

NORMATIVE INFLUENCE ON RETIREMENT SAVINGS DECISIONS: DO PEOPLE CARE WHAT EMPLOYERS AND THE GOVERNMENT WANT?

by

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Abstract

The need for Australians to increase retirement savings has been widely promoted. Yet, our understanding of the motivations of individuals to save at a higher rate remains sparse. This paper reports the findings of a survey of superannuation fund members and their motivations to contribute more to superannuation and to investment strategy. The paper uses the theory of planned behaviour to focus on the important motivational influence of social norms. The study finds that spouses appear to be the primary source of social influence for retirement savings decisions. The government and employers appear to exert little influence, and financial advisors and superannuation funds take up the middle ground of social influence. Possibilities for interventions designed to influence behaviour are discussed and opportunities for further study are proposed.

Keywords: Retirement Savings, Social Norms, Superannuation, Investment Choice, Savings

JEL Codes: E2, G2

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1 Introduction

One of the most pressing economic issues to face Australian society over coming decades is how retirement incomes will be funded for an increasing proportion of retirees. It is estimated that by 2050 there will be 23.5% of the Australian population aged 65 and over, compared to 10.7% currently (Australian Treasury, 2007). Moreover, the proportion of people aged 65 and over relative to people of traditional labour force age, 15 to 64 years, is projected to increase from the 2002 level of 19% to almost 41% by 2042 (Australian Treasury, 2007). These statistics are not peculiar to Australia as a similar demographic shift is forecast for many other developed countries. One example of the economic impact of the ageing population is that the cost of the age pension as a proportion of GDP is expected to increase from 2.9% in 2002 to 4.4% by 2046-47 (Australian Treasury, 2002, 2007). Anecdotal evidence suggests that the global financial crisis may have a sustained budget impact given a reported 50% increase in pension applications between October and December 2008 (Macklin, 2009).

A range of opinions have been expressed on the adequacy of the current level of savings for retirement by Australians. IFSA (2006) suggest that a savings gap of \$452 billion exists, meaning that “current superannuation still falls well short of the benchmark needed to fund adequate living standards in retirement” (IFSA 2006, p.5). More comprehensive analyses by Rothman (2007) have identified improvements in retirement savings adequacies which are projected to increase further into the middle of the 21st century through a combination of increased superannuation savings, savings outside of superannuation, and increased aged pension eligibility through the “Better Super” reforms of the Australian government. At an individual level Russell, *et al.* (2006) has also identified successful privately sponsored savings programmes. Notwithstanding these improvements it has also been identified that more than three million Australians are below targeted retirement savings adequacy levels (Access Economics, 2008).

An obvious approach to improving the quality of life for individuals in retirement, and to alleviate the forecast Australian government budget burden, is to induce people to save through superannuation. The identified policy responses have perhaps understandably focussed on direct “hip-pocket” incentives: eliminating tax on superannuation withdrawals after 60 years of age; introducing generous retirement transition rules; and gentler taper rates for pension eligibility. Early indications are that these have been successful, but more so for those at or near retirement and those with higher incomes (Rothman, 2007). However, a good deal more needs to be done to motivate people to save more and to invest more efficiently for their retirement needs. Yet, much past research regarding the psychological determinants of individual’s retirement savings choices can be characterised as disparate in that it fails to be couched within any integrative theoretical framework. One outcome of this situation is a lack of opportunity to assess the relative importance of various determinants of retirement savings behaviour.

This paper seeks to redress the lack of research through a survey of 2300 superannuation fund members. The primary aim of the research is to identify the relative importance of key behavioural determinants and to relate these to intervention possibilities applied to the individual, the workplace and the general public. The practical objectives of the research centre on identifying intervention opportunities to

influence individuals' behaviour to achieve higher retirement savings accumulations. These intervention opportunities are of interest to individuals, the financial advice industry, employers and government alike. The *theory of planned behaviour* (Ajzen, 1988) was used for these purposes as it has been widely applied in past research and shown to be robust across diverse behavioural contexts. It has not, however, been investigated in respect of retirement savings in Australia. The paper focuses on the influence of social norms on retirement savings decisions and the implications for educators, policy makers and professionals as well identifying areas for further research.

