

**A COMPARATIVE STUDY BETWEEN THE THREE PHASES OF
RETIREMENT WITH REGARD TO THE
PRACTICAL RETIREMENT PLANNING PROCESS**

by

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Declaration

I declare that **A COMPARATIVE STUDY BETWEEN THE THREE PHASES OF RETIREMENT WITH REGARD TO THE PRACTICAL RETIREMENT PLANNING PROCESS** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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Date

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Summary

Retirement is a matter that seems to be underestimated by the majority of South Africans; as a result, they underestimate planning financially for it. Three phases, namely pre-retirement, close-to-retirement and post-retirement, were identified for the purposes of this study, together with the five different steps in the practical retirement planning process that merge into three core areas. The Organisation for Economic Cooperation and Development's (OECD's) first international pilot study on financial literacy resulted in the South African Financial Services Board (FSB) performing a national baseline survey during 2011 to determine South Africans' financial literacy levels. The questions selected from the national baseline survey dealing with some of the elements within the three core areas of the practical retirement planning process were statistically analysed for a comparison across the three retirement phases. Differences that could influence individuals' ability and financial decisions when planning for retirement were found across the three retirement phases.

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List of acronyms and abbreviations

ANOVA	Analysis of variance
CFP	Certified Financial Planner
CIFPS	Canadian Institute of Financial Planners
FPA	Financial Planning Association
FPI	Financial Planning Institute
FPSB	Financial Planning Standards Board
FPSC	Financial Planning Standards Council
FSB	Financial Services Board
HSRC	Human Sciences Research Council
IQPF	Institut quebecois de planification financiere
IRAs	Individual retirement accounts
NT	National Treasury
OECD	Organisation for Economic Cooperation and Development
SARS	South African Revenue Services
SEC	Securities and Exchange Commission
Stats SA	Statistics South Africa
UNISA	University of South Africa

CHAPTER 1

INTRODUCTION AND BACKGROUND

1.1. INTRODUCTION

More than two thirds of South Africans will reach retirement without a funded retirement benefit and would mainly rely on the social old age grant (National Treasury, 2007). The most important reason for this is the lack of pre-retirement savings among South African households, as they are not in a position to put money aside for the future and/or do not have access to affordable and applicable retirement and investment products (National Treasury, 2012a). In an attempt to assist South Africans to rectify this problem, certain changes to the taxation laws were introduced in 2015, but were unexpectedly withdrawn early in February 2016 (National Treasury, 2016). This issue needs urgent attention.

However, some of the other reasons why people fail to provide sufficiently for their retirement include insufficient savings for retirement or none at all, starting too late to save for retirement, no preservation of retirement benefits, high fees and charges imposed on member savings, low levels of annuitisation, investing too conservatively, and underestimating the cost of living post retirement (Joehnk, Billingsley & Gitman, 2011; National Treasury, 2012a; Teubes, 2013). These are not the only reasons for the lack of pre-retirement savings among South African households. Factors such as unemployment, poverty and inequality play a significant role in South Africa (National Treasury, 2013). These factors require continuous attention from Government and seem to play a significant role in the South African context, with high levels of financial vulnerability experienced by the elderly population due to their low levels of retirement income, possibly because of low levels of retirement savings and low preservation rates. This financial dependency on younger individuals to support the elderly could have a negative effect on their financial ability to save for their own future (National Treasury, 2012a; National Treasury, 2012b; National Treasury, 2013; Roberts, Struwig, Gordon, Viljoen & Wentzel, 2012).

On 14 May 2012, the National Treasury issued a discussion paper, *Strengthening retirement savings*, emphasising that only 10 percent of South Africans would be able to sustain their pre-retirement level of consumption when they stop working. This is mainly due to low preservation rates among workers that resign prior to retirement and then withdraw their entire retirement benefit. This trend is continuing, despite the taxation changes that were implemented to incentivise the preservation of retirement benefits (National Treasury, 2012b).

A study conducted by Alexander Forbes indicated that, according to the Member Watch™ 2012 data set, the average retirement fund member who retires at 65 is on track to replace only 39 percent of their pensionable pay (Butler, Cabot-Alletzshouser & Prinsloo, 2012). Retirement planning requires that individuals consider the percentage of their final salary that they would like to receive after retirement. This is referred to as the replacement rate. It is very easy for individuals to state, for instance, that they require between 75 percent and 100 percent of their pre-retirement income to maintain their standard of living after retirement. However, this is not necessarily achievable, as proper retirement planning has to be done prior to retirement to ensure that this type of replacement rate could be achieved (Botha, Rossini, Geach, Goodall, Du Preez & Rabenowitz, 2011).

Roughly 50 percent of the South Africans who are part of the economically active population provide for their retirement through occupational and voluntary savings arrangements. Despite contributing towards these types of retirement arrangement, a proportion of them will still revert to claiming a social grant as well (National Treasury, 2004).

Since 2004, the Government of South Africa has been working on a retirement fund reform that would be based on the framework as suggested by the World Bank, which makes a distinction between three separate “pillars” within a retirement funding system (World Bank, 1994; National Treasury, 2004). Within the South African context, Pillar 1 would represent the social age grant, Pillar 2 retirement savings through the various pension and provident funds (occupational retirement funds) that relate to employment

in the formal sector, and Pillar 3 would represent voluntary savings in South Africa through retirement annuity funds and individual or collective investment schemes and insurance policies (National Treasury, 2004).

The retirement fund reform would work towards achieving objectives such as the encouragement of individuals to provide adequately for their own retirement and the needs of their dependants (National Treasury, 2004). Another objective with this retirement fund reform is to relieve the financial burden that is bestowed upon the taxpayers in order to address the needs of those that are dependent on social grants. With the retirement fund reform, Government also wants to address deficiencies such as preservation and low annuitisation in the current retirement funding landscape (National Treasury, 2004). It is therefore Government's aim to build on the strengths of the retirement funding environment established and regulated by the Pension Funds Act of 1956, but at the same time addressing its deficiencies (National Treasury, 2004).

The South African Financial Services Board (FSB) deemed it appropriate to intervene from the financial education side by making use of the Human Sciences Research Council (HSRC) for a survey to evaluate the financial literacy levels of South Africans. This was done to assist South Africans to achieve sound financial management and to provide relevant financial information to consumers (Roberts *et al.*, 2012). Due to various aspects that prevent South Africans from saving for retirement, financial education is an important element to consider for proper retirement planning in South Africa.

Some of the problems identified were that people started too late with their provision for retirement (Joehnk *et al.*, 2011). This prompts the question – when is the right time to start? There are three phases in which one could do financial planning for retirement. The most important phase is the 'pre-retirement phase', in which the bulk of the retirement savings should take place. Then follows the 'close-to-retirement phase', where specific retirement-related issues should be addressed. Finally, in the 'post-retirement phase', these retirement savings should be invested in the most appropriate

retirement investment vehicle to obtain the optimal benefit for reducing vulnerability in old age (Cameron, 2004; Botha *et al.*, 2011; Keown, 2013).

1.2. LITERATURE REVIEW

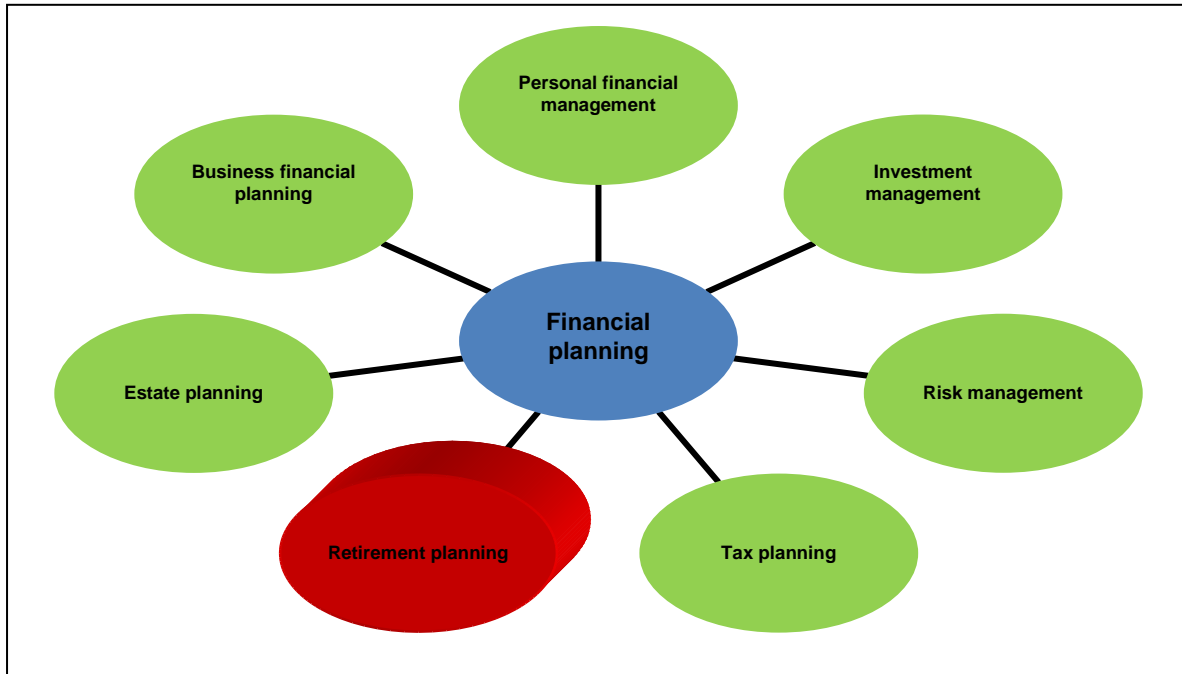
Many reasons could be provided for why people save. A study by Keynes (1936) was one of the first studies to identify the motives behind saving. He identified eight motives and a later study by Browning and Lusardi (1996) identified an additional motive for why people save.

The initial eight motives identified by Keynes (1936:57) were “to build a reserve against contingencies”, “to provide for anticipated future relationship between the income and the needs of the individual”, “to enjoy interest and appreciation”, “to gradually enjoy increasing expenditure”, “to enjoy a sense of independence and the power to do things, though without a clear idea or definite intention of specific action”, “to secure a *masse de manoeuvre* to carry out speculative or business projects”, “to bequeath a fortune”, and “to satisfy pure miserliness, i.e. unreasonable but insistent inhibitions against acts of expenditure as such”. The additional motive Browning and Lusardi (1996:1797) identified was “to accumulate deposits to buy houses, cars, and other durables”. Retirement planning as addressed above could possibly fall into the scope of one of these motives, as individuals would have to provide financially over their working lifetime for their retirement to create that future relationship between the income and the financial needs that they would have in retirement.

Therefore, when referring to retirement planning, one would firstly have to decide where and how it fits into the bigger picture of preparing a proper financial plan and simultaneously address its importance. One must further realise that retirement planning is only one of the components that have to be considered when drawing up a proper financial plan where financial goals and objectives have to be considered. It is important to emphasise, however, that not all of these components would be applicable to all individuals, as each individual has their own unique needs and circumstances (Botha *et al.*, 2011). The most important financial goal that individuals could have is surely to attain a comfortable standard of living during retirement; with that in mind,

retirement planning could also encapsulate the very essence of what financial planning is all about (Joehnk *et al.*, 2011). This study was limited to retirement planning due to the important role that it plays in the individual financial planning process. Figure 1.1 provides detail regarding the components of the financial planning process and illustrates where retirement planning fits into the process.

Figure 1.1: The components of financial planning



(Source: Botha *et al.*, 2011:38)

Garman and Fogue (2008) as well as Joehnk *et al.* (2011) state that retirement planning is a forward-looking process, which influences individuals' standard of living now and in the future. Retirement planning also entails more than merely belonging to a pension, provident and/or a retirement annuity fund (Botha *et al.*, 2011). Individuals are required to assess their financial retirement needs long before they actually retire by doing proper financial planning to enable them to maintain their standard of living after retirement. International studies emphasise the importance of having a sound financial plan, as it will ensure that a client's financial objectives have been met and that it could also have a positive effect on a person's savings (The Financial Planning Institute of South Africa, 2008:1). Planning for retirement is therefore not a once-off event, but a

detailed ongoing process that has to be implemented many years prior to the actual retirement date and that should be monitored regularly (Society of Actuaries, 2007; Gouws, 2012; Keown, 2013; Severson, 2013).

Retirement planning as it stands today forces individuals rather than pension professionals to take a higher level of responsibility when it comes to the funding of their retirement, as individuals must estimate the required level of savings that would enable them to provide for a sufficient retirement income (Poterba, Rauh, Venti & Wise, 2007). The two prominent retirement investment vehicles that South Africans could utilise to provide financially for retirement are contributing towards occupational retirement funds in the form of either a pension or provident fund and supporting this with voluntary savings to ensure that they would be able to sustain their standard of living in retirement (Cameron, 2004; National Treasury, 2004). Individuals would therefore have to follow the different steps in the practical retirement planning process as discussed in Chapter 2 (section 2.3) to formulate a retirement plan that could enable them to achieve their pre-determined retirement goals (Botha *et al.*, 2011; Joehnk *et al.*, 2011; Keown, 2013).

Individuals need to plan for achieving their pre-determined retirement goals. Furthermore, such planning for retirement would have to be done within their financial life cycle in order to determine where retirement savings could be accommodated (Keown, 2013). Irrespective of the fact that individuals are either actively involved in planning for their retirement or are merely thinking about retirement, they move through various phases of the retirement planning process (Severson, 2013). In order for individuals to benefit the most from their retirement experience, they are required to have a proper understanding of the different financial phases that are applicable to the retirement planning process (Cameron, 2004; Berger, 2013; Keown, 2013; Severson, 2013).

In essence, individuals could do financial planning for retirement in three phases (Botha *et al.*, 2011). The phases are pre-retirement, close-to-retirement and post-retirement, each of which is important and presents its own opportunities and challenges (Cameron, 2004; Botha *et al.*, 2011; Keown, 2013).

The first phase is crucial: it is the working time of an individual during which provision for retirement should be made to ensure enough retirement savings to enable an individual to live comfortably after retirement. This is usually referred to as the pre-retirement planning phase (Lexis Nexis, 2011).

Pre-retirement planning is often referred to as the savings or accumulation phase of retirement planning. This is also the longest retirement-investing phase and the period in which individuals could save and increase their retirement savings at the most appropriate risk (Campos, 2010). Most of the planning is done during this stage, in which comprehensive savings and investment plans are introduced and implemented to ensure that the individual reaches his or her retirement goals (Lexis Nexis, 2011). During this phase, individuals have the opportunity to contribute to a retirement fund via their employer, where they have an arrangement regarding the contributions that have to be made. In cases of self-employed individuals or instances where employers do not provide individuals with a retirement savings vehicle in order to make provision for their retirement, individuals can still provide for their retirement through voluntary savings schemes. This stage also has its own challenges in the form of buying a home, meeting the financial needs of a growing family, education, day-to-day expenses and any other related expenses (Monarch Advisory Group, 2014).

The next phase will be very close to retirement (transition phase), which makes it the shortest phase. During this phase, individuals will be acutely aware of the status of their retirement savings and whether there is a shortfall or an excess (Botha *et al.*, 2011; Berger, 2013). This will enable individuals to make the necessary decisions and to address issues such as the impact of income tax on retirement benefits when they retire (Berger, 2013; Botha *et al.*, 2011). At retirement the availability of a tax-free lump sum, the amount of the lump sum that should be taken versus an annuity and the type of annuity that should be chosen are important decisions, with major impact on the standard of living after retirement.

During the post-retirement phase, individuals start to spend their accumulated retirement savings. This phase might also be the toughest phase, as individuals have

no idea how long it would last (Monarch Advisory Group, 2014). The aim of this phase is to ensure that individuals' retirement savings will last until the end of their lifetime. This is also a phase where individuals would need investment advice regarding the investing of their retirement savings in the most appropriate retirement investment vehicles to obtain the optimal benefit for reducing vulnerability in old age. It is further important to ensure that individuals do not reach the point where their retirement savings are exhausted or are no longer adequate to maintain their standard of living in old age. Therefore, proper planning and preparation during the first two phases would improve the standard of living in old age (Cameron, 2004; Keown, 2013; Monarch Advisory Group, 2014).

However, in the 2012 *Budget Review*, it was reiterated that too few South Africans would receive an adequate income in retirement, which is an indication that the importance of retirement planning should not be underestimated. It was also mentioned that the retirement industry structure contributes to retirees' low income-replacement rates (National Treasury, 2012a). Furthermore, the four principal areas of concern with regard to retirement and other investment products were highlighted.

