

DETERMINANTS OF RETIREMENT SAVINGS

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Abstract

Global demographic changes and retirement savings adequacy have emphasised on voluntary pension as a new paradigm for the retirement system. This has led to many types of research pertaining to the development of the private retirement system. The effort was followed by making the mandatory Second Pillar and voluntary Third Pillar of the social security system as more financially sound and important. This is to encourage contributors to the retirement fund to switch focus from a less generous pension-guaranteed-defined benefit system to a more individualistic-defined contribution plan. This review article collected, compiled, and reviewed selected articles on the determinants of retirement savings and planning. It was sourced from several electronic databases in an attempt to group the determinants into different categories. The input from the reviews was then categorised into economics, socioeconomics, and non-economics sub-categorical behavioural, psychological, and demographic determinants and its application, as reported in researches pertaining to retirement savings and planning of the near decade. Some suggestions were made in light of the analysis.

Keywords: Pension System, Retirement, Retirement Fund, Retirement Planning, Retirement Savings

Introduction

Many reasons were given to explain the pressure of providing old-age retirement support around the world. Given the current economic situation (Fuor & Filip, 2015), pension adequacy (Arias & Ghilarducci, 2011), changing demographics (Savador, 2012), enhanced longevity, ageing population and lower mortality rates (Tengku Aizan, 2015) have all increased the number of pensioners and asserted pressure on retirement adequacy. The consequences of insufficient pre-retirement planning practices and retirement savings have been identified as promoting major economic problems in many developed countries (Hershey & Mowen, 2000). The current pension support system is claimed as not able to cope with this problem, but it is not viable for many governments to continue providing funding for social security and pension. Thus, countries have opted to transfer this responsibility to individuals (Teusta, 2016). Even countries with a strong pension support system and are generous in their terms of pension welfare are moving towards promoting the Second and Third Pillars of social security and encouraging private sector provisions for retirement (Foster, 2017). Some have even called for retrenchment in the public pension system (Naczyk, 2013). At an individual level, retirement is a major life transition and can be a stressful life event if not managed well (Petkoska & Earl, 2009). The 2015 US Retirement Confidence Survey reported that 24% of workers in the survey are “not at all confident” in having enough money to live comfortably

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throughout their retirement years (Ruth Helman, Greenwald, Copeland, & VanDerhei, 2015).

A significant number of studies have examined the determinant of retirement funds, specifically on private retirement investment. Retirement savings behaviour is a "complex object" that might be a function of several different attitudes, such as attitude towards savings or attitude towards the activity of investing (Dulebohn & Murray, 2008). This paper investigated some of the determinants reported in articles pertaining to retirement savings and retirement planning. Selective articles on retirement savings were collected, compiled, and analysed to understand and provide insights into the reason for individuals to save and plan for retirement. Understanding the determinants related to retirement savings will provide ideas to contest the insufficiency of an individual's financial savings. These articles were collected from web-based resources. For the purpose of analysis, the determinants were then classified into economics, socioeconomics, and non-economics determinants, and its sub-themes.

Retirement Systems

Retirement savings are part of a complex financial planning behaviour and require a multidimensional model that involves individuals to act (Husin & Rahman, 2013). In fact, they require individuals to act and make decisions on something that they find hard to visualise, since savings for retirement require prompt action for something that will be used in the future. Many researchers noted differences between retirement planning activities, retirement savings, joining retirement funds, as well as long-term and short-term contributions to retirement funds. This paper collected articles that reviewed behaviours of saving for retirement, which coincides with activities of planning, savings, contribution for long-term and short-term retirement plan, and disregarding the procedural and administrative differences between them.

The World Bank, in advising countries, tends to utilise a multi-pillar model. It begins with a relatively small means-tested or flat-benefit 'Zero Pillar' that is as limited as possible and evolves to become a feasible and mandatory 'First Pillar' with contributions linked to varying degrees of earning. This is typically financed on a pay-as-you-go basis and Second Pillar's mandatory direct contribution (DC), fully funded, or privately-managed fund. The bank then recommends that the better-off group should boost their mandated retirement income through the 'Third Pillar' voluntary arrangements, which generally favour individual-account approaches, but accept employer-provided approaches either separately or in combination with individual-account approaches (Tolos, 2012). Not only is the Third Pillar flexible and discretionary, but it was designed to compensate the rigidities of other systems. The First, Second, and Third Pillars coincide with retirement resources, while the final pillar, the Fourth, is the support system for retirement well-being. Unlike the other four pillars, the Zero Pillar is the social safety net. It is compulsory and non-contributory in the form of demo-grant, social pension, or general social assistance typically financed by the local, regional, or national governments to deal with poverty alleviation. It is a public-defined benefit scheme aimed at poverty reduction through redistribution (APEX, 2004). It provides the elderly with a minimal level of protection and ensures that people with low incomes are provided with basic protection in old age (Holzmann, Hinz, & Dorfman, 2008).

It has been a major concern of governments around the world, especially in European countries, on the low levels of savings for retirement purposes and support moves towards a greater role for a privately-managed fund component (Holzman, 2013). Private retirement systems under the Second and Third Pillars of social security are said to be the next progression of pension reform around the world. The movement towards treating pensions as the property of an individual in offering them a degree of greater security transmits the pressure to the individual to capitalise their “stakeholder” pensions (Spicker, 2011). Private pensions are no longer a state guarantee, but depend on the performance of the stocks and investment, which pose their own issues in terms of the performance, security, stability, and sustainability of the fund (Spicker, 2011). Accordingly, participants in this kind of defined contribution plans are the ones faced with the risk of investment loss (Dulebohn & Murray, 2008). These affect the behaviour and acceptance of the private pension’s investors, which this paper investigated.

