EFFECTS OF FINANCIAL KNOWLEDGE ON ANNUITY UPTAKE AMONG RETIREES OF INSURANCE COMPANIES IN KENYA

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DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

Signed: _____ Date: _____

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D63/77391/2015

This research project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

I dedicate this project to God, my family, and friends who inspired me to attain my academic potential.

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to my family members, friends and colleagues whose support and guidance has made me reach this far in academics.

In addition, I would like to thank my fellow students and lecturers of the University of Nairobi, whose knowledge and inspiration throughout my academic journey, led to my current accomplishments.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ANOVA Analysis of Variance

FPI Financial Practices Index

MFI Micro Finance Institution

NSSF National Social Security Fund

SPSS Statistical Package for Social Sciences

VIF Variance Inflation Factors

ABSTRACT

Access to financial management skills and general education programs is part of many challenges encountered by individuals in their quest to improve their level of knowledge on saving for retirement lifestyle. The study determined the effects of financial knowledge on annuity uptake among retirees of insurance companies in Kenya. The independent variable was financial knowledge while the control variables were gender, age, marital status and income. The study employed descriptive research design. The target population was 8,637 retirees from the 54 insurance companies in Kenya. The results were analyzed using social sciences (SPSS) computer software Version 25.0. Demographic results indicated that majority of retirees were males. Majority of the retirees were married. It was also established that majority of retirees had gross monthly income of KES 150 000 and below. The Cox & Snell R Square was fair at 46.2% implying a fair model fit. Multivariate logit results showed that age was statistically significant in relation to annuity uptake. Age differences irrespective of gender are more likely to influence annuity uptake. Marital status was also statistically significant in relation to annuity uptake. Further, income was statistically significant in relation to annuity uptake. Financial knowledge was statistically significant in relation to annuity uptake. Financial knowledge has the strongest effect on annuity uptake and is strongly associated with an increase in annuity uptake. The study concludes that demographic characteristics of retirees are associated with annuity uptake. Gender, age, marital status and income are likely to influence annuity uptake of retirees. The study revealed that demographic characteristics of retirees are associated with annuity uptake. The demographic features include gender, age, marital status and income. In terms of gender, women are thought to be more likely to make contribution after retirement. However, the findings should not be generalized to all genders as life situations and other factors differ significantly among retirees irrespective of gender. The study therefore recommends for intensive awareness on annuity uptake among men and women retirees to improve annuity uptake after retirement. The study recommends for proper awareness training on the importance of continuing paying annuity premiums after retirement. The awareness should state that paying annuity is important for all retires in different age brackets because life disturbances are unpredictable and do not affect particular age group more than another. The unmarried persons, divorced and widowed persons are often psychologically traumatized and may stop making payments after retirement. The study recommends for proper guiding and counseling sessions to be offered by respective insurance providers to these groups on the need to continue contributing the premium despite the problems that befell them. It is worth noting that being married means you are not psychologically disturbed and recommendations are also applicable to married couples. The study recommends that proper financial awareness on savings is required for employees before they retire from active work to ensure that the retirees have sufficient to meet their needs after retirement.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Financial knowledge has been found to impact the manner in which individuals save and contribute their assets. It moreover impacts the choices of cash related investments individuals select and how they build up their wealth. According to Sze (2008), money set aside for retirement makes up a vital wellspring of pay for people who get into post-business age ordinarily known as retirement over the world. Knowledge controlled by these individuals on cash related perspectives is basic as it enables the included individuals settle on wise decisions on save assets for retirement and how to make use of their budgetary resources always (Lusardi & Mitchell, 2011). It is important for every worker to secure income for old age as there is increased cost of living and improved living condition and health which are resulting to longer lives. Annuity uptake boost aged people's by reducing their reliance on younger age brand and major services such as healthcare (Help Age International, 2006).

A variety of theories have been formulated by scholars on the subject of financial knowledge and annuity uptake. This study was based on three theories. The lifecycle hypothesis was started by Ando and Modigliani (1963) and it majorly ventured in economic decisions on retirement saving principally the enlightenment of a persons' income so to maximize its usefulness over an individual's lifetime. It affirmed that people build up savings during their effective careers up to their retirement, and gather round prosperity thereafter. The goal setting theory proposes that dealings of financial knowledge ought to be linked to financial behavior prevalent among

1

consumers' top wellbeing (Locke & Latham, 1990). Prospect theory as developed by Kahneman (2003) is a behavioral theory that depicts how individuals decide between alternatives involving uncertainties and risks. This theory guides the current study which considers decision making between current consumption and savings for future consumption. It factors in the essence of time value of money by applying credit constraints and discount rates

Statistics indicate that saving for retirement, has not been embraced by majority of people across the world including Kenya largely because of the poor saving culture besides insufficient policies to encourage individual savings for retirement. It was established that by the year 2015, 80 per cent of Kenyan work force lack any form of pension plan. Further, it has been established that retirement benefits continue to diminish as medical costs continue to escalate with age which makes the situation worse for pensioners. The living standards of the retired population, have further been worsened by higher inflation rates, which erode the little retirement savings made during active working age. The Kenyan pension system has: National Social Security Fund (NSSF) as a compulsory contributory scheme for all working population; the Civil Service Pension Scheme; occupational retirement schemes that are managed privately; and Individual Retirement Pensions products offered by different financial institutions (Njuguna, 2010).

1.1.1 Financial Knowledge

Financial knowledge refers to as the capacity of making informed and valuable decisions concerning the usage and management of funds (Worthington, 2005). Lusardi and Mitchell (2013) define financial knowledge as the capacity to settle on

educated decisions and choices for financial prosperity. As asserted by Agnew, Szykman, Young and Utkus (2007), financial knowledge allows individuals to carry out their financial decisions regarding their pension schemes. Knowledge on savings and pension planning is very important if an individual wants to make valuable long term pension funds related decisions (Gitari, 2012).

Financial knowledge remains a topic of discussion in both developing and developed economies over the past few years due to the wide dynamism in the financial landscape. Knowledge on financial issues concerns people's capacity to settle on reasonable choices on financial alternatives available to them like the capacity to make a correlation among varying venture chances to guarantee their financial position is in an ideal situation. To be in this position, one can shrewdly spend their financial assets through arrangement of spending plans, which help in following use (Lusardi & Mitchell, 2011).

Financial literacy empowers and educates consumers' sight that they understand finance in way that boosts their lives and allows them to utilize this awareness during product evaluation and decision-making (Mwangi & Kihiu, 2012). Greenspan (2002) states that financial knowledge facilitates to instill persons with the financial understanding necessary for developing savings plans ,making household budgets, , and formulate strategic investment decisions.

1.1.2 Annuity Uptake

Annuity uptake refers to the extent to which individuals have adopted annuities as an investment strategy (Keizi, 2006). An annuity can be defined as a periodical payment

3

made by an insurance company to the annuitant, in exchange of a purchase price lump sum, payable for the remainder of the lifetime of a named life (annuitant) irrespective of the duration of life or for a specified period of time. It can also be defined as a form of insurance or investment contract where the investor receives regular benefit payments from the insurance company in exchange for a single premium initial investment (Kapoor, Hughes & Dlabay, 1994).

There are different types of annuities depending on the special needs of each retiring individuals. The two main types include; Joint Life Last Survivor Annuity; this contract gives an annuity for the joint life of the two principles. Payment usually continues in full after the first death, Ideal to provide retirement income for a married couple, after the demise of the main annuitant and Single Life Immediate annuity**;** this returns for this annuity agreement is for a single premium, regular payments that commence immediately and it is paid for the rest of the life of the annuitant. This is contract is mostly best for the retired people wish to be generating an income for the rest of their lives (Klapper & Panos, 2011).

Mutran, Fernandez and Reitzes (1997) posits that factors influencing annuity uptake can be assessed using questions touching on various aspects such as reading about retirement; discussing retirement with others; calculating retirement income and expenses and attending pre-retirement program, seminar or lecture. Asking the respondents to give their views on annuities is another way of measuring Annuity uptake (Lusardi & Mitchell, 2009). According to Van Rooij (2011), the level of thought given by an individual towards annuity compared to the planned and actual saving behavior is higher among those who spend more time thinking about their retirement compared to those who do not.

1.1.3 Financial Knowledge and Annuity Uptake

Theoretically, more individuals that are educated are expected to have a deeper understanding of pension and financial matters. This is due to their ability to conceptualize the basic concepts of finance management (Hastings *et al.,* 2011). In addition, financial awareness passed on to the young individuals form a foundation for them to pursue education in to the middle age. Bell *et al.,* (2005) posits that a higher education level skill results to a more probability of engaging in a pension plan and there is significant correlation between education/schooling,annuity uptake and financial knowledge.

An individual who is rational and has information regarding saving and consumption, will spend less than the level of his income when there is high earnings also making savings to consume when there is no income (for example, after retirement). According to the conventional economic approach in regards to saving and consumption.Lusardi and Mitchell (2007) study on the how preparation for retirement is impacted by literacy in finances found out that individual who are literate financially have a likelihood to plan for retirement and further shown that those who make retirement plans are wealthier compared to those without retirement plan. The study reveals that financial literacy significantly impact planning and consequently influencing the behavior of savings by households. In conclusion, the study shows that the level of knowledge of finance will influence the preparedness for retirement either through savings or through insurance.

Financially uneducated persons record poor performances on financial, investments and retirement arrangement decisions compared to the financially literate individuals (Sang et al., 2014).Financial knowledge is an important determining factor of

5

retirement planning as Lusardi and Mitchell (2007) suggest. They further posit that individuals that have economics knowledge from school or underwent firm-based financial education initiatives, have more knowledge on retirement planning compared to other individuals.

