for members making their second investment choice, and so on, up to choice number four. The twelve, six and one month returns are compiled using GESB published monthly returns. The old and new returns in the final row of each panel are based on the financial year returns, as presented in the annual report. All differences are significant at the 99% confidence level with the exception of those marked * which are significant at the 95% confidence level.

		Mean (%)	SD (%)	t-stat of differences
First choice				
Twelve month performance (n=3394)	Old Option	3.6401	7.7958	16.2876
	New Option	5.1767	9.3215	
Six month performance (n=4321)	Old Option	2.2397	4.3420	11.1961
	New Option	2.7363	5.2599	
One month performance (n=5613)	Old Option	0.1352	1.6682	-2.6538
	New Option	0.0977	2.0501	
Annual Report 12 month Performance (n=17576)	Old Option	2.0855	1.6638	-40.9126
	New Option	1.0906	3.2517	
Second choice				
Twelve month performance (n=1105)	Old Option	1.4779	10.6389	20.0984
	New Option	6.5721	8.2725	
Six month performance (n=1239)	Old Option	1.3644	5.9305	18.3764
	New Option	3.7666	4.5709	
One month performance (n=1343)	Old Option	0.0615	2.3630	11.0137
	New Option	0.5981	1.8449	
Annual Report 12 month Performance (n=1432)	Old Option	0.1555	6.8605	13.2198
	New Option	2.8812	6.0353	
Third choice				
Twelve month performance (n=316)	Old Option	7.2771	7.3498	5.2435
	New Option	9.6000	8.3795	
Six month performance (n=339)	Old Option	3.7501	4.1592	5.2240
	New Option	4.9952	4.3193	
One month performance (n=349)	Old Option	0.6911	1.6138	3.3604
	New Option	0.9836	1.5944	
Annual Report 12 month Performance (n=351)	Old Option	4.9226	6.1352	-4.6421
	New Option	2.9977	6.7710	
Fourth choice				
Twelve month performance (n=101)	Old Option	7.0360	7.5195	2.3119*
	New Option	8.9804	9.0576	
Six month performance (n=108)	Old Option	3.8296	4.1345	3.6771
	New Option	5.6014	5.1809	
One month performance (n=110)	Old Option	0.6787	1.6764	2.1551*
	New Option	0.9907	1.8706	
Annual Report 12 month Performance (n=110)	Old Option	4.8761	6.0088	-2.7163
	New Option	2.8489	7.0534	

Table 4 - Historical Performance By Choice Number - HESTA

This table analyses, for the HESTA fund, the historical returns of the investment option a member is moving from and to, according to the number of the choice the member is making. The first panel summarises results for a members making their first investment choice, the second panel summarises results for members making their second investment choice, and so on, up to choice number four. The twelve, six and one month returns are compiled using HESTA published monthly returns. The old and new returns in the final row of each panel are based on the financial year returns, as presented in the annual report. All differences are significant at the 99% confidence level.

		<i>Mean (%)</i>	<i>SD (%)</i>	<i>t-stat of differences</i>
First choice				
Twelve month performance (n=32819)	Old Option	5.8581	7.1224	-7.8901
	New Option	5.6431	8.0435	
Six month performance (n=36143)	Old Option	3.3270	4.1377	-15.6335
	New Option	3.0925	4.7348	
One month performance (n=38331)	Old Option	0.5938	1.2895	-20.3995
	New Option	0.4947	1.5812	
Annual Report 12 month Performance (n=39583)	Old Option	4.5922	5.6675	-9.8906
	New Option	4.3747	7.4353	
Second choice				
Twelve month performance (n=2249)	Old Option	5.6897	8.5298	26.6114
	New Option	9.0041	6.9874	
Six month performance (n=2424)	Old Option	3.1726	4.8453	23.5797
	New Option	4.8965	4.1297	
One month performance (n=2665)	Old Option	0.3833	1.7084	12.6285
	New Option	0.6685	1.4922	
Annual Report 12 month Performance (n=2810)	Old Option	4.6779	8.0098	21.3049
	New Option	7.0255	7.2470	
Third choice				
Twelve month performance (n=684)	Old Option	8.3944	7.4405	10.5214
	New Option	10.7203	6.5161	
Six month performance (n=732)	Old Option	5.8439	3.6762	-11.1884
	New Option	4.4133	4.0195	
One month performance (n=787)	Old Option	0.6099	1.4217	6.1949
	New Option	0.8372	1.4042	
Annual Report 12 month Performance (n=760)	Old Option	6.3202	7.7145	5.6559
	New Option	7.5725	8.0637	
Fourth choice				
Twelve month performance (n=276)	Old Option	9.4727	7.1776	6.7509
	New Option	11.8844	6.5176	
Six month performance (n=295)	Old Option	4.7044	4.0467	7.4453
	New Option	6.2021	3.6644	
One month performance (n=309)	Old Option	0.7730	1.3133	6.1237
	New Option	1.1411	1.2153	
Annual Report 12 month Performance (n=291)	Old Option	7.6139	8.3577	2.7350
	New Option	8.6001	8.4752	