Private pension systems are intertwined with financial markets and based on the accumulation of funds, while social insurance-based public pension systems are linked to labour market mechanisms, whose amount can fluctuate with economic growth and employment (Lagoutte & Reimat, 2013). Lagoutte & Reimat (2013), in their findings in comparing the British and French pension systems, stated that although the public pension systems are better in terms of security and fairness for pensioners, they put the states into large deficits and debts and consequently compel them into reducing social welfare spending. However, the private pension systems have ceased to be successful and met many limitations after the stock market depression. A relatively high number of retirees are facing shrinking income and expected to become increasingly poor because the expected high rate of return has failed to materialise (Lagoutte & Reimat, 2013).

Determinants of Retirement Savings

There is an extensive theoretical and empirical literature related to retirement savings. Many have also discussed varying factors or determinants regarding retirement savings, from traditional and early studies that focused on economic factors, to non-economic factors such as behavioural, psychological, and the most popular one, demographics. Each of these categories has been loosely defined in this paper, and this study in no way claims that each class is specific or distinct. In summarising the findings of earlier studies, this review considered similarities and differences and attempted to group and classify the themes into economics and non-economics factors, as shown in Fig. 1.

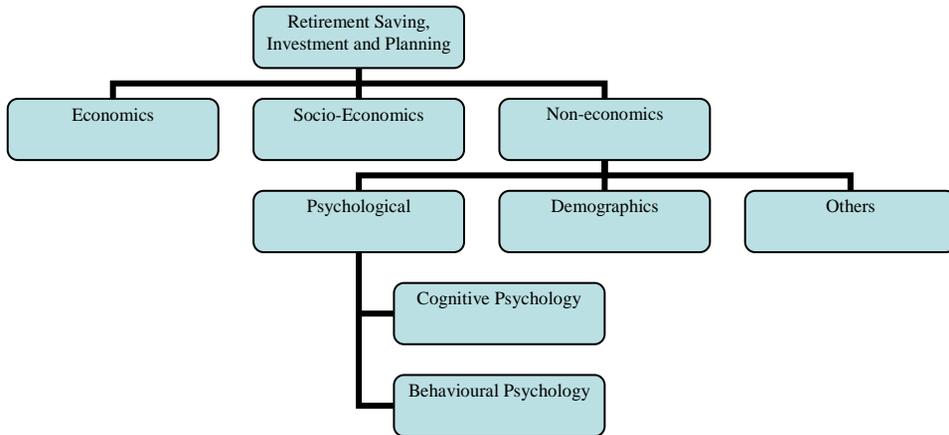


Figure 1 Classification of Economics, Socio-Economics, and Non-Economics Factors

The conceptual model in **Figure 1** is an extension of a more general model of planning advanced by Friedman and Scholnick (1997). They suggested that there exists four major, qualitatively different sets of influences on retirement savings behaviours, which are psychological (including cognitive, personality, and motivational forces), task characteristics (such as complexity and prior experiences), cultural ethos (social norms that shape attitudes, thoughts, and perceptions), and financial resources and economic forces (such as household income and economic climate). It is important to note that economists at different times have emphasised different economic activities and arrived at different definitions of economics. However, this paper employed the determination of economics that are associated with accumulation of wealth, material welfare, scarcity, growth, and development. In other words, the definition of economics in this study is limited only to financial matters. While socioeconomic determinants are commonly associated with social standing or the class of an individual or group, it is often measured as a combination of education, income, occupation, and livelihood.

Examination into socioeconomic status often reveal inequities in accessing resources and issues related to privilege, power, and control. The difference between economics determinants and socioeconomics is that the former pertain to the economy, while the latter pertain to social and economic factors that create the class or status of the individual or group. Social interaction such as support from families and friends will also be considered under this classification. However, a cross-section examination showed that social norm is also considered as a behavioural determinant (Ajzen & Fishbein, 1977). Thus, in many instances, which are also due to the nature of different studies, the determinants could not be precisely categorised. It is pertinent to note that most researches were a crossover with multiple factors that were reported either directly, moderated, or mediated. This increased the richness of the studies involved, but at the same time created confusion in the class of the determinants.

Likewise, consideration is also required between the psychological and behavioural determinants. Although the study of behaviour stems from psychology,

the distinction is clear when the determinants are divided into cognitive and behavioural psychology. In the current study, the psychological determinants are divided into cognitive psychology that focuses on feelings and emotions, and behavioural psychology that focuses on behaviours and beliefs that entail action and intention. Behavioural psychology is based on the idea that all behaviours are acquired through conditioning via interaction with the environment, while cognitive psychology is the study of mental functions such as learning, conceptual development, perception, and decision-making. The focus of cognitive psychology is on the acquisition, processing, and storing of information in the mind. This is in contrast with behavioural psychology that focuses on classical and operant, or instrumental conditioning such as changes of responses, acts, or observable behaviours after being given a stimulus or reward (Deutsch & Deutsch, 1963). To distinguish the differences between psychological and behavioural determinants, this study focused on the determinants of behaviour based on the studies of Fishbein and Ajzen (Ajzen & Fishbein, 1977).

