Retirement Savings Investment Decisions: Evidence from Malaysia

Nurasyikin Jamaludin ^{a*}and Paul Gerrans ^b

*Corresponding author:

Nurasyikin Jamaludin, Universiti Malaysia Terengganu, Mengabang Telipot, 21030 Kuala Terengganu, Terengganu Darul Iman. Malaysia. Email: asyikin@umt.edu.my

Notes on Contributors

Nurasyikin Jamaludin is a senior lecturer of Accounting and Finance at School of Maritime Business and Management, Universiti Malaysia Terengganu (UMT). Her research areas include retirement savings, behavioural finance and Islamic finance. Currently she teaches Managerial Finance for MBA and Corporate Finance for undergraduates at UMT.

Paul Gerrans is Professor of Finance at the UWA Business School. Paul's research focusses on issues surrounding member investment choices in retirement saving funds including: investment performance; information use, and gender differences in decision making. He is widely published in retirement savings and his expertise is highlighted by appointments to the Australian Federal Government's Superannuation Advisory Committee and the Superannuation Roundtable. Paul teaches Financial Planning to Business School students and "Managing Your Personal Finances" to undergraduate students across the university.

^a School of Maritime Business and Management, Universiti Malaysia Terengganu, Malaysia;

^b School of Business, University of Western Australia, Perth, Australia.

Retirement Savings Investment Decisions: Evidence from Malaysia

This paper investigates individual retirement savings investment choices of members of Malaysia's Employees Provident Fund (EPF). The focus is on the option available to EPF members to invest part of their savings in approved unit trusts. A survey of EPF members allows a contrast with existing empirical evidence, largely drawn from developed countries. Three significant factors are identified: perceived importance of financial advisor; financial risk tolerance; and perceived plan design. Gender and marital status were also significant predictors of investing in the unit trusts, though religion and religious commitment were not significant. Several implications emerge from these findings. First, results highlight the important role of unit trust consultants in individuals' choices which in turn highlights the important role of the governing body of consultants in ensuring appropriate advice is delivered to clients. The study is relevant to the EPF as policy maker, on the behaviour and attitudes of its members.

Keywords: Retirement savings, Investment Choice, Behavioural finance,

Malaysia, Religion

JEL classification: J26, D14, G11, E21, G23,

1. Introduction

Sustaining adequate retirement incomes has received increased attention in recent years, as a result of ageing populations. Across the globe, the trend has been to shift away from defined benefit (DB) plans towards defined contribution (DC) plans where the individual bears the risk directly (2000). In DC plans, the responsibility for managing retirement funds is shifted from the government or employer to the individual fund member. In line with this shift, members have choices to make about how much to invest and the allocation of those investment assets. An issue of considerable interest are the factors influence the choice being made by members.

Like many other countries, Malaysia is experiencing longer life expectancy as well as ageing of the population. The life expectancy at birth in 2008 was 71.9 years for males and 76.4 years for females¹, as compared to 62.2 years for males and 66.5 years for females in 1970. The proportion of those older is also increasing in Malaysia. For example, 8% of Malaysia's total population were aged 60 years and above in 2010 which is forecast to increase to 11% by 2020. The quality of life achieved by this growing age group will be importantly influenced by the adequacy of their retirement savings.

The Employees Provident Fund (EPF) is the government agency responsible for the compulsory retirement savings of Malaysian private sector and non-pensionable

¹ Department of Statistics Malaysia, 2008.

2

public sector workers. Employees receive contributions of 12 percent from the employer and contribute 11 percent themselves. Even given this level of contributions, a survey conducted on 2,000 Malaysian retirees revealed that the benefits provided by the EPF were not adequate to sustain their retirement lifestyle for a large group of retirees (Abdul Samad & Kari, 2007). Consequently for this group, contributions from children (who were already in workforce) were regarded as a very important component of retirement their income. Given this scenario, the EPF has been making continuous efforts to enhance the members' retirement incomes including extending the mandatory contribution period and providing a choice to members to invest part of their savings with approved external fund managers. EPF members are able to use 20 percent of their balance in excess of a basic savings level to invest in a list of approved unit trusts under the "Members Investment Scheme". The basic savings levels are age based and were recently increased effective 2014 (EPF, 2014). The factors influencing the decision by members to invest in unit trusts is of considerable interest to government, academics, practitioners and fund members, and the focus of the present study.

The policy design adopted by the EPF reflects specific institutional and cultural responses to an objective shared with developed countries of ensuring adequate retirement income for members. In this paper we seek to compare the empirical evidence that has been provided from developed countries with that from Malaysia. Further, we explore the role of religion and religious commitment, or religiosity. Lehrer (2004) reviewed the role of religion and economic development in the US but notably the empirical focus excludes Muslim investors as a main group. The role of religion in savings (Haron & Wan Azmi, 2008) and asset allocation decisions (Tahir & Brimble, 2011) has been explored for Muslim investors but not in the context of retirement savings. This paper therefore provides a novel contribution to this literature. In addition, we explore the role of members' knowledge and the role of the financial advisor in the investment choice decision.