The following section reviews the theory of planned behaviour and its components. Section three reviews the methodology employed and a description of results is presented in section four. The final section provides a discussion with suggestions for possible interventions and future work.

2 Theory of Planned Behaviour

Retirement income provision in Australia is predicated on three *pillars*: (1) the age pension; (2) mandatory contributions under the Superannuation Guarantee (administration) Act 1992, which currently requires employers contribute a minimum of 9% of employee wages to a complying superannuation fund; and (3) voluntary savings, primarily through, but not restricted to the tax-preferred superannuation system. The focus of the present research is the second and third pillars. Specifically, investment choices of superannuation fund members receiving employer contributions under the superannuation guarantee, and voluntary saving within the superannuation system. Thus, the motivations of individuals to contribute to superannuation beyond the mandated employer-level contribution, together with individuals' motivations to manage the manner in which accumulated savings are invested were the two behaviours of interest to the research.

The theory of planned behaviour is predicated on three variables found to adequately predict the *intention* to perform a given behaviour (Ajzen and Fishbein, 2000). These variables are one's *attitude* towards the behaviour, one's perception of social pressure as a consequence of the views and actions of significant others (*subjective or social norms*) and one's perceptions of control over performance of the behaviour (*perceived behavioural control*). Measurement of these constructs is performed directly, according to multi-item scales, and indirectly, according to expectancy-value formulations of underlying behavioural (attitudinal), normative and control beliefs. Intention and perceived behavioural control together predict actual performance of the behaviour in question.

The theory of planned behaviour has explained, on average across various contexts, 39% of the variance in intention and 27% of the variance in behaviour (Ajzen and Fishbein, 2000). Substantial bodies of theory and research support the construct validity and predictive validity of the theory of planned behaviour (for a review see Connor and Armitage, 1998; Sheeran, 2002; and Connor and Sparks, 2005).

The theory of planned behaviour was expected to effectively predict intention and behaviour in the present retirement savings context. However, the theory does not

presume that any of its predictors will necessarily have primacy in terms of predictive importance. Rather, relative predictive importance will depend upon the specific behaviour and the behavioural context under investigation. The relative importance of predictor variables in, for example, the health behaviour or travel domains may be expected to differ to that in the retirement savings domain because each domain is characterised by substantively different attitudinal, normative and control factor considerations.

2.1 Social Norms

Although the present research made no prediction concerning the relative predictive importance of antecedent variables, the subjective (social) norm variable was expected to prove influential. The literature on the influence of normative factors (e.g., “if others are doing it or recommending it, perhaps I should do it too”) is limited. However, Duflo and Saez (2003) provided some expectation that normative factors might be influential in retirement savings behaviour prediction. Duflo and Saez (2003) randomly selected participants who were offered a cash incentive to attend a benefits information fair. Duflo and Saez found that those who attended the fair were significantly more likely to enrol in the savings program. However, they also found savings choices of individuals who did not attend the fair to mirror the savings choices of their fair-attending peers. Duflo and Saez argued that these findings suggested that relatively minor factors (peer effects) that do not directly affect the financial attractiveness of saving can however have a significant impact on the formulation of saving plans.

Bailey, Nofsinger and O’Neill (2004) explored the role of social norm effects on retirement savings decisions in a US experimental setting. Social norms were found to have direct effects on contribution amounts. Bailey et al. (2004) suggests the results were important because, upon first being hired, a new employee will typically be asked to make decisions about participation and contribution levels. In an Australian context a majority of employees are additionally asked within the first 28 days to make decisions about which fund to direct contributions to as part of the choice of fund legislation¹ effective since July 2005.

The studies of Duflo and Saez (2003) and Bailey et al. (2004) were performed in a US context. Employees in Australia are typically not asked about participation in voluntary contribution schemes (Fielding, 2007). This tendency in Australia prevails, potentially because a mandated contribution scheme already exists and further voluntary schemes carry an administrative cost burden. Yet, for reasons discussed above, there remains a need for many individuals in Australia to save more for their retirement. Thus wider voluntary contributions scheme application and uptake remains an important endeavor in an Australian context.