1. Economics Determinants

Apart from Milton Friedman's Permanent Income Hypothesis, the Modigliani's Life Cycle Model provides a map to better understand the economics of the consumption, savings, and wealth of a nation, which has boosted the research on retirement investments and savings, including the private and public provision of social security in the 1950s. Although the two theories have been visited, challenged, modified, and extended many times over the years, they remain an essential part of economists' thinking (Deaton, 2005). This review did not attempt to discuss the economic factors regarding the two theories, as they require an extensive discussion, but works of Modigliani and Friedman on retirement savings entail an honourable mention. Economic theories of savings such as the Life-Cycle Hypothesis and the Permanent Income Model assume that individuals or households are rational. The household will accumulate and then decumulate assets to maximise lifetime utility function, including a bequest. In addition, the household also has the cognitive ability and sufficient willpower to optimise consumption and savings (Benartzi & Thaler, 2007). Modigliani noted that one of the most important motives for putting money aside is the need to provide for retirement (Modigliani, 1986). The life-cycle hypothesis suggests that individuals plan their consumption and savings behaviour over their life-cycle. People will save when they are young so that they will have money to spend when they are old and cannot work or wish not to work. They intend to even out their consumption in the best possible manner over their entire lifetimes, doing so by accumulating what they have earned and dissaving when they are retired, and all is done by maximising utility. The key assumption is that all individuals choose to maintain stable lifestyles. This implies that they usually do not save up a lot in one period in order to spend furiously in the next, but keep their consumption levels approximately the same during every period. This simplistic idea opens to various discussions and concepts and continues to provide a framework to economists on the intertemporal issues of savings, both at the individual- and economy-wide levels.

2. Socioeconomics Determinants

Socioeconomic status plays a vital role in determining the participation and savings for retirement. Property or home ownership as mentioned in the Fourth Pillar of the World Bank social security system provides comfortable support financially and socially pertaining to retirement planning and savings (Ares, Lopez, & Bua, 2015; DeVaney & Chiremba, 2005; Stinglhamber, Zachary, Wuyts, & Valenduc, 2007). Ideally, a household that already owns a property will have extra money for retirement purposes. At the same time, the wealth of the neighbourhood and area of residence are also said to impact retirement savings in terms of the social norm. In addition, urban dwellers are hypothesised as having higher retirement savings (Ares *et al.*, 2015; Stinglhamber *et al.*, 2007), as shown in Table 1 below.

Table 1: Socioeconomics Determinants of Retirement Savings and Retirement Planning

Author	Countries/Sample/Unit of Analysis	Dependent Variable	Socioeconomics
(Stinglhamber, Zachary, Wuyts, & Valenduc, 2007)	Netherlands/Sample tax return from 1993(10,343)-2003 (47,484), random selection from income tax/household age 20-64	Participation in voluntary pension.	Dependent inheritance (-), area of residence (+), property ownership (+)
(Ares, Lopez, & Bua, 2015)	Spain and Portugal/Survey of Health, Ageing, and Retirement in Europe (SHARE), 2080 Portuguese & 3570 Spanish respondents (age less than 65 [final 1,808 samples])	Have money in an individual retirement account	Household income (-), employment status (+), the area of residence: urban (+), house ownership (+)
(DeVaney & Chiremba, 2005)	The USA, survey of consumer finance, 3428 pre-retired households	Retirement account (decision to save)	Homeownership (+)
(Huberman, Iyengar, & Jiang, 2007)	The USA, The Vanguard Group Data of 926,105 participants, mostly 401(k) plans	Contribution to retirement plan	Pension plan (+), financial wealth of the neighbourhood (+)
(Fisher & Anong, 2012)	2007 SCF triennial survey, 4,422 households interviewed (2915: area probability sample, 1507 list sample)	Savings regularly	Homeowner (+), household income (+)

3. Demographic Determinants

3.1 Age

Influenced by the Life-Cycle Model by Modigliani (1955), age is known as one of the most dominant and researched predictors of retirement savings and retirement planning. As shown in Table 2, all the researches show a positive relationship between age and retirement planning and savings. The results from many researches showed that age and being older posit a strong relationship with retirement savings (DeVaney & Chiremba, 2005; Hira, Rock, & Loibl, 2009; Huberman, Iyengar, & Jiang, 2007; Lum & Lightfoot, 2003; Mansor, Choon Hong, Hidayah Abu, & Shahidan Shaari, 2015; Stinglhamber *et al.*, 2007; Van Rooij, Lusardi, & Alessie, 2011). A study by Foster (2017) identified a number of characteristics associated with young people's apparent undersaving. These include the lack of knowledge about pensions and where to seek advice, the lack of trust in providers, the perceived inability to afford current contributions, and a myopic view of pensions. It is apparent that asking more young people to save for retirement or put aside more for retirement entails changing individual attitudes and behaviours. This is true, as far as pointed out by Hira *et al.* (2009), that the behavioural tendencies of young individuals (21-39 and 40-59 age groups), who are active savers, seek information, and starting to invest at an early age, are positively and significantly related to the maximisation of retirement contribution, which shows that there may exist differences in terms of retirement planning behaviour among the age groups.