As a preview of our results, we do not find a significant role for religious affiliation or religious commitment. We do find an important role for advisors (unit trust consultants), separate to member knowledge, and perceptions of plan design. Significant differences by gender and marital status are also reported consistent with previous work.

The remainder of the paper proceeds as follows. The next section discusses the literature review. Section three describes the methodology. Section four presents the results and discussion. Section five provides a conclusion to the paper.

2. Literature Review

Gerrans and Clark-Murphy (2004) noted that retirement savings choice may refer to the choice between a DB or DC funds, a choice as to the asset mix of fund members' portfolios, and/or a choice of where to direct retirement savings contributions. In the present study, this last choice is examined as made available to members of the Malaysian EPF.

Several studies have examined individual investment choice decisions. Most commonly this literature has examined who makes these investment decisions (for example Lewellen et al.,(1977); Calvet et al.(2006); Guiso and Jappelli (2006)) and the performance of the investment decisions in the spirit of the literature examining professional fund manager performance (for example Barber et al. (2003); Barber and Odean (2000); Gruber (1996); Gharghoria et al.(2007)). A smaller subset of studies has examined the same issues in the context of retirement savings (for example Yamaguchi et al., 2006; Gharghoria et al., 2008; Clark-Murphy et al., 2009; Gerrans, 2012). The most common outcome, however, noted in the retirement savings literature has been the lack of decision making in that most members of retirement savings funds do not make active investment choice decisions (for example Choi et al., 2002; Mitchell et al., 2006). However, most of these studies are derived from developed countries such as the US, UK and Australia. The interest of this paper is to provide evidence from Malaysia with additionally a focus on dimensions not previously explored in terms of member choice,

notably religion. In the following section, each of the various factors pertinent to retirement savings investment choice decisions in the Malaysian context are discussed.

2.1 Religion

Keister (2003) identified religion as a potential determinant of savings and investment behaviour because of the effect it has on the values, habits and attitudes of an individual (Delener, 1994). From modern portfolio theory, investment risk and return are the factors relevant to investment choice though "there is evidence of a growing number of investors who wish to incorporate moral or social concerns in their decision-making" (Anand & Cowton, 1993, p. 377). In the present study, religion has been operationalised using *religious affiliation* and *religiosity*.

Religious affiliation represents "the specific religious group to which an individual belongs" (Lehrer, 2004, p. 707) and early studies of religion-related behaviour established the importance of religious affiliation (Engel, 1976; Hirschman, 1982). Religious affiliation influences various aspects of choice behaviour by the rules and taboos it inspires (Mokhlis, 2009). For example, Bailey and Sood (1993) identified differences in the consumer behaviour of US minority religious groups (Buddhism, Hinduism and Islam) and the majority religious groups (Judaism, Catholic and Protestant). However, Haron, Ahmad and Planisek (1994) found that religious affiliation had relatively no influence in bank patronage in Malaysia with similar findings reported by Gerrard and Cunningham (1997) when exploring the bank selection criteria between Muslims and non-Muslims in Singapore.

Religiosity or religious commitment reflects "the degree to which a person adheres to his or her religious values, beliefs and practises and uses them in daily living" (E. L. Worthington et al., 2003). Wan Ahmad et al. (2008) studied the impact of religiosity on Malaysian consumer's choice of banking and found that moderate and devout religious consumers preferred Islamic banking compared to conventional banking. They also reported that both formal religious education and age were positively correlated to an index of religiosity. However, Rashid and Ibrahim (2008) indicated that religiosity had an impact on perceptions of business ethics. More related to the focus of the current paper is Muhamad et al. (2006) who found no significant difference between a devout group and a casually religious group of Malay Muslim investors in terms of their preferences for different types of investment. EPF members have the choice to invest part of their savings in conventional or Islamic unit trust funds. It is expected that devout Muslims, where they have the option to invest externally to the EPF, will choose to invest in unit trusts, particularly, the Islamic fund. However, the Islamic fund is not restricted to non-Muslims, thus we speculate that more religious non-Muslims will also be more likely to invest in unit trusts, due to greater empathy with the religious focus.

2.2 Financial advisor

A limited but growing literature has shown that investors often consider brokers and financial advisors as the most important information source in mutual fund investment decision (Alexander, Jones, & Nigro, 1998; Capon, Fitzsimons, & Prince, 1996; Guiso & Jappelli, 2005). It is assumed that brokers and financial advisors have the knowledge and expertise to help individual investors manage their investment portfolios. Yet, the extent to which their financial advice influences investors' decision is still relatively unexplored.