Table 5 - Historical Performance By Choice Number - STA

This table analyses, for the STA fund, the historical returns of the investment option a member is moving from and to, according to the number of the choice the member is making. The first panel summarises results for a members making their first investment choice, the second panel summarises results for members making their second investment choice, and so on, up to choice number four. The twelve, six and one month returns are compiled using STA published monthly returns. The old and new returns in the final row of each panel are based on the financial year returns, as presented in the annual report. All differences are significant at the 99% confidence level with the exception of those marked * which are not significant at the 95% confidence level.

		<i>Mean (%)</i>	<i>SD (%)</i>	<i>t-stat of differences</i>
First choice				
Twelve month performance (n= 18446)	Old Option	5.1981	6.4322	15.2248
	New Option	5.7150	7.0657	
Six month performance (n= 20263)	Old Option	2.9855	4.0534	5.7165
	New Option	3.0997	4.2060	
One month performance (n= 20913)	Old Option	0.5452	1.4668	1.8128*
	New Option	0.5580	1.6132	
Annual Report 12 month Performance (n= 19008)	Old Option	4.6381	5.3019	1.7839*
	New Option	4.6838	5.7496	
Second choice				
Twelve month performance (n= 2686)	Old Option	9.4841	6.1306	36.2730
	New Option	5.7426	6.7612	
Six month performance (n= 2920)	Old Option	2.4213	4.4859	32.6846
	New Option	4.5295	3.5190	
One month performance (n= 3009)	Old Option	0.3858	1.5586	19.1167
	New Option	0.7956	1.3276	
Annual Report 12 month Performance (n= 2631)	Old Option	5.0105	5.9821	11.7064
	New Option	6.2829	6.1772	
Third choice				
Twelve month performance (n= 856)	Old Option	7.3844	6.7914	13.1398
	New Option	10.2205	6.0353	
Six month performance (n= 928)	Old Option	3.2855	4.1225	13.7728
	New Option	4.9980	3.4158	
One month performance (n= 947)	Old Option	0.4946	1.5030	8.8299
	New Option	0.8615	1.2082	
Annual Report 12 month Performance (n= 833)	Old Option	6.2960	6.4346	-0.2798*
	New Option	6.2333	6.8525	
Fourth choice				
Twelve month performance (n= 277)	Old Option	8.6025	5.7987	6.2297
	New Option	10.7619	6.2051	
Six month performance (n= 310)	Old Option	3.9866	3.5580	8.1282
	New Option	5.5078	3.3164	
One month performance (n= 314)	Old Option	0.6734	1.2332	4.2260
	New Option	0.9305	1.2376	
Annual Report 12 month Performance (n= 267)	Old Option	6.8651	6.2833	-0.6947*
	New Option	6.5984	7.8581	

Table 6 - Historical Performance By Choice Number - UniSuper

This table analyses, for the UniSuper fund, the historical returns of the investment option a member is moving from and to, according to the number of the choice the member is making. The first panel summarises results for a members making their first investment choice, the second panel summarises results for members making their second investment choice, and so on, up to choice number four. The twelve month, six month, one month and quarterly performance figures are compiled using a combination of UniSuper's published quarterly crediting rates and monthly returns. The old and new returns in the final row of each panel are based on the financial year returns, as presented in the funds' annual report. All differences are significant at the 99% confidence level with the exception of those marked * which are not significant at the 95% confidence level.