1.1.4 Retirees of Insurance Companies in Kenya

Retirement from work has been associated with many challenges. These challenges range from strained finances, feeling of loss and the need to readjust in life, dependency, lack of proper medical covers, debilitating illnesses and even early death. Besides, most people are plunged into the reality of entering their old age without a proper source of income (Mbithi, 2007). For most employees approaching retirement age, the dilemma has always been how to survive the tough economy and what to engage in daily, once their working life is over and their main source of livelihood is no longer there. Scores of insurance employees in Kenya join the retirees bracket every year. They are of varied diversity in terms of age, gender, education background, hierarchy in the organization and financial literacy levels (Omollo, 2016).

In regards to financial knowledge among insurance companies' retirees, Githui and Ngare (2014) posit that financial knowledge can be a cause of low annuity uptake among insurance companies retirees and that is what the current study seeks to investigate. It is a common occurrence among permanent and pensionable employee to continue work engagement after retirement age. Such situations can be triggered by different factors such as; low annuity uptake, employers drifting from offering the traditionally defined benefit plans (pension plans),a decrease in average age of

retirement alongside increase in life expectancy, high dependency by the old aged which has become a critical concern for present governments and social security benefits being decreased and delayed.

The uptake of annuity is still at very low percentage with only 0.5% of staff contribution towards additional voluntary pension and contribution despite its tax benefits. The economy's contraction is leading to more retrenchment of employees, therefore escalating the dependency ratios. Despite the most elderly population retiring having held job positions with sound incomes, majority are often incapable to uphold their living standards after retirement (Ondoso, 2017).

1.2 Research Problem

Access to financial management skills and general education programs is part of many challenges encountered by individuals in their quest to improve their level of knowledge on saving for retirement lifestyle (Sze, 2008). The volume of knowledge with on financial dynamics helps them develop financial management skills which then gives those individuals confidence in making informed financial decisions regarding ways to secure the desired lifestyle during retirement (Mwangi & Kihiu, 2012). It helps in equipping employees with relevant information on how to make prudent financial management decisions for the growth of their wealth. Financial management skills enable them plan in advance for their retirement lifestyle. The lack of key financial information has also been found to be inversely related with individual employees' likelihood of setting aside some money over and above the statutory contributions for retirement lifestyle (Lusardi & Mitchell, 2006). The amount of knowledge possessed by employees in an organization especially on the

financing of their retirement influences their saving behavior towards retirement (Njuguna & Otsola, 2011).

Retirees of insurance companies are expected to have contributed to retirement benefit schemes set up by their employers as a mandatory requirement as long as one is employed on permanent terms. The monthly contribution is a defined percentage of an employee's basic salary that goes towards retirement savings together with employer's contribution (Ade, 2013). Due to existing retirement plans set up by employers, the employees do not pay keen interest on retirement plans and therefore the only savings that they take home are those contributed to mandatory and statutory retirement benefit schemes.

In determining the correlation of financial knowledge to annuity planning, Ade (2013) reviewed the effects of knowledge owned by employees on management of finances influences individual employees' preparedness for retirement lifestyle Kenya in Jua Kali (informal) sector. The research needed to find out the effect of awareness and participation among unemployed members engaged in small and medium enterprise businesses. Financial literacy level at the informal sector were also indicates of the finding. Additionally, the study also investigated if there existed a link between the financial literacy and also pension preparedness in the Jua Kali (informal) sector. In another study, Bengi and Njenje (2016) assessed how the financial factors like financial literacy and interest rates influenced the growth of microfinance institutions (MFIs) in Bahati Sub-county, in Nakuru, Kenya. Findings indicate that increased level of financial literacy leads to higher growth of MFIs; interest rates and growth of MFIs did not indicate any significant relationship. However, the study failed to establish the

correlation between knowledge on financial matters and voluntary pension contributions which in regards to the current study is the main focus.

Nyamute and Monyoncho (2011) examined how knowledge on financial management and decision making especially with reference to personal financial management practices through a case study regarding employees among financial institutions. The findings indicate that knowledge possessed on financial management and decision making influences how individuals make decisions regarding setting aside some funds towards their retirement. Githui and Ngare (2014) examined how information and knowledge possessed on financial knowledge and pension planning in the Jua Kali industry in Kenya and established that financial understanding had a positive impact on proper pension planning. From the above review of previous studies, it is clear that the existing studies have persisted on other aspects of financial knowledge and not its effects on annuities as a way of retirement planning among retirees of Kenya's insurance. The study seek to explain the overall research by answering one research question: What are the effects of financial knowledge on annuities as a way of retirement planning among retirees of insurance companies of Kenya?.

1.3 Research Objective

Objective of the study was to determine the effects of financial knowledge on annuity uptake among retirees of insurance companies in Kenya.

1.4 Value of the Study

The results of the research are of great importance to theory as it may help in developing theories on financial knowledge and annuity uptake. The findings might also be significant to scholars and researchers, in identifying the research gaps on the

related topics of the study as well as reviewing of the empirical literature to institute further areas of research.

To managers of insurance companies, the findings of this study would also be valuable for them in making decisions relating to retirement planning, investments and training employees on financial matters. Through the findings of this study, the management in private sectors would be able to develop and implement appropriate policies to improve voluntary retirement planning contributions among their staff. The aim is to shed light on the importance of annuities as an effective post retirement income-generating tool.

To the government and other policy makers, the findings of this study may be valuable to institutions such as Retirement Benefits Authority and the National Treasury in development of policies and regulations governing voluntary retirement plans in Kenya with essence of encouraging a number of individuals to make a top up of their retirement plan contributions voluntarily.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this section, a review of theories, which form the foundation of this study, are presented. In addition, previous research carried before on this research topic and

related areas are also discussed. The other sections of this chapter include determinants of annuity uptake, the conceptual framework that shows the relationship between study variables and a literature review summary.

2.2 Theoretical Framework

This outlines the relevant theories that explains the relationship between financial knowledge and annuity uptake. The theoretical reviews covered are the life cycle hypothesis, the goal setting theory and the prospect theory.

2.2.1 Life Cycle Hypothesis

The lifecycle hypothesis was started by Ando and Modigliani (1963). Majorly, it ventured in economic decisions on retirement saving principally the enlightenment of on the income of an individual to maximize its usefulness over an individual's lifetime. It affirmed that people build up savings during their effective careers till the retirement period and gather round prosperity thereafter. It deduced that people plan their expenditure over their lifetimes, putting into consideration their expected future income.

Life cycle hypothesis attempts to give an explanation regarding individual's consumption patterns. It advocates that consumption and savings behavior of individuals form important portion of one's life-cycle and that with the assumption of future income enabling one to pay debts young people acquires loans. To maintain their consumption pattern at old age, individuals save during their middle age. This saving behavior allows families to maintain their marginal utility of consumption over one's lifecycle. Some human behavior assumptions of this model include: individuals make knowledgeable choices regarding their financial resources; that they understand

something about their financial resources needed in future periods of their lives; that they are visualize their lifespan and they can forecast the financial resources they will have over their lifetime (Lusardi & Olivia, 2009). The theory recognizes how ones age and income determines annuity uptake making it relevant to the study.

2.2.2 The Goal Setting Theory of Motivation

This theory by Locke (1986) is developed from the concept that mindful goals and intentions drive results. Persons goals are likely to dictate the efficiency through which tasks are executed according to Locke (1986) and to Locke and Latham (1990) findings. It argues that certain and demanding goals together with ideal feedback result to better task execution. Expressly, compared to vague and easy goals,well defined and more compelling goals produce higher performance. According to the theory persons ought be fully committed to the goal, anticipate for feedback and ought to exhibit the capacity to execute the task. This implies that the efficiency of the financial knowledge programs ought to be higher when they are motivated by concerns and perceptions on financial welfare thereafter.

The theory proposes that dealings of financial knowledge must be linked to financial behavior which is in the top wellbeing of the consumer. Hilgert, Beverly and Hogarth (2003) developed a "Financial Practices Index (FPI)" based upon saving and investment practices, cash flow management and self-benefiting behavior in credit management. A comparison between FPI results and the scores on financial knowledge quiz proved existence of an association that was positive between the financial practices index scores and financial knowledge scores, therefore there exists

a link between financial knowledge and practice. The theory recognizes the role of financial knowledge in achieving set goals making it relevant to current study.

2.2.3 Prospect Theory

Advancement of this theory was made in 1979 by one Daniel Kahneman, a professor in the Department of Psychology at Princeton University and also Amos Tversky as being a logical alternative to the expected utility theory. According to Kahneman (2003), the theory is a behavioral model one, which explains in which way individuals make choice of alternatives that entail risk and uncertainty. The theory argues that individuals are more concerned with an expected utility that is relative to a reference point instead of individuals thinking in terms of absolute outcomes, they a (e.g. current wealth). Therefore, advanced by means of framing risky choices , the theory showed individuals as being loss-averse with rationale that people hate losses but are attracted to the equivalent gains and thus risk takers to evade losses.

By willing to sell those whose prices have escalated and holding onto shares whose prices have depreciated, investors avoid the risk of loss. Forgel and Berry (2006) further argue that by holding losing stocks too long investors incur huge losses as opposed to selling winning ones within the shortest span. The theory also notes that individuals feel less joy in the event of a gain compared to the pain from loss. According to Kahneman and Perttunen (2004), individuals react differently to situations of similar based on the context of gains or losses presented and individuals tend always to under-mine the likely outcomes in comparison with the specific ones.