One of the main concerns is that many households are maintaining unsustainable levels of consumption and neglect to save enough for the future in order to provide for economic shocks and/or post-retirement benefits (National Treasury, 2012a; National Treasury, 2012b; National Treasury, 2012c). Secondly, there are low levels of preservation and portability when workers resign and then often decide to withdraw their retirement savings and not to transfer the accumulated funds to the new employer or to a preservation fund. Thirdly, the fees and administrative charges on members' savings of a pension, provident and retirement annuity fund might be excessive in certain cases and would substantially reduce the value of member benefits. Fourthly, there is the risk that members of provident funds would outlive their savings, as these members seldom convert the lump sum benefits they receive into an annuity (National Treasury, 2012a; National Treasury, 2012b; National Treasury, 2012c).

Furthermore, the Government is also facing a high number of grant dependants. On 4 October 2012, the National Treasury issued a discussion paper, *Incentivising Non-Retirement Savings*, which contained various statistics indicating some worrying facts. It highlighted the fact that the ratio of debt to disposable income for a household rose from an average of 56 percent in the period 2000 to 2005 to 78 percent in the period 2006 to 2011. This illustrated that for every R1 000 earned by an average household in South Africa, R780 thereof is utilised to pay off debt, leaving the balance of R220 to fund the other household expenses, which include savings for retirement (National Treasury, 2012d).

The low savings rate is not very positive for the financial security of South Africans, especially within the post-retirement phase. It will also have a ripple effect, as the number of individuals that would be dependent on Government grants after retirement would continue to increase (National Treasury, 2015c; Teubes, 2013). Since 1994 up to August 2014, the number of social grants recipients in South Africa increased rapidly from 4 million to 16.3 million, a figure that cannot be sustained forever (Ferreira, 2015). According to the Statistics South Africa Household survey, this amounted to 29.0 percent of South Africans who benefited from social grants in 2014 (Stats SA, 2014). It is estimated that by 2017/18 this figure would rise to 17.5 million beneficiaries who would be receiving social grants (National Treasury, 2015b).

Therefore, with this study it was important to re-emphasise the steps that individuals should follow within the practical retirement process, bearing in mind the distinct differences that exist between the three retirement planning phases that could financially influence individuals' levels of retirement savings in the future. Awareness could also be raised regarding the importance of commencing as early as possible with saving towards retirement during the entire retirement planning process, as it could contribute positively towards having the desired standard of living in retirement.

As promotion of consumers' financial education falls within the South African FSB mandate, they commissioned the HSRC in 2011 to conduct a study to determine the financial literacy levels of South Africans, which would guide them in developing

strategies to improve the overall financial literacy levels. The South African FSB's study was the first of its kind in South Africa and provided detail on South Africans' financial literacy levels in terms of awareness, knowledge and understanding (Roberts *et al.*, 2012). All four the core domains of financial literacy as addressed in the South African FSB's national baseline survey – financial control, financial planning, choosing appropriate financial products, and financial knowledge and understanding – contained information that was relevant to retirement planning. The domain financial control (day-to-day money management) dealt with individuals' ability to prepare budgets and to stay within the pre-determined parameters, spending and savings patterns, and their attitude towards financial management. Financial planning entailed individuals' provision for emergencies and the extent thereof, provision for retirement and expected expenses such as health care, insurance and savings products held. The choosing of appropriate financial products was set out to determine the type of products individuals have as well as to what extent they go prior to purchasing financial products to ensure that it would meet their needs by addressing the appropriateness of these products. Financial knowledge and understanding related to individuals' ability to understand how economic factors such as compound interest, inflation, risk and return could influence their financial decision-making (Roberts *et al.*, 2012). Financial illiteracy results in inadequate levels of savings and provision for retirement. A number of households are not even acquainted with some of the basic economic concepts that would enable them to make well-informed investment and savings decisions from which they could benefit (Lusardi & Mitchell, 2006).

Financial education therefore plays a key role in proper retirement planning due to the unique nature of some of the financial products involved. The severity of the risks relating to for instance private pensions is increasing for those individuals that belong to a defined contribution fund where the individual bears the risks of the choices that are made. Such individuals would also have to consider the impact of the increasing life expectancy on their retirement plans (OECD, 2008). As indicated by the OECD and other studies (OECD 2008; Lusardi, 2003, Lusardi & Mitchell, 2011a, 2011b), individuals' financial literacy levels are generally low and their understanding and knowledge of pensions and retirement savings plans are usually limited. Although

pensions and retirement savings plans are essential for an individual's wellbeing and a stable economy, previous surveys reviewed by the OECD indicate that these are some of the less understood financial products. These surveys further indicate that individuals are saving inadequately and inappropriately for their retirement.

1.3. PURPOSE STATEMENT

This study is important for the following reasons: to identify the possible differences over the three retirement phases in respect of the practical retirement planning process, and to determine whether these responses differed more than was expected, considering South Africans' inability to provide sufficiently for their retirement, since only 10 percent would be able to retire comfortably. The purpose of this study was therefore to do a comparison between the three phases of retirement to determine whether there are any differences with regard to the three core areas of the practical retirement planning process. The elements of retirement planning in the South African context that this study focused on and evaluated are the required level of financial knowledge, understanding and management; understanding of risk; long-term financial planning; and choosing appropriate financial products in the accumulation of retirement savings within the three different retirement phases. Some of these factors seem to prevent South Africans from properly preparing themselves for their retirement and could possibly cause financial vulnerability in old age.

1.4. RESEARCH PROBLEM

The research problem for this study was to investigate whether there are differences across the three retirement phases with regard to the practical retirement planning process that could possibly explain South Africans' financial ability to plan for retirement.

The following sub-research problems were investigated in order to address the research problem:

1. Identify the different steps that individuals need to follow when doing retirement planning and incorporate each of the identified steps into the practical retirement

planning process by describing the purpose of each of these steps which is embedded in the three core areas of the practical retirement planning process (to be addressed in Chapter 2, section 2.3 and 2.5).

2. Identify the phases within which individuals need to do retirement planning as addressed by previous studies and simultaneously take cognisance of individuals' financial life cycle (to be addressed in Chapter 2, section 2.4).
3. Identify and compare the possible differences that could exist across the three retirement phases within the three core areas of the practical retirement planning process (to be addressed in Chapter 4, section 4.3).

The first and second research sub-problems were addressed by doing a literature review (Chapter 2) and the third research sub-problem by using the methods as highlighted in section 1.5 and discussed in Chapters 3 and 4 respectively.

1.5. METHODOLOGY

This study did a comparative analysis of the three phases of retirement with regard to the three core areas of the practical retirement planning process. Quantitative statistical analyses were used to conduct this comparative analysis in order to analyse the data from the South African FSB national baseline survey on financial literacy in South Africa (Roberts *et al.*, 2012).

Relevant questions were selected from the South African FSB's national baseline survey (see Table 3.4 in Chapter 3) to address the general financial behaviour and demographic characteristics of individuals that could possibly affect their financial ability to do planning for retirement. Questions were also selected (see Table 3.4 in Chapter 3) from the same survey to identify possible differences that could exist over the three retirement phases within the three core areas of the practical retirement planning process. If there are fundamental problems that relate to South Africans' ability to do retirement planning, the results obtained in this study might not be comparable on an international level.

A representative sample of 2 972 South Africans participated in the South African FSB national baseline survey, which provided descriptive and analytical findings around the four core domains of financial literacy, of which certain questions were also very useful to this study. Therefore, this was a quantitative study based on the secondary data from the South African FSB's national baseline survey. The reliability and validity of the data for the purposes of this study are discussed in section 3.3.

The selected questions were firstly analysed by means of cross tabulation in order to sort the responses to the questions according to the age groups relating to the three retirement phases. Due to the ordinal nature of the secondary data, non-parametric testing in the form of the Kruskal-Wallis, post-hoc, Mann-Whitney U and the effect size test were used to identify whether there are statistically significant differences between the three retirement phases within the three core areas of the practical retirement planning process (see section 4.3 in Chapter 4) and whether they differed more than was expected.

Descriptive and statistical analyses were used to measure the results relating to the answers of the survey questions. These analyses assisted in the identification of the differences that could possibly exist among the three retirement phases within the three core retirement areas of the practical retirement planning process.

1.6. DELIMITATIONS AND ASSUMPTIONS

The survey that was prepared for the South African FSB by the HSRC and the questionnaire from the survey were extensively used to do a comparison of how the related issues (Table 3.4, final list of questions) as identified for the purposes of this study would impact on the three retirement phases within the three core areas of the practical retirement planning process. This was done in order to identify possible differences that exist among these phases.

This study focused only on the elements that were identified in the South African FSB's survey relating to retirement planning as identified by previous studies, but is not a comprehensive study incorporating all the factors previously identified. The three

retirement phases could also be disaggregated into more age categories or life stages, but for purposes of this study are limited to the three overarching retirement phases.

This study is in no way a comprehensive study of how to improve retirement planning within the South African context, looking only at the possible differences that could exist among the three retirement phases within the three core areas of the practical retirement planning process, based on the elements that were included in the South African FSB's survey. Therefore, this study attempted only to lay the foundation for further research in this area.

Results in this study are reliant on the availability and quality of data and it is therefore recommended that the findings be treated only as indicative.

1.7. IMPORTANCE OF THIS STUDY

The low number of South Africans that would be able to retire comfortably illustrates the importance of analysing the retirement planning process as well as the phases within which retirement planning should be done. The outcome of this study might assist the South African FSB and National Treasury in identifying areas where consumer financial education relating to retirement planning ability across the three retirement phases is needed among South Africans. Financial education could possibly also provide assistance in addressing the financial vulnerability that individuals experience in old age. In Chapter 5, some of the competencies needed for each of the steps in the practical retirement planning process across the three retirement phases are discussed to illustrate the extent of financial education needed when doing retirement planning. This is not a comprehensive list of all the competencies needed for retirement planning, but it re-emphasises the importance of the necessary financial education that would enable individuals to make informed financial decisions when they are planning for retirement. This would further empower policymakers to improve the overall financial wellbeing of communities by adjusting their levels of financial education to accommodate any identified shortfalls. This is also where the South African FSB plays a key role in providing the required levels of financial education in an attempt to improve

individuals' ability to make informed financial decisions for improving their financial wellbeing in the future.

1.8. ETHICAL CONSIDERATIONS

All ethical aspects relating to this study have been addressed and prior to the commencement of the research the necessary ethical clearance was obtained. Approval for the use of the secondary data, which was sourced from the South African FSB national baseline survey was granted by the South African FSB. As secondary data was used for this study, the risk element was reduced and ethical clearance was granted by the Ethical Committee of the College of Accounting Sciences as presented in Annexure C.

1.9. PRELIMINARY CHAPTER OUTLINE

The remainder of this study progresses as follows:

- Chapter 2 provides a literature review with regard to determining the relationship that exists between financial planning and retirement planning and to progress towards identifying the different steps in the practical retirement planning process that are embedded in the three core areas – goal setting, detailed gap analysis and the formulation of a retirement plan. In addition, the literature review is expanded to identify the three phases of retirement that would apply to this study within the scope of a typical individual's financial life cycle.
- Chapter 3 sets out the methodology and research design for this study based on the related questions that were selected. This study was a quantitative comparative study based on the South African FSB's national baseline survey. Descriptive and inferential statistics were used to analyse the secondary data.
- Chapter 4 discusses the results of the statistical analysis of the secondary data acquired from the South African FSB's national baseline survey by

using both descriptive and inferential statistics. Non-parametric statistical tests in the form of the Kruskal-Wallis, post-hoc and Mann-Whitney U tests were performed to determine whether there are statistically significant differences among the three retirement phases within the three core areas of the practical retirement planning process in relation to the questions that were identified for this study. The extent of these statistically significant differences was determined by calculating the effect size thereof.

- Chapter 5 contains the conclusion, final remarks, and areas for further research pertaining to retirement planning within the South African context that have not been addressed in this study and could be of benefit to South Africans as well as other role players within the retirement industry.
- Annexure A provides three practical scenarios to illustrate the practical retirement planning process across each of the retirement planning process phases.
- Annexure B provides detail of questions selected for the study, together with their cross-tabulation results across the three retirement phases. These annexures supplement both the literature review (Chapter 2) and some of the results reported in Chapter 4.

CHAPTER 2

THE PRACTICAL RETIREMENT PLANNING PROCESS WITHIN THE THREE PHASES OF RETIREMENT

2.1. INTRODUCTION

In Chapter 1, it was proposed that retirement planning is important to all South Africans within the three retirement phases. South Africans' financial decision-making process, specifically regarding their retirement, has become complicated with the increased diversified portfolio of the financial products that are on offer to them. The importance of consumer financial awareness and financial understanding has been emphasised by this growing complexity of the financial environment (Roberts *et al.*, 2012). As the ultimate goal of retirement planning, enabling individuals to maintain their standard of living in old age, requires that certain retirement planning competencies be in place during the retirement planning process. Before exploring the specific retirement planning competencies (to be discussed in Chapter 5), this chapter will firstly describe the relationship that exists between financial planning and retirement planning (section 2.2), as these two concepts are closely related. This will be followed by a description of the different steps within the retirement planning process (section 2.3) and the phases of the retirement planning process (section 2.4). This chapter will then progress to a discussion of the step-by step approach that has to be followed within the practical retirement planning process as well as the incorporation thereof into the different retirement phases (section 2.5). Annexure A includes three scenarios to illustrate the practical retirement planning process within each of the retirement planning process phases.

2.2. FINANCIAL PLANNING VERSUS RETIREMENT PLANNING

Financial planning could be defined and influenced in various ways and it has different meanings for different people. Individuals' level of income or the number of assets they own in any particular circumstances play an important role when doing financial planning and should therefore not be underestimated, despite the different meanings

that people attach to the term financial planning. Knowledge levels, skills required and complex circumstances are key factors that influence the different meanings and perceptions individuals have about financial planning and the respective processes that make financial planning essential for the achievement of individuals' financial objectives and lifestyle goals. Despite the different meanings, there also seem to be similarities across the different views of financial planning (Botha *et al.*, 2011; Mclellan, 2012). Furthermore, the relationship between financial planning and retirement planning needs to be clearly defined to establish the relationship that exists between these two concepts. This will be done by explaining the broader concept of financial planning before focusing on the narrower concept of retirement planning.

Despite the fact that financial planning could generally be perceived as a relatively modern occupation, it dates back to ancient times, where it was part of everyday life, as individuals had to make decisions about how they would utilise the money they received in the best possible ways (Cull, 2009). According to the Certified Financial Planner Board of Standards, Inc (CFP Board, 2015), the financial planning profession developed after World War II, when the Americans had to be assisted in meeting their financial goals, but over the years it has evolved into a globally recognised institution. It could however be said that in 1985 the “professional era” emerged when the CFP Board was established as a tax-exempt, non-profit organisation to promote the value of professional, competent and ethical financial planning services globally (Warschauer, 2002). The financial industry has since developed and changed significantly.

Mitra (1990:5) attempted to define financial planning as: “the organisation of an individual's financial and personal data for the purpose of developing a strategic plan to constructively manage income, assets and liabilities to meet near and long-term lifestyle goals and objectives”. In 2001, a broader definition of financial planning was formulated by the Certified Financial Planner Board of Standards, Inc. (CFP Board, 2003:1) that stated: “... financial planning denotes the process of determining whether and how an individual can meet life goals through the proper management of financial resources”. Warschauer (2002:204) followed in 2002 by providing an even more extended definition of financial planning, suggesting that financial planners needed more than just technical

skills to provide a professional and quality service to their clients and defining financial planning as: "...the process that takes into account the client's personality, financial status and the socio-economic and legal environments and leads to the adoption of strategies and use of financial tools that are expected to aid in achieving the client's financial goals".

Similar to the CFP Board, is the Financial Planning Standards Board Ltd. (FPSB), also a non-profit association, who has made financial planning beneficial for the global community by establishing, promoting and upholding worldwide professional standards in the financial planning industry with their involvement in the managing, developing and operating of the certification, education and related programs for financial planning organisations all over the world. The FPSB (2006:1) defines financial planning as "...the process of meeting individuals' life goals through the proper management of their finances". These life goals could include saving for children's education, buying a home or planning for retirement (FPSB, 2006). In South Africa, the Financial Planning Institute of Southern Africa (FPI), also a non-profit professional body and a founding member of the FPSB, plays a key role in the levels of professional services that are rendered by financial planners in South Africa (FPI, 2012a). They have a similar definition to that of the FPSB, which is: "...the process of structuring and arranging your financial resources to meet life goals" (FPI, 2012b). According to the FPI, the planning for these life goals could alternate between short and long-term, depending on the type of goal that has been set. They further stipulate that the aim of financial planning is to provide financial clarity and certainty on individuals' current and future wellbeing (FPI, 2012b).

Another important stakeholder in the financial services environment is the United States Securities and Exchange Commission (SEC, 2008), who is responsible for the protection of investors, maintaining of fair, orderly and efficient markets and the facilitation of capital information. The United States SEC elaborated even further on the FPSB's and FPI's definitions when they defined financial planning as follows: "financial planning can help assess every aspect of individuals' financial life – including saving, investments, insurance, taxes, retirement, and estate planning" (SEC, 2008:1).