		Mean (%)	SD (%)	t-stat of differences
First choice				
Twelve month performance (n=20565)	Old Option	6.2274	6.4004	16.3770
	New Option	6.7186	6.8519	
Six month performance (n=25005)	Old Option	2.8489	4.4241	29.0535
	New Option	3.4201	4.5926	
One month performance (n=16408)	Old Option	0.7030	1.3186	-0.0714*
	New Option	0.7025	1.4531	
Annual Report 12 month performance (n=33183)	Old Option	4.8736	6.4090	-9.4409
	New Option	4.6521	6.6708	
Second choice				
Twelve month performance (n=4878)	Old Option	3.7515	7.5536	43.8367
	New Option	7.4435	7.6889	
Six month performance (n=5549)	Old Option	1.2919	4.6378	43.9763
	New Option	3.4687	4.4557	
One month performance (n=2662)	Old Option	0.4524	1.2278	21.2031
	New Option	0.9806	1.1477	
Annual Report 12 month Performance (n=5750)	Old Option	2.4188	6.9734	9.3221
	New Option	3.2092	6.8867	
Third choice				
Twelve month performance (n=883)	Old Option	4.2103	7.9354	15.7862
	New Option	7.6506	7.8836	
Six month performance (n=1077)	Old Option	1.9184	5.0626	18.2707
	New Option	4.3030	4.7441	
One month performance (n=798)	Old Option	0.5562	1.2334	8.6565
	New Option	0.9442	1.2030	
Annual Report 12 month Performance (n=1158)	Old Option	0.9808	5.7730	0.5820*
	New Option	1.0956	5.5675	
Fourth choice				
Twelve month performance (n=259)	Old Option	3.8103	7.3178	9.6683
	New Option	8.0706	8.3747	
Six month performance (n=336)	Old Option	1.6475	4.7033	12.8760
	New Option	4.5318	4.6975	
One month performance (n=302)	Old Option	0.5260	0.9401	7.8500
	New Option	1.0716	1.1881	
Annual Report 12 month Performance (n=342)	Old Option	1.0200	5.2726	-4.2420
	New Option	-0.4916	4.0695	

Figure 1 – Timing of Investment Option Changes - GESB

This figure shows the number of investment option switches made by members in each month over the financial years 2001/2, 2002/3 and 2003/4. The data includes all portfolio changes for future contributions where first choice is not the default option. This figure excludes changes made in July 2001 – approx. 60% of all changes occurred in this month following introduction of choice

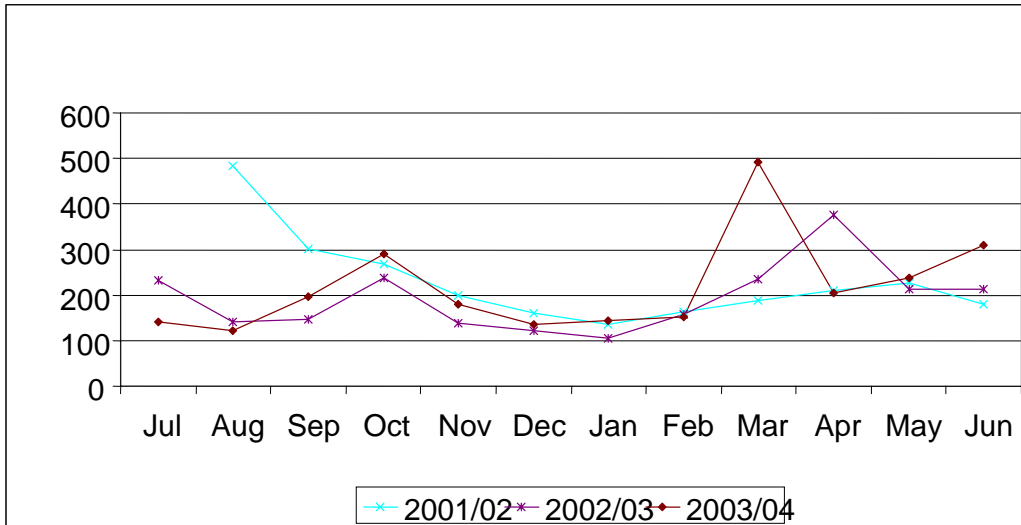


Figure 2 – Timing of Investment Option Changes - HESTA

This figure shows the number of investment option switches made by members in each month over the financial years 2001/2, 2002/3 and 2003/4. The data includes all portfolio changes for future contributions where first choice is not the default option.