In regards to EPF members, it is expected that unit trust consultants play similar roles as other financial intermediaries. A survey of 607 urban working Malaysian adults showed that there was a low level of awareness of the many schemes offered to the EPF members (EPF, 2004) with only three per cent of respondents aware of the Members Investment Scheme (MIS), in the absence of help from unit trust consultants. Through

the help of unit trust consultants and other information sources such as the seminars, 36 per cent of the respondents had become aware of the MIS. We therefore expect unit trust consultants to play an important role in informing and influencing members to invest part of their savings in unit trusts for better retirement savings accumulation. Specifically, members who perceived higher importance of unit trust consultants will be more likely to invest part of their savings in the unit trusts.

2.3Financial Risk Tolerance

Grable and Lytton (1999) defined financial risk tolerance as the maximum amount of volatility one is willing to accept when making a financial decision and has been identified as a significant predictor of investment choice strategies for retirement (Grable & Joo, 1997; Jacobs-Lawson & Hershey, 2005). For example, van Rooij et al. (2007) reported that respondents who were more inclined to take risk were more likely to prefer a DC plan and prefer investor autonomy. Similarly, Yuh and DeVaney (1996) demonstrated that the DC plans of risk tolerant individuals tended to be larger than those of individuals who are risk averse. However, Croy, Gerrans and Speelman (2010) found that financial risk tolerance had little effect on intentions to save for retirement. Given that the evidence on risk tolerance comes from developed economies, it is of interest to explore whether financial risk tolerance has a significant role in retirement savings investment decisions among the individual employees in an emerging economy where employment risks and social security risks are notably different.

2.4 Financial and Investment Knowledge

The increased responsibility placed on individual employees in managing their retirement savings assumes they have adequate financial and investment knowledge to do so. The scope of knowledge required can vary, influenced by system structure. For example, Worthington (2008) related knowledge requirement to the retirement savings context, in his case superannuation in Australia, to include 'understanding of superannuation fees, charges and statements, recognising the voluntary and compulsory nature of additional employee and employer contributions, and being aware of the lower taxation of superannuation compared to other investments'. Beyond financial knowledge, the broader term "financial literacy" has also been used (Gallery, Newton, & Palm, 2011).

Prior studies have measured financial knowledge using both objective and subjective measures. Subjective measures have included self-assessment of understanding, ability, attitudes and behaviour with respect to financial matters (Jacobs-Lawson & Hershey, 2005) and generally demonstrated that investment knowledge is positively related to savings behaviour (Agnew & Szykman, 2005; Grable & Lytton, 1997). Clark-Murphy and Gerrans (2001) reported that a lack of knowledge and feeling 'ill-equipped' among Australian superannuation fund members had led to difficulty in choosing between a DB plan and a DC plan. Lusardi and Mitchell (2006) suggested that individuals with more financial knowledge were more likely to plan for retirement. We utilise a subjective measure and expect that individuals with higher levels of self-assessed financial and investment knowledge will better understand the unit trust investment opportunities and be more likely to choose to invest externally in unit trusts.

2.5 Perceived Plan Design

It is generally recognised that in any retirement system, plan structure must be carefully designed to ensure that employees' accumulated earnings are invested wisely and managed prudently (Bateman & Mitchell, 2004). The global trend toward DC plans has encouraged plan sponsors, financial institutions and policymakers to offer choices to their plan participants. Several US studies have examined the impact of adding more investment options to participation and plan performance. For example, Iyengar et al. (2004) reported a drop in plan participation as the number of fund options increased and

contended that the participants suffered from 'choice overload' in 401(k) plans. Also, as the number of choices increased, and choices become more similar, participants experienced 'information overload' and were more likely to stay with the default as they 'choose not to choose' (Agnew & Szykman, 2005). Tang and Mitchell (2008) discovered that adding investment choices might not necessarily improve the 401(k) plans efficiency and performance. Most important was the particular set of investment funds offered.

In the present study, a unique feature of the choice offered to fund members is that they are permitted to invest part of their retirement savings in unit trust investments outside of the EPF. More precisely, a member can invest externally up to 20 per cent of what are classified as the excess of "Basic Savings". The majority (80 per cent) of the members' retirement savings must remain invested in other investments determined by the EPF Investment Panel Board. Members must assess the reasonableness of making an investment externally themselves as well as assessing the range of unit trusts available for that investment. The former is more linked to the size of investment permitted to be invested externally whereas the latter is linked to the menu available. Both dimensions will be explored in the current analysis.

2.6 Demographics

Demographic variables have been examined extensively in retirement savings investment choice research. We therefore include a range of demographics primarily as controls but given the dearth of Malaysian empirical literature on the influence of demographic factors within the retirement savings choice, it is of interest to explore the role of these variables. For example, Ong, Kitchen and Jama (2008) examined the expenditure patterns of older consumers (age 55 years or above) based on age, income, gender and ethnicity. Quota sampling was used to ensure a good representation of the three ethnic groups in Malaysia, namely Malays, Chinese and Indians. The results showed that there were few significant differences in terms of monthly expenditure patterns among the older consumers in Malaysia. However, it may not be possible to generalise these same findings to the retirement savings context.