Then there is also the Financial Planning Association (FPA), who is one of the largest membership groups. They define financial planning as: “the long term process of wisely managing your finances so you can achieve your goals and dreams, while at the same time negotiating the financial barriers that inevitably arise in every stage of life” (FPA, 2015:1). The Financial Planning Standards Council (FPSC) and the Institut quebecois de planification financiere (IQPF) (FPSC, 2015:12) are two organisations responsible for establishing and maintaining standards relating to Canada’s financial planning profession and they decided to join forces to create a cohesive set of definitions, standards and competencies for individuals who hold the designations of the Financial Planning Institute (“FPI”) as a Certified Financial Planner (“CFP”). They define financial planning as follows: “...financial planning is an ongoing process involving regular monitoring of an individual’s progress toward meeting his personal goals, needs and priorities, a re-evaluation of financial strategies in place and recommended revisions, where necessary”.

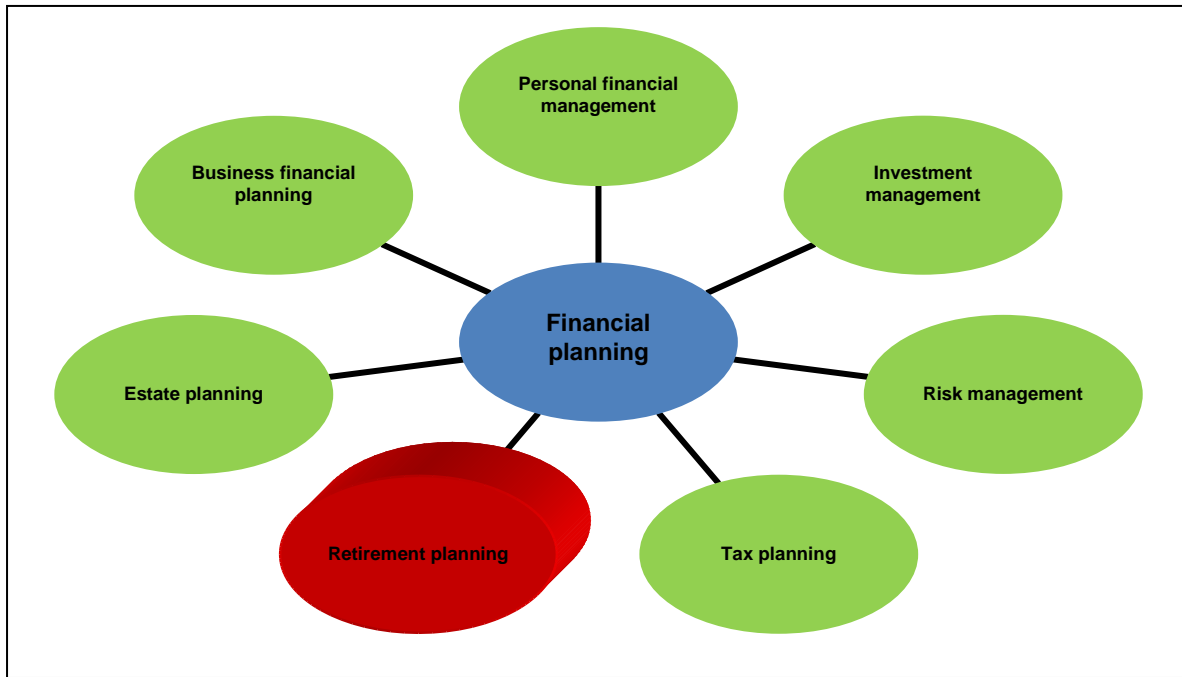
Further to the professional and institutional definitions of financial planning, Garman and Fogue (2008) also reviewed the topic in detail. Garman and Fogue (2008:60) defined financial planning as: “the process of developing and implementing a coordinated series of financial plans to help achieve financial success”.

Thus in any individual or family life cycle it would not be unusual to have a time frame in which decisions of a financial nature have to be taken. Irrespective of an individual’s life cycle phase, age or level of life complexities, they would be confronted on a daily basis with financial decisions that would require the allocation of their financial resources in such a manner that it would address their demanding life needs. Financial decisions such as determining whether to save or to spend could easily be taken, in contrast to the needs that are associated with something such as estate and tax planning, which is more complex and leaves even well-educated individuals confused at times (CFP Board, 2007; De’Armond, 2009). There are variances across the industry when referring to the term *financial planning*, but commonalities exist. Financial planning therefore seems to be a process that is utilised by professionals with the necessary expertise and training (McLellan, 2012). The financial planning process also determines individuals’

financial goals and objectives and contributes towards developing a plan that would assist individuals in achieving their financial goals and objectives.

According to Botha *et al.* (2011), the financial planning process has a wide range of components that have to be analysed and they include seven key components, namely personal financial management, investment management, risk management, tax planning, retirement planning, estate planning and business financial planning. Although these seem like seven discrete components, none of them is dealt with in isolation. Financial planning is actually distinguished from other forms of financial advice or financial intermediation by virtue of the integration and interdependencies that exist among these components and the need to analyse and combine the provided information to be able to formulate strategies (Botha *et al.*, 2011). Financial planning activities exclude product-related recommendations or sales. Specific product recommendations might be an outflow from a financial planning activity, but it is clear that the actual product recommendation falls outside the scope of financial planning (The Canadian Institute of Financial Planners (CIFPS), n.d). The components identified by the CIFPS (n.d.) are asset management, estate planning, financial management, risk management, retirement planning and tax planning. Asset management could also be classified as part of investment management. Figure 2.1 provides an illustration of the different components to be considered when doing financial planning and were repeated from Chapter 1 for the convenience of the reader.

Figure 2.1: The components of financial planning



(Source: Botha et al., 2011:38)

It is vitally important to consider each of these components when compiling a financial plan, as it would focus on providing financial assurance and transparency to individuals regarding their current and future financial wellbeing. It is also important to emphasise that not all of these components would be applicable to all individuals as each individual has their own unique needs and particular circumstances (Botha *et al.*, 2011). The most important financial goal that individuals could have is surely to attain a comfortable standard of living in retirement and with that in mind, retirement planning could also encapsulate the very essence of what financial planning is all about (Joehnk *et al.*, 2011) (section 4.3.1.2). However, this study was limited to retirement planning due to the important role that it plays in the financial planning process of individuals. Retirement planning is one of the sub-components of financial planning (Botha *et al.*, 2011; Mclellan, 2012) and therefore a narrower concept than financial planning, which will become evident from the following brief discussion.

From the discussion above it can be concluded that financial planning is a comprehensive process that requires that individuals should continuously identify and meet their life goals and objectives through proper management of their finances to assist them in achieving financial success (section 4.2.2). Although there might be differences among individuals' life goals and objectives, there are some financial goals that the majority of individuals have in common, such as buying a home, planning for a holiday and/or planning for retirement (Botha *et al.*, 2011).

When considering the relationship that exists between financial planning and retirement planning, it is important first to determine what retirement planning is all about. Not too long ago, retirement was all about retiring from a company with a long service award and quietly spending the few remaining retirement years with family. The status of the major sources of income (section 4.2.1) is also affected when entering into retirement, as these change from earned income (such as salaries and wages) to employer-based retirement benefits, perhaps part-time employment, private savings and investments and social security income (Garman & Fogue, 2008). The nature of retirement has also changed significantly due to increased longevity, changing lifestyles and improved expectations. Today individuals have the expectation that they will enjoy the economic self-sufficiency and quality of life in retirement by being more active and energetic (McLellan, 2012). Garman and Fogue (2008) therefore state that individuals should prepare themselves for financially successful retirements by virtue of sound investment decisions relating to their retirement assets and by building up adequate savings during their working years, selecting from the various available retirement plans and accounts instruments that would best suit their needs and then funding them through regular and consistent savings.

In addition to Garman and Fogue (2008), Joehnk *et al.* (2011) state that retirement planning is a forward-looking process, which influences individuals' standard of living now and in the future. They further stress that successful retirement planning could contribute significantly to individuals' net worth (Joehnk *et al.*, 2011). Madura (2011) had a similar view to that of Garman and Fogue (2008), referring to retirement planning as the determination of the annual amount that individuals should be saving for their

retirement and the investment strategy that they should follow when investing these funds. Botha *et al.* (2011) elaborated even more, stating that individuals should take cognisance of the fact that retirement planning is not simply about making contributions towards a pension, provident and/or retirement annuity fund as these contributions only represent the amounts that are being saved towards retirement at a specific point in time. Factors such as the retirement age, required retirement income, the investment strategy that has to be followed when investing these contributions, the increasing life expectancy of individuals, as well as the risk that individuals are willing to take are some of the factors that need to be taken into account when doing retirement planning. Retirement planning therefore needs broad-based knowledge, as retirement planning strategies also incorporate other financial planning elements such as estate planning, investment goals and tax, thus making it a rather complex task (Botha *et al.*, 2011; Mclellan, 2012).

Retirement planning as it stands today forces individuals rather than pension professionals to take a higher level of responsibility when it comes to the funding of their retirement, as individuals must estimate the required level of savings that would provide for a sufficient retirement income (Poterba *et al.*, 2007). The two prominent retirement investment vehicles that South Africans could utilise to provide financially for retirement are contributing towards occupational retirement funds and supporting it with voluntary savings to ensure that they would be able to sustain their standard of living in retirement (Cameron, 2004; National Treasury, 2004). Individuals would therefore have to follow the different steps in the practical retirement planning process as set out in section 2.3 to formulate a retirement plan that could enable them to achieve their pre-determined retirement goals (Botha *et al.*, 2011; Joehnk *et al.*, 2011; Keown, 2013).

The retirement plans that are available to South Africans who want to prepare themselves financially for retirement have developed significantly over the years, in conjunction with the worldwide shift from defined benefit funds to defined contribution funds. In the case of defined benefit funds, employers tolerate the risk of unexpected low investment returns or higher levels of expenses, but in the case of defined contribution funds, these risks together with any corresponding benefits are transferred

to individuals. Individuals who are members of defined contribution funds are therefore required to become more involved in managing their retirement fund's investment choices and benefit structures, but it simultaneously increases the risk for individuals who have inadequate investment knowledge, who receive improper advice or are exposed to movements in the market. This is despite the greater depth and competition contributed to the industry that has resulted from this shift (National Treasury, 2004). Retirement planning therefore plays a vital role in assisting individuals to plan financially for their retirement so that it could enable them to live comfortably in retirement and so avoid facing financial vulnerability in old age. The South African government also plays an important role in the retirement planning industry as they are constantly looking at and implementing initiatives that would increase individuals' levels of retirement savings in an attempt to address the financial vulnerability that individuals experience in old age.

The South African government distinguishes between the three separate pillars in the South African retirement funding system as per the World Bank's proposed framework (World Bank, 1994). The first pillar represents the public benefit program – the social old age pension – that redistributes from the better off to the poor the allocated general government revenue in order to avoid poverty in old age. The second pillar creates an environment that includes the various pension and provident fund arrangements that enable individuals to save towards providing an income during their retirement. These arrangements are related to the formal sector employment, which could be in either the public or private sectors. Individuals under this pillar might experience periods of unemployment, but not for long periods of time. The third pillar represents voluntary savings that place individuals in the position where they could select how they would distribute their income over their lifetime. Self-employed individuals in South Africa do not have access to contributions towards occupational retirement funds and are required to utilise the same vehicles used by individuals under the second pillar when supplementing their retirement provision. Pillar three therefore includes individuals such as consultants, contractors and other professionals who take responsibility for their own retirement funding and those individuals who supplement their occupational retirement provisions with additional voluntary savings (National Treasury, 2004). This study focused only on those individuals that are included in the second and third pillars, as the

first pillar represents government's intervention to accommodate individuals who have not prepared themselves well enough to alleviate poverty in old age.

From the discussion above it is clear that retirement planning is an on-going process that differs slightly from financial planning. Individuals' key focus is to be able to make sufficient financial provision for their retirement prior to reaching the retirement age, with the aim of retiring at the desired retirement age able to maintain their standard of living for the duration of their retirement (section 4.3.1.2). However, individuals need some of the core elements of financial planning, such as investment management, risk management, and tax planning to be able to prepare them financially for retirement.

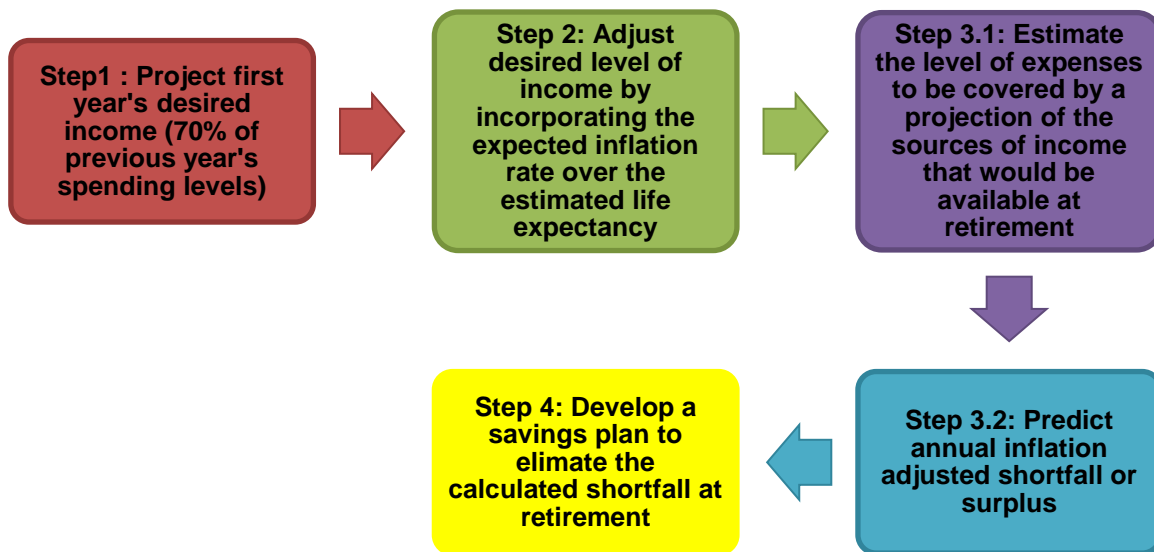
Section 2.3 will elaborate on the practical retirement planning process conducted by retirement planners in their preparation for retirement. In this study, the term 'retirement planner' or 'planner' refers to the individual planners planning for their retirement – this could be done with or without the support of a professional financial advisor but the terms do not refer to a professional financial adviser (or sometimes referred to as a financial planner).

2.3. THE RETIREMENT PLANNING PROCESS

From the discussion regarding the definition of retirement planning in section 2.2 it became evident that there seem to be certain steps that individuals should follow when planning for their retirement. There are, however, different views among the various researchers in the retirement industry on the number of steps and the detail of the steps that individuals need to follow. McCarthy (2002) mentions that retirement planning has changed significantly since the eighties and nineties, where individuals' retirement needs were forecasted (with the inclusion of assumptions when needed) by advisors who frequently followed a standard sequence of steps. In the 1980s and 1990s, individuals' retirement needs were projected based on (1) a projection of their first year's desired income with 70 percent of the previous year's spending levels as an initial starting point; (2) making adjustments to the projected desired level of income by incorporating the expected inflation rate over their estimated life expectancy; (3) an estimation of the level of expenses that would have to be addressed by a projection of

the income sources that would be available at retirement and predicting the annual shortfall or surplus as a result thereof; and (4) developing a savings plan to generate the additional required funds to eliminate the calculated (present value) shortfall on the date of retirement. McCarthy's (2002) third step would be sub-divided into two steps, just to make a proper distinction between the different steps as per the different researchers. The two sub-steps are the estimation of the level of expenses that would have to be addressed by a projection of the income sources that would be available at retirement (step 3.1) and predicting the annual shortfall or surplus as a result thereof (step 3.2). Figure 2.2 represents the analytical sequence of steps in the retirement planning process during the eighties and nineties and which was still applicable in 2002, according to McCarthy (2002).