The states of mind influencing a person's process of decision making such as regret aversion , loss aversion is thereby defined by the Prospect theory (Waweru et al.,

13

2008). Kahneman (2003) notes a vital inference of prospect theory as the manner in which economic outcomes or transactions are subjectively framed by economic agents which in turn affects the utility expected or received. The theory guides the current study which considers decision making between current consumption and savings for future consumption. It factors in the importance of time value of money by applying discount rates and credit constraints. The ability to recognize some of the factors that can influence annuity uptake makes the theory relevant to the study.

2.3 Determinants of Annuity Uptake

There are several determinants of annuity uptake. These factors usually cut across almost all individuals whether in the public or private sector. They include financial knowledge, gender, age, income and marital status.

2.3.1 Financial Knowledge

According to (Hastings et al., 2011), individuals with financial knowledge have a deeper understanding of pension and financial matters. He attributed the results to short of conceptualizing the basic aspects. In addition, financial awareness passed on to the young individuals form a foundation for them to pursue education in to the middle aged. Bell et al, (2005), supported that higher education level skill results to higher chance of engaging in a pension plan and thereby creating significant correlation between financial knowledge, education/schooling and annuity uptake.

2.3.2 Gender

There is a significant variance of pension finance knowledge between women and men as 57.7% of women understood the benefits due to them upon retirement as

opposed to 60.7% of men (RBA, 2005). Low confidence, less willingness to study personal finance and less enthusiasm by women attributes to the low anticipation than men as well as being low risk takers than men.

2.3.3 Age

Arnone (2004) noted that grown-ups have a deeper understanding of pension finance issues as retirement preparation programs are mostly available for those approaching retirement. The pre-retirement preparation program basically seeks to enable individuals to spot their primary retirement decisions and begin their retirement preparations. Furthermore, retirement savings advances with age as they become concern about their welfare in future dates thus forcing them to seek for more knowledge on pension finance.

2.3.4 Income

There exists a positive association between an individual's income and understanding of pension matters (Hastings et al., 2011; RBA, 2008; Agnew et al., 2007). Ideally, budget shortfalls limit the engagement of an individual in learning programs and restrain their placement of savings and ensuing interest in engaging in pension finance education initiatives. According to Bell et al., (2005), retirement savings increase as a person's income and age increases. The savings behavior of low income earners is however difficult to track since most of them lack a constant flow of income as majority are often employed on seasonal contracts (Bell, 2005).

2.3.5 Marital Status

Due to low levels of financial knowledge among the unmarried persons, married employees take part in pensions at a higher rate compared to unmarried employees. The unmarried population, especially the divorced women approaching the retirement age has considerably lower levels of wealth than the married couples due to little involvement in financial knowledge programs (Bell et al., 2005). However, decision-making among couples is sensitive to spouses' education level for both women and men.

2.4 Empirical Review

To support the relationship between financial knowledge and annuity uptake , Local and international studies have been done ,but these studies have produced mixed results, Mwenga (2018) sought out the establishment of the effect of financial literacy regarding behavioral biases of individual investors at the Nairobi Securities Exchange. Population was all the individual investors at NSE whose number stood at 1,200,175 as at 31st July 2018. The study sample size was 100 individual investors who were picked randomly from individuals who visited the offices of the 24 registered stocks brokerage firms in Kenya from 3rd to 20th September, 2018. The research used first-hand information. This was gathered using questionnaires administered to the individual investors who visited the offices of the firms between 3rd and 20th September 2018. The study data was analyzed by Inferential and descriptive and statistics methods. Through the study it was found out that individual investors at the NSE lacked adequate levels of financial literacy and as a result suffered from behavioral biases.

Kiptanui (2017) sought to determine how retirement saving was affected by financial literacy among pensioners in Nyahururu town. The theories and concepts guiding this study include the lifecycle hypothesis and permanent income hypothesis. The target population included 700 pensioners residing in Nyahururu town as the study adopted descriptive research designs.Cluster sampling was applied in this study to obtain a sample sized 255. Primary data using a simple structured questionnaire was then gathered. The collected Data collected was quantitatively annalyzed. The study established that financial literacy, age, education and income level positively affect retirement saving while gender negatively affects retirement savings among pensioners in Nyahururu town.

Using the case of Mumias Sugar Company in establishment of the financial literacy effect on personal financial management Abdelahi (2017) sought to affirm that.The survey design was adopted in this study was descriptive survey design.This method deemed suitable since the research sought to find out the association between various variables that form basis of the study. This study targeted a total of 2000 employees from Mumias sugar. To select 200 employees from the strata simple the random sampling was used. Data collected primarily from semi-structured questionnaires was used by the study. The study concluded that employees saved investment out of each payment they received and they saved at least 15 percent of their gross monthly income, a disciplined approach to re-balancing their investment was very important which, the employees had determined how much income they can expect on retirement and employees maximized tax efficiency in their investment portfolio which was essential ,employees felt confident that the present health care system can support their needs in the event of a major illness and also that they maximized their

retirement/pension contributions each year and that employees paying off the full credit card outstanding amount every month.

Agunga (2016) examined the effect of financial literacy on pensionable and permanent workers and financial preparedness retirement owned Kenya corporations. The study explored how understanding of financial instruments influences the computational capability of financial preparedness and retirement benefits among employees. The descriptive study design was employed for the study and this study's population composed the employees on permanent and pensionable terms working for state agencies in Nairobi with a working experience of up to five years. The study sampled 4,619 employees and the findings revealed a attractive and big impact between computation capability on financial preparedness regarding retirement and also financial literacy. Demographic characteristics and financial factors findings revealed that they moderated the association between financial preparedness towards retirement also financial literacy and both were as well significant.

Recognizing that Kenya has approximately 56% of the -age-dependency.Githui and Ngare (2014) did a study in order to determine "the impact of financial literacy on retirement planning in the informal sector in Kenya." Modeled with six hypotheses The study conceptualized that education, marital status, sex, number of children, the status of marriage, age, income, financial literacy and occupation affects retirement planning. The findings were then tested using Pearson's Chi-square tests and established a significant association of the retirement planning with all the variables except gender.

Agnew, Bateman and Thorp (2013) considered how knowledge on financial administration and aptitudes impact people's gets ready for retirement in Australia.

The examination embraced essential information which was gathered utilizing a poll and meeting guide. From the discoveries, plainly low knowledge on financial administration and aptitudes adversely affected investment funds for retirement way of life. Advance discoveries demonstrate that workers capacity to process future estimations of their commitments to a given benefits plot impacted their reserve funds capacity towards the equivalent. Knowledge on financial administration and aptitudes elevates representatives' capacity to process the profits from various speculation openings.

With key focus being financial literacy, Mahdzan and Tabiani (2013) undertook a study in Malaysia to examine the impact of individual saving. A sample of 200 individuals was selected from the population under study and the results showed that persons with high financial literacy were better savers than those persons who have low levels of financial literacy. Although the findings show that persons have basic financial knowledge for instance calculating interest rates and absolute risk of financial assets.

With mindfulness that numerous Kenyan representatives don't approach retirement arranging data, Thuku and Ireri (2013) explored how retirement data impacts retirement readiness among 370 imminent retirees matured fifty years or more from both the private and people in general divisions. Pearson item minute connections between retiree's entrance to retirement data and readiness for retirement demonstrate a noteworthy direct negative straight connection between the factors. The discoveries deriving that as retirees' entrance to retirement data expands, their retirement readiness diminishes is in opposition to the desires and prior investigations. To check if retirement readiness contrasts among the workers in view of the parts, Thuku and

Ireri (2013) directed a t-test to look at the methods for retirement planning which show a critical distinction among the two gatherings that is private segment and open division. The mean of the planned retirees in the private part was altogether higher than the mean of imminent retirees from people in general area suggesting that private segment workers were preferred arranged for retirement over their open division partners as more forthcoming retirees from the private segment approached retirement data between, than those in the general population segment.

Wachira and Kihiu (2012) looked to know how knowledge on financial administration and aptitudes impacted individual choice to set aside a few accounts towards retirement. It connected a multinomial logit way to deal with show how access to knowledge on financial administration impacted funds choice. The discoveries showed that change at the knowledge of financial administration and aptitudes prompted even more retirement funds.

Njuguna and Otsola (2011) looked to survey the levels of annuity and financial education among Kenyans. Their primary point was to distinguish methods for enhancing the level of acknowledgment and infiltration of annuity items and recommend methods for enhancing the sparing society of Kenyans. The examination reasoned that most Kenyans don't put something aside for their benefits and don't know about manners by which they put something aside for their retirement. They in this way recommended the administration should expand mindfulness among Kenyans by sharpening them on manners by which they get the chance to put something aside for their annuity and the items accessible to them.

Lusardi and Mitchell (2011) tried to build up how knowledge on financial administration and aptitudes impact sparing plans for people towards retirement in the

United States. The examination led meets through phone more than 1,200 respondents. The examination looked to set up how people approached detailing their financial choices and how these financial choices influenced their riches development. The investigation took a gander at how people spend their cash on an everyday premise and how this use affected their reserve funds capacity for the future in retirement considering the way that investment funds is the distinction between discretionary cash flow and utilization. The discovering demonstrate that low levels of knowledge on financial administration and abilities impact prompted low reserve funds for retirement among the workers.

Klapper and Panos (2011) carried out a research on how retirement planning in Russia is associated to financial literacy. The findings suggested financial literacy influenced retirement plans yet those financial literate people that had planned for their retirement were never willing to be retired. This revelation showed a possibility of existence of other considerations for retiring apart for planning. The findings from this study indicated that older, educated, healthier, and highly paid individuals show more pension knowledge.