3. Research Methodology

The aim of this study is to explore the factors that influence EPF members' retirement savings behaviour. Previous studies on retirement savings behaviour have largely utilised the questionnaire survey for their data collection (Collard, 2009). Considering the confidentiality issues raised by the EPF in disclosing actual members' choice of investment, the current study employs a cross-sectional survey as the main method of data collection.

3.1 Instruments

This paper reports part of a larger study of retirement savings behaviour in Malaysia. The analyses that follow focus on several sections from the questionnaire for EPF members as summarised in Table I. In order to enhance the validity and reliability of the measures, the instruments used in this study utilise those adopted in previous studies wherever possible.

<Insert Table 1>

Religiosity or religious commitment was measured with the Religious Commitment Inventory-10 (RCI-10) developed by Worthington et al. (2003). The RCI-10 measures motivational and behavioural commitment to a religious value system, irrespective of the content of beliefs in that faith system, and is not faith specific. Financial knowledge was measured using the self-report measure of Hershey and Mowen (2000) and Jacobs-Lawson and Hershey (2005). Five items were employed with adaptations for the Malaysian context, for example reference to the EPF rather than

Social Security. Additionally an item was included to assess knowledge of Syariah investment principles. Responses for the items were assessed using a 5-point Likert scale anchored by "1" (Strongly Disagree) to "5" (Strongly Agree). Financial risk tolerance was measured using the five-item scale of Jacobs-Lawson and Hershey (2005). Perception of plan design was measured with two items. The first sought a selection of the appropriate percentage that the respondent thought should be offered to members, using six possible categories including the current option allowing choice for savings in excess of 20 percent. A second item sought respondent's perception (too narrow, too broad, about right, don't know) of the range of unit trusts available. The role of the unit trust consultant (Advisor) was assessed with an item which sought respondent's perception of the importance of the consultant on a five-point scale (not at all important to extremely important).

3.2 Sampling and Data Collection

The sample has been previously described in Jamaludin, Smith and Gerrans (2012) who investigated the selection criteria reported by EPF members when selecting mutual funds. The sample constructed was representative of EPF membership with a range of occupations drawn from six large organisations

Employee representatives from each of the six organisations distributed 1200 surveys and collectively returned 440 questionnaires to the researcher. The 36.7 per cent was excellent given survey length and personal nature, that is questions reflecting on religiosity.

4. Results and Discussion

4.1 Respondents' Profiles - EPF Members

Jamaludin et al. (2012) noted that the sample was marginally overweight in Malay respondents relative to the overall Malaysian population (78.2 versus 65 percent in the Malaysian population) The three dominant religious affiliations of respondents was Islam (78.6%), Buddhism (12.7%) and Hinduism (7.3%). Respondents were well educated withmore than 22 percent holding a diploma and 53.2% having completed a University degree. The majority (69.3 percent) have been members with the EPF for 10 years or less with median monthly income between RM4,001 and RM5,000.

4.2 Regression Estimation

The dependent variable (outcome) of interest, specified in equation 1, is the investment choice decision, that is, whether or not to invest part of retirement savings in the unit trusts. Given the categorical outcome ((0 = remain in default, 1 = invest in unit trusts), a logistic regression framework was utilised. The predictors include: individuals' religious affiliation (Religious_Affiliation); religious commitment or religiosity (RCI); importance of financial advisors (Advisor); financial risk tolerance (Fin_Risk Tolerance); and self-assessed financial knowledge (Fin_Knowledge). Two plan design variables are also included. The first (Plan Design 1) assessed the threshold amount available for external investment and the second (Plan Design 2) assessed the range of units trusts available. Remaining controls captured a range of member demographics. Of these, except for gender and marital status, as they include more than two categories the first category for each variable was coded as reference group as identified in the results table.

 Estimation results are presented in Table II. Odds ratios for each variable and sub-categories are reported. Estimation diagnostics suggest a model with significant overall explanatory power ($\chi^2 = 200.655$, 45 degrees of freedom, p <0.01 Nagelkerke R² 0.49, Hosmer–Lemeshow $\chi^2 = 6.928$, 8 degrees of freedom, p= 0.544). Overall, the model correctly classified 78.1% of respondents, an improvement over the 53.5% in the base model.

In terms of member demographics, the results suggest that female members are significantly less likely to make an investment choice. The odds of female members making the investment choice is 35% that of male members This is consistent with a range of studies suggesting that women display a lower propensity to make such investment decisions (Bajtelsmit, Bernasek, & Jianakoplos, 1999; Bernasek & Shwiff, 2001; Clark & Strauss, 2008; Koh, Mitchell, Tanuwidjaja, & Fong, 2008; Speelman, Clark-Murphy, & Gerrans, 2007).