Figure 2.2: Steps in the retirement planning process during the 1980s, 1990s and still applicable in 2002



(Source: McCarthy, 2002:60-61)

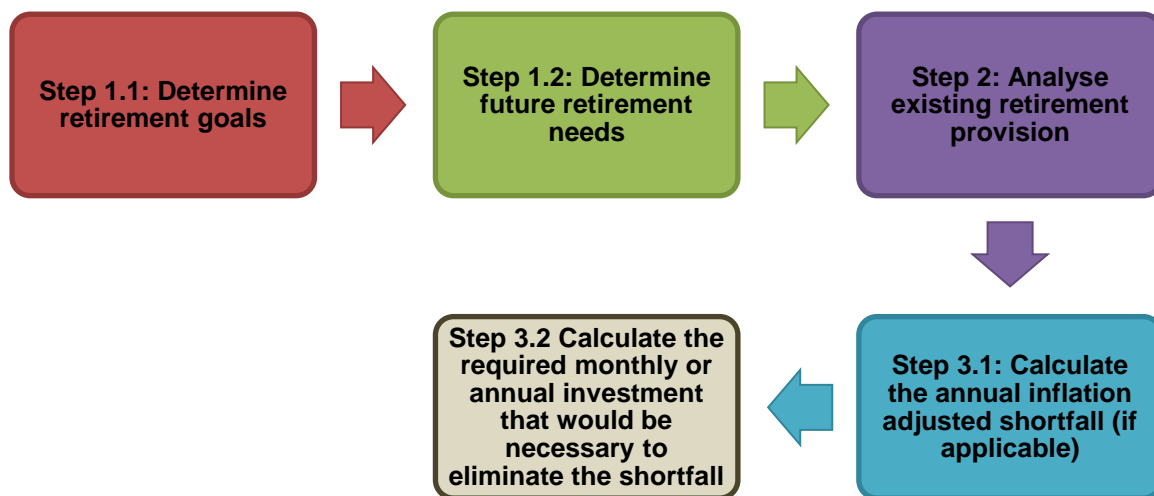
The outcome when following this analytical sequence of steps provided individuals with an indication of the extent of their retirement savings in order to retire comfortably. The benefit of these calculations relied on the manner in which it motivated individuals to

increase their retirement savings or to adjust their investment portfolio that would enable them to achieve their required level of retirement savings by the time they actually retired. Assumptions made regarding factors such as the inflation rate play a key role in determining the level of retirement savings and could influence the level of retirement savings either positively or negatively (section 4.3.2.7). However, the majority of projections made in the eighties and nineties assumed inflation and tax rates, investment returns and spending patterns to be fixed and predictable for the purposes of compiling a retirement plan, although advisors and individuals knew from experience that this was not the case. In 2002, the same sequence of steps as illustrated in Figure 2.2 were still followed, but with much more attention being given to the assumptions used when making projections to address individuals retirement needs, making retirement plans much more flexible and realistic (McCarthy, 2002).

Botha *et al.* (2011) mentioned, however, that individuals easily state that they would need between 75 percent and 100 percent of their pre-retirement income after retirement to uphold their standard of living after retirement, but in some instances this is not a true reflection of their own needs or goals at retirement (section 4.3.1.2 and section 4.3.1.5). This is in contrast to the first step as mentioned by McCarthy (2002), where they used it as a starting point to determine individuals' retirement needs. Botha *et al.* (2011) emphasised that individuals should be actively involved in planning for their retirement by firstly determining their retirement goals, which would include the determination of both their current income requirements and their anticipated income requirements at retirement. Step 1 would therefore be divided into two sub-steps, to indicate that it actually addresses two of the retirement planning process steps. However, McCarthy (2002) did not address the determination of individuals' retirement goals, but rather dealt with the projection of the desired level of income that individuals would need in their first year of retirement and thereby determining individuals' future retirement needs. The second step in the retirement planning process, according to Botha *et al.* (2011), requires that individuals should analyse their existing retirement provision and how it would address their retirement goals. This step would include the calculation of the retirement capital that would be needed to generate the required retirement income as well as the capitalised income that would be available at

retirement, with the inclusion of the impact that inflation would have on these figures. This is similar to step 3.1 of McCarthy (2002) when making a projection of the sources of income that would be available at retirement. The third and final step, according to Botha *et al.* (2011), would be divided into two sub-steps to distinguish between the actual shortfall and the investment needed to eliminate the shortfall between now and retirement. The two sub-steps are the calculation of the shortfall (if applicable) and the calculation of the required monthly or annual investment that would be necessary to eliminate the shortfall. Step 3 of Botha *et al.* (2011) is similar to step 3.2 of McCarthy (2002). Figure 2.3 illustrates the three steps in the retirement planning process for individuals as highlighted by Botha *et al.* (2011).

Figure 2.3: The three steps in the retirement planning process



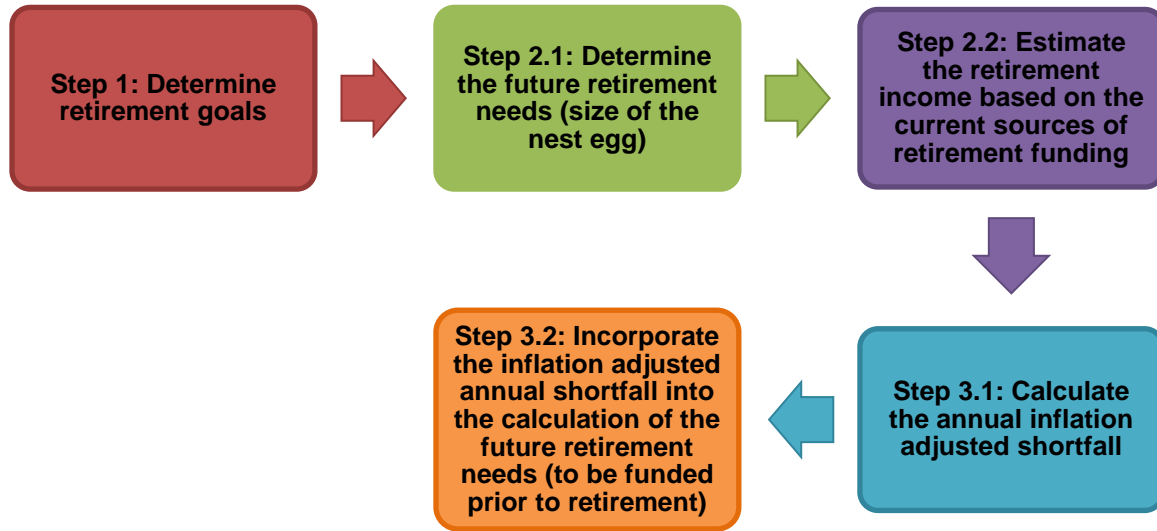
(Source: Botha *et al.*, 2011:844-846)

Similar to Botha *et al.* (2011), Joehnk *et al.* (2011) also identified three steps that should be present when compiling a proper retirement plan, but they provided a bit more insight into the retirement planning process, making it more practical. The first step of the retirement planning process, according to Joehnk *et al.* (2011), correlates with that of Botha *et al.* (2011), which is the determination of individuals' retirement goals.

Joehnk *et al.*'s (2011) second step in the retirement planning process is to determine the future retirement needs (size of their nest egg) that would enable individuals to achieve their pre-determined retirement goals. As part of analysing the existing retirement provision, Botha *et al.* (2011) pointed out that individuals should calculate the retirement capital that would be needed to generate the required retirement income, which also indirectly refers to the determination of their future retirement needs. The second step includes making an estimate of the retirement income that individuals would have in the future, based on their current retirement provision. This is similar to step 1 and step 2 of McCarthy (2002) and Botha *et al.*'s (2011) step 1.2, where individuals have to determine their future retirement needs based on their anticipated income at retirement. Joehnk *et al.*'s (2011) step 2 would therefore be divided into two sub-steps, as it addresses two different steps in the retirement planning process, namely determining future retirement needs and analysing the existing retirement provision.

The third step as addressed by Joehnk *et al.* (2011) requires that *after* individuals have established their future retirement needs (step 2), they should calculate whether there is a shortfall prior to making any adjustments to their current retirement provision to accordingly provide for the anticipated shortfall. In the cases where there is a shortfall, it should be adjusted with the inflation factor to reflect the annual inflation adjusted shortfall. Funding the annual inflation adjusted shortfall requires that an adjustment should be made to the initial future retirement needs figure to incorporate the related shortfall. The future retirement needs (size of the nest egg) of individuals should at the same time also incorporate the estimated rate of return that they could earn on their investments after retirement. This is necessary to establish the actual extent of individuals' future retirement needs to enable them to eliminate the estimated annual shortfall, thereby contributing towards accomplishing their pre-determined retirement goals. Botha *et al.* (2011) addressed the funding of the shortfall in step 3.2 by determining the amount of the additional savings that would be needed, either monthly or annually, to ensure a comfortable retirement as well as achieving the pre-determined retirement goals. Figure 2.4 illustrates the three steps of the retirement planning process as identified by Joehnk *et al.* (2011).

Figure 2.4: The three steps of the retirement planning process



(Source: Joehnk et al., 2011:472-478)

Keown (2013) had a similar approach to the retirement planning process as his predecessors McCarthy (2002), Botha *et al.* (2011) and Joehnk *et al.* (2011), but he included seven steps in the retirement planning process that would assist individuals to plan how they would go about funding their retirement needs and elaborated a bit more through providing additional information. He emphasised that setting up a retirement plan should not be delayed, as it would have an impact on the accomplishment of individuals' retirement goals. The retirement plan should also be modest and uncomplicated, as planning is not a natural event.

According to Keown (2013), the first step for individuals in the retirement planning process is to set their retirement goals. This step would require that individuals determine exactly what they would like to do when they retire, also linking it to the element of time to establish when the pre-determined retirement goals should be achieved. The financial impact of when individuals would like to retire should also be considered when they set their retirement goals. This step is similar to step 1.1 of Botha *et al.* (2011) and step 1 of Joehnk *et al.* (2011).

The second step requires that individuals make estimates of how much they would need when converting their retirement goals into money. This step would therefore require that individuals make estimates that might not always be accurate or reliable. Therefore, the starting point for individuals when making these estimates would be based on their current living expenses, as it would provide them with a good indication of what it could possibly cost to support themselves in retirement. However, as individuals age, these amounts could change due the different levels of consumption and/or certain debts that have been settled, such as bonds. Individuals should realise that over and above maintaining a certain standard of living, they also have to estimate how much it is going to cost them to address all their other retirement goals; they should also consider the effect that taxes would have on their future retirement income (Keown, 2013). McCarthy (2002) in steps 1 and 2 and Botha *et al.* (2011) in step 1.2 just touched on determining the future retirement needs, as they based their projection on individuals' desired level of retirement income. Joehnk *et al.* (2011), however, addressed the determination of the future retirement needs in step 2.1, basing it only on individuals' anticipated percentage of their current level of annual household expenditure that would be needed in retirement. It would therefore seem that the financial implications of the other retirement goals have not been considered.

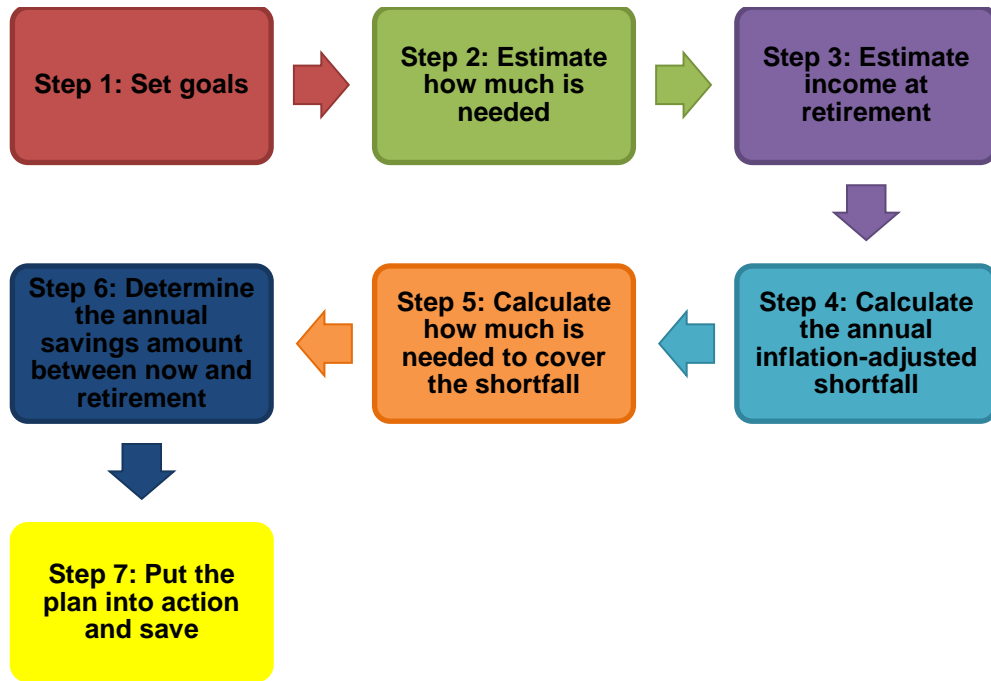
The third step, according to Keown (2013), requires an estimation of the retirement income that individuals would receive at retirement by analysing their existing retirement provision and by obtaining benefit statements from all the related sources, indicating the level of benefits that individuals would receive upon retirement. This step was addressed by all three the previous researchers, McCarthy (2002) in step 3.1, Botha *et al.* (2011) in step 2, and Joehnk *et al.* (2011) in step 2.2.

The calculation of the annual inflation adjusted shortfall, according to Keown (2013), is the fourth step in the retirement planning process, which basically requires that step 2 (determine future retirement needs) and step 3 (estimate income at retirement) should be compared with each other. This usually highlights for individuals the big difference that exists between the retirement income that is needed and the retirement income that would be available at retirement. This step was also addressed by all three the previous

researchers, McCarthy (2002) in step 3.2, Botha *et al.* (2011) in step 3.1, and Joehnk *et al.* (2011) in step 3.1. Keown (2013) elaborated further on the shortfall in step 5, by calculating how much individuals would need to fund their shortfalls. This would require that individuals take into account the earnings on their investments as well as annual increments that they would require in order to compensate for the effect of inflation. This step was not addressed by any of the previous researchers. In step 6, individuals need to determine the additional amount that they would have to save annually between now and retirement to eliminate the shortfall as calculated in step 5 (Keown, 2013). This step was also addressed by Botha *et al.* (2011) in step 3.2 and Joehnk *et al.* (2011) in step 3.2.

The seventh and final step, according to Keown (2013), is where individuals have already determined the level of the annual retirement savings that would enable them to achieve their pre-determined retirement goals (section 4.3.1.3). At this point in the retirement planning process, individuals are therefore just required to save. This seems to be the easiest and the most obvious step, but this is actually not the case, due to the myriad of retirement savings options that are available. The choice is so difficult as it would require that individuals have the necessary knowledge about all the available options in order to select those that would best suit their retirement needs (Keown, 2013). McCarthy (2002) only touched on this in his step 4, stating that a savings plan has to be developed to address the shortfall. Botha *et al.* (2011) and Joehnk *et al.* (2011) did not directly touch on this step. Joehnk *et al.* (2011) mentioned that it is at this point that investment management comes into the picture. Figure 2.5 illustrates the seven steps identified by Keown (2013) that individuals need to follow to be able to fund their retirement needs.

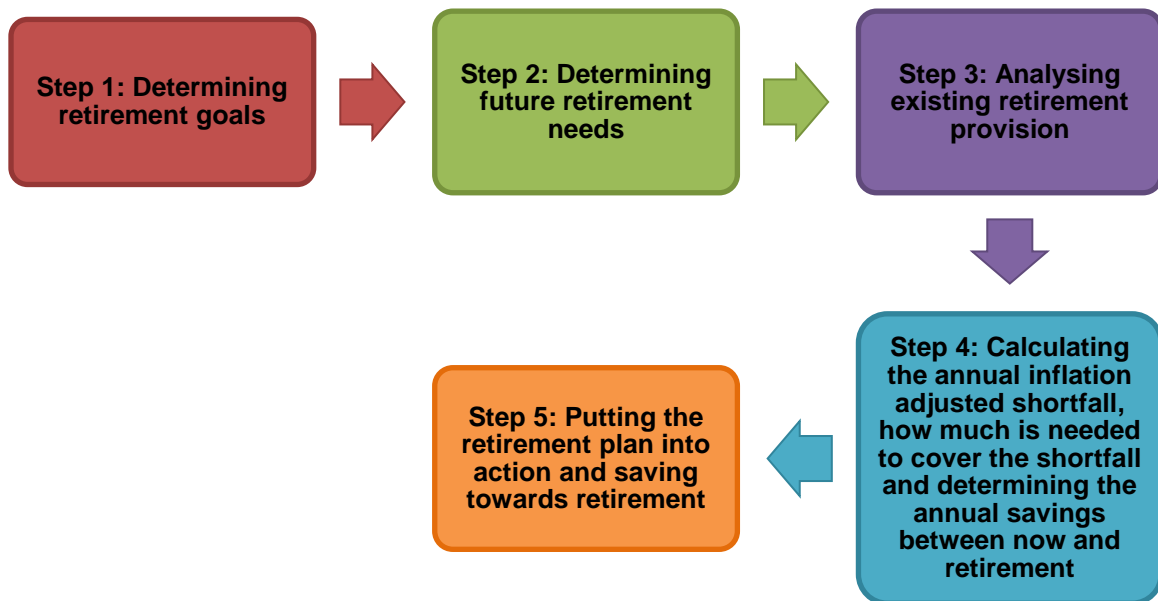
Figure 2.5: The seven steps to fund retirement needs



(Source: Keown, 2013:531-535)

From Figure 2.5 it is clear that there are seven main steps for successful retirement planning. Therefore, when drawing up a retirement plan it seems that all of the above-mentioned steps should be taken into account to ensure that the key elements of the retirement planning process have been addressed. By combining these four approaches that deal with the retirement planning process, the seven steps as identified by Keown (2013) seem to be the most appropriate and thorough when compiling a retirement plan. However, for the purpose of this study, steps 4 to 6 of Keown's (2013) retirement planning process were combined into one step, as it actually deals with one component of the retirement planning process and makes it more practical when looking holistically at an individual's retirement plan. After combining the mentioned steps, there are five steps in the practical retirement planning process, as illustrated in Figure 2.6 that individuals need to follow when planning for retirement. These five steps would also form the basis of the discussion regarding the practical retirement planning process.