3 Survey Methodology

3.1 Research Design

The research followed the recommendations of Ajzen (2002) with a questionnaire designed to elicit self-reported responses to questions needed for measurement of the

¹ Superannuation Legislation Amendment (Choice of Superannuation Funds) Act 2004

intention, attitude, social norms and perceived behavioural control of the two behaviours: contributing extra to superannuation within the next 12-months; and changing the investment strategy of superannuation contributions within the next 12-months. Subsequent examination of superannuation fund records will enable the assessment of correspondence between participant's intention to perform the behaviours of interest and actual performance of the behaviours. This will be the focus of future work. The analysis reported here is confined to the causal path from the theory of planned behaviour's predictors (attitude, normative and control variables) to the Intention variable.

3.2 *Participants*

Participants were randomly selected from four Australian superannuation fund member databases. Of a total of 20,000 questionnaires distributed by mail in 2006 (5,000 for each fund), 2,339 (12%) questionnaires were returned. It was estimated that the 67 questions plus demographic data would take 30 minutes for participants to complete and return. The response rate was hence anticipated but the overall response rate of 12%, raised the possibility of bias in the data (Moser and Kalton, 1972). It is not possible to compare the demographic characteristics of survey respondents with those of non-respondents because the funds did not supply demographic details of non-respondents. However, the population of interest was the Australia working population. Inspection of labour force survey information reveals that average worker-age is 39 years, males comprise 54% of the work force and average worker annual earnings is \$43654 (Australian Bureau of Statistics, 2006a). Table 1 displays summary demographic characteristics of the questionnaire sample. Females were over represented in the sample relative to the overall Australian population, though it is reflective of the overall fund membership profile of the four funds. The middle-aged were similarly over represented and average participant income was slightly lower than the population average. The opportunity to perform gender and age-based analyses of the data alleviated some concerns about over/under representation of these demographic groupings. Nevertheless, the generalisability of some aspects of results remains subject to qualification.

<Insert Table 1>

Table 2 presents the range and proportion of occupation in the participant sample. When compared to the Australian population (Australian Bureau of Statistics, 2006b) the most notable differences in the sample was the over-representation of professionals and under-representation of Technicians, Sales Workers, and Labourers. To the extent that the data were not analysed for inter-group differences relating to these demographics, the results are subject to qualification.

<Insert Table 2>

3.3 *Measures*

The recommendations of Ajzen (2002) were followed in questionnaire design. Several items served as indicators of the latent variables (attitude, subjective norm and perceived behavioural control) modeled to predict the latent Intention variable. Both direct and indirect measures were used to measure attitude, subjective norm and perceived behavioural control.

Direct measures

The direct measure of the attitude toward the two target behaviours was assessed by means of five 7-point unipolar evaluative semantic differential scales (Osgood, Suci and Tannenbaum, 1957). The anchors of these scales, modeled after Ajzen (2002), were: *harmful-beneficial*, *unpleasant-pleasant*, *bad-good*, *worthless-valuable*, *unenjoyable-enjoyable* and *wrong-right*.

With respect to subjective or social norms, according to Ajzen (2002), items of the kind that seek perceptions of the expectations of important others have an injunctive quality, consistent with the concept of subjective norm. However, responses are often found to have low variability because important others are generally perceived to approve of desirable behaviours and disapprove of undesirable behaviours. To alleviate this problem, it is recommended that the measure of subjective norm also include items designed to capture descriptive norms—that is, whether important others themselves perform the behaviour in question. Respondents were asked to indicate on 7-point unipolar scales the extent to which they believe that most people who are important to them, or whose opinion they value, think that they *should not-should* perform the target behaviours, would *expect them* to perform the behaviours (extremely unlikely-extremely likely), would *disapprove-approve* of them performing the behaviours, *would-would not* perform the behaviours themselves or *intend* to perform the behaviours themselves (*completely false-completely true*).