With regard to marital status, the significant results indicate that married individuals were more likely than singles to invest part of their retirement savings in the unit trusts. The odds ratio for a married member is 2.081 times that of a non-married member, holding all other independent variables constant. One possible explanation for this finding is taken from Clark and Strauss (2008) who conjectured that individuals with spouses may also have retirement savings entitlements and this tended to be less risk averse.

Remaining demographics are generally non-significant including age, education and income. The odds ratio of making the investment choice is significantly increased for the highest wealth category, but for no other categories, relative to the lowest wealth category.

<Insert Table II>

The results find religious affiliation is not significant in the investment choice. With regard to religiosity or religious commitment, the results suggest that RCI is positively linked to investing in the unit trusts though this was not significant, suggesting that RCI had no direct influence on investment choice decision. These two results support Vyvyan, Ng and Brimble (2005) who also found that religious beliefs did not influence the investment decision-making process, particularly with regard to socially responsible investing (SRI).

Perception of the importance of financial advisors was significant and positively related to the odds of making the retirement savings investment choice. This is consistent with the previous evidence of low member awareness of the investment choice available in the absence of the unit trust consultant advice (EPF, 2004). The advisor is therefore an important gatekeeper/facilitator of the decision to withdraw money from the EPF and invest in an approved unit trust. For the EPF, unit trust consultants are an important information channel for their members.

Financial risk tolerance was expected to be positively associated with investment choice decision and results support an increase in the odds of making the investment decision with increasing risk tolerance. This finding is consistent with previous studies that find financial risk tolerance related to the decision to save for retirement (Jacobs-Lawson & Hershey, 2005), and to the level of retirement savings (Grable & Joo, 1997; Yuh & DeVaney, 1996).

Financial knowledge has generally been shown to have a positive relationship with financial behaviours, including retirement savings. However, here the self-assessed financial knowledge measure was not significant in explaining the odds of making the investment decision. This is surprising given that ability to make the decision relies on knowledge of the EPF rules and more general investment knowledge required when selecting the unit trusts. It is possible that the non-significant finding may be due to the self-assessment of financial knowledge not being a good proxy for objective measures of financial knowledge. The proportion of the sample aware of the investment choice

available to members was 58 percent and the dominant source of the awareness was through the unit trust consultants. When viewed in combination with the positive relationship found for the importance of financial advisors it suggests that the required knowledge is very specific and the knowledge measure included was too general to capture this.

In terms of the role of plan design on choice, both the amount of savings available for the choice and the range of unit trusts available for the choice were found to be significant. In terms of the amount of savings available to be invested externally, the odds of having made the investment choice was significantly larger for those members who believed a larger proportion of savings should be able to invested externally. The direction of causality here though is unclear. That is, it is possible that those who have made the investment choice, having done so, then would like to invest more externally rather than it being a driving force for the original choice. The second aspect of plan design, the range of available unit trusts for external investment, suggests those members who considered the range available as "about right" were more likely to make the investment decision.

5. Conclusion and Implications

This study provides several theoretical and practical implications. Research focusing on an individual's choice within the retirement savings context is relatively sparse in emerging and newly industrialised countries, since most of the relevant literature is derived from developed countries. Therefore, this study provides the first evidence on the factors that influence individuals' retirement savings behaviour in Malaysia. Looking from a cultural perspective, this study adds to the existing literature on retirement savings by exploring the role of religious affiliation and religiosity on the individuals' investment choices. The EPF is an important retirement savings institution for Malaysian workers and an important part of the EPF's plan design is the choice available to members to withdraw a component of savings and invest them externally in a selection of approved unit trusts. As one of the EPF's and Malaysian government's initiatives is to enhance its nations' retirement income, this study has explored the motivation for the individuals to make this decision.

Religion and religious commitment were not found to be significant factors in explaining the likelihood for making the investment decision. The results suggested three significant factors that are associated with an increase in the odds of individuals' likelihood to invest part of their retirement savings in the unit trusts: perceived importance of financial advisor, financial risk tolerance, and aspects of plan design. In terms of demographic variables, gender, and marital status were found to be significant predictors of individuals' likelihood to invest part of their retirement savings in the unit trusts.

The significance of the financial advisor can be contrasted with the non-significant result for self-assessed investment knowledge. For the EPF this highlights the importance of information dissemination channels. The significance of aspects of plan design in the likelihood of making an investment choice also highlights the relevance of further education for EPF members on the available choice if the EPF wants further engagement.

It is worth highlighting that the features embedded within the EPF Members Investment Scheme are unique, in that they only permit members to invest 20 per cent of the excess of basic savings in the approved unit trusts. This demonstrates a belief by the EPF that members can exercise investment choice to enhance retirement outcomes. Future work could focus on the types of investment choices made and the quality of the actual decisions made. That is, how much of the available excess is invested, what type of unit trusts are selected from those available and how do these choices perform. This would provide a natural extension of the results provided in this paper.

Acknowledgements

This research is sponsored by the Ministry of Higher Education Malaysia (MOHE), Universiti Malaysia Terengganu, and Edith Cowan University.