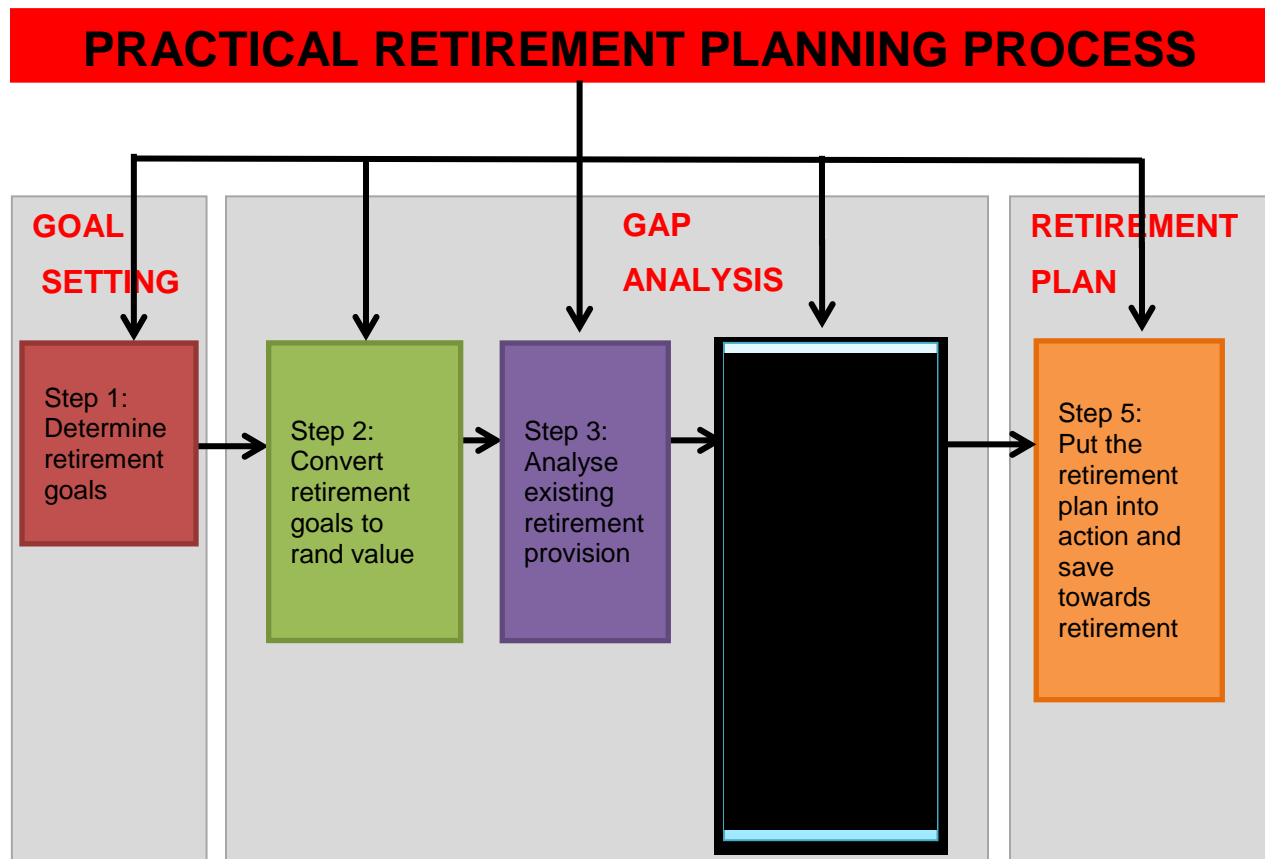
Figure 2.6: Five steps of the practical retirement planning process



(Source: Author's own)

However, for the purposes of this study, the five steps of the practical retirement planning process as illustrated in Figure 2.6 would be combined into three core retirement planning areas, namely goal setting (step 1) (section 4.3.1), doing a comprehensive gap analysis (steps 2 to 4), and formulation of a retirement plan (step 5) (section 4.3.1.4). These steps are set out in Figure 2.7. All these activities occur over the three main phases as identified in Chapter 1. However, before elaborating more on the individual activities that are required for each of the five steps, it is necessary to get a better understanding of the aim for each of the three retirement phases, which will be provided in section 2.4. Thereafter, in section 2.5 the three retirement phases will be integrated into the three core retirement planning areas as a basis for further discussion.

Figure 2.7: The three core retirement planning areas within the practical retirement planning process



(Source: Author's own)

2.4. PHASES OF THE RETIREMENT PLANNING PROCESS

In any working individuals' life, retirement is a key transitioning event (Carson, 2014). In section 2.3, the retirement planning process was discussed, stipulating the different steps that individuals should consider when they are planning financially for their retirement. Planning for retirement is therefore not a once-off event, but a detailed ongoing process that has to be implemented many years prior to the actual retirement date and monitored on a regular basis. This monitoring also allows individuals to make adjustments when needed for factors such as changes in their personal circumstances, changes in the inflation rate that influences retirement savings, returns earned on investments, an increased life expectancy, and much more (Society of Actuaries, 2007; Gouws, 2012; Keown, 2013; Severson, 2013). Something such as the increasing life

expectancy affects a significant number of individuals, as it prolongs the duration of their ideal retirement period and requires adequate funding to enable them to maintain their standards of living for periods that could last for up to 40 years. The need to fund this extended retirement period emphasises the importance of advanced financial planning, as this prolonged retirement period could in some instances even exceed the period individuals were actually working (Society of Actuaries, 2007).

Irrespective of whether individuals are either actively involved in planning for their retirement or merely thinking about retirement, they move through various phases of the retirement planning process (Severson, 2013). In order for individuals to benefit the most from their retirement experience, they are required to have a proper understanding of the different financial phases that are applicable to the retirement planning process (Cameron, 2004; Berger, 2013; Keown, 2013; Severson, 2013).

Prior to entering into a detailed discussion about the different financial phases through which individuals would move when planning for their retirement, it is essential to take cognisance of the fact that there are also phases within retirement itself that deal with individuals' psychological experiences when moving from the workforce into retirement. Researchers such as Atchley (2000) from the American Institute of Financial Gerontology as well as Atchley and Barusch (2004) identified seven sequential phases that address individuals' psychological experiences, namely the honeymoon, immediate retirement routine, rest and relaxation, disenchantment, reorientation, retirement routine, and the termination phases. Not all seven these phases are necessarily applicable to all individuals, as these psychological experiences differ from individual to individual, whose experiences of retirement are unique. However, the efficiency of the transitioning process could possibly be smoothed by creating an awareness of these phases among individuals, friends and family members (Atchley, 2000; Atchley & Barusch, 2004; Carson, 2014). However, individuals' psychological experiences when transitioning into retirement do not form part of the objective of this study and will therefore not be discussed in detail.

Along with the phases that deal with individuals' psychological experiences, various phases deal with planning financially for retirement during and after the working years. Financial planning for retirement during an individual's lifetime could be divided into various phases, depending on how and by whom it is perceived. Despite the number of phases that are included in the retirement planning process, each phase has both opportunities and challenges for individuals (Middlingthrough, 2013). Some authors are of the opinion that retirement planning consists of five phases and some three (Krooks, 2011; Severson, 2013; Wynn, Gillen, Gutter and Ruiz-Menjivar, 2013; Cameron, 2004; Campos, 2010; Botha *et al.*, 2011; Berger, 2013; Keown, 2013). Even among these authors there are differences, although they might initially agree that there are either five or three phases of retirement, as they have their own perceptions of when each of the phases would be applicable.

Researchers such as Krooks (2011), Severson (2013) and Wynn *et al.* (2013) are of the opinion that retirement planning has to be done within five phases, although they differ on exactly when the phases would be applicable. Each of these phases includes key aspects of planning which have to be addressed by individuals. Their views will be discussed below.

According to Krooks (2011), phase 1 is the *accumulation phase*, which commences on the first day that individuals enter the working environment and where funds would be set aside for the future until they reach retirement. The second phase is *pre-retirement*, which takes place during the last couple of years of the accumulation phase and is applicable to individuals who are either 50 years old or who are about 15 years away from retirement, whichever comes first. Krooks (2011) argues that individuals should only compile a retirement plan when they enter the pre-retirement phase to ensure that their retirement is properly funded and to obtain knowledge about the various ways in which their retirement savings could be converted into retirement income. The third phase, *early-retirement*, is applicable to individuals from the date of retirement until they reach the age of 70. In the case of individuals that only retire at the age of 70, some of the tasks that are related to this phase would occur at a later stage. The creation of a clear communication channel with family members to share certain information, pose

certain questions and answers and to make certain decisions is crucial to this phase. The utilisation of retirement savings should also be assessed to obtain an understanding of whether individuals' finances are working as initially planned or should be fine-tuned by re-examining their income and expense projections (section 4.2.2). Phase four, *mid-retirement*, relates to individuals 70 years and older, and is applicable to the point where they maintain good health. It is during this phase that individuals, despite being healthy, should involve their family to decide what would be done if there is a drastic deterioration in their health. The fifth and last phase, *late retirement*, deals with individuals whose health has deteriorated significantly, with little likelihood of being restored in the future. Moving into this phase would be manageable in cases where prior years' planning has been done properly.

Severson (2013) also identified five phases in which individuals could do planning for retirement, but she had a different opinion to Krooks (2011) of when each of the phases would be applicable. The five phases according to her were (1) the daydream phase; (2) the expectant phase; (3) the celebration phase; (4) the renegotiation phase; and (5) the reconciliation phase. The daydream phase commences about five years prior to retirement, where individuals still fantasise about their retirement. The expectant phase is where the actual retirement is in the near future and where individuals have to establish whether they have sufficient funds to be sustainable in retirement. The celebration phase occurs when individuals actually retire and have time in which they could do things that they have postponed in the past. The renegotiation phase lasts from the second year of retirement and deals with individuals' transitioning into retirement, which could be either successful or a struggle. Then lastly, the reconciliation phase is the slowing down of the body phase and would depend on the outcome of the renegotiation phase (phase 4).

Wynn *et al.* (2013) was also of the opinion that individuals have five phases in their life cycle when using financing strategies to assist them in setting and achieving their short-term and long-term financial goals, but also differed from both Krooks (2011) and Severson's (2013) about when these phases would be applicable. The five phases according to Wynn *et al.* (2013) are the "starting-out years" (age 18 to 25 years); the

“nesting years” (age 25 to 40 years), “prime-time years” (age 40 to 55 years), “wealth accumulation years” (age 55 to 65 years), and finally the “reinvention years” (age 65 and older). In the “starting-out years” individuals try to grasp their financial capabilities upon entrance into adulthood where they are faced with decisions relating to debt management, employment and education, which will play a significant role in their financial status for many years, including retirement (section 4.2.1). In the “nesting years phase”, the financial decisions taken by individuals, such as starting a career, buying a house and getting married, become more meaningful. The value of saving and the investment in retirement accounts should also be addressed during this phase together with the importance of having financial strategies in place that could assist individuals in achieving their short-term and long-term financial goals. During the “prime-time years”, individuals should bear in mind that the level of their discretionary income (“amount of income left for spending, saving or investing after taxes and personal necessities such as food, shelter and clothing have been paid for”) might be higher than in the previous phases, thus increasing the importance of making valuable financial decisions in both the short term and long term. The focus in the “wealth accumulation years” lies in making investment, lifestyle and spending decisions after assessing individuals’ financial goals for retirement, with the transition into retirement not being so far away. Individuals should therefore consider all the possible retirement and investment options that might increase their future retirement funds when making these decisions. They should also consider the effect of a growing inflation rate and the possible diminishing of social security benefits (where applicable) which would create a financial disadvantage for them in the future. Success in the “reinvention years” is based on good decision-making and the utilisation of financial resources that would match the financial status of individuals, making the maintenance of retirement income and expenses crucial elements during this phase (Wynn *et al.*, 2013).

Over and above the authors that are of the opinion that retirement planning consists of five phases, there are also those authors who assert that retirement planning should be done over three phases (Cameron, 2004; Campos, 2010; Monarch Advisory Group, 2014; Botha *et al.*, 2011; Berger, 2013; Keown, 2013). Each of their views will be discussed below.

Cameron (2004) identified three phases in which planning should be done for retirement, starting off with the *build-up to retirement phase*, which commences for individuals when receiving their first income and continues to the point of receiving income just prior to their retirement. During this phase, individuals should ensure that their retirement savings are adequate, that their investments are at a level where they would obtain optimal growth, and that it is done in the safest way. This also requires that individuals consider their financial needs, the appropriate usage of retirement savings vehicles and their risk tolerance levels (section 4.3.3.1). To stop working and cashing in the majority of individuals' retirement savings are the main features of the second phase, the *immediate pre-retirement phase*. The duration of the second phase could therefore be from shortly prior to retirement up to the point where the last portion of individuals' retirement savings are converted into investment vehicles that would provide a sustainable retirement income. *Retirement* is the third and final phase, according to Cameron (2004), with the main objective being the preservation of the funds that were accumulated up to retirement and that should provide individuals with a sustainable and secure income for the entire duration of their retirement. The duration of this phase is from the date of retirement up to the end of individuals' lifetime.

Campos (2010) and Monarch Advisory group (2014) were also of the opinion that investing for retirement had three distinct phases, but they perceived it slightly differently from Cameron (2004). When individuals have understood the meaning of the three retirement phases in the manner as discussed below, as well as the financial impact that planning would have on their retirement in the future, they might reconsider their retirement provision earlier in their lives. *Capital accumulation (or accumulating assets for retirement)* is the first phase, but it is also the longest phase, where individuals are availed the opportunity to save and to increase their retirement investments with the related growth rate linked to the risk tolerance levels (section 4.3.3.1) that they are willing to accept. The duration of this phase could be shortened in cases where the investments performed either extremely well, or by increasing the savings levels or even when receiving large cash infusions from an inheritance, possibly winning the lottery or through successful business deals. The *capital preservation phase (or transition phase)*, which is the second and shortest phase, starts approximately

three to seven years prior to individuals' anticipated retirement and lasts until retirement. The main objective of the second phase is to keep individuals' retirement savings intact by maintaining what was gained on their retirement savings up to this point in time. Individuals would continue to save during this phase, but possibly not so much as in the past. During this phase, it is also important to reduce the level of risk that individuals are willing to take so that they still maintain their level of retirement savings, but just to the extent that the growth rate is maintained in order to address the financial impact of inflation. The third phase is the *capital distribution phase (or creating and maintaining income in retirement)*, which is characterised by the accumulated retirement funds that are being spent. It is also the toughest phase, as the duration thereof is uncertain (Monarch Advisory Group, 2014). The objective of this phase is to ensure that the accumulated funds last for the duration of the retirement period, thus till the end of an individual's lifetime. Proper preparation during the previous two phases would contribute to a comfortable retirement (Campos, 2010).