Finally, four items modeled after Ajzen's (2002) method, directly assessed perceived control over the target behaviours. Again using 7-point unipolar scales, respondents were asked whether performance of the two behaviours would be *impossible-possible*, whether, if the respondent wanted to, he or she could perform the behaviour (*definitely false-definitely true*), the respondent's perception of the degree of control possessed over performing the behaviour (*no control-complete control*), and whether performance of the behaviour was mostly up to the respondent (*strongly disagree-strongly agree*).

Indirect Measures

Beliefs are assumed to provide the cognitive and affective foundations for attitudes, subjective norms, and perceptions of behavioural control. If this assumption is correct, then beliefs can be relied upon to obtain indirect, belief-based measures of these constructs. Accessible behavioural beliefs are assumed to account for attitude toward the behaviour, accessible normative beliefs for subjective norm, and accessible control beliefs for perceived behavioural control.

Prior to the main survey, a formative survey was conducted with an independent sample ($n=49$) to elicit modal behavioural, normative and control beliefs (modal beliefs being those beliefs most commonly held in the population). Five behavioural beliefs were elicited in the formative research for each of the two behaviours of interest. For contributing extra to superannuation the five modal beliefs were: “to boost my retirement savings”; “to be able to improve my standard of living in retirement”; “to be able to gain taxation benefits”; “having my savings tied up for a long time”; and “having my current spending needs affected”. Similar, but substantively different modal beliefs were elicited for investment allocation

behaviour: “to be able to achieve higher growth in my retirement savings”; “to achieve a better matching of my risk and return preferences”; “to be able to take advantage of market opportunities”; “to be able to achieve more personal ownership in investment performance”; and “to incur additional costs and management fees”.

Two questions were asked in the main survey to provide an indirect measure of attitude to the two target behaviours using the modal behavioral beliefs. First, participants were asked to evaluate each outcome (for example “For me, to boost my retirement savings is ...”) on a 7-point good-bad scale. Second, to assess belief strength, they were asked to rate the likelihood that performance of the target behaviour would produce each of the outcomes on a 7-point unlikely-likely scale. For example, participants rated how likely it was that “contributing extra to superannuation in the next 12 months will enable me to boost my retirement savings.” Belief strength and outcome evaluation served to compute an indirect measure of attitude toward the behaviour in accordance with an expectancy–value model calculated as $A = \sum b_i e_i$ (where A = Attitude; b_i = belief strength for modal belief i and e_i = outcome evaluation of modal belief i). Hence each belief strength score is multiplied by its associated outcome evaluation score, and the resulting products are summed over all behavioural beliefs to produce an indirect measure of the attitude construct.

The formative survey revealed five referent groups, common to both behaviours of interest: spouse/partner; financial advisor; employer; government; and superannuation fund. For each of these five identified referent groups, 7-point unipolar scales assessed normative belief strength and motivation to comply. For example, the statement “My employer thinks that I should make extra superannuation contributions in the next 12 months” was rated on a 7-point scale (unlikely-likely) to produce a measure of normative belief strength. Similarly to assess the motivation to comply, respondents rated on 7-point scales the extent to which they care (not at all or very much) about what each referent would want them to do about their superannuation arrangements. A measure, comprising normative belief strength and motivation to comply with respect to each normative belief (referent), offers a “snap shot” of perceived normative pressures in a given population (Ajzen, 2002). An overall indirect measure of subjective norm can be obtained by applying the expectancy–value model calculated as $SN = \sum n_i m_i$ (where SN = Subjective Norm; n_i = normative belief strength i ; and m_i = motivation to comply i). Thus, to produce a belief-based estimate of subjective norm, belief strength scores were multiplied by motivation to comply scores and the resulting products were summed across all normative beliefs.