References:

- Abdul Samad, F., & Kari, F. (2007). Adequacy of Retirement Income: A Study of Pension Fund in Malaysia. *Asian Profile*, *35*(5), 413-428.
- Agnew, J., & Szykman, L. R. (2005). Asset Allocation and Information Overload: The Influence of Information Display, Asset Choice, and Investor Experience. *Journal of Behavioural Finance*, 6(2), 57-70.
- Alexander, G. J., Jones, J. D., & Nigro, P. J. (1998). Mutual Fund Shareholders: Characteristics, Investor Knowledge, and Sources of Information. *Financial Services Review*, 7, 301-316.
- Anand, P., & Cowton, C. J. (1993). The ethical investor: Exploring dimensions of investment behaviour. *Journal of Economic Psychology*, 14, 377-385.
- Bailey, J. M., & Sood, J. (1993). The Effects of Religious Affiliation on Consumer Behavior: A Preliminary Investigation. *Journal of Managerial Issues*, *5*(3), 328-352.
- Bajtelsmit, V. L., Bernasek, A., & Jianakoplos, N. A. (1999). Gender differences in defined contribution pension decisions. *Financial Services Review*, 8(1), 1-10.
- Barber, B., Lehavy, R., McNichols, M., & Trueman, B. (2003). Reassessing the returns to analysts recommendations. *Financial Analysts Journal*, *59* pp. 88-96.
- Barber, B., & Odean, T. (2000). Trading is hazardous to your wealth: the common stock investment performance of individual investor. *J. Finance*, *55*, 773-806.
- Bateman, H., & Mitchell, O. S. (2004). New evidence on pension plan design and administrative expenses: the Australian experience. *Journal of Pension Economics and Finance*, 3(1), 63-76.
- Bernasek, A., & Shwiff, S. (2001). Gender, risk, and retirement. *Journal of Economic Issues*, 35(2), 345-356.
- Byrne, A. (2007). Employee Saving and Investment Decisions in Defined Contribution Pension Plans: Survey Evidence from the UK. *Financial Services Review*, 16(1).
- Calvet, L. E., Campbell, J. Y., & Sodini, P. (2006). Down or Out: Assessing the Welfare Costs of Household Investment Mistakes. *NBER Working Paper, No.* 12030.
- Capon, N., Fitzsimons, G. J., & Prince, R. A. (1996). An Individual Level Analysis of the Mutual Fund Investment Decision. *Journal of Financial Services Research*, 10, 59-82.
- Clark-Murphy, M., & Gerrans, P. (2001). Choices and retirement savings: some preliminary results on superannuation fund member decisions. *Economic Papers*, 20(3), 29-42.
- Clark, G. L., & Strauss, K. (2008). Individual pension-related risk propensities: the effects of socio-demographic characteristics and a spousal pension entitlement on risk attitudes. *Ageing & Society*, 28, 847-874.
- Collard, S. (2009). Individual investment behaviour: A brief review of research *Personal Finance Research Centre* (pp. 1-32). Bristol: University of Bristol.
- Croy, G., Gerrans, P., & Speelman, C. (2010). The role and relevance of domain knowledge, perceptions of planning importance, and risk tolerance in predicting savings intentions. *Journal of Economic Psychology*, 31(6), 860-871.
- Delener, N. (1994). Religious Contrasts in Consumer Decision Behaviour Patterns: Their Dimensions and Marketing Implications. *European Journal of Marketing*, 28(5), 36-53.
- Dulebohn, J. H. (2002). An Investigation of the Determinants of Investment Risk Behavior in Employer-Sponsored Retirement Plans. *Journal of Management*, 28(1), 3-26.