3.2 Gender

Being male has a positive relationship (Huberman *et al.*, 2007; Lum & Lightfoot, 2003) with retirement savings and retirement planning. Women tend to have a smaller accumulation of the basic and supplemental retirement plans due to lower annual earning (Huberman *et al.*, 2007). Women are more likely to be employed in occupations requiring lower skills and less education, have fewer years of job tenure, and tend to have lower annual earnings (Clark, D'Ambrosio, McDermed, & Sawant, 2012). Consequently, women may be less prepared financially for retirement than men, and they may also be less able to enhance their retirement savings due to the prospects of lower earnings during their working lives. A study by Trenow, Olchawski, Foster, and Heneghan (2016) revealed that women's attitudes towards pensions are very different compared to those towards other financial decisions. Participants are often more engaged in other types of savings and more motivated to increase their assets. However, a research in Malaysia by Mansor *et al.* (2015) showed that gender difference does not bring any effect to the decision-making on retirement and mentioned that the likelihood of both genders' behaviours on professional retirement help-seeking is the same. It is important to note that the respondents in their studies are health professionals with high salary and education. This is consistent with Huberman, Iyengar, and Jiang (2007), who stated that women relatively save more than men because the former have a stronger taste for savings and that they live longer on average.

Table 2: Demographic Determinants of Retirement Savings and Retirement Planning

Author	Countries/Sample/Unit of Analysis	Dependent variable	Demographics
(Ares, Lopez, & Bua, 2015)	Spain and Portugal/Survey of Health, Ageing, and Retirement in Europe (SHARE), 2080 Portuguese & 3570 Spanish respondents (age less than 65 [final 1,808 samples])	Individual retirement account	Level of education (+), employment status (+), gender & marital status (not significant)
(Mansor <i>et al.</i> , 2015)	Malaysia, 110 respondents in the health sector	Retirement planning	Age (+), education (+), income (+), gender (-)
(Lum & Lightfoot, 2003)	USA, HRS data, sample included 7,350 households: 5,233 non-Hispanic white households, 1,400 non-Hispanic black households, and 717 Hispanic households	Pension plan	Age (+), gender: man (+), races: white and black (+), education (+), income (+)
(DeVaney & Chiremba, 2005)	The USA, survey of consumer finance, 3428 pre-retired households	Retirement account (decision to save)	Age (+), education (+), self-employment (-), married (+), race: white (+)
(Yang & DeVaney, 2012)	USA, 2007 Survey of Consumer Finances (SCF), 2,696 households	Retirements plan's participation	Race: white (+), age(+), income(+), education(+), expected age of retirement(+), spouse's education(+)

3.3 Education

The 2009 Attitudes to Pensions Survey highlighted that those with greater knowledge of pensions are generally better prepared for retirement and are more likely to plan and save compared to those with a low level of financial knowledge (Mansor *et al.*, 2015; Van Rooij *et al.*, 2011). Being more educated (DeVaney & Chiremba, 2005; Lum & Lightfoot, 2003), not only on financial knowledge, also has a positive relationship with financial preparedness and the accumulation of pension savings. This motion is also supported by Hira *et al.* (2009), who stated that those who engage in ex-ante research are more likely to maximise their retirement contributions. Financial education may improve retirement savings due to the increase in cognitive and numerical abilities, enhancement of retirement goal clarity, and the increase of financial planning (Banks & Oldfield, 2007). Having reviewed a range of evidence, Weyman *et al.* (2013) suggested that most individuals do not engage with pension issues in a systematic or rational way by first seeking out information to use in making decisions, which implies that knowledge is likely to follow experience.

3.4 Race

Brown (2007) stated that empirical data show that investor behaviour is greatly influenced by race, ethnicity, and class, with the blacks and Hispanics far less likely to invest in the stock market than white. In her research on retirement security, she found that certain employees are more likely to have a financially insecure future, especially blacks and Hispanics. Hira, Rock, and Liobl (2009) found that race is a significant contributor to retirement savings, particularly Caucasians who have higher tendencies to save. The same is supported by other researchers (Brown, 2007; DeVaney & Chiremba, 2005; Fisher & Anong, 2012; Lum & Lightfoot, 2003; Yang & DeVaney, 2012).

4. Psychological Determinants

The fact that socioeconomics and demographic factors have been in the discussion of many retirement savings studies indicate that less interest has been shown to psychological factors (Gough & Niza, 2011). Behavioural economics and finance are relatively new fields in economics, but they have already had a powerful influence on the economic theory and on public policy. In no area is this more evident than that of retirement savings (Thaler, Richard, & Benartzi, 2007). Table 3 shows some of the latest researches pertaining to psychological and behavioural determinants on retirement savings.

4.1 Cognitive Psychology

Thaler, Richard, and Benartzi (2007) identified three main behavioural impediments for participant's retirement readiness, which are inertia (status quo bias), loss aversion, and myopia. Inertia is a condition where most people dislike change and stick to something they are familiar with, especially if it requires mental or physical effort that will lead to procrastination or non-action. Loss aversion is when the feeling of loss is larger in one's mind than equal gains. In terms of retirement plan, savings is perceived as a form of loss when a saver loses his ability to spend (Kane, 2014). Myopia, or present bias, reflects the difficulty for an individual to act now in the interest of the future. In terms of retirement savings, this bias happens when one has the intention to save, but will spend instead, ending up procrastinating the act. It is easier to imagine doing the right things, but it is difficult to follow up the good intentions (Benartzi, Thaler, & Benartzi, 2004). Financial knowledge (Chou *et al.*, 2014; Van Rooij *et al.*, 2011) and risk tolerance (Yang & DeVaney, 2012) are positively associated with private retirement savings, while financial risk aversion is negatively associated, as mentioned by Ares, Lopez, and Bua (2015). Risk tolerance, which refers to one's ability to accept the possibility of loss of invested assets, has also been found to be associated with retirement savings (Dulebohn & Murray, 2008).