Five beliefs that might interfere with (or promote) performance of each of the targeted behaviours were identified in the formative study: “Not having an increase in my/our income”; “The amount of my/our mortgage and other debts”; “Me/us having high living expenses”; “The complexity of required procedures”; and “Not having improved government incentives (e.g., tax benefits)”. Two questions were asked with respect to each control belief. One question measured the factor’s likelihood (strength of control belief, for example, “I presently have considerable mortgage and other debt commitments”) on 7-point (*true-false* or *agree-disagree*) scales. The second question addressed the extent to which the factor’s presence would further or hinder performance of the target behaviours (belief power), and responses were measured on

7-point *much more difficult-not at all more difficult* scales. Using an expectancy-value formulation a belief-based measure of perceived behavioural control calculated as $PBC = \sum c_i p_i$ (where PBC = Perceived Behavioural Control; c_i = control belief strength i and p_i = power of control belief i). Prior to analysis, control belief strength scores, and other belief-based scores where relevant, were reversed so that positive responses were indicated by high scores on the 7-point scales.

3.4 Survey Procedure

The survey questionnaire was designed to minimise participant response ordering effects and participant fatigue effects. Fatigue effects were considered likely given the length of the questionnaire. Different items assessing a given construct were separated and presented in a non-systematic order, interspersed with items for the other constructs. Additionally, the sequence of questions was rotated by dividing the questions into four equal sets and rotating these questionnaire segments across participants. Moreover, care was taken in the questionnaire to counterbalance high and low endpoints of scales in order to counteract possible response sets.

Theory of planned behaviour questionnaires have been employed by many previous studies across diverse contexts, and questionnaire design tends to closely follow Ajzen's (2002) recommended format. The survey was distributed by the four superannuation funds with a covering letter of support from the fund. Before processing, questionnaire responses were checked for completeness and data were entered into spreadsheets, which were, in turn, checked for accuracy of data entry. Prior to data analysis, scale counterbalancing was reversed so that high-score endpoints reflected positive intentions in all cases.

4 Results

Results for all direct and indirect measures are presented in this section. The subjective norm variable proved the most influential predictor of intention in the present, retirement savings, context. Following a summary of the relative importance of attitude and perceived behavioural control, the remainder of this section elaborates findings concerning normative influence on intentions.

4.1 Relative Predictive Importance of Behavioural Antecedents

Tables 3 and 4 present means for direct measures of the four key theory of planned behaviour variables and correlations among these variables. Scores could range from 1 to 7, with scale high-points representing favourable evaluations in all scales. It can be seen from Table 3 that respondents had, on average, favourable attitudes toward contributing extra to superannuation within the subsequent 12-month period, they perceived moderate social pressures to do so, they had high confidence they could achieve their behavioural goals if they were to be pursued, and they were somewhat ambivalent in their intention to try.

<Insert Table 3>

By contrast, Table Four shows that, compared to making extra contributions, participants were less positive in their attitude toward changing their superannuation investment strategy within the subsequent 12 month period. This difference between

mean scores for each behaviour was significantly different.² Compared to making extra contributions, respondents perceived social pressures were significantly less to make a change in investment strategy, but they had greater confidence they could achieve their behavioural goals if they were to be pursued. However, compared to making extra contributions, participants were significantly more ambivalent in their intention to try to change investment strategy.

<Insert Table 4>

In sum, respondents believed, for both behaviours, that they possessed high control over performance of the behaviours. Their attitudes toward performance of the behaviours were moderately favourable, but, on average, they were ambivalent in their cognitions concerning social pressure to perform the behaviours. Despite these moderate to high motivational underpinnings, participants were, on average, ambivalent in their intentions to try to perform the behaviours. However, they were more inclined to try to contribute extra to superannuation rather than to change their superannuation investment strategy.

4.2 *Predictive Significance*

The explanatory power of both behaviours compared quite favourably to previous theory of planned behaviour studies that typically account for 39% of the variance in intention and 27% of the variance in behaviour (Armitage and Connor, 2001). Table 5 presents results of a regression of Intention on Attitude, Subjective Norm and Perceived Behavioural Control. R-squared values of the regression for the intention to contribute to extra to superannuation of 0.76 and 0.72 for changing superannuation investment strategy compare favourably to previous applications of the theory and the results confirm that the theory of planned behaviour predicts the intention to perform both behaviours of interest very well. The most important predictor of intention for both behaviours of interest was subjective norm. Table 5 indicates that this was particularly so for change to superannuation investment strategy, where the influence of control factors was greatly subordinate to subjective norm and, to a lesser degree, to attitude. For extra contributions behaviour, perceived behavioural control was marginally subordinate to the influence of subjective norm, but the influence of perceived behavioural control was far greater when compared to its influence on the intention to change superannuation investment strategy. Attitude ranked third in importance among the three predictors of the intention to make extra contributions to superannuation.