- Dulebohn, J. H., Murray, B., & Sun, M. (2000). Selection among employer-sponsored pensioned plans: The role of individual differences. *Personnel Psychology*, 53(2), 405-432.
- Engel, J. F. (1976). Psychographic Research in a Cross-cultural Non-product Setting. *Advances in Consumer Research*, *3*, 98-101.
- EPF. (2004). Younger Malaysians Have More Confidence In The EPF.
- EPF. (2014). EPF New Basic Savings Effective January 2014
- Fry, T., Heaney, R., & McKeown, W. (2007). Will investors change their superannuation fund given the choice? *Accounting and Finance*, 47, 267-283.
- Gallery, N., Newton, C., & Palm, C. (2011). Framework for Assessing Financial Literacy and Superannuation Investment Choice Decisions. *Australasian Accounting Business and Finance Journal*, 5(2), 3-22.
- Gerrans, P., & Clark-Murphy, M. (2004). Gender differences in retirement savings decisions. *Journal of Pension Economics and Finance*, 3(1), 145-164.
- Gerrard, P., & Cunningham, J. B. (1997). Islamic banking: a study in Singapore. *International Journal of Bank Marketing*, 15(6), 204-216.
- Gharghoria, P., Mudumbab, S., & Veeraraghavanc, M. (2007). How smart is money? An investigation into investor behaviour in the Australian managed fund industry. *Pacific-Basin Finance Journal*, 15(5), 494-513.
- Grable, J. E., & Joo, S. (1997). Determinants of risk preference: implications for family and consumer sciences professionals. *Family Economics and Resource Management Biennial*, 2, 19-24.
- Grable, J. E., & Lytton, R. H. (1997). Determinants of retirement savings plan participation: a discriminant analysis. *Personal Finances and Worker Productivity*, *1*, 184-189.
- Grable, J. E., & Lytton, R. H. (1999). Assessing financial risk tolerance: Do demographic, Socioeconomic and attitudinal factors work? *Journal of Family Relations and Human Development/Family and Resource Management Biennial*, 1-9.
- Guiso, L., & Jappelli, T. (2005). Households Financial Information Acquisition and Portfolio Choice. *CEPR Working Paper*.
- Guiso, L., & Jappelli, T. (2006). Information acquisition and portfolio performance. *CSEF Working Paper, No. 167*.
- Haron, S., Ahmad, N., & Planisek, S. L. (1994). Bank Patronage Factors of Muslim and Non-Muslim Customers. *International Journal of Bank Marketing*, 12(1), 32-40.
- Haron, S., & Wan Azmi, W. N. (2008). Determinants of Islamic and conventional deposits in the Malaysian banking system. *Managerial Finance*, 34(9), 618-643.
- Hershey, D. A., & Mowen, J. C. (2000). Psychological Determinants of Financial Preparedness for Retirement. *The Gerontologist*, 40(6), 687-697.
- Hirschman, E. C. (1982). Religious Affiliation and Consumption Processes: A Preliminary Paradigm. In J. Sheth (Ed.), *Research in Marketing* (Vol. 6, pp. 131-170). Chicago: JAI Press.
- Iyengar, S. S., Huberman, G., & Jiang, W. (2004). How Much Choice is Too Much?
 Contributions to 401(k) Retirement Plans. In O. S. Mitchell & S. P. Utkus (Eds.), *Pension Design and Structure: New Lessons from Behavioral Finance* (pp. 83-96). Oxford: Oxford University Press.
- Jacobs-Lawson, J. M., & Hershey, D. A. (2005). Influence of future time perspective, financial knowledge, and financial risk tolerance on retirement saving behaviors. *Financial Services Review*, 14, 331-344.

- Jamaludin, N., Smith, M., & Gerrans, P. (2012). Mutual fund selection criteria: evidence from Malaysia. *Asian Review of Accounting*, 20(2), 140-151.
- Keister, L. A. (2003). Religion and Wealth: The Role of Religious Affiliation and Participation in Early Adult Asset Accumulation. *Social Forces*, 82(1), 175-207.
- Koh, B. S. K., Mitchell, O., Tanuwidjaja, T., & Fong, J. (2008). Investment patterns in Singapore's Central Provident Fund System. *Journal of Pension Economics and Finance*, 7, 37-65.
- Lehrer, E. L. (2004). Religion as a Determinant of Economic and Demographic Behavior in the United States. *Population and Development Review, 30*(4), 707-726.
- Lewellen, W. G., Lease, R. C., & Schlarbaum, G. C. (1977). Patterns of Investment Strategy and Behavior among Individual Investors. *The Journal of Business*(July), 296-333.
- Lusardi, A., & Mitchell, O. S. (2006). Financial literacy and planning: Implications for retirement wellbeing. *Pension Research Working Paper, Pension Research Council, Wharton School University of the University of Pennsylvania, Philadelphia.*
- Martin, J. G. (1996). Another Puzzle: The Growth in Actively Managed Mutual Funds. *Journal of Finance*, *51*(3), 783-810.
- Mokhlis, S. (2009). Religious Differences in Some Selected Aspects of Consumer Behaviour: A Malaysian Study. *The Journal of International Management Studies*, 4(1), 67-76.
- Muhamad, R., S. Susela Devi, & Abdul Mu'min, A. G. (2006). Religiosity and the Malaysian Malay Muslim Investors: Some Aspects of Investment Decision. *Advances in Global Business Research*, *3*(1), 197-206.
- Ong, F. S., Kitchen, J. P., & Jama, A. T. (2008). Consumption patterns and silver marketing: an analysis of older consumers in Malaysia. *Marketing Intelligence & Planning*, 26(7).
- Rashid, M. Z., & Ibrahim, S. (2008). The Effect of Culture and Religiosity on Business Ethics: A Cross-cultural Comparison. *Journal of Business Ethics*, 82, 907-917.
- Speelman, C. P., Clark-Murphy, M., & Gerrans, P. (2007). Decision Making Clusters in Retirement Savings: Preliminary Findings. Australian Journal of Labour Economics, 10(2), 115-127.
- Tahir, I., & Brimble, M. (2011). Islamic investment behaviour. *International Journal of Islamic and Middle Eastern Finance and Management*, 4(2), 116-130.
- Tang, N., & Mitchell, O. S. (2008). The Efficiency of Pension Plan Investment Menus: Investment Choices in Defined Contribution Pension Plans. *Michigan Retirement Research Center Working Paper*, WP 2008-176, 1-33.
- van Rooij, M. C. J., Kool, C. J. M., & Prast, H. M. (2007). Risk-return preferences in the pension domain: Are people able to choose? *Journal of Public Economics*, 91(3-4), 701-722.
- Vyvyan, V., Ng, A. C., & Brimble, M. A. (2005). Belief and Investing: Preferences and Attitudes of the Faithful. *AFAANZ Conference Proceeding, Melbourne*.
- Wan Ahmad, W. M., Ab Rahman, A., Ali, N. A., & Che Seman, A. (2008). Religiosity and Banking Selection Criteria among Malays in Lembah Klang. *Jurnal Syariah*, 16(2), 279-304.
- Worthington, A. C. (2008). Knowledge and Perceptions of Superannuation in Australia. *Journal of Consumer Policy*, *31*, 349-368.
- Worthington, E. L., Wade, N. G., Hight, T. L., Ripley, J. S., McCullough, M. E., Berry, J. W., . . . Bursley, K. H. (2003). The Religious Commitment Inventory-10:

Development, Refinement, and Validation of a Brief Scale for Research and Counseling. *Journal of Counselling Psychology*, *50*(1), 84-96. Yuh, Y., & DeVaney, S. A. (1996). Determinants of couples' defined contribution retirement funds. *Financial Counselling and Planning*, *7*, 31-38.

Table I: Structure of the questionnaire for EPF members

Section	Variables	Question Number	No. of items	Scale	Main source
A	Demographics	1-10	10	Categorical,	Author
В	Retirement Savings Behaviour	1-4	4		
		5	4		
		6		G	Author, (Byrne, 2007),
		7-10	5 4 5	Categorical,	(Fry, Heaney, &
		11	5	Likert scale	McKeown, 2007)
		12	1		
		13	7		
		14-16	3		
С	Financial Information	1	9	Likert Scale	(Capon, et al., 1996)
	Sources	2	5		
E	Financial and Investment Knowledge	1	5	Likert scale	(Dulebohn, 2002; Hershey & Mowen, 2000; Jacobs- Lawson & Hershey, 2005), (Byrne, 2007)
F	Financial Risk Tolerance	1	5	Likert scale	(Jacobs-Lawson & Hershey, 2005)
G	Religious Commitment Inventory (RCI)	1	10	Likert scale	Worthington et al. (2003)

Table II: Likelihood to Invest in Unit Trusts External to EPF

Constant	Exp (B)
Constant Religious Affiliation (base: Islam)	0.001***
Buddhism	0.220
Hinduism	1.150
	0.064
Christianity RCI	1.019
	1.178***
Advisor	
Fin_RiskTolerance	1.141***
Fin_Knowledge	1.001
Plan design1 (Base: below 20%) 20% (current limit)	1.599
21% - 40%	3.686***
21% - 40% 41% - 60%	4.520**
	0.377
61% - 100%	0.577
Plan Design2 (Base: Too narrow)	2.266*
About right	2.266*
Too broad	0.538
Don't know	0.571
Gender - female	0.354***
Age	0.973
Marital status – married	2.081**
Ethnicity (base: Malay)	0.666
Chinese	8.666
Indian (D. C. J. J. J.)	1.130
Education group (Base: Secondary school)	
Diploma	1.535
First degree	1.480
Masters degree	0.825
PhD and others	0.367
Monthly Income (base <=RM4,000)	
Between RM4,001 and RM5,000	1.018
Between RM5,001 and RM6,000	.286**
Between RM6,001 and RM7,000	3.423
Between RM7,001 and RM8,000	1.845
Between RM8,001 and RM9,000	5.286
Between RM9,001 and RM10,000	1.159
RM10,001 and above	2.011
EPF Membership (base: <5 years)	
5-10 years	3.505***
11-20 years	1.409
More than 20 years	0.949
Total EPF savings (base: <=RM20,000)	
Between RM20,001 and RM40,000	1.080
Between RM40,001 and RM60,000	1.122
Between RM60,001 and RM80,000	2.244
Between RM80,001 and RM100,000	0.499
Between RM100,001 and RM120,000	2.134
Between RM120,001 and RM140,000	0.766
RM140,001 and above	3.685*
Total wealth (Base: \leq = RM10,000)	
Between RM10,001 and RM20,000	1.746
Between RM20,001 and RM30,000	3.161**
Between RM30,001 and RM40,000	1.032
Between RM40,001 and RM50,000	1.223
RM50,001 and above	0.497
N=439, -2 Log likelihood = 405.737, Model χ^2 = 200.655, p<0.01 (
	p<0.05, *p<0.1