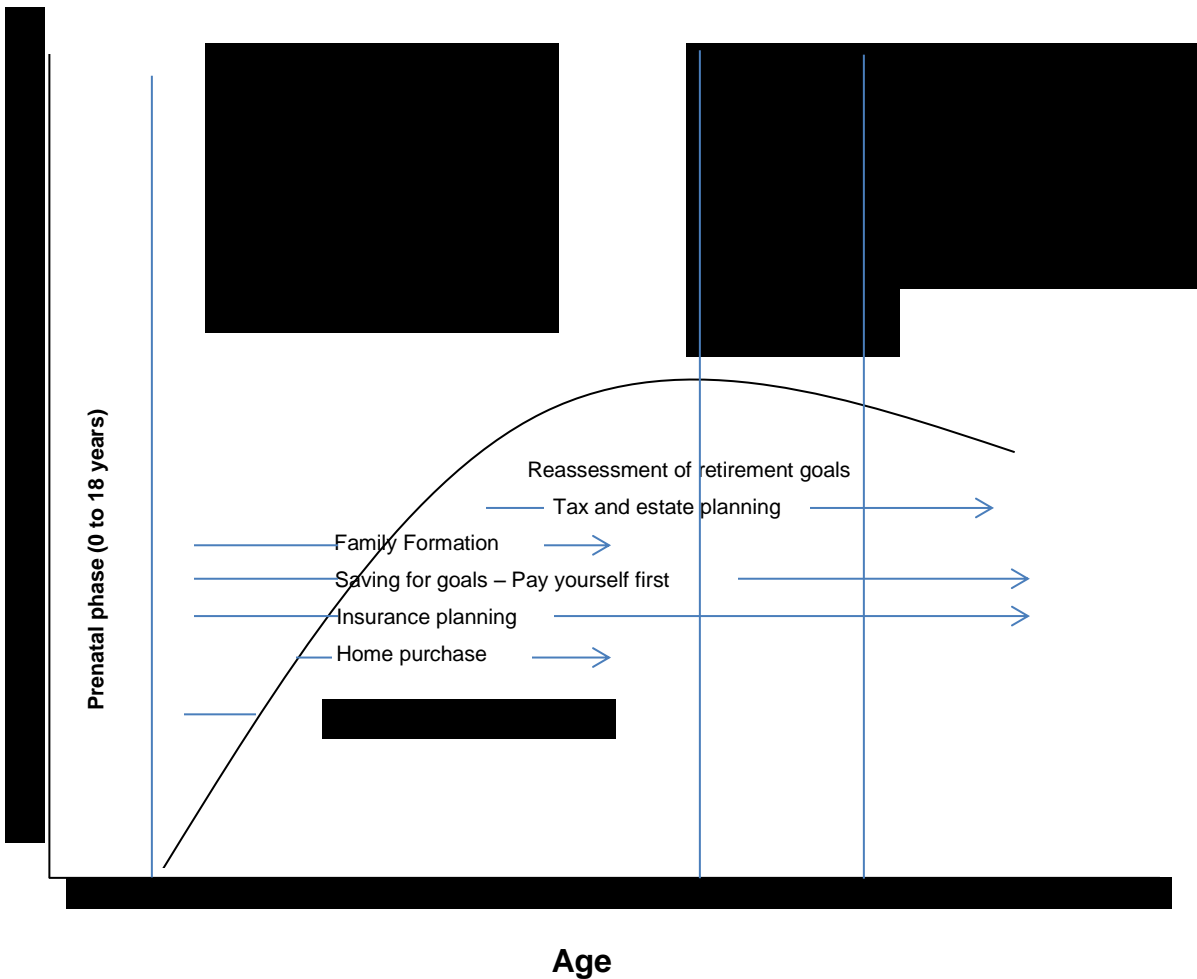
Similar to Cameron (2004), Campos (2010), Monarch (2014), Botha *et al.* (2011) also identified three phases in which retirement planning could be done, but they did not really go into detail regarding the timing of the phases and merely addressed what should happen within each of the particular phases. Firstly, individuals could do *planning for retirement* by making sure that they accumulate enough funds for their retirement that would enable them to receive retirement income at a level that would allow them to live comfortably in retirement. Individuals who are close to retirement might have to determine the impact that taxes would have on their retirement benefits. Secondly, individuals could do *planning at retirement* by determining the level of their available tax-free lump sums, the level of the lump sums that should be taken in cash, and which portion to utilise to purchase annuities, and by deciding on the type of annuity that should be purchased. Thirdly, *planning after retirement* would require that individuals obtain investment advice concerning their retirement capital.

Berger (2013) was of the opinion that retirement planning is not something where one size fits all, but that it should be adapted to individuals' phases according to the typical individual's life cycle. This was not the central point of discussion for Cameron (2004),

Campos (2010), Monarch (2014) and Botha *et al.* (2011) when referring to the different financial phases of retirement. Berger further stated that retirement planning is not an exact science, but within each phase individuals could use all the available information to assist them in making better choices and more reasonable assumptions in order to prepare them for retirement (Berger, 2013). He therefore approached the financial phases of retirement planning from a more practical point of view. He refers to the individuals in the first phase of retirement planning as the *early birds*, who are basically at the entry level of retirement planning, which is usually the easiest. According to him, no evaluation has to be done to determine if individuals are on track with meeting their retirement goals, as they are just starting the retirement planning process. Assumptions could be made at this stage about market returns, expenses in retirement and future inflation, but over a period of 40 years, these estimates are of little value. Individuals in the second phase are in their late 30s to early 50s and are referred to as the *mid-lifers*. Their retirement planning would have to be adjusted to a higher level to incorporate the changes that have happened over time. Making a reliable estimate of retirement expenses might still not be that easy, but mid-lifers have more information on which to base their estimates, as they could for instance determine whether their retirement savings are on track to meet their retirement goals and whether all their debts would be settled when they reach retirement (section 4.3.1.3). Mid-lifers are also in a position where they could handle two factors, finances and investments, which both contribute to successful retirement planning. Individuals in the third phase of retirement planning, the *near retirees*, are those who are approximately ten years away from retirement. Retirement planning in the case of the near retirees should be much more intensive and detailed. Actual expenses in retirement instead of income should be the focus area for these individuals. Retirement expenses could be materially less than what the near retirees are earning, but it would all depend on their personal circumstances. Near retirees should however equip themselves with all the related information to be able to fine-tune their retirement needs when they reach retirement. In terms of their retirement savings, they would have a much more reliable figure that would enable them to address any shortfalls and how to deal with any excess funds (Berger, 2013).

Similar to Berger (2013), Keown (2013) also based his discussion on the financial phases of when retirement planning should be done in a typical individual's financial life cycle. Keown's (2013) breakdown of when these phases would be applicable differed from that of Berger (2013). However, the different financial phases as well as the duration of each of these phases would differ from individual to individual, as each individual has their own unique circumstances. The typical individual financial life cycle that would apply to the majority of individuals irrespective of the fact that everyone might have their own customised financial plans, is illustrated in Figure 2.8 (Cameron, 2004; Campos, 2010; Botha *et al.*, 2011; Keown 2013).

Figure 2.8: A typical individual’s financial life cycle



(Source: Adapted from Keown, 2013:9)

Figure 2.8 is an illustration of a typical individual’s financial life cycle in which they could financially prepare themselves for retirement. Negative income will usually be generated in the first 17 or 18 years of individuals’ lives, as they would still be at school and their parents would be responsible for settling any debts that might be incurred (section 4.2.1). This phase is also referred to as the “prenatal” stage of individuals’ financial life cycle, as they are still financially dependent on their parents. Once individuals have completed their high school education, they might either start their working careers and/or attend college or they might do both (Keown, 2013). Individuals’ financial life cycles therefore start the day when they have either completed their high school and/or tertiary education or both. Important to note is that each individual’s experiences might

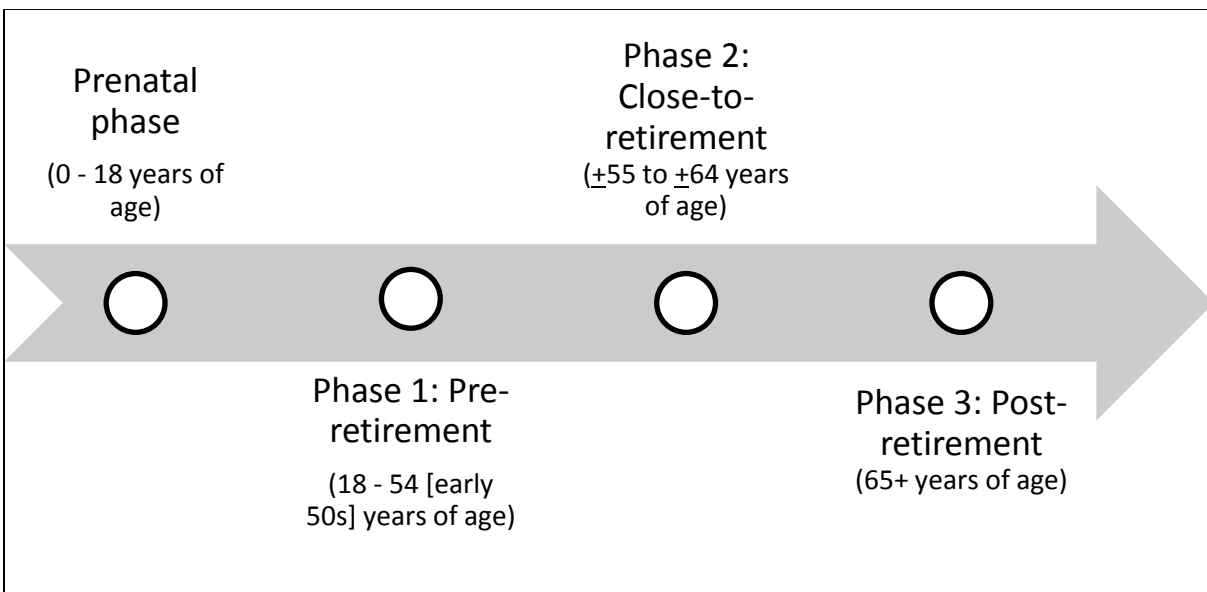
differ from the “referred” typical individual experience, as it would not be a perfect fit to everyone. The duration of the pre-retirement phase could be decades long and forms the centre of individuals’ wealth accumulation. This phase continues for most individuals through to their mid-50s, where it addresses their key planning focus areas such as planning towards family formation, goal setting, insurance, and buying a home. Individuals should however also address the effect of taxation on their retirement savings and estate planning during this phase. The duration of both the close-to-retirement and the post-retirement phases is actually much shorter when compared to the pre-retirement phase. For some individuals the close-to-retirement phase already starts when they are in their early 50s. It is during this phase that a transfer of their financial goals would take place to ensure the preservation and continued growth of their wealth. This is also the phase where individuals could seriously consider thinking about estate planning (if not done prior to this phase) by indicating how their accumulated wealth should be distributed to their heirs. The post-retirement phase is the final phase and often starts for individuals in their mid-to-late-60s. However, the actual retirement date would be dependent on individuals’ level of financial preparedness for retirement. During this phase, individuals are no longer saving, as this phase is characterised by spending, but they should still allow their retirement savings to grow to compensate for the diminishing effect of inflation. Individuals’ financial focus in retirement should still be to ensure wealth accumulation to guarantee that they do not run out of money. Individuals in this phase would therefore be faced with deciding on the appropriate annual withdrawal rate from their retirement savings together with lowering the level of risk that they are willing to take to preserve rather than create their wealth. As part of their insurance concerns, individuals would also have to address the inclusion of protection against the additional costs that they might incur for excessive medical expenses (Keown, 2013).

In the light of Keown’s (2013) typical individual’s financial life cycle and with researchers such as Cameron (2004), Campos (2010), Monarch (2014), Botha *et al.* (2011) and Berger (2013), it was acknowledged that there are three distinct phases. However, both Keown (2013) and Berger (2013) indicated that individuals could plan financially for their retirement using the typical financial life cycle approach. The typical financial life cycle

approach, referring to the phases of retirement planning, was therefore used for the purposes of this study, as it reflects on the fact that although individuals are faced with other financial challenges during their lifetime they should still be involved with planning financially for their retirement to enable them to live comfortably in retirement. Pre-retirement, close-to-retirement and post-retirement phases were therefore the three retirement planning phases that were used for the purpose of this study.

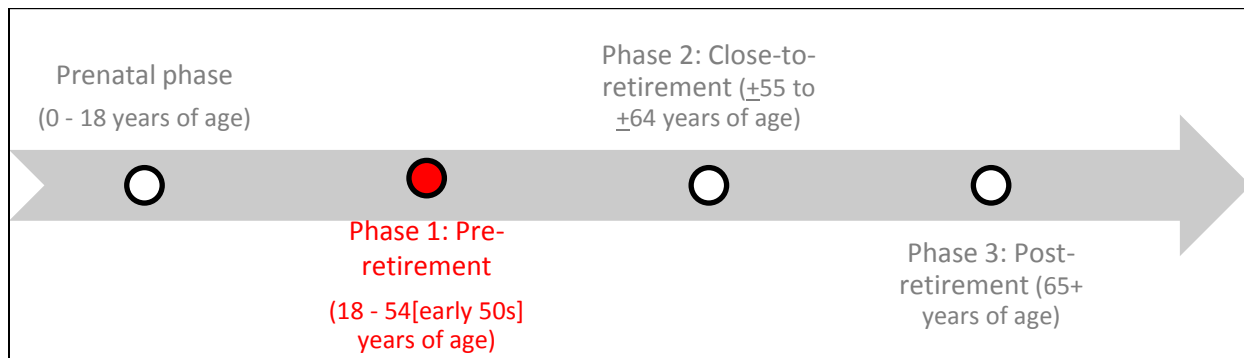
For purposes of further discussion of the various retirement phases, Figure 2.8 can be simplified to portray the time-line without the various activities, as illustrated in Figure 2.9. The figure will be repeated below to signpost the discussion of each of the phases.

Figure 2.9: The various retirement phases



(Source: Author's own)

2.4.1 Pre-retirement phase



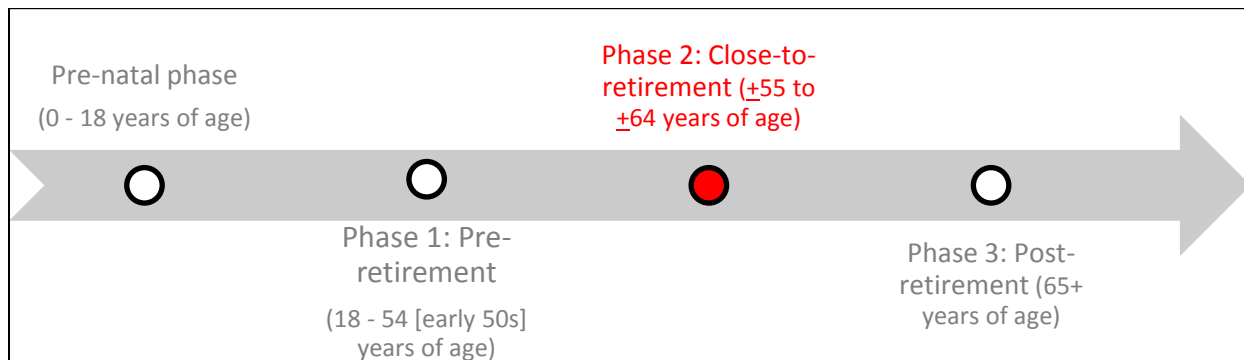
The pre-retirement phase is the first and longest retirement investing phase in the retirement planning process and relates to individuals who are in the age group 18 to 54. This phase therefore starts when individuals start earning an income up to shortly prior to retirement. It is also referred to as the build-up to retirement, wealth accumulation, the accumulation or the savings phase of retirement (Cameron, 2004; Campos, 2010; Monarch Advisory Group, 2014; Botha *et al.*, 2011; Krooks, 2011; Keown, 2013). The most important financial goal for this phase is that individuals should save as much as possible, to invest their savings to enable it to grow at the most appropriate risk. This would enable them to build up their investment portfolios and thereby accumulate the necessary wealth. This phase also creates opportunities such as enabling individuals to contribute to retirement plans, which could also be matched by their employers and they could simultaneously contribute to other retirement savings instruments. However, individuals might also be faced with challenges such as meeting growing families' financial needs, children's education expenses, and making complex and confusing choices relating to company benefit plans. Solutions could be provided when planning for retirement (Campos, 2010; Monarch Advisory Group, 2014; Keown, 2013).

Despite the numerous differences between individuals, there are a number of commonalities within a typical financial life cycle. For the majority of individuals their biggest lifetime investment, the purchasing of a residence, is something that also happens during the pre-retirement years. Furthermore, the purchasing of a residence

also introduces individuals to debt planning due to the long-term borrowing commitment when the residence is purchased. Although the financial lives of individuals might be dominated by the high costs related to owning a house, individuals should stay on track with the rest of their financial plan. In order to do this, individuals would be required to create a regular savings pattern by making saving one of their habits and almost in a sense creating a standing commitment. The importance of saving should not be underestimated, as it addresses the amount that individuals would be able to save, the sufficiency of the savings amount, and where the savings should be invested. Some decisions, for example the decision to have a child, might seem non-financial in nature, but would have a significant effect on the financial position of individuals. They also need to purchase various forms of insurance in their lifetime to protect their assets. The types of insurance could include disability, home, liability, medical, motor vehicle and property insurance as well as adequate life insurance in case of a tragedy for families with children (Keown, 2013).

The main financial goal for individuals in the pre-retirement phase is to accumulate adequate wealth to support themselves financially in their retirement years. Individuals would however have to plan for their retirement by also taking cognisance of the three core retirement planning areas of the practical retirement planning process as described in section 2.3. Section 2.5 provides a further practical illustration of how individuals' retirement goals would have to be incorporated into their retirement plans that have to be monitored on a regular basis. The comparison has to be done between individuals' future financial needs and their existing retirement provision in order to achieve their pre-determined retirement goals, how to deal with any shortfalls, and actually putting the retirement plan into action in order to accumulate the required wealth. In the pre-retirement phase, it is therefore essential for individuals to optimally utilise time to their advantage by putting all the required measures in place that would address their retirement needs and to monitor the reaching of their retirement goals regularly (Botha *et al.*, 2011; Joehnk *et al.*, 2011; Keown, 2013). After the pre-retirement phase, individuals would enter the close-to-retirement phase, which would provide them with very little time to prepare financially for retirement.