<Insert Table 5>

4.3 *Normative Influence*

As discussed, the subjective norm variable was found to be the most influential predictor of the intention to perform both behaviours of interest. This section examines the subjective norms more closely using both the direct and indirect measures.

It was noted previously that, based on mean scores for the direct measures of subjective norm, respondents generally felt moderately positive to neutral social

² Significance at 99 percent confidence level unless otherwise noted

pressure to perform the target behaviours (see Tables 1 and 2) and social pressure was strongly correlated with respondent's intention. The correlation of the indirect composite belief-based measure of subjective norm was moderately correlated with the direct measure of subjective norm ($r = 0.35$ for contributing extra to superannuation and $r = 0.39$ for change to superannuation investment strategy). Inspection of the correlation between normative belief-based measures and intention in Tables 6 and 7 reveals that, for extra superannuation contributions, social pressure was most strongly associated with the individual's spouse or partner, as well as the individual's financial advisor. According to mean scores, participants viewed the wishes of financial advisors more strongly than spouses/partners but participants were less motivated to comply with financial advisors than they were with spouses/partners. This same relationship between belief strength and motivation to comply was also true for change to superannuation investment strategy. Overall, the influence on intention of spouse/partner was stronger than that of financial advisor for both behaviours of interest.

<Insert Table 6 and 7>

Table 6 indicates that participants held quite strong beliefs about the wishes of government and, to a lesser extent, the wishes of their superannuation fund for making extra contributions to superannuation. However, participants did not appear at all willing to comply with the wishes of either the government or their superannuation fund. Among all social referents, participants rated lowest the wishes of employers in terms of both belief strength and motivation to comply. Accordingly, belief-based measures of subjective norm for employers, together with the government, correlated lowest with intention to contribute extra to superannuation. Table 7 indicates that, for making changes to superannuation investment strategy, *belief strength* scores for all referents were comparatively lower than equivalent scores for contributing extra to superannuation. However, because a generic scale for *motivation to comply* was used for both behaviours, mean scores were the same for both behaviours of interest. Among the referent expectancy-value multiplicative measures for making changes to superannuation investment strategy, correlations of employer and government with intention were lowest. The employer in particular, was a referent group that participants believed was hardly interested in their superannuation strategy change aspirations.

5 Discussion

5.1 Intervention Possibilities

The survey results provide clear policy implications, with particular regard to increasing Australians' superannuation contributions beyond the mandated nine percent of the Superannuation Guarantee. When using the theory of planned behaviour to explore intervention possibilities it is important to consider both the mean level of an independent variable together with its importance as described by its regression coefficient. If average scores for a particular independent variable are high and its regression coefficient is high, then little may be gained by focusing intervention efforts on what is already a strong source of motivation. Alternatively, according to Ajzen (2002), if an independent variable's mean score is low and its regression coefficient is high then there is room to move in terms of guiding mean scores upward with the objective of consequent increase in the mean levels of the

dependent variable (intention). The present research found mean scores for the subjective norm independent variable to be lowest among the three predictors (attitude, subjective norm, perceived behavioural control) of intention and its regression coefficient was highest among the predictors. Accordingly, there appears to be a very strong case for interventions that illuminate normative behaviour.

The uncoupling of referent scores into their separate expectancy (belief strength) and evaluation (motivation to comply) components provides further information about intervention possibilities. For normative referent beliefs, participants believed most strongly that the government was keen to see them contributing extra to superannuation – respondents have got the government's message. However respondents were hardly inclined to comply with the wishes of the government. Similarly respondents believed that their superannuation fund and financial advisor had an interest in them making extra contributions. However respondents were more motivated to comply with their financial advisor than their superannuation fund.