4.2 Behavioural Psychology

4.2.1 Attitude

A report by Macleod *et al.* (2012) explored how attitudes and beliefs affect actual and intended behaviours relating to pension savings for retirement and found that attitudes towards pension and savings for later life are not closely associated with different

pension behaviours. Devlin (2012), in his research notes, indicated that although there are reasonable levels of commitment to reviewing retirement plans on a regular basis, such attitudes are only apparent in a minority of those surveyed. People are far less enthused by the prospect of making financial plans for retirement and do not appear willing to put in a particularly large amount of effort. This shows that while many are committed to the task, actual levels of retirement savings remain far below the levels necessary for a comfortable retirement (Devlin, 2012). In comparison, those who have a positive planning horizon and Future Time Perspective will usually react positively towards retirement savings and planning and have adequate financial support during retirement (DeVaney & Chiremba, 2005; Yang & DeVaney, 2012). Pensions do not generate the same satisfaction or motivation, but are a cost without reward. Many participants likened this to the experience of paying tax.

Table 3: Psychological and Behavioural Determinants of Retirement Savings and Retirement Planning

Author	Countries/Sample/Unit of Analysis	Dependent Variable	Psychological Determinants	
			Cognitive Psychology	Behavioural Psychology
(Chou <i>et al.</i> , 2014)	Hong Kong, 999 Cantonese-speaking Hong Kong residents between 26-64 of age (75% response rate)	Private retirement savings	Future Time Orientation (-), risk tolerance (+),	Perceived financial knowledge (+), financial management capacity (+)
(Yang & DeVaney, 2012)	USA, 2007 Survey of Consumer Finances (SCF), 2,696 households	Retirement plan's participation	Risk tolerance (+)	Planning horizon (+)
(Lee & Kim, 2016)	USA, Survey of Consumer Finances (SCF) dataset, N=6015 households	Retirement assets		Propensity to plan (+)
(Croy, Gerrans, & Speelman, 2012)	Australia, Participants from Australian Superannuation funds, 20,000 questionnaires distributed, 2339 returned	Intention to contribute		Social norm (+ highest), perceived behavioural control (+), attitude (+ lowest)
(Duflo & Saez, 2003)	USA, employees attending benefit fair, 765 sample (612 treated, 153 untreated)	Enrolment decision		Information (+), knowledge (+), social norm (+), commit now for future (-), could not find time (-)

Investors who have a positive attitude towards retirement planning have a higher propensity to plan (Ameriks, Caplin, & Leahy, 2003; Lee & Kim, 2016). The propensity to plan is defined as a set of attitudes and skills that affect the way a household addresses the task of financial planning (Ameriks *et al.*, 2003). The theory suggests that different levels of management efforts in saving have the power to explain the different levels of asset accumulation. A household with higher levels of propensity to plan such as an intensive effort to borrow and make savings or investing decisions or seek financial advice tends to invest more assets in their retirement accounts, thus accumulating more wealth (Ameriks *et al.*, 2003; Lee & Kim, 2016). DeVaney and Chiremba (2005) who surveyed 3428 pre-retired households found that the household that has planning horizon (Lee, Park, & Montalto, 2000), risk tolerance, Future Time Perspective (Chou *et al.*, 2014), and savers significantly affect the decision to save compared to those who like to spend more than what their salary permits. Finally, the perceived ability in financial management is shown to be associated with the perceived adequacy of retirement savings (Van Dalen *et al.*, 2010).

4.2.2 Social Norm

According to the social norm hypothesis, it is predicted that the stronger the social support from friends, family, spouses or social regulation for retirement savings, the more likely an individual will save more for their retirement (Duflo & Saez, 2002). A study also indicated that the impact of economic socialisation is long-lasting and influences their economic behaviour in adulthood (Webley & Nyhus, 2006). Social forces may also affect retirement savings decisions because they provide a social norm indicating the “right” course of action. According to Chou *et al.* (2014), individuals with high levels of social influence tend to trust banks and are also more likely to save for their retirement. The individuals’ retirement decisions are also influenced by the early retirement decisions of their spouses (Chou *et al.*, 2014) and peers (Duflo & Saez, 2002). Early parental socialisation and parental direct teaching or encouragement may shape workers’ attitudes so that they consider retirement savings to be important (Van Dalen, Henkens, & Hershey, 2010). Individual orientation that has learnt the importance of savings in childhood can easily be generalised to retirement savings, probably through the development of better financial management skills or financial knowledge (Hershey *et al.*, 2010).

4.2.3 Perceived Behavioural Control

Chou *et al.* (2014) reported factors associated with retirement savings that involve an individual’s psychological disposition to save, which are Future Time Perspective, financial knowledge, risk tolerance, and perceived ability in financial management. Future Time Perspective is a personality trait in which an individual perceives the future as important and the present is found to have a direct impact on retirement planning and savings. However, the findings by Chou *et al.* (2014) reported that the engagement in retirement savings and the amount saved are positively related to two psychological factors: perceived financial knowledge and financial management capacity, but not on future orientation or risk tolerance. Another important aspect in their studies showed that psychological factors affect both the engagement in savings for retirement and the amount saved, while social factors only have impacts on

engagements in savings. Hira, Rock, and Liobl (2012) reported that perceived or actual personal control is not significant in terms of the ownership of a retirement savings account (IRA/Keogh), but is positively significant in terms of maximising retirement contribution, which shows that an individual who has higher perceived control tends to save more for retirement. The same was discovered by Davis and Hustvedt (2012), who reported that behavioural intention has a limited role in targeted behaviour.