2.5 Conceptual Framework

Shown below is a conceptual model that shows the expected association existing between the studied variables. The predictor variables were financial knowledge measured by a likert scale. The control variable were age, income and marital status. All this were operationalized from categorical data collected using a questionnaire that is attached as appendix I. Annuity uptake was the dependent variable and

measured by individual's contribution to a pension plan over and above the employer's mandatory deductions.

Figure 2.1: The Conceptual Model

Independent variable   **Dependent variable**

| Financial Knowledge |

| Age |
| Income |
| Marital status |

Control Variables

| Annuity Uptake |

- contribution to a pension plan over and above the mandatory deductions by employer
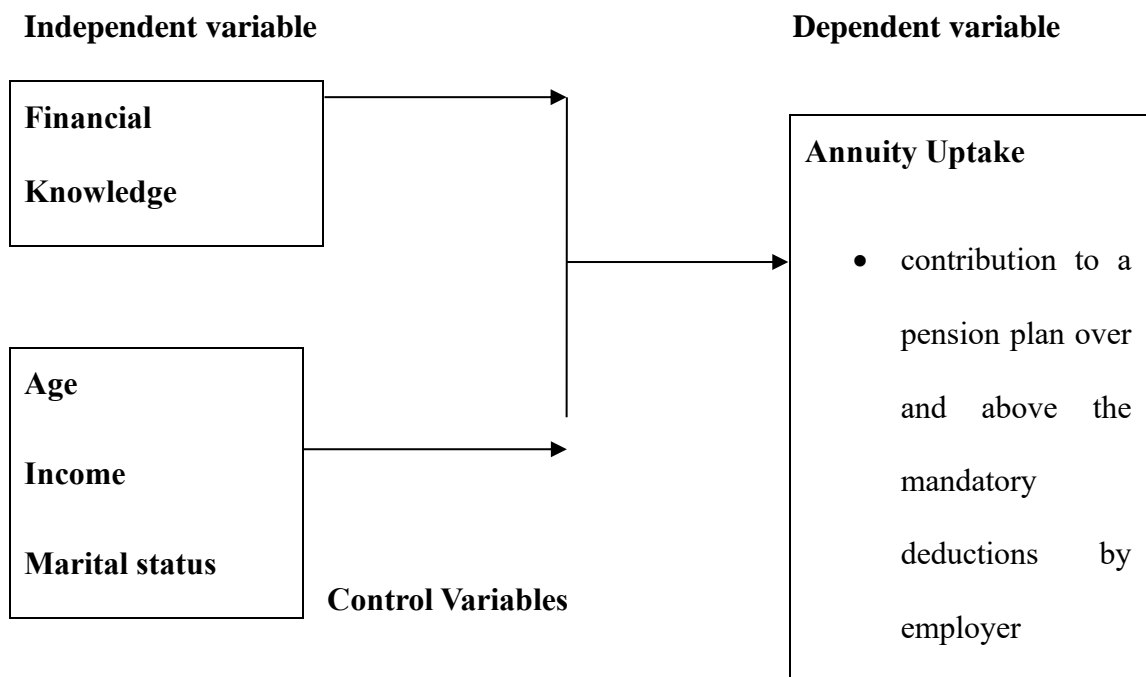
Source: Researcher (2019)

2.6 Summary of the Literature Review

A number of theoretical frameworks have explained the theoretically expected relationship between financial knowledge and annuity uptake. The theories covered in this review are; the life cycle hypothesis, the goal setting theory and the prospect theory. Some of the primary influencers of annuity uptake have also been explored in this chapter. A number of local and international empirical studies have been conducted on financial knowledge and annuity uptake. The findings of these studies have also been explored in this section.

The general conclusion is that regardless of the stage of economic development of each country the extend of financial literacy is low. Additionally, a relationship present between financial literacy and annuities can be noted. Also from previous studies it has been proven that highly literate investors do use a different criterion to make retirement decisions in comparison to low literate investors. It is also noted that less literate investors rely mostly on family, friends or even stock brokers to make decisions while literate investors use financial publications.

With regard to review of previous studies, it is patent that the existing studies have concentrated on other aspects of financial knowledge and its effects on annuities as a way of retirement planning among retirees of insurance companies in Kenya. That gap is what this study filled by providing an answer to one research question: What are the effects of financial knowledge on annuities as a way of retirement planning among retirees of insurance companies in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

To ascertain how the annuity uptake by retirees of insurance companies in Kenya is affected by financial knowledge, a research methodology is necessary to outline how the research was carried out. This chapter has four sections namely; research design, data collection, diagnostic tests and data analysis.

3.2 Research Design

The research utilized descriptive research design in the determination of the association between financial knowledge and annuity uptake. Descriptive design was utilized for the researcher has more interest in finding out the state of affairs as they exist (Khan, 2008). Therefore this design is more so appropriate since the researcher is familiar with the current phenomenon under the study but is more interested at finding out the nature of existing relationships between the variables under study. Additionally, a descriptive research is therefore aimed at provision of a valid and accurate representation regarding the study variables, which helps in giving a responce to the research question (Cooper & Schindler, 2008).

3.3 Population

According to investigator Burns & Burns, (2008) ,a population is the totality of observations of interest from a collection such as events or persons as specified by a research.54 insurance companies in Kenya entailed the target population of this study. It consisted 8,637 retirees from the 54 insurance companies in Kenya.

3.4 Sampling Technique and Sample Size

To make a sample selection from the target population, simple random sampling technique was undertaken.This is the high level of homogeneity among the target population. Subjects are selected in a way where every member of the target population posses equal chances of being selected in simple random sampling (Burns & Burns, 2008).

The formula "S = X^2NP (1-P)/ d^2 (N-1) +X^2P (1-P)" by Krejecie and Morgan was used determine the sample sizr of the study.

Where;

"S= the required sample size

N=the given population size

P=the Population proposition for table construction (.50 is assumed as this magnitude yields the maximum and possible sample size required).

d =degree of accuracy reflected by amounting error that is tolerated in the fluctuation of a sample proportion p about a population proportion p- that is the degree of accuracy expressed in proportion.

X^2 = table value of chi square for one degree of freedom in relation to the desired level of confidence, which is set as 3.841 for the .95 level of confidence".

This gives a sample size of 366 retirees of insurance companies located in Kenya which was used in this study.

3.5 Data Collection

Primary data was collected by use of structured questionnaires in form of likert scale. The questions in the questionnaire were open-ended and also close-ended questions. The Close-ended ones helped this study by getting structured responses and tangible recommendations additionally that helped in reducing similar answers which means different responses are obtained. Open ended questions assisted in getting information not obtained in the close-ended questions. The research instrument was personally administered by the researcher so as to ensure that all the questionnaires are received by the respective respondents. The register was kept well and all questionnaires returned.

3.6 Diagnostic Tests

The assumption of linearity states that using an equation Y=bX, the relationship between two variables X and Y can be described with c as a constant factor. The linearity test was obtained through the scatterplot testing. Stationarity test is a process where the statistical properties such as mean, variance and autocorrelation structure do not change with time. Stationarity was obtained from the run sequence plot. Normality tests the presumption that the residual of the response variable have a normal distribution around the mean. The test for normality was undertaken by the Kolmogorov-Smirnov or Shapiro-wilk tests. In comparison to a lagged value of the

same time series in between successive intervals of time autocorrelation measures how similar a certain time series is.This was measured by the Durbin-Watson statistic (Khan, 2008).

Multicollinearity occurs when an exact or near exact relation that is linear is observed between two or several predictor variables. The determinant of correlation matrices was used as a test for multicollinearity which ranges from zero to one. Orthogonal predictor variable indicates that for a complete linear dependence to be ascertained between the variables, the determinant should remain one while it is at zero and multicollinearity increases as it moves closer to zero. Variance Inflation Factors (VIF) and the levels of tolerance was determined to show how strong multicollinearity is (Burns & Burns, 2008).

3.7 Data Analysis

In the analysis of the data the SPSS software version 25.0 was used. The researcher quantitatively presented the findings using graphs and tables. Descriptive statistics were employed for summarizing and explaining the study. The results were presented by use of percentages, frequencies, measures of central tendencies and dispersion displayed in tables. The study used multivariate logit (mlogit) regression to study the link between annuity uptake, financial knowledge and socio economic characteristics from the samples. Annuity uptake was regressed against four independent variables: age, financial knowledge, marital status and income to establish the strength of each predictor variable.

3.7.1 Analytical Model

The regression model below was used:

$$logit\ Y = \ln\frac{P}{1-P} = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon.$$

Where: Y = Annuity uptake measured as a categorical variable taking a value of zero if a respondent does not contribute to a pension plan over and above the mandatory deductions by employer and 1 if otherwise

α =y regression intercept.

$\beta_1, \beta_2, \beta_3, \beta_4$ =regression slope

X_1 = Financial knowledge which was measured on a likert scale of financial knowledge using 8 questions on a 5-point likert scale of between 0 if not literate and 4 if very literate

X_2= Age which was measured as categorical data ranging from 1 to 5 where one is the lowest age bracket and 5 the highest age bracket

X_3= Income which was measured as categorical data that took the values of 1 to 7 where 1 represents the lowest income category and 7 represents the highest income category.