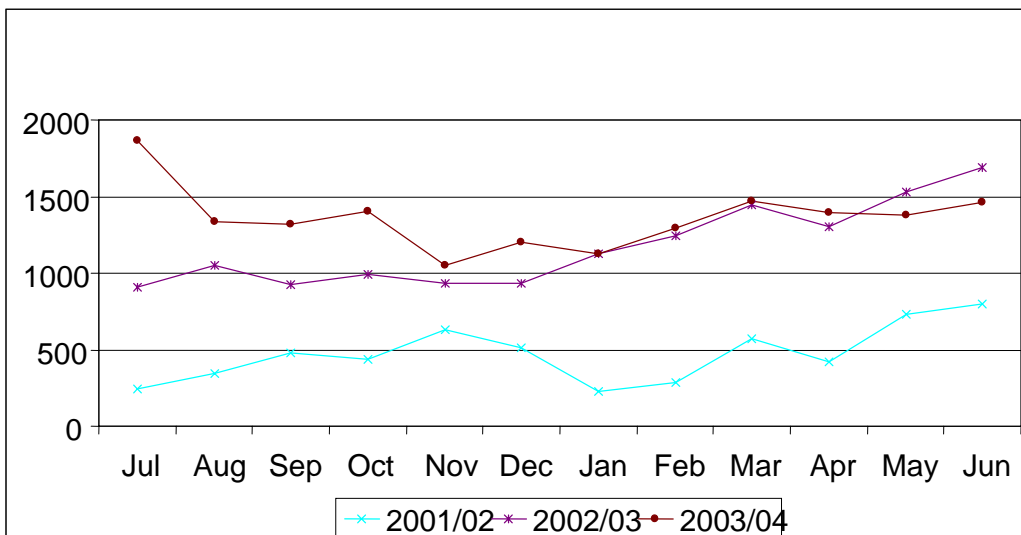


Figure 3 – Timing of Investment Option Changes - STA

This figure shows the number of investment option switches made by members in each month over the financial years 2001/2, 2002/3 and 2003/4. The data includes all portfolio changes for future contributions where first choice is not the default option.

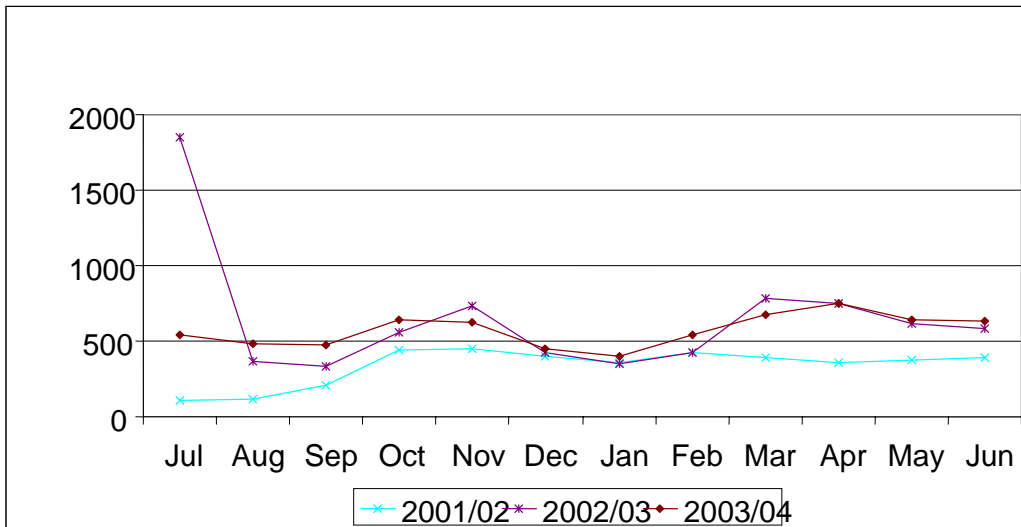


Figure 4 – Timing of Investment Option Changes - UniSuper

This figure shows the number of investment option switches made by members in each month over the financial years 2001/2, 2002/3 and 2003/4. The data includes all portfolio changes for future contributions where first choice is not the default option.