Conclusion

There are many factors that influence an individual's retirement savings. This paper attempted to look at some from a non-exhaustive list of determinants pertaining to retirement plans and retirement savings. These determinants have been combined and summarised from some of the researches investigated and have been loosely classified into economics and non-economics determinants. Increasing the understanding of the determinants of retirement savings in a broader view can benefit many into developing the right intervention to increase retirement savings. The issue of insufficient retirement savings come from many reasons that need to be understood by policy-makers in order to create a viable solution. Dependability of government-sponsored programmes across the globe is losing its popularity, and individuals are encouraged to fend for themselves in order to retire more comfortably. Thus, moving into mandatory or compulsory private retirement funds are unavoidable, but retirement savings behaviour is a complex function that interacts with several different factors. Retirement savings itself involves many processes: planning, enrolling, contributing, and savings, which altogether increase the complexities of the issue.

Demographic and psychological factors play an important role in determining the success of retirement savings. In figuring out retirement planning, it is important to consider the heterogeneity of the participants. It is impossible to create a system that can support each individual's needs, but by understanding the overall picture, a generic solution can be suggested. Although individual characteristics such as gender and age are clearly exogenous, one cannot rule out the possibility that retirement plan design can cater to the aggregation of the characteristics and preferences of the investors, for example, by considering different population groups with different income and locality. Education, especially financial knowledge can help, particularly with the economically disadvantaged group and those who are living in a social area where the idea of retirement savings is not a major concern. Most studies look at the age of the individuals and agree that age is very dominant, and being young is not in favour of retirement savings. Thus, intervention should start early and can be done by providing support and repeated information through media, and similarly through programs supported by the related institutions.

Many types of research have also shown that psychological and behavioural tendencies significantly affect planning and savings for retirement, which shows that in finding solutions for this lifetime issue, considering these factors is a must. The success of retirement adequacies depends on how one's view is of the future, their knowledge, the risk tolerance, attitudes, social interaction, and their perceived control of retirement planning and savings. Future research should consider the effects of psychological and behavioural tendencies on retirement savings habits on a larger

specific population with heterogeneous demographic in order to understand how each one reacts to retirement savings and planning and identify specific interventions to increase retirement savings. This can be done through observation of samples of individuals who have already planned or saved for retirement so that they can understand their behaviours and motivation and shed light for policy-makers and future investors alike.

References

- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior Relations: A Theoretical Analysis and Review of Empirical Research. *Psychological Bulletin*, 84(5), 888–918. <http://doi.org/10.1037/0033-2909.84.5.888>
- Ameriks, J., Caplin, A., & Leahy, J. (2003). Wealth Accumulation and the Propensity to Plan. *The Quarterly Journal of Economics*, 118(3), 1007–1047. <http://doi.org/10.1162/00335530360698487>
- Ares, L. R., Lopez, S. F., & Bua, M. V. (2015). The Determinants of Privately Saving for Retirement: the Cases of Portugal and Spain. *European Journal of Applied Business and Management*, 1(1). Retrieved from <http://nidisag.isag.pt/index.php/IJAM/article/view/26>
- Arias, D., & Ghilarducci, T. (2011). *Pension Reform's Stake in Employers* (No. Working Paper 2011-3). *Retirement Income Security Project Working Paper*. Schwartz Center for Economic Policy Analysis (SCEPA), The New School. Retrieved from <http://ideas.repec.org/p/epa/cepawp/2011-3.html>
- Banks, J., & Oldfield, Z. (2007). Understanding Pensions: Cognitive Function, Numerical Ability and Retirement Saving. *Fiscal Studies*, 28(2), 143–170. <http://doi.org/10.1111/j.1475-5890.2007.00052.x>
- Benartzi, S., & Thaler, R. H. (2007). Heuristics and Biases in Retirement Savings Behavior. *Journal of Economic Perspectives*, 21(3), 81–104. <http://doi.org/10.1257/jep.21.3.81>
- Benartzi, S., Thaler, R. H., & Benartzi, S. (2004). Save More Tomorrow™: Using Behavioral Economics to Increase Employee Saving. *Journal of Political Economy*, 112(S1), S164–S187. <http://doi.org/10.1086/380085>
- Brown, D. A. (2007). Pensions and Risk Aversion: The Influence of Race, Ethnicity, and Class on Investor Behavior. *Washington & Lee Public Legal Studies Research Paper Series*, Washington(2). Retrieved from https://www.researchgate.net/publication/228298617_Pensions_and_Risk_Aversion_The_Influence_of_Race_Ethnicity_and_Class_on_Investor_Behavior
- Chou, K.-L., Yu, K.-M., Chan, W.-S., Chan, A. C. M., Lum, T. Y. S., & Zhu, A. Y. F. (2014). Social and Psychological Barriers to Private Retirement Savings in Hong Kong. *Journal of Aging & Social Policy*, 26(4), 308–323. <http://doi.org/10.1080/08959420.2014.939840>
- Clark, R. L., D'Ambrosio, M. B., McDermed, A. A., & Sawant, K. (2012). Sex Differences, Financial Education, and Retirement Goals. In O. S. Mitchell & S. P. Utkus (Eds.), *Pension Design and Structure: New Lessons from Behavioral Finance* (pp. 185–206). Oxford University Press.
- Croy, G., Gerrans, P., & Speelman, C. (2012). Normative Influence on Retirement Savings Decisions: Do People Care What Employers and the Government want?