X_4= Marital status which took the values of one if a respondent is married and zero if the respondent is not married

ε =error term

3.7.2 Tests of Significance

To establish the statistical significance of both the overall model and individual parameters, parametric tests were carried out by the researcher. The Cox & Snell R Square and Wald Test were used in the determination of the significance of the

overall model while a p value was used to establish statistical significance of individual variables.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

The chapter represents findings of research, discussion, response rate, company profile information, regression analysis and descriptive statistics. The independent variable of the study was financial knowledge and other control variables that include gender, age, marital status, income and how they affect annuity uptake among retirees of insurance companies in Kenya.

4.2 Response Rate

In total 366 questionnaires were distributed.287 of them were filled properly and returned .However some of the questionnaires were half-filled by respondents while others did no return them at all despite being followed up thoroughly. Table 4.1 shows the response rate results.

Table 4.1: Response Rate

Response	Frequency	Percent
Filled	287	78.4%
Unfilled	79	21.6%
Total	**366**	**100%**

287 questionnaires were filled and returned representing 78.4 percent, out of the 366 questionnaires administered. As per the above figures, this rate of response is deemed satisfactory. Achieving a 50% rate of response is considered adequate while a rate of response higher than 70% is considered very good according Bailey (2000) . Based on these asserions 78.4% is therefore very good feat. The high response rate could also have been attributed to data collection procedures. These included follow up calls to answer queries from the respondents; assurance of confidentiality and anonymity; drop and pick of questionnaires to allow for ample time; voluntary participation by respondents; pre-notification of respondents and use of competent research assistants.

4.3 Distribution of Respondents by Demographic Characteristics

For the study to determine the effects of financial knowledge on annuity uptake among retirees of insurance companies in Kenya, it was considered essential to establish the background information of the retirees of insurance companies including gender, age, marital status and income. This was inspired by the need to establish whether there exists any close relationship between retirees demographic characteristics and annuity uptake. The retirees' demographic information is presented in Table 4.2.

Table 4.2: Demographic information

Demographic characteristic	Frequency	Percent
Gender		
Male	152	53.0
Female	135	47.0

Age

55-60 years	26	9.1
61-65 years	147	51.2
66-70 years	48	16.7
71-75 years	37	12.9
Over 76 years	29	10.1

Marital status

Married	163	56.8
Single	41	14.3
Divorced	29	10.1
Widowed	54	18.8

Income

Below Kshs 50,000	42	14.6
Kshs 50,001- 100,000	100	34.8
Kshs100,001-150,000	53	18.5
Kshs150,001- 200,000	29	10.1
Kshs 200,001- 250,000	26	9.1
Kshs 250,001-300,000	19	6.6
Ksh Above 300,000	18	6.3

The findings in Table 4.2 show that majority of retirees 53.0% were males while 47.0% were females. The results imply that majority of the former staff in the insurance sector were males. Annuity uptake is at times influenced by gender differences. Some empirical results revealed that women are more likely to continue making annuity contribution compared to women. Women are believed to be more cautious about the unforeseen circumstances compared to women. However, this may not be true as Merzel (2000) noted that women are likely to make insurance contribution after retirement compared to men. According to Kiptanui (2017) gender negatively affects retirement savings among pensioners.

Results further showed that majority 51.2% of the retirees were aged between 61years and 65 years, 16.7 were aged 66-70 years, 12.9 were aged 71-75 years, 10.1% were over 76 years of age while 9.1% were aged 55-60 years. The results imply that most retirees were aged of 61-65 years fresh from retirement. Older persons are more likely to choose annuity after retirement compared to young people. Old people are prone to lot of health problems, are no longer more energetic to look for more income and so opt for annuity. Arnone (2004) noted that grown-ups have a deeper understanding of pension finance issues as retirement preparation programs are mostly available for those approaching retirement. Furthermore, retirement savings advances with age as they become more aware about their welfare in future dates thus forcing them to seek for more knowledge on pension finance.

Demographic results also portrayed that majority of the retirees 56.8% were married, 18.8% were widowed, and 14.3% were single while 10.1% were divorcee. Married employees take part in pensions at a higher rate compared to unmarried employees

32

due to low levels of financial knowledge among the unmarried persons. The unmarried population, especially the divorced women approaching the retirement age has considerably lower levels of wealth than the married couples due to little involvement in financial knowledge programs (Bell *et al.,* 2005). Widowed retirees are less likely to continue on annuity uptake.

It was also established that 34.8% of the retirees had gross monthly income of Kshs 50,001- 100,000, 18.5% of the retirees had monthly gross income of Kshs100,001- 150,000, 14.6% Below Kshs 50,000, 10.1% Kshs150,001- 200,000, 9.1% Kshs 200,001- 250,000, 6.6% Kshs 250,001-300,000 while 6.3% of the retirees had gross monthly income of Ksh Above 300,000.. As income increases, annuity uptake becomes more affordable. Individuals with sufficient income stand a better position to continue remitting contributions that will be converted to an annuity after retirement.

4.4 Descriptive Analysis

This section contains descriptive analysis for financial knowledge and annuity upatke among retirees of insurance companies. A likert scale with options of to a very large extent [5]; to a large extent [4]; to a moderate extent [3]; to a less extent [2]; Not at all [1]; was employed.

4.4.1 Financial knowledge and annuity uptake

The study sought to determine the effects of financial knowledge on annuity uptake among retirees of insurance companies in Kenya. For the purposes of interpretation 4 and 5 (to a large extent and to a very large extent) were convened together as large extent, 1=Not at all 1, 2=to a less extent and 3=to a moderate extent were interpreted

separately. The results were presented in form of mean and standard deviations. The results of this study are as depicted in Table 4.3.

Table 4.3: Financial Knowledge and Annuity Uptake

Financial knowledge	Mean	Standard Deviation
I understand investment options for pension schemes	2.9	1.2
I have invested in stock, bonds or mutual funds	3.1	1.2
I know how to calculate interest on my investments	2.9	1.1
Investing in the stock market by buying a wide range of stocks and shares can help to reduce risks	3.6	1.2
Investing in ordinary shares yields a higher long-term growth as compared to treasury bills	3.6	1.2
I use financial knowledge to make personal financial decisions	3.6	1.2

Table 4.3 displayed that majority of retirees are aware of investments (stock, bonds, mutual funds) to moderate extent as indicated by mean response of 3.3 and standard deviation is 1.3. The results also displayed that majority of the retirees have invested in stock, bonds or mutual funds to moderate extent as indicated by mean response of 3.1 and standard deviation is 12. The results also showed that majority of the retirees know how to calculate interest on their investments to moderate extent as indicated by mean response of 2.9 and standard deviation is 1.2. Further, descriptive results showed that majority of the retirees noted that investing in the stock market by buying a wide range of stocks and shares can help to reduce risks to large extent as indicated by mean response of 3.6 and standard deviation is 1.2.

The results also showed that majority of the retirees acknowledged that as compared to treasury bills , investing in ordinary shares produces a higher long-term growth to large extent as indicated by mean response of 3.6 and standard deviation is 1.2. Further, majority of the retirees acknowledged that using financial knowledge to make personal financial decisions to large extent as indicated by mean response of 3.6 and standard deviation is 1.2. It was also established that majority of the retirees understand investment options for pension schemes to moderate extent as indicated by mean response of 2.9 and standard deviation is 1.2 while another portion of the retirees can calculate benefits due to them on retirement to moderate extent as indicated by mean response of 3.1 and standard deviation is 1.1.

Financially informed retirees are more likely to have made annuity contributions during their working years compared to less financially informed retirees. Financially informed retirees understands the importance of remitting premium while still working to cater for the after retirement needs. How much money there is for consumption and saving describes the awareness of the income available which refers to financial knowledge and understanding. Since majority of the population do not seek knowledge of insurance products there is lack of knowledge and reduced of awareness of insurance products.According to (Hastings et al., 2011), individuals with financial knowledge have a deeper understanding of pension and financial matters. He attributed the results to short of conceptualizing the basic aspects. In addition, financial awareness passed on to the young individuals form a foundation for them to pursue education in to the middle aged.

4.4.2 Annuity uptake

Figure 4.1 shows level of annuity uptake among retirees in insurance companies.
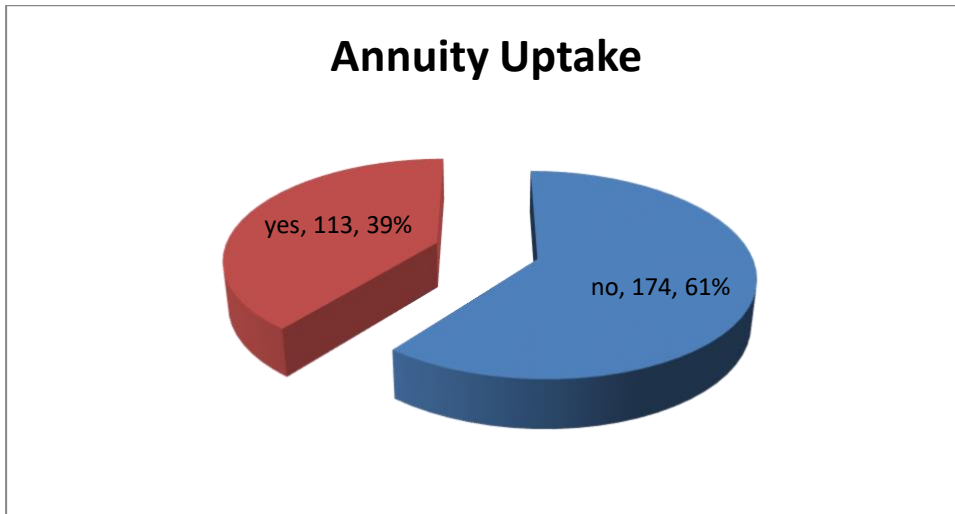
Figure 4.1: Annuity uptake

Figure 4.1 shows that majority 61% of retirees did not take up annuity after retirement while 39% took annuity after retirement. The results imply that annuity uptake among retires after employment is low.