There is room for change in the influence of superannuation fund and financial advisor. Determining the means by which change might be achieved was beyond the scope of the research, but is a recommended focus of future research. Some preliminary suggestions emerged from the formative study. An apparent degree of mistrust in the minds of participants concerning perceived vested interests of funds and advisors was revealed. That is, some participants believed that funds and/or advisors include in their products and services dubious claims of performance and are less than fully transparent about fee structure. The Federal Government's declared focus on more readable product disclosure documents (Sherry, 2008) is well placed. It is also strongly in the interests of funds themselves to be more transparent in seeking to receive increased contribution flows.

Although participants were inclined to comply with the wishes of their partners, participant's perception that their partners would wish them to contribute extra to superannuation was neutral. Neutral perceptions about the wishes of partners may point to a need to ensure that, on matters of superannuation, partners are dealt with jointly rather than separately by their funds and advisors. Finally, participants believed that employers had little interest in them contributing extra to superannuation and, amongst all referents, participants were least inclined to comply with the wishes of employers. Thus, another tentative conclusion is that employers are in a position to significantly improve employee intentions to contribute extra should employers succeed in garnering greater persuasive influence.

Inspection of normative beliefs for investment strategy change revealed that, as might be expected when compared to extra contribution beliefs, respondents were not of such strong belief that any of the referent groups would expect them to change their superannuation investment strategy. However the pattern of mean belief strength and motivation to comply scores was similar to that which applies to extra superannuation contributions. Thus the previous comments concerning intervention possibilities applies equally to interventions related to changing superannuation investment strategy.

Provision of investment strategy guidance appears to be a necessity, irrespective of past experience. Thus, regimes for the delivery of guidance appear to represent a considerable challenge in an Australian context. Presently, it is not an easy proposition for an individual to obtain regular low-cost personal financial-investment guidance. Given the motivational importance of face-to-face referents (spouse and financial advisor), printed materials, web-based information and other impersonal forms of delivery of information and advice alone may not be sufficient to achieve advocated outcomes.

5.2 *Future Work*

By mandating employer contributions to superannuation, the Australian government has exercised a paternalistic approach to the problem of retirement savings. Notwithstanding improvements in aggregate and average superannuation savings levels, a large proportion of Australians remain below targeted retirement savings adequacy levels. The research in this paper examined the motivational antecedents of two key retirement savings behaviours: making extra voluntary contributions and changing investment strategy.

The current research has identified several opportunities for intervention. As well as promotional and educational programs that aim to influence beliefs of large numbers of individuals in society, there may be much more that can be done. In this regard, the agency of stakeholders other than the government appears to be at issue. For example, one of the more striking findings of the research was the opportunity for employers, with the support of funds and advisors, to more widely promote voluntary schemes with respect to both behaviours of interest. The manner in which promotional programs that aim to move retirement savings behaviours in the advocated direction are designed and delivered was not the subject of the research but in view of the findings remains a matter worthy of further study.

Social norms represent an important area for interventions designed to influence retirement savings behaviour. The present research adds to the findings of Duflo and Saez (2003) and Bailey et al. (2004) by assessing the importance of social norms relative to other behavioural determinants. The research goes further by attaching importance weightings to different referent groups, thereby enabling better focus for intervention efforts.

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TABLE 1
SAMPLE DEMOGRAPHICS

Males (n)	916	(39%)
Females (n)	1423	(61%)
Couples : Singles (%)		73 : 21
Average age (years)	45	
Average annual income	\$55000	
Average household income	\$87000	
Average household Mortgage	\$70000	
Average household net wealth	\$404000	
Average superannuation savings balance	\$190000	

TABLE 2
SAMPLE OCCUPATION CLASSIFICATION

	Managers	Professional	Technicians, Trade Workers	Community and Personal Service Workers	Clerical and Admin.	Sales Workers	Machinery Operators and Drivers	Labourers
Sample (n=2216)	9%	58%	6%	9%	11%	1%	2%	3%
Census	14%	21%	13%	9%	16%	10%	7%	11%