- Australian Journal of Psychology*, 64(2), 83–91. <http://doi.org/10.1111/j.1742-9536.2011.00029.x>
- Davis, K., & Hustvedt, G. (2012). It's a Matter of Control: Saving for Retirement. *International Review of Social Sciences and Humanities*, 3(2), 248–261. Retrieved from http://irssh.com/yahoo_site_admin/assets/docs/25_IRSSH-354-V3N2.202201509.pdf
- Deaton, A. (2005). Franco Modigliani and the Life Cycle Theory of Consumption. In *Convegno Internazionale Franco Modigliani, Accademia Nazionale dei Lincei*. Rome.
- Deutsch, J. A., & Deutsch, D. (1963). Attention: Some Theoretical Considerations. *Psychological Review*, 70, 80–90.
- DeVaney, S. a., & Chiremba, S. T. (2005). Comparing the Retirement Savings of the Baby Boomers and Other Cohorts. *Compensation and Working Conditions Online, U.S. Department of Labor, Bureau of Labor Statistics, March 16(4)*, 1–12. <http://doi.org/10.1016/j.elerap.2007.02.002>
- Devlin, J. F. (2012). Research note: Retirement planning - attitudes and behaviour. Retrieved from <https://www.nottingham.ac.uk/business/businesscentres/crbfs/documents/research-reports/paper87.pdf>
- Duflo, E., & Saez, E. (2002). Participation and Investment Decisions in a Retirement Plan: The Influence of Colleagues' Choices. *Journal of Public Economics*, 85, 121–148. Retrieved from www.elsevier.com
- Duflo, E., & Saez, E. (2003). *Implications of Information and Social Interactions for Retirement Saving Decisions* (No. PRC WP 2003-13). Philadelphia. Retrieved from <http://prc.wharton.upenn.edu/prc/prc.html>
- Dulebohn, J. H., & Murray, B. (2008, November). Understanding Risk Taking in Retirement Savings Through Attitude. *Trends and Issues*. Retrieved from https://www.tiaainstitute.org/public/pdf/institute/research/trends_issues/tr110108.pdf
- Fisher, P., & Anong, S. (2012). Relationship of Saving Motives to Saving Habits. *Journal of Financial Counseling and Planning*, 23(1), 63–79. Retrieved from https://www.afcpe.org/assets/pdf/v23_j4.pdf
- Foster, L. (2017). Young People and Attitudes towards Pension Planning. *Social Policy and Society*, 16(1), 65–80. <http://doi.org/10.1017/S1474746415000627>
- Friedman, S. L., & Scholnick, E. K. (1997). An Evolving “Blueprint” for Planning: Psychological Requirements, Task Characteristics, and Social-cultural Influences. In S. L. Friedman & E. K. Scholnick (Eds.), *The developmental psychology of planning: Why, how, and when do we plan?* (pp. 3–22). Mahwah, NJ: Erlbaum.
- Fuior, E., & Filip, A. (2015). Current Issues of Private Pension Insurance System in the Republic of Moldova. *Economy Transdisciplinarity Cognition Www.ugb.ro/etc*, 18(1), 35–38.
- Gough, O., & Niza, C. (2011). Retirement Saving Choices: Review of the Literature and Policy Implications. *Journal of Population Ageing*, 4(1–2), 97–117. <http://doi.org/10.1007/s12062-011-9046-4>
- Hershey, D. A., & Mowen, J. C. (2000). Psychological Determinants of Financial Preparedness for Retirement. *The Gerontologist*, 40(6), 687–697.