4.5 Diagnostic Tests

Statistical tests rely upon certain assumptions about the variables used in the analysis. Osborne and Waters (2014), opine that results may not be valid when these assumptions are not met. They further argue that this may result in a type I or type II error, or over or under-estimation of significance or effect size(s). It is therefore important to pretest for these assumptions for validity of their results. Having tested assumptions of the statistical tests they rely on for drawing their conclusions, Osborne, Christensen, and Gunter, (2001) observed that few articles report. The ability of the as analysis meeting the associated assumptions ,makes testing for

assumptions beneficial, and helps it avoid type I and II errors (Osborne and Waters, 2014; Owino, 2014). Prior to data analysis, assumptions for normality and multicollinearity were checked.

4.5.1 Normality Test

The Kolmogorov-Smirnov test was used in testing the normalty of data. Thus, on one hand, if the alpha level chosen is higher than the p value , in this case the null hypothesis is rejected and there is therefore evidence that the data tested are not normally distributed. Likewise, if the chosen alpha level is greater than p value, then the null hypothesis is that the data was derived from a normally distributed population cannot be rejected. This test's null-hypothesis is that the population is normally distributed. Results of this normality test are presented in Table 4.4.

Table 4.4: Tests of Normality

Variable	Kolmogorov-Smirnov		
	Statistic	**df**	**Sig.**
Gender	.356	287	.084
Age	.212	287	.061
marital status	.403	287	.137
Income	.230	287	.059
Financial knowledge	.060	287	.161
Annuity uptake	.345	287	.375

The normality results showed that gender had p value .084>0.05 hence the data is normally distributed. It was also established that the p value for age was .061>0.05, marital status had p value.137>0.05, income had p value.059>0.05, financial knowledge had p value.161>0.05 while annuity uptake had p value .375>0.05. The results of the normality test revealed that the data was normally distributed and hence further analysis was conducted.

4.5.2 Multicollinearity Test

Multicollinearity exists where more than of the predictors in a regression model are moderately or highly correlated, leading to limitation of the research conclusions that are to be drawn. Multicollinearity refers to a situation where theres presence of correlation between the predictor variables according to Zainodin, Noraini, and Yap (2011). Further multicollinearity can imply that a unique least squares solution to a regression analysis cannot be computed, in severe cases where theres perfect correlation between predictor variables,(Field, 2009).VIF values in excess of 10 is an indication of the presence of Multicollinearity. According to Field (2009) Multicollinearity expands the confidence intervals and standard errors leading to an unstable estimates of the coefficients for individual predictors. This study assessed multicollinearity using the Variance Inflation Factor (VIF) as shown in Table 4.5.

Table 4.5: Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
gender	.978	1.023
age	.979	1.021

marital status	.977	1.024
income	.977	1.023
Financial knowledge	.970	1.031

Results were then presented in Table 4.5. A variance inflation factor test was conducted to test for multicolinearity of the predictors and a value less than 10 is acceptable. Gender had V.I.F value of 1.023 which is less than 10 denoting there is no multicolinearity. Age had a V.I.F value of 1.021 meaning that there is no multicolinearity since VIF is less than 10. The results indicated that marital status had a V.I.F value of 1.024, income had a V.I.F value of 1.023 implying absence of multicolinearity while financial knowledge had a V.I.F value of 1.031 implying there is no multicolinearity since VIF is less than 10. Multvariate logistic regression could thus be conducted to determine the effects of financial knowledge on annuity uptake among retirees of insurance companies in Kenya.

4.5.3 Linearity Test

Scatter plots were used to visually show and to test for linearity and whether there was a curvilinear or linear relationship between financial knowledge and annuity uptake.. Figure 4.2 shows the linearity test for the study.
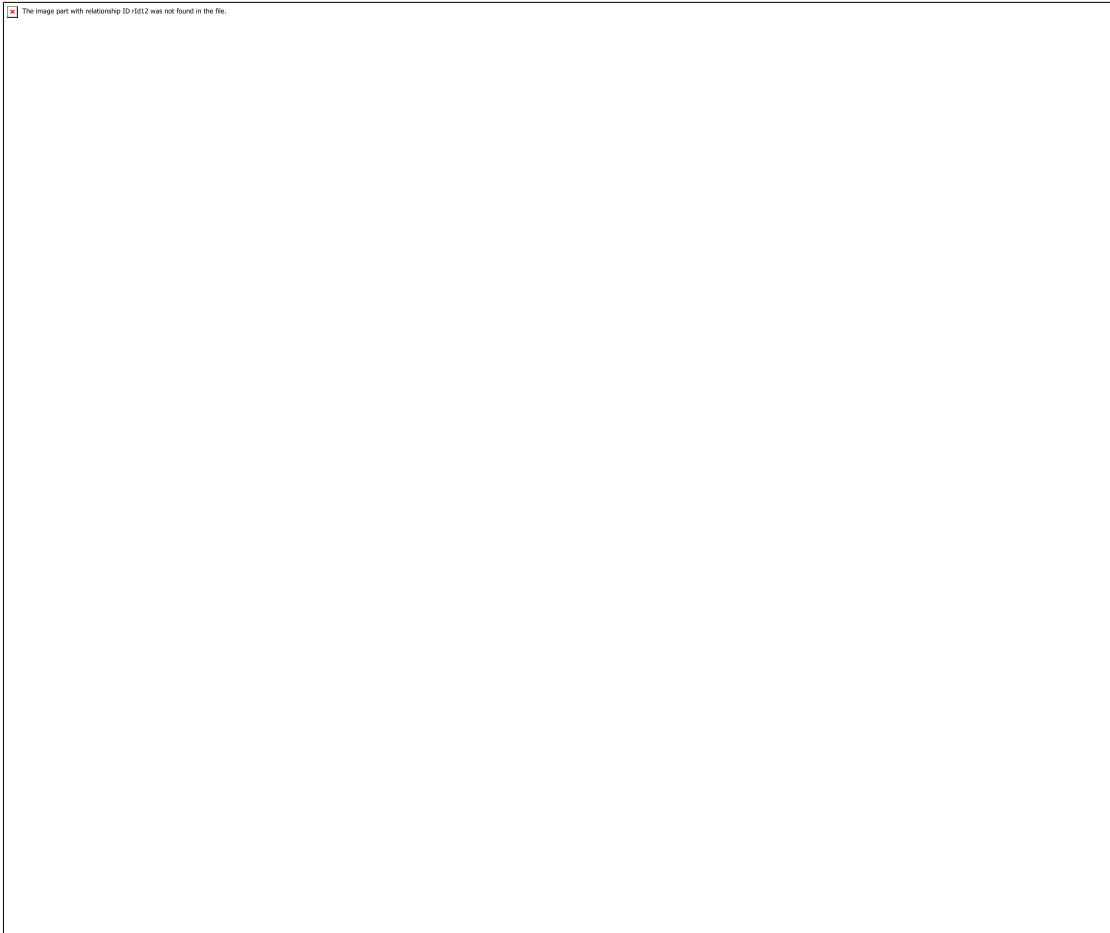
Figure 4.2 Linearity test

The linearity test indicates the relationship between dependent and independent variable. Logistic regression assumes linearity of log odds and independent variables. Whereas it is not a requirement that the dependent and independent variables to be related linearly.It is a requirement that the independent variables be linearly related to the log odds. The linearity test results shows that the financial knowledge was exhibiting linearly related to the log odds hence we can conduct linear logistic regression.

4.6: Multivariate-Logit Regression

4.6.1. Omnibus Tests of Model Coefficients

The enter method of model fitting which involves the entering of all variables at the same step. The results in Table 4.6 show the model chi-square and the significance levels for test of the null hypothesis that all the coefficients are equal to zero.

Table 4.6: Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step	87.378	5	.000
Block	87.378	5	.000
Model	87.378	5	.000

The model chi-square value which is the difference between the null model and the current (full) (chi-square values =8.998), the null hypothesis is rejected since the p-value (sig. value in Table 4.6) is less than 0.05 (significance level), implying that the addition of the independent variables improved the predictive power of the model. Since all values were entered at the same time, the block and the step vales are equal to the model values

4.6.2. Model Summary

Table 4.7 contains the model summary with values portrayed inside. It indicate how good the model fits the data. The -2 Log likelihood (goodness of fit test) value for the current model is 310.402 indicating that the model is satisfactory. This implies that the independent variables fitted in the model improved the prediction power of the model.

41

Table 4.7: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
	310.402	.462	.550

The name pseudo-R statistic comes from the, Cox & Snell R Square, which is an attempt to provide a logistic regression equivalent to the coefficient of determination in multiple regression, This value was fair at 46.2% implying a fair fit. The Nagelkerke R Square which adjusts the Cox & Snell R-square so that it ranges from '0' to '1' was 55.0%. These values were moderately fair signifying satisfactory fit of the model however when using these values there is caution with the rationale being they do not explain the amount of variation accounted for by the model as does the R-square in multiple regression (Hosmer & Lemeshow, 2000). The fitted model using the enter method is in Table 4.8.