Source: (Australian Bureau of Statistics, 2006b)

TABLE 3
ATTITUDE, SUBJECTIVE NORM AND PERCEIVED CONTROL TOWARD
CONTRIBUTING EXTRA TO SUPERANNUATION

Variable	Mean	SD	Correlation			
			A	SN	PBC	I
Attitude (A)	4.84	1.23	-			
Subjective norm (SN)	4.20	1.34	0.59	-		
Perceived behavioural control (PBC)	5.24	1.65	0.38	0.35	-	
Intention (I)	4.10	2.16	0.61	0.62	0.57	-

Note. Mean scores are based on scales, with possible scores ranging from 1 to 7.

All correlations were statistically significant $p < .01$, $n = 2283$.

TABLE 4
ATTITUDE, SUBJECTIVE NORM AND PERCEIVED CONTROL TOWARD
CHANGING INVESTMENT STRATEGY

Variable	Mean	SD	Correlation			
			A	SN	PBC	I
Attitude (A)	4.47	1.14	-			
Subjective norm (SN)	3.83	1.20	0.59	-		
Perceived behavioural control (PBC)	5.91	1.27	0.16	0.10	-	
Intention (I)	3.66	1.80	0.61	0.63	0.19	-

Note. Mean scores are based on scales, with possible scores ranging from 1 to 7.

All correlations were significant, $p < .01$, $n = 2285$.

TABLE 5
BEHAVIOUR INTENTION REGRESSIONS

Behaviour Intention	Independent Variable	Coefficient (Standard Error)
Contributing extra to superannuation (n=2283)	Attitude	0.30** (0.057)
	Subjective Norm	0.74** (0.075)
	Perceived Behavioural Control	0.71** (0.048)
Change superannuation investment strategy (n=2285)	Attitude	0.25** (0.043)
	Subjective Norm	0.91** (0.067)
	Perceived Behavioural Control	0.13** (0.024)

Note: ** significant, $p < .01$. Unstandardised coefficient from regression of Intention on Attitude, Subjective Norm and Perceived Behavioural Control for each targeted behaviour. R^2 values for contributions to extra to superannuation 0.76, 0.72 for changing superannuation investment strategy.

TABLE 6
*NORMATIVE BELIEF STRENGTH AND MOTIVATION TO COMPLY WITH
IMPORTANT REFERENTS TO MAKE EXTRA SUPER CONTRIBUTIONS*

Referent	Belief Strength (<i>n</i>)		Motivation to Comply (<i>m</i>)		Correlation <i>n_im_i</i> with Intention
	Mean	SD	Mean	SD	
The government	5.45	2.08	2.94	2.21	0.07
Your superannuation fund	5.07	2.02	3.79	2.25	0.11
Your financial advisor	5.02	1.91	4.75	2.08	0.22
Your spouse/partner	4.06	2.02	5.23	1.93	0.35
Your employer	3.12	1.89	2.50	1.81	0.06

Note. Normative belief strength and motivation to comply scored from 1 (low) to 7.
 $n_i m_i$ = (Normative Belief Strength) x (Motivation to Comply) provides indirect measure of subjective norm.

TABLE 7
*NORMATIVE BELIEF STRENGTH AND MOTIVATION TO COMPLY WITH
 IMPORTANT REFERENTS TO CHANGE SUPER INVESTMENT STRATEGY*

Referent	Belief Strength (<i>n</i>)		Motivation to Comply (<i>m</i>)		Correlation
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	$n_i m_i$ with Intention
The government	3.90	2.21	2.95	2.28	0.14
Your superannuation fund	4.01	2.25	3.79	2.09	0.16
Your financial advisor	4.46	2.08	4.75	1.97	0.24
Your spouse/partner	3.65	1.93	5.23	1.97	0.33
Your employer	2.77	1.81	2.50	1.80	0.15

Note. Normative belief strength and motivation to comply scored from 1 (low) to 7.
 $n_i m_i$ = (Normative Belief Strength) x (Motivation to Comply) provides indirect measure of subjective norm.