- <http://doi.org/10.1093/geront/40.6.687>
- Hira, T. K., Rock, W. L., & Loibl, C. (2009). Determinants of Retirement Planning Behaviour and Differences by Age. *International Journal of Consumer Studies*, 33(3), 293–301. <http://doi.org/10.1111/j.1470-6431.2009.00742.x>
- Holzman, R. (2013). Global Pension Systems and Their Reform: Worldwide Drivers, Trends and Challenges. *International Social Security Review*, 66(2), 1–29. <http://doi.org/10.1111/issr.12007>
- Holzmann, R., Hinz, R. P., & Dorfman, M. (2008). *Pension Systems and Reform Conceptual Framework*.
- Huberman, G., Iyengar, S. S., & Jiang, W. (2007). Defined Contribution Pension Plans: Determinants of Participation and Contributions Rates. *Journal of Financial Services Research*, 31(1), 1–32. <http://doi.org/10.1007/s10693-007-0003-6>
- Husin, M. M., & Rahman, A. A. (2013). A Review of Intention-behaviour Theories: How Useful Are These for Measuring Consumers Intention to Participate in Family Takaful? *Insurance and Takaful Journal (INTAJ)*, 37–49. Retrieved from <http://www.miielibrary.com/cms/index.php/faq/37-intajabstracts4/121-intajvol4art4>
- Kane, M. M. (2014). Overcoming Obstacles to Retirement Plan Success Inertia, Myopia, and Loss Aversion. *Journal of Pension Benefits (Electronically Reprinted from Winter 2014)*.
- Lagoutte, C., & Reimat, A. (2013). Public or Private Orientation of Pension Systems in the Light of the Recent Financial Crisis. *Review of Social Economy*, 71(3), 306–338. <http://doi.org/10.1080/00346764.2012.761755>
- Lee, J. M., & Kim, K. T. (2016). The Role of Propensity to Plan on Retirement Savings and Asset Accumulation. *Family and Consumer Sciences Research Journal*, 45(1), 34–48. <http://doi.org/10.1111/fcsr.12179>
- Lee, S., Park, M.-H., & Montalto, C. P. (2000). The Effect of Family Life Cycle and Financial Management Practices on Household Saving Patterns. *Journal of the Korean Home Economics Association*, 1(1), 79–93.
- Lum, Y.-S., & Lightfoot, E. (2003). The Effect of Health on Retirement Saving Among Older Workers. *Social Work Research*, 27(1), 31–44. <http://doi.org/10.1093/swr/27.1.31>
- Macleod, P., Fitzpatrick, A., Hamlyn, B., Jones, A., Kinver, A., & Page, L. (2012). *Attitudes to Pensions: The 2012 Survey* (No. 813). Sheffield.
- Mansor, M. F., Choon Hong, C., Hidayah Abu, N., & Shahidan Shaari, M. (2015). Demographic Factors Associated with Retirement Planning: A Study of Employees in Malaysian Health Sectors. *Asian Social Science*, 11(13), 108. <http://doi.org/10.5539/ass.v11n13p108>
- Modigliani, F. (1986). Life Cycle, Individual Thrift, and the Wealth of Nations. *Science*, 234(4777), 704–712. <http://doi.org/10.1126/science.234.4777.704>
- Naczyk, M. (2013). Agents of Privatization? Business Groups and the Rise of Pension Funds in Continental Europe. *Socio-Economic Review*, 11(3), 441–469. <http://doi.org/10.1093/ser/mws012>
- Petkoska, J., & Earl, J. K. (2009). Understanding the Influence of Demographic and Psychological Variables on Retirement Planning. *Psychology and Aging*, 24(1), 245–251. <http://doi.org/10.1037/a0014096>
- Ruth Helman, B., Greenwald, M., Copeland, C., & VanDerhei, J. (2015). *The 2015*

- Retirement Confidence Survey: Having a Retirement Savings Plan a Key Factor in Americans' Retirement Confidence.* Washington D.C.
- Savador, R. (2012). *An Analysis of Future Retirees' Concerns Regarding Pension Plans Reforms and Demographic Factors that Influence Retirement Investment Decisions.* Northcentral University, Arizona, United States. Retrieved from <http://pqdtopen.proquest.com/doc/1288414311.html?FMT=ABS>
- Spicker, P. (2011). *How Social Security Works: An Introduction to Benefits in Britain.* Policy Press.
- Stinglhamber, P., Zachary, M.-D., Wuyts, G., & Valenduc, C. (2007). The determinants of savings in the third pension pillar. *Economic Review*, (iii), 97–113.
- Tengku Aizan, T. A. H. (2015). *Population Ageing in Malaysia: A Mosaic of Issues, Challenges and Prospects.* Serdang: Universiti Putra Malaysia Press. Retrieved from <http://psasir.upm.edu.my/41616/2/POPULATION.pdf>
- Teusta, D. (2016). The Challenge of Encouraging Voluntary Savings. In *Opportunities and Challenges in the Investment of Pension Funds and Voluntary Pension Savings Funds* (pp. 285–302). Santiago: International Federation of Pension Fund Administrators (FIAP).
- Thaler, Richard, H., & Benartzi, S. (2007). *The Behavioral Economics of Retirement Savings Behavior. The AARP Public Policy Institute* (Vol. 2). Retrieved from http://assets.aarp.org/rgcenter/econ/2007_02_savings.pdf
- Tolos, H. (2012). *A Study on Employee Choice of Retirement Schemes: Empirical Evidence from Malaysian Public Universities being a Thesis submitted for the Degree of Doctor of Philosophy in the University of Hull by Habibah Tolos MA in Management Sys.* University of Hull.
- Trenow, P., Olchawski, J., Foster, D. L., & Heneghan, M. (2016). *Closing the Pension Gap: Understanding Women's Attitudes to Pension Saving.*
- Van Dalen, H. P., Henkens, K., & Hershey, D. A. (2010). Perceptions and Expectations of Pension Savings Adequacy: A Comparative Study of Dutch and American workers. *Ageing and Society*, 30(5), 731–754. <http://doi.org/10.1017/S0144686X09990651>
- Van Rooij, M. C. J., Lusardi, A., & Alessie, R. J. M. (2011). Financial Literacy and Retirement Planning in the Netherlands. *Journal of Economic Psychology*, 32(4), 593–608. <http://doi.org/10.1016/j.joep.2011.02.004>
- Weyman, A., Meadows, P., & Buckingham, A. (2013). *Extending Working Life: Audit of Research Relating to Impacts on NHS Employees.* Bath, Somerset.
- Yang, T.-Y., & DeVaney, S. A. (2012). Determinants of Retirement Assets and the Amount in Stock in Retirement Assets. *Family and Consumer Sciences Research Journal*, 41(1), 36–55. <http://doi.org/10.1111/j.1552-3934.2012.02127.x>