Table 4.8: Multivariate logit Model

	β	S.E.	Wald	df	Sig.	Exp(β)=OR
Gender (Reference)	-1.291	.281	21.085	1	.000	.275
Age	1.134	.332	11.700	1	.001	3.109
marital status	.656	.284	5.320	1	.021	1.927
Income	.920	.300	9.397	1	.002	2.509
Financial knowledge	1.659	.298	30.952	1	.000	5.252
Constant	-6.183	1.087	32.334	1	.000	.002

$$logit\ Y = \ln\frac{P}{1-P}, where\ Y = -6.183 - 1.291\ x_1 + 1.134\ x_2 + .656\ x_3 + .920x_4 + 1.659x_5 + \varepsilon$$

Y= Annuity

X_1 = Gender

X_2= Age

X_3= Marital status

X_4= Income

X_5= Financial knowledge

ε =Error term

Age was statistically significant in relation to annuity uptake. Age differences irrespective of gender are more likely to influence annuity uptake (OR=3.109, p<0.05). The coefficient of age as shown in Table 4.8 was 1.1341, this implies that Exp(β) = (3.109). Thus, a unit change in age differences leads to a unit change in annuity uptake by 3.109 units. The probability of age influencing annuity uptake with respect to gender was 3.109 times higher. Thus, age is associated with an increase in annuity uptake.

Marital status was statistically significant in relation to annuity uptake. Marital status irrespective of gender is more likely to influence annuity uptake (OR=1.927, p<0.05). The coefficient of marital status is .656, this implies that the Exp (β) = (1.927). Thus, a unit change in marital status leads to a unit change in annuity uptake by 1.927 units. The probability of marital status influencing annuity uptake with respect to gender was 1.927 times higher. Thus, marital status is associated with an increase in annuity uptake.

Mlogit results also showed that income was statistically significant in relation to annuity uptake. Income changes irrespective of gender is more likely to influence annuity uptake (OR=2.509, p<0.05). The coefficient of income is 2.509, this implies that the Exp(β) = (2.509). Thus, a unit changes in income leads to a unit change in annuity uptake by 2.509 units. The probability of income change influencing annuity uptake with respect to gender was 2.509 times higher. Thus, income is associated with an increase in annuity uptake.

Finally, mlogit results indicated that financial knowledge was statistically significant in relation to annuity uptake. Financial knowledge irrespective of gender is more likely to influence annuity uptake (OR=5.252, p<0.05). The coefficient of financial knowledge is 5.252, this implies that the Exp(β) = (5.252). Thus, a unit change in financial knowledge leads to a unit change in annuity uptake by 5.252 units. The probability of financial knowledge influencing annuity uptake with respect to gender was 5.252 times higher. Thus, financial knowledge has the strongest effect on annuity uptake and is strongly associated with an increase in annuity uptake.

4.7 Discussion of Research Findings

The study revealed that age, marital status, income and financial knowledge satisfactory explains annuity uptake as shown by the Cox & Snell R Square of 46.2%.Annuity uptake is considerably influenced by demographic information of households as well as decision made these households to continue contributing to the insurance scheme. These factors have a higher possibility of being related to demographic, economic or social conditions of retirees. Social factor such as gender influences annuity uptake across different regional geographic boundaries,.

According to some empirical studies, Badu, et al. (2018) females have more propensities for uptake annuity compared with males. The households profile such as religious background, ethnic, maritual status, education, gender and age influenced the annuity uptake. The factors significantly influenced annuity uptake, with a possibility of increasing or reducing active membership. Further, in regards to the marital status of household members, they considerably influenced the annuity uptake,. Married household members have a tendency to continuing remitting for insurance premiums compared with singles.

Age was statistically significant in relation to annuity uptake. A unit change in age differences leads to a unit change in annuity uptake. The aspect of age is significant in determining annuity uptake. Old people are more likely to take up annuity as compared to young people. The results also agree with Githui and Ngare (2014),on the existence of a significant association of retirement planning with age. According to Klapper and Panos (2011) that older show more pension knowledge.

Marital status was statistically significant in relation to annuity uptake. A unit change in marital status leads to a unit change in annuity uptake. Married couples are more likely to continue remitting insurance premium after retirement compared to singles. Married persons have or may be expecting children who require medical attention and educational support even after they retire and so the family is compelled tocontribute towards annuity in their working years. Likewise, it cannot be generalized that single persons are less likely to make annuity. Single persons may contribute towards annuity in their working years owing to the reason that the person (s) are not tied up with family and children responsibilities hence sufficient income to pay insurance premiums. The results are in line with Nguru, (2018) that marital status is related with

the level of uptake of health insurance members. According to Banks, Crawford and Tetlow (2015) marital status is related to annuity uptake. Moroever, Syombua, (2018) noted that marital status, is critical determinants of health insurance uptake in Kenya. Likewise, Githui and Ngare (2014) established that marital status has a significant association with retirement planning.

Results also showed that income was statistically significant in relation to annuity uptake. A unit changes in income leads to a unit change in annuity uptake. Annuity uptake is positively correlated with income. High-income earners have a higher possibility of saving more for retirement hence likely to take up annuity. As income increases, annuity uptake becomes more affordable. Individuals with sufficient income stand a better position to remit annuity to their respective insurance companies in their working years. However, members with limited income may stop remitting premiums to the insurance companies as a result of other pressing commitments. In insurance demand models , disposable income is a central variable that positively influences annuity uptake. The results are in agreement with Kiptanui (2017) sought to determine effect of financial literacy on retirement saving among pensioners in Nyahururu town and established that income level positively affect retirement saving. Further, Abdelahi (2017) size of income earned by retirees determines their propensity to make annuity contribution. According to Banks, Crawford and Tetlow (2015) income size is related to annuity uptake.

Financial knowledge was statistically significant in relation to annuity uptake. A unit changes in financial knowledge leads to a unit change in annuity uptake. Financial knowledge had the greatest effect on annuity uptake compared to demographic features. Information about finances help individual make concrete decision on

annuity uptake. Financially informed retirees are more likely to have contributed towards annuity to their respective insurance compared to less financially informed retirees. Financially informed retirees understand the importance of remitting premium while still in active employment. How much money there is for consumption and saving describes the awareness of the income available which refers to financial knowledge and understanding. Since majority of people do not seek knowledge of insurance products there is lack of knowledge and low level of awareness of insurance products. Mojority of people rely on speculation about insurance products hence the low level of financial literacy amongst the populace results to low insurance uptake and subsequent contribution upon retirement. The results are in line with Agnew, Bateman and Thorp (2013) that knowledge on financial administration and aptitudes elevate representatives' capacity to process the profits from various speculation openings. The results are in line with Nguru (2018) that level of knowledge on health insurance was found to be a major factor contributing to low uptake of annuity. Masese (2013) also noted that financial literacy influences insurance uptake and subsequent annuity contribution. The results are also in line with Mburu (2017) financially knowledgeable people are more likely to purchase insurance policies and continue paying annuity after retirement. According Makhandia (2013) financial knowledge results in an increased uptake of medical insurance.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter gives a summary of the previous chapters stumbled upon during the study as well as the policy recommendations for insurance providers with a rigid conclusion and limitations.And in regards to future researchers, the chapter presents suggestions for further research.

5.2 Summary of Findings

The study determined the effects of financial knowledge on annuity uptake among retirees of insurance companies in Kenya. The independent variable was financial knowledge while the control variables were gender, age, marital status and income. The study employed descriptive research design. The results were analyzed using social sciences (SPSS) computer software Version 25.0.

Demographic results indicated that majority of retirees were males and majority of the retirees were aged between 61 years and 65 years old. Majority of the retirees were married. It was also established that majority of retirees had gross monthly income of KES 150 000 and below.Descriptive results revealed that majority of retirees know about investments (mutual funds, bonds, stock,) to moderate extent, majority of the retirees have invested in mutual funds, bonds and stock to moderate extent, majority of the retirees have enough knowledge to calculate interest on their investments to moderate extent, majority of the retirees noted that to a large degree investing in the

stock market by purchasing a wide range of shares and stocks can help to reduce risks to large extent, majority of the retirees acknowledged as compared to treasury bills to large extent investing in ordinary shares produces a higher long-term growth, majority of the retirees acknowledged that using financial knowledge to make personal financial decisions to large extent, to moderate extent in terms of investment options regarding pension schemes majority of the retirees understand it while another portion of the retirees can calculate benefits due to them on retirement to moderate extent.

The Cox & Snell R Square was fair at 46.2% implying a fair model fit. The Nagelkerke R Square which adjusts the Cox & Snell R-square was 55.0%. These Cox & Snell R Square of 46.2% and Nagelkerke R Square of 55.0% were moderaley high signifying satisfactory fit of the model.

Multivariate logit results showed that age was statistically significant in relation to annuity uptake. Age differences irrespective of gender are more likely to influence annuity uptake. A unit change in age differences leads to a unit change in annuity uptake. Marital status was also statistically significant in relation to annuity uptake. A unit change in marital status leads to a unit change in annuity uptake. Thus, marital status is likened with an increase in annuity uptake.Additionally, income was statistically significant in relation to annuity uptake. Financial knowledge was statistically significant in relation to annuity uptake. A unit changes in financial knowledge leads to a unit change in annuity uptake. Financial knowledge has the strongest effect on annuity uptake and is strongly associated with an increase in annuity uptake.