2.4.2 Close-to-retirement phase



The close-to-retirement phase is the second and shortest phase that individuals would encounter in the retirement planning process; lasting between three and ten years. It relates to individuals who are in the age group 55 to 64 years of age. This phase is also referred to as the immediate pre-retirement, the capital preservation, transition or the preservation and increasing of wealth phase (Cameron, 2004; Campos, 2010; Monarch Advisory Group, 2014; Keown, 2013). The duration of the close-to-retirement phase would however depend on how well individuals are financially prepared for their retirement. As retirement is rapidly approaching, it is also the phase in which individuals have a last opportunity to prepare themselves financially for their retirement (Campos, 2010; Monarch Advisory Group, 2014; Keown, 2013).

The ultimate financial goal of this phase is therefore to keep what was accumulated up to this point in time, to maintain the level of savings with a degree of modest growth that would keep up with inflation, and to limit individuals' exposure to risk. Savings would probably continue, but not at the same rate as in the past (Campos, 2010). If proper planning is done in the pre-retirement phase, individuals would have to make minor adjustments in the close-to-retirement phase to ensure a financially secured retirement (Keown, 2013).

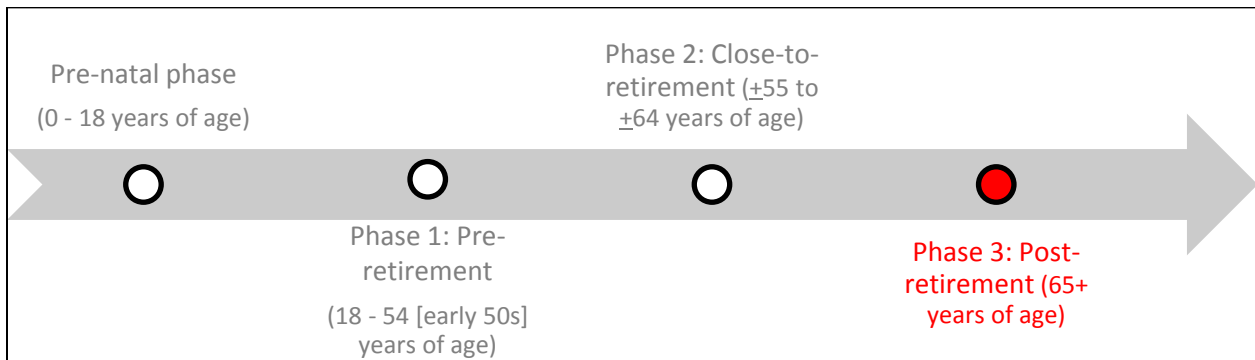
The close-to-retirement phase is also the period that is characterised by high levels of earnings and lower levels of family expenses (Keown, 2013). Individuals should utilise this financial benefit to increase their retirement savings, which in turn could have an

impact on how they would experience their retirement. During this phase, individuals would also be confronted with a new set of financial decisions to be taken and challenges that they would have to face in order to address the issue of sustainable retirement income. These financial decisions and challenges would include matters such as how a new income stream could be created by using their retirement savings; the tax-free lump sum that would be available to them; how much of the lump sum should be taken versus an annuity; and the type of annuity that has to be chosen; determining what their level of spending would be in retirement based on their retirement savings; and how taxation expenses could be minimised within the parameters of the applicable legislation (Monarch Advisory Group, 2014; Cameron, 2004; Botha *et al.*, 2011). Financial decisions also include estate planning and insurance protection considerations. Accommodating these financial decisions and challenges would require individuals to do a proper and an in-depth assessment when evaluating the achievability of their retirement goals, as it would have an impact on their standard of living in retirement (section 4.3.1.2). Therefore, continuous reviewing of these financial decisions when approaching retirement also alerts individuals to the fact that this phase avails them the final opportunity to contribute financially towards their retirement years. The level of financial success that would be achieved by doing this would ultimately determine individuals' standard of living during retirement (Keown, 2013).

The main financial goal for individuals in the close-to-retirement phase is the preservation of their wealth for the upcoming retirement years. Furthermore, when re-assessing their various financial goals, including their retirement goals, they would have to plan for their retirement by taking cognisance of the key planning focus areas as described above. The retirement goals would also have to be re-assessed by re-evaluating their needs for their upcoming retirement, bearing in mind any changes in their personal circumstances. Section 2.5 will provide a practical illustration of how these re-assessed retirement goals would have to be incorporated into individuals' retirement plans that have to be monitored on a regular basis; the comparison that has to be done between their future financial needs and their existing retirement provision in order to achieve their pre-determined re-assessed retirement goals; how to deal with

any shortfalls; and actually putting the retirement plan into action in order to preserve the required wealth. In the close-to-retirement phase, individuals should also optimally utilise the limited time to their advantage by putting all the required measures in place that would address their retirement needs and to monitor the reaching of their retirement goals even more regularly (Botha *et al.*, 2011; Joehnk *et al.*, 2011; Keown, 2013).

2.4.3 Post-retirement phase



The post-retirement phase is the third and final phase in the retirement planning process, with the duration period being uncertain. It relates to individuals who are in the age group 65 years and older. This phase is also referred to as the living on saved wealth, retirement, or capital distribution phase, where individuals actually commence with the distribution of their accumulated retirement savings and where they should ensure that their retirement savings are sufficient to last them for the duration of their retirement (Cameron, 2004; Campos, 2010; Monarch Advisory Group, 2014; Keown, 2013).

This phase might also be the toughest phase, due to its aspect of uncertainty and because individuals would depend on their retirement savings to address their financial needs in retirement (Monarch Advisory Group, 2014; Keown, 2013). The level of retirement savings would be the determining factor in deciding when actually to retire. Individuals' financial focus after retiring would therefore be to warrant a continued growth in their wealth without having an income. Individuals would also have to spend a great deal of their time on managing their savings and assets to ensure that their

retirement savings would be sufficient for the entire duration of their retirement. Therefore, the most important financial goal for this phase is that individuals should strive towards having sufficient retirement savings in place to last them till the end of their lifetime and to prevent themselves from reaching a point where their retirement savings are exhausted or no longer sufficient to sustain their required standard of living in old age (section 4.3.1.2). This would require individuals to decide on the most appropriate annual withdrawal levels and, based on investment advice, decide on the most appropriate retirement vehicles that would grant them the optimal benefit. Individuals would also have to consider other factors during this phase. This may include the adjustment of the investment strategy to a more conservative level, as individuals should focus on preserving rather than creating their wealth. In addition, individuals would have to adjust their insurance coverage to protect themselves from extensive medical costs (Botha *et al.*, 2011; Keown, 2013). It is also during this phase that estate-planning decisions play an even more important role. Estate planning tools such as health proxies (a legal document with which individuals appoint an agent to make health care decisions on their behalf when they are incapable of doing so), power of attorney, proper record keeping, wills and living wills, would all contribute to individuals' wishes being fulfilled and would protect individuals along with their assets for their heirs. This would grant individuals the opportunity to transfer their estates to whomever they want; thereby ensuring that the taxes of the estate are kept at a minimum (Keown, 2013).

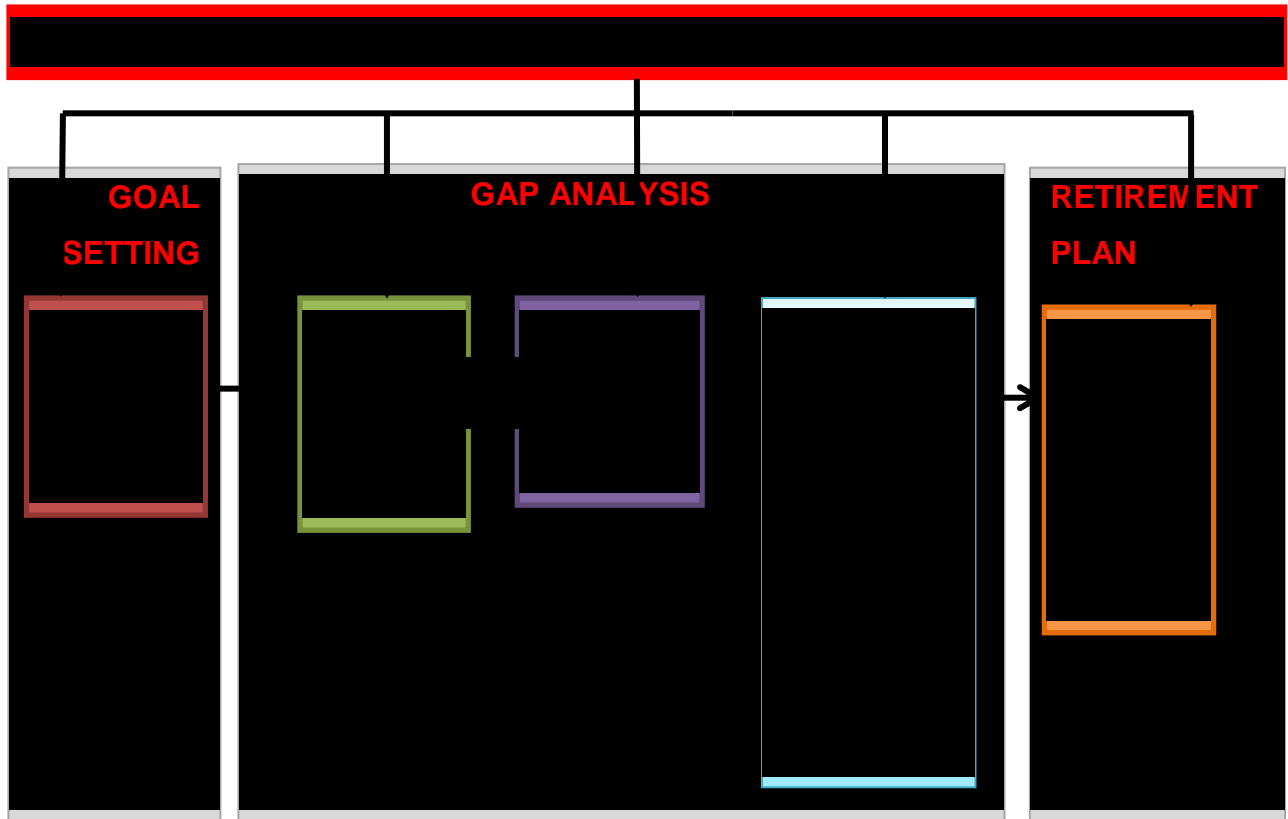
Planning should therefore continue in this phase, but at a slightly different level, to maintain a balance between the retirement income that has been accumulated up to this point and expenses that relate to participating in leisure activities such as vacation trips with family and travelling. There might also be other considerations, such as doing part-time work to generate additional income without having a full-time working status or to provide assistance to the community that includes monetary donations (Wynn *et al.*, 2013). Proper financial preparation for retirement during the pre-retirement and close-to-retirement investing phases would improve the standard of living that individuals would experience in the post-retirement phase (Campos, 2010; Botha *et al.*, 2011; Joehnk *et al.*, 2011; Keown, 2013).

The main financial goal for individuals in the post-retirement phase is the appropriate distribution of their wealth, and therefore there should be sufficient retirement funding that would last them for the duration of their retirement. Individuals would therefore also have to plan financially for their retirement years by taking cognisance of the key planning focus areas as described above when re-assessing their various financial goals, which includes their retirement goals. The retirement goals would also have to be re-assessed by re-evaluating their retirement needs, taking into account any changes in their personal circumstances. It follows that, in this retirement phase, individuals should put all the required measures in place that would address their retirement needs while simultaneously distributing their wealth in such a manner that they would not outlive their retirement savings (Botha *et al.*, 2011; Joehnk *et al.*, 2011; Keown, 2013).

2.5. RETIREMENT PLANNING: THE STEP-BY-STEP APPROACH ACROSS THE THREE RETIREMENT PHASES

Section 2.3 concluded with the five steps of the retirement process, which were combined into the three core retirement-planning areas – goal setting, a comprehensive gap analysis, and formulation of a retirement plan – as illustrated in Figure 2.10. It was repeated again here for the convenience of the reader. The fact that the practical retirement process was combined into these three core retirement planning areas does not change the essence of the entire retirement planning process, as it still incorporates all five the steps of the practical retirement planning process. This will also become evident from the discussion below and it should be noted that this process repeats itself across the financial life cycle of individuals. These five steps, which are encapsulated into these three core retirement planning areas, would therefore occur at least three times during an individuals' lifetime, during the three retirement planning phases (section 2.4). The three core retirement-planning areas will therefore form the basis for the remainder of this study.

Figure 2.10: The three core retirement-planning areas within the practical retirement planning process



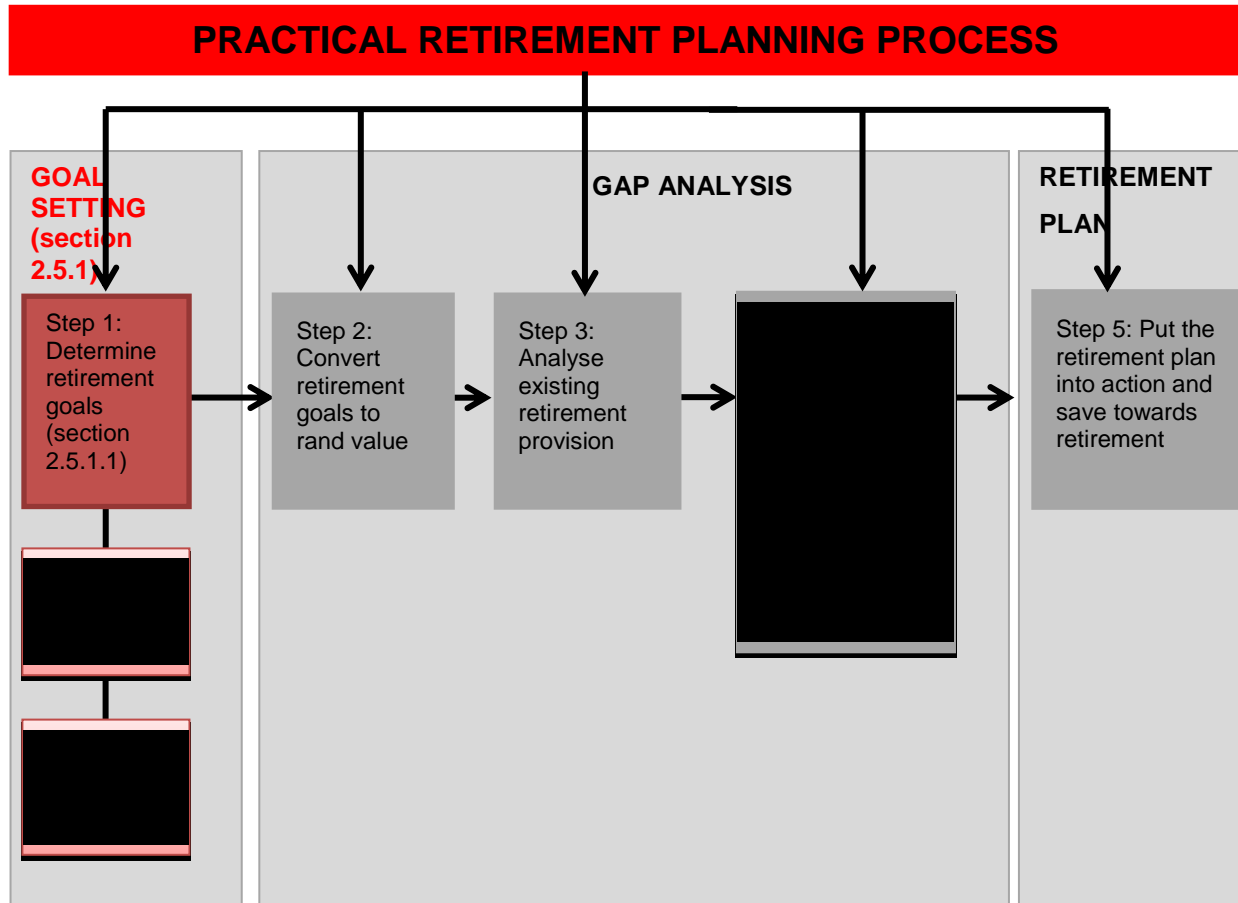
(Source: Author's own)

Irrespective of the kind of approach that individuals take when doing their retirement planning, they would in essence have to follow the same or similar steps as indicated in section 2.3. The five steps in the retirement planning process, as per section 2.3, within the three phases, as per section 2.4, can best be explained by using three practical scenarios to illustrate the retirement planning process within each of these phases as per Annexure A. In each of these scenarios, certain assumptions will be used to illustrate the broader concept of what retirement planning is about in each of the retirement phases. The remainder of the section will provide further explanation of the specific activities encompassed in each of the five steps, combined into the three core retirement planning areas. It will further highlight the different focus required across the three retirement phases.

2.5.1 Core area 1 : Goal setting

Goal setting relates to step 1 of the practical retirement planning process as highlighted in Figure 2.11 (section 4.3.1).

Figure 2.11: Core area 1 in the practical retirement process: Goal setting



(Source: Author's own)

2.5.1.1 Step 1: Determining retirement goals

When starting the practical retirement process, individuals need to set goals for their retirement. Prior to determining their financial goals, individuals have to establish their general goals (those that do not have to be converted into financial terms), for instance having a family, owning a four bedroom house, buying a new motor vehicle every three years or establishing the age at which they would like to retire. After setting their general goals, therefore, individuals should commence with determining the financial effect of

each of their general goals, as many of the general goals require money to take effect. Financial goals are therefore influenced by individuals' general goals in life and would thus require that they commence with determining their financial goals after the general goals have been set (Madura, 2011).

There are three types of financial goals, each with a specific time horizon attached to it, which would enable individuals to categorise their financial goals into short-term, intermediate-term and long-term financial goals (Madura, 2011; Keown, 2013). Short-term financial goals are anything that could be achieved within a period of one year, such as saving for a vacation at the end of the year. Financial goals that take anything between one and 10 years to achieve, such as putting money aside for high school, children's tertiary education or accumulating enough money that would serve as a down payment on a new house, are referred to as intermediate-term financial goals. Lastly, there are the long-term financial goals that would take the average individual longer than 10 years to accumulate the necessary funding to be able to achieve these financial goals and would typically include something like maintaining a certain standard of living in retirement (section 4.3.1.2 and section 4.3.1.5). These types of financial goals should refer not merely to the aim as "save money", but require individuals to be as specific as possible by stating the exact aim of their savings efforts, such as buying a house, as well as the exact amount that needs to be saved for this purpose and the date on which it should be accomplished. These financial goals should also be as realistic as possible and should be a reflection of individuals' life and financial situation (section 4.3.2.3) (Madura, 2011; Keown, 2013).

Financial goals also play a vital role in the retirement planning process. Financial goals permit individuals to create expectations that address their future financial needs, and assist them to organise their perceptions of the retirement experience and to increase the levels of both actual and intentional savings (Stawski, Hershey & Jacobs-Lawson, 2007). Determining of retirement goals requires that individuals invest some time in determining: (1) the things that they would like to do in retirement, (2) their required level of retirement income, which in turn also contributes towards (3) maintaining a certain pre-determined standard of living, and (4) any special retirement goals such as

buying a retirement home, buying a motor vehicle every five years and settling any outstanding debts at retirement. The importance of determining these goals should not be underestimated, as they provide individuals with direction when doing their retirement planning (Joehnk *et al.*, 2011).

After compiling a list of their financial goals for retirement, individuals would have to rank and prioritise these goals accordingly. By doing this exercise, individuals would be able to identify the possibility of unrealistic retirement goals that have been incorporated in the list as well as the need for the reassessment of their pre-determined retirement goals (Keown, 2013). Even after this exercise, there might still be unrealistic goals in their list of retirement goals (such as setting the amount that they would need in retirement too high, which is not necessarily achievable when considering their personal circumstances). They might only realise this when compiling the financial plan for retirement (Botha *et al.*, 2011; Joehnk *et al.*, 2011; Burns, 2013; Keown, 2013).

Table 2.1 sets out what the determination of retirement goals entails over the three retirement phases.

Table 2.1: Determining retirement goals over the three retirement phases (step 1 of the practical retirement planning process)

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Duration of phase (age)	Through age 54	Age 55 to 64	Age 65 and over
Terms of financial goals	Short term (S) Intermediate term (I) Long term (L)	Short term (S) Intermediate term(I)	Short term (S)
General goals	Having a family. Owning a four bedroom house. Buying a new motor vehicle every three years. Establishing retirement age.	Owning a smaller house and selling family home. Buying a new motor vehicle every three years. Establishing retirement age.	Owning a smaller house or retirement home and selling the family home. Buying a new motor vehicle every three years. Taking an extended trip around the world/travel overseas every two years. Maintaining health and fitness after retirement.

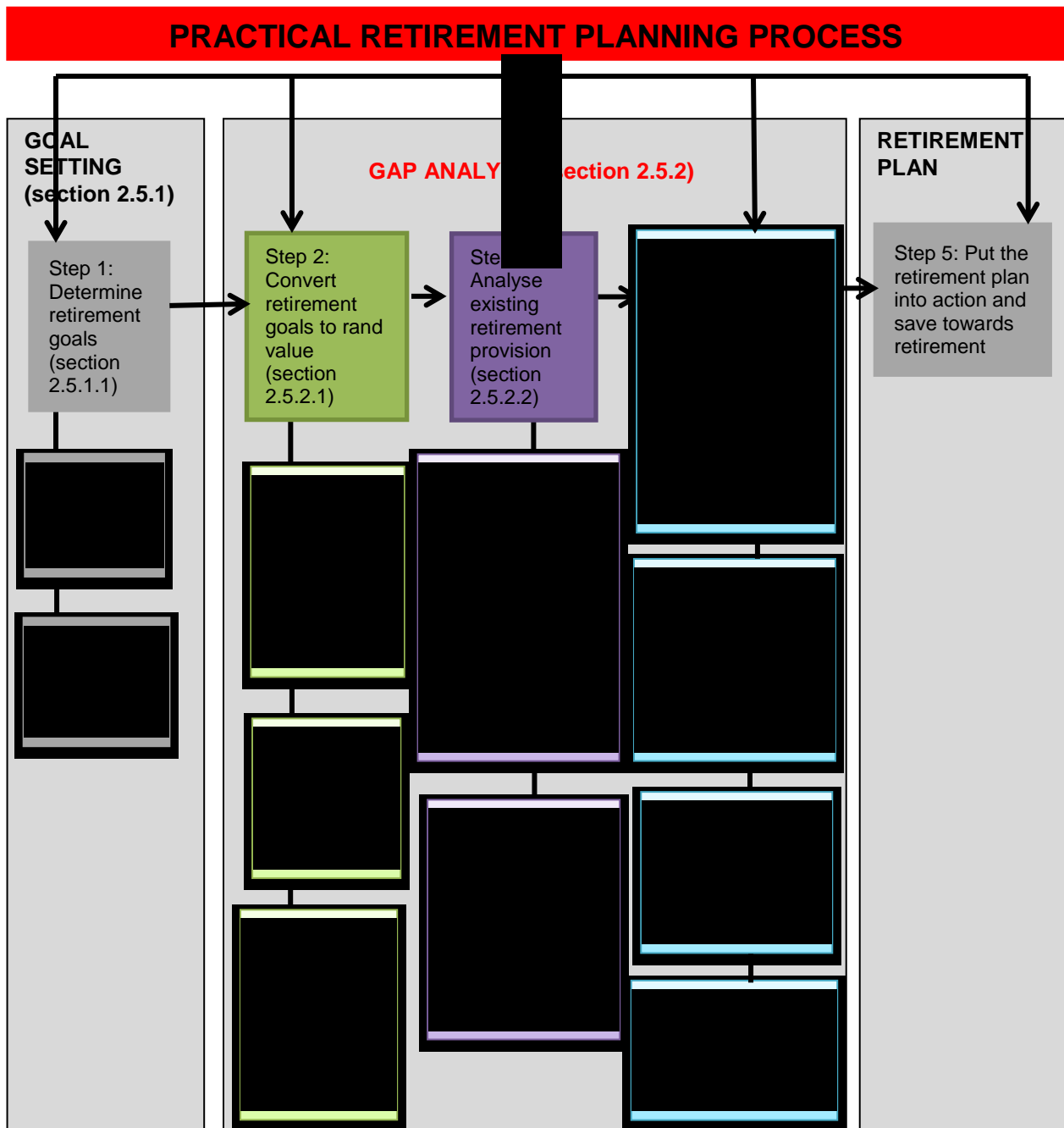
	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Type of financial goals	Vacation trip/s cost (S). Setting aside money for children's education (I). Buying a house (L). Family formation costs (L). Saving for retirement to be able to maintain a certain standard of living in retirement and to achieve other retirement goal/s (L).	Vacation trip/s cost (S). Saving for retirement to be able to maintain a certain standard of living in retirement and to achieve other retirement goal/s (I).	Maintain a certain standard of living in retirement and achieve other retirement goals such as taking overseas trips and buying a new motor vehicle(S).
Status of goal setting	Initial goal setting.	Re-assess goals.	Re-assess goals.
Financial aim of phase/ outcome of financial retirement goals	Wealth accumulation.	Preservation and continued growth of wealth already accumulated.	Distribution of wealth already accumulated. Despite not having an income ensuring continued growth of wealth.
Time-frame of goal setting	The time horizon of retirement goals during the pre-retirement phase is long-term in nature, as this phase would last for the majority of individuals until they are in their mid-50s (Keown, 2013).	As time goes by and individuals get older, their retirement goals would be subject to change due to the role that the financial life cycle pattern plays in effecting these changes as well as the financial impact that unexpected events could have on their financial well-being (Botha <i>et al.</i> , 2011; Joehnk <i>et al.</i> , 2011, Keown, 2013).	In the post-retirement phase, individuals are living off the retirement savings they have accumulated over their working lifetimes.

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Time-frame of goal setting		<p>However, in the close-to-retirement phase individuals would have to re-assess their retirement goals, taking into account that the period up to retirement is significantly shorter when compared to the pre-retirement phase in which they have to prepare themselves financially for retirement.</p> <p>Therefore, the time horizon of their retirement goals in the close-to-retirement phase will change from long-term- to intermediate retirement goals (Keown, 2013).</p> <p>At retirement and prior to determining financial goals for retirement, individuals might have to make crucial financial decisions based upon the level of retirement savings they have accumulated up to that point in time.</p>	<p>The financial focus for individuals in retirement is thus to manage their retirement savings and assets in such a way that they do not run out of money and to rather preserve than to create their wealth by having a less risky investment strategy (Botha <i>et al.</i>, 2011; Joehnk <i>et al.</i>, 2011, Keown, 2013).</p> <p>Greater health care expenses would also have to be considered by retired individuals who have an expectation that they might live longer (Banks, 2010; Burns, 2013).</p> <p>However, in the post-retirement phase individuals would have to re-assess their retirement goals thoroughly as they would be living off their retirement savings for an uncertain period of time.</p> <p>Therefore, they would have to change the time horizon of their retirement goals in the post-retirement phase from long-term to short-term retirement goals (Keown, 2013; Monarch Advisory Group, 2014).</p>

2.5.2 Core area 2: Doing a comprehensive gap analysis

Doing a comprehensive gap analysis relates to steps 2, 3 and 4 of the practical retirement planning process, as highlighted in Figure 2.12.

Figure 2.12: Core area 2 in the practical retirement process: Comprehensive gap analysis



(Source: Author's own)

2.5.2.1 Step 2: Convert retirement goals to rand value

After finalising the list of general and financial goals for retirement, individuals should proceed to the following step of the practical retirement process, which is to convert the retirement goals into a monetary value. This step would assist individuals to transform their retirement goals into financial terms by estimating the amount of money that would be required to achieve their pre-determined retirement goals. However, individuals should realise that these estimates are based on future expectations that incorporate an element of uncertainty and are therefore not always that reliable or accurate. In order to deal with these uncertainties, individuals should adjust their financial plan for retirement to accommodate numerous outcomes and also by monitoring and subjecting it to changes that might affect their abilities, aspirations and personal finances (Joehnk *et al.*, 2011; Keown, 2013) (section 4.2.2)

Project retirement income and investment needs

In projecting the level of retirement income that individuals would need to finance their retirement goals, they should make projections of both the required level of retirement income and the required level of investments that would be needed to support their retirement goals (Joehnk *et al.*, 2011; Keown, 2013) (section 4.3.2.6). There may be variations in the amounts that are needed by individuals as there could be certain factors such as projected retirement age, their desired standard of living after retirement, and a variety of economic factors such as inflation (section 4.3.2.7), life expectancy, and time value of money, which is the central point of present and future values (also referred as compounding) that could influence individuals' future retirement needs (Dearborn Financial Services, 2004). The current and anticipated income requirements actually address individuals' future retirement needs. This would accommodate the changes that could occur in the personal circumstances of individuals over time, up to the point where they reach retirement, such as children becoming independent and bonds that are fully repaid (Botha *et al.*, 2011).

Individuals should commence by using their current living expenses as a benchmark to determine the level of income they would require in retirement to support them

financially. The majority of financial planners estimate that individuals would need between 70 and 80 percent of their current living expenses to support them financially in retirement, as the elderly are usually in a position where they have settled their bonds on their house and their levels of consumption are lower than those of younger individuals. Individuals should however take cognisance of the fact that this estimate only addresses one of their retirement goals, the maintaining of their standard of living in retirement; they would also have to consider what it would cost them annually to provide financially for other possible retirement goals. Adding all the estimated annual amounts that would be needed to achieve all the pre-determined retirement goals, including the base amount that is needed to cover individuals' living expenses in retirement, would provide in today's money terms the annual income amount that individuals would need to be able to fund their retirement. The effect of taxes would also have to be factored into the annual income amount that individuals would need in retirement (Botha *et al.*, 2011; Joehnk *et al.*, 2011; Keown, 2013).

Individuals have to make assumptions when determining the estimated amounts of what it would cost them annually to achieve their pre-determined retirement goals. Assumptions therefore play a key role throughout the retirement planning process, and bearing that in mind, individuals should still try to provide adequately for their retirement. These assumptions will have a financial effect on the level of annual contributions that individuals would have to save now in savings and other retirement plans in order to gain from these once they retire. Investing earlier in life is one measure of saving towards retirement, as individuals could benefit financially from it by having a longer investment period and earning the relevant investment income on their retirement related investments. Individuals cannot accurately determine the duration of their lifetime, but it could be based on the average retiree's life after retirement. The required retirement income amount for individuals to maintain their standard of living could now be calculated by multiplying the annual amount needed to fund retirement and the estimated number of life expectancy years (average retiree's) with each other (Dearborn Financial Services, 2004).

After making these projections, individuals need to formulate an investment program that would assist them to address both their projected retirement income and investment needs (refer to section 2.5.3.1).

Table 2.2 sets out what the projection of retirement income and investment needs entails over the three retirement phases.

Table 2.2: Project retirement income and investment needs across the three retirement phases (step 2 of the practical retirement planning process)

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Duration of phase (age)	Through age 54	Age 55 to 64	Age 65 and over
Terms of financial retirement goals	Long-term	Intermediate-term	Short-term
Retirement income and investment needs	Estimate: - Required annual level of retirement income to maintain desired standard of living after retirement. - Required annual level of investments that would be needed to support all retirement goals.	Estimate: - Adjusted required annual level of retirement income to maintain desired standard of living after retirement. - Adjusted required annual level of investments that would be needed to support all retirement goals.	Actual and estimate: - Adjusted annual level of retirement income available to maintain standard of living in retirement. - Adjusted level of investment available to support the pre-determined retirement goals.
Status of projected income and investment needs	Initial projection of required retirement income and investment needs.	Re-assess projection of required retirement income and investment needs.	Re-assess projection of required retirement income and investment needs.
Factors to consider when projecting future retirement income and investment needs (Joehnk et al., 2011; Burns, 2013)	- Projected retirement age/years to retirement; - Retirement income required to maintain desired standard of living after retirement (based on current living expenses). - Inflation rates; - Return on investments; - Life expectancy after retirement; - Time value of money; and - Taxation (section 4.3.2.10).	- Re-assess projected retirement age based on level of retirement savings accumulated to date; - Adjust retirement income (if needed) to maintain desired standard of living after retirement; - Inflation rates; - Return on investments; - Life expectancy after retirement; - Time value of money; and - Taxation (section 4.3.2.10).	- Re-assess (adjust if needed) annual level of retirement income that would be needed to maintain standard of living based on the level of accumulated retirement savings; and - Work part-time in the case where retirement funding is too little or insufficient.

(Source: Author's own)

2.5.2.2 Step 3: Analyse existing retirement provision

After converting retirement goals to rand value in the previous step to determine what individuals would need to achieve their pre-determined retirement goals, this step is all about making an estimate of the income that they anticipate to have when entering into retirement, based on all their existing sources of retirement funding (Joehnk *et al.*, 2011; Keown, 2013).

Calculate capitalised income at retirement

The income that would be generated from the existing retirement provision would include a combination of employee benefits in the form of the accumulation of retirement benefits in pension and/or provident funds, social security (where applicable) and/or any other personal retirement savings. Individuals' retirement benefit statements could be obtained from the relevant employee benefits office, as it would provide information such as a description of the employee benefit plan, the current value of the retirement benefits as well as the level of benefits that would be receivable when individuals reach the retirement age. All workers that receive social security benefits (in the countries where this is applicable) would receive an annual statement that reflects the current and future benefits that they are eligible to receive. An estimate would also have to be made of any other personal retirement savings, which includes individual savings plans such as retirement annuities, to ensure that all the related retirement savings have