5.3 Conclusion

The study concludes that demographic characteristics of retirees are associated with annuity uptake. Gender, age, marital status and income are likely to influence annuity uptake of retirees. Annuity uptake is at times influenced by gender differences. Some empirical results revealed that compared to men women are more likely to take up annuity. Women are believed to be more cautious about the unforeseen circumstances compared to men. Older persons are more likely to take up annuity compared to young people. Old people are prone to lot of health problems, are no longer more energetic to look for more income and so opt for annuity old people are more prone to taking up annuities since they have accumulated a wealth of knowledge and wisdom on the different options available to them therefore able to choose annuities since they guarantee a more sustained source of income after retirement

Married couples are more likely to take up annuity options compared to singles. Married persons may have children who require medical attention and educational support and so the family is compelled to make sustainable decisions hence annuity being a solid solution. The unmarried population, especially the divorced women approaching the retirement age has considerably lower levels of wealth than the married couples due to little involvement in financial knowledge programs. High income earners are more likely to take up annuity. As income increases, annuity uptake becomes more affordable.

The study also concluded that financial knowledge is associated with annuity uptake among retirees of insurance companies. Financially informed retirees are more likely to take up annuity after retirement compared to less financially informed retirees. Financially informed retirees understand the importance of sustained source of

income after retirement or end of job. How much money there is for consumption and saving describes the awareness of the income available which refers to financial knowledge and understanding. Since majority of the people are not compelled to understand insurance products there is lack of knowledge and low level of awareness of insurance products.

5.4 Recommendations

The study revealed that demographic characteristics of retirees are associated with annuity uptake. The demographic features include gender, age, marital status and income. In terms of gender, women are thought to be more likely to make contribution after retirement. However, the findings should not be generalized to all genders as life situations and other factors differ significantly among retirees irrespective of gender. The study therefore recommends for intensive awareness on annuity uptake among men and women retirees to improve annuity uptake after retirement.

Annuity uptake among retirees differed significantly by age. Old people are more likely to take up annuity as compared to young people. However, in some situation, young people tend to continue remitting insurance premium to safeguard themselves against unforeseen health treats and other life disturbances. The study recommends for proper awareness training on the importance of continuing paying annuity premiums before retirement by young people. The awareness should state that paying annuity is important for all retirees in different age brackets because life disturbances are unpredictable and do not affect particular age group more than another.

Marital status influenced annuity uptake among retirees after retirement. Married couples are more likely to take up annuities after retirement compared to singles. Married persons have or may be expecting children who require medical attention and educational support and so the family is compelled to making more informed sustainable investment decisions like annuity uptake. Further, the unmarried persons, divorced and widowed persons are often psychologically traumatized and may save for their retirement therefore having no income after retirement. The study recommends for proper guiding and counseling sessions to be offered by respective insurance providers to these groups on the need to continue contributing the premium despite the problems that befell them. It is worth noting that being married means you are not psychologically disturbed and recommendations are also applicable to married couples. They also need proper guiding and counseling sessions on life skills and why it is important of them to continue contributing for retirement.

Income size of retirees is associated with annuity uptake. As income increases, annuity uptake becomes more affordable. However, the findings should not mean that low income earners will likely stop contributing for retirement. Adhering to annuity uptake after retirement is matter of individual financial discipline. The study recommends that proper financial awareness on savings is required for employees before they retire from active work to ensure that the retirees make informed decisions after retirement.

Compared to other demographic features the study established that financial knowledge had the greatest effect on annuity uptake. The study recommends for specifically tailored financial management trainings. Financial discipline is a problem for many people and this require proper awareness on saving, expenditure and

contribution to various schemes including retirement savings/annuity. Information about finances help individual make concrete decision on annuity uptake after retirement. Financially informed retirees are more likely to take up annuity after retirement compared to less financially informed retirees. Financially informed retirees understand the importance of sustained source of income after retirement or end of job.

5.5 Limitations of the Study

The approach used in this study has limitations and the findings are not exhaustive; requiring further scrutiny. One of the limitations was that some retirees were unwilling to give out information about their income. Citing the information is confidential. However, the limitation was mitigated by making a solemn promise to the retirees that the information provided should be utilized for purposes of academic research only.

The study also assumed that financial knowledge and demographic characteristics including income,marital status, age and gender are the main variables influencing annuity uptake. The other factors include perception and trust on insurance providers during employment and after retirement. It is perceived that claiming insurance premiums after an incident is always a cumbersome and full of bureaucracies that make some contributors stop making contribution to their respective insurance scheme. Life shocks for instance emergence of hard diseases on family members that results to catastrophic spending making the retirees unable to choose annuity as a retirement option

The study relied much on questionnaire as the main data collection tool. Closed ended questionnaire that is at times is prone to biasness. Future research may combine both a questionnaire and interview guide as main tools of data collection.

5.6 Suggestions for Further Research

Annuity uptake is influenced by other factors and include individual perception about insurance during active employment and after retirement. Other factors include trust and lots of bureaucracies when making claims for the summed premiums not forgetting life shocks that render retirees unable to choose annuity as a retirement solution. Future research should include these variables/factors.

The study noted that annuity uptake is important after retirement. Future research should focus on the effect of annuity uptake on welfare among retirees in various organizations. It is important to study the benefits of annuity and its possible effects on retirees' welfare. The study relied on questionnaire as method of data collection. Future research may include interview guide. Open conversation with retirees regarding annuity uptake is required to enhance the comprehensiveness of the study. Combining questionnaire and interview guides facilitates triangulation of research finding.

The study largely focused on retirees from insurance companies. Annuity uptake is a practice evident in other sectors like banking and state corporations. Future research may entail studying state of annuity uptake among retires in banking instructions and state corporations. The study will allow the comparison of the pattern of annuity uptake in different sectors.

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APPENDICES

Appendix I: Insurance Companies in Kenya

AR Insurance Company Limited

2. Africa Merchant Assurance Company Limited

3. AIG Kenya Insurance Company Limited

4. Allianz Insurance Company of Kenya Limited

5. APA Insurance Limited

6. APA Life Assurance Company Limited

7. Barclays Life Assurance Kenya Limited

8. Britam General Insurance Company (K) Limited

9. Britam Life Assurance Company (K) Limited

10. Metropolitan Cannon General Insurance Company Limited 0

11. Capex Life Assurance Company Limited

12. CIC General Insurance Company Limited

13. CIC Life Assurance Company Limited

14. Corporate Insurance Company Limited

15. Directline Assurance Company Limited

16. Fidelity Shield Insurance Company Limited

17. First Assurance Company Limited

18. GA Insurance Limited

19. GA Life Assurance Limited

20. Geminia Insurance Company Limited

21. ICEA LION General Insurance Company Limited

22. ICEA LION Life Assurance Company Limited

23. Intra Africa Assurance Company Limited

24. Invesco Assurance Company Limited

25. Kenindia Assurance Company Limited

26. Kenya Orient Insurance Limited

27. Kenya Orient Life Assurance Limited

28. KUSCCO Mutual Assurance Limited

29. Liberty Life Assurance Kenya Limited

30. Madison Insurance Company Kenya Limited

31. Madison General Insurance Kenya Limited

32. Mayfair Insurance Company Limited

33. Metropolitan Cannon Life Assurance Limited

34. Occidental Insurance Company Limited 0

35. Old Mutual Assurance Company Limited

36. Pacis Insurance Company Limited

37. MUA Insurance (Kenya) Limited

38. Pioneer General Insurance Company

39. Pioneer Assurance Company Limited

40. Prudential Life Assurance Company Limited

41. Resolution Insurance Company Limited

42. Saham Assurance Company Kenya Limited

43. Sanlam General Insurance Company Limited

44. Sanlam Life Insurance Company Limited

45. Takaful Insurance of Africa Limited

46. Tausi Assurance Company Limited

47. The Heritage Insurance Company Limited

48. The Jubilee Insurance Company of Kenya Limited

49. The Kenyan Alliance Insurance Company Limited

50. The Monarch Insurance Company Limited

51. Trident Insurance Company Limited

52. UAP Insurance Company Limited

53. UAP Life Assurance Limited

54. Xplico Insurance Company Limited
Source: AKI (2019)

Appendix II: Questionnaire

Dear respondent,

This questionnaire has been designed to collect information on financial knowledge and annuity uptake among retirees of insurance companies in Kenya. Please read carefully and answer the questions as honestly as possible. The information gathered will be used purely for the purpose of academic research and will be treated with utmost confidence.

PART A- GENERAL INFORMATION

Please tick the appropriate bracket

1 What is your gender?

Male [ ]   Female [ ]

2. What is your age bracket?

55-60
( )

61-65
( )

66-70
( )

71-75
( )

Over76
( )

3 What is your marital status?

Married   [ ]   Single [ ]   Divorced   [ ]   Widowed   [ ]

4 What is your monthly gross income?

Below Kshs 50,000   [ ]

50,001- 100,000   [ ]

100,001-150,000   [ ]

150,001- 200,000   [ ]

200,001- 250,000   [ ]

250,001-300,000   [ ]

Above 300,000   [ ]

PART B: ANNUITY UPTAKE

Do you contribute to a pension plan over and above the mandatory deductions by employer?

Yes   [ ]

No   [ ]

SECTION C: FINANCIAL KNOWLEDGE

These questions are intended to measure finance knowledge levels. Use the key below

and tick as appropriate

Not at all [1]; To a less extent [2]; To a moderate extent [3]; To a large extent [4];

To a very large extent [5]

	Not at all	To a less extent	To a moderate extent	To a large extent	To a very large extent
1. I know about investments (stock, bonds, mutual funds)					

2. I have invested in stock, bonds or mutual funds					
3. I know how to calculate interest on my investments					
4. Investing in the stock market by buying a wide range of stocks and shares can help to reduce risks					
5. Investing in ordinary shares yields a higher long-term growth as compared to treasury bills					
6. I use financial knowledge to make personal financial decisions					
7. I understand investment options for pension schemes					
8. I can calculate benefits due to me on retirement					

Thank you for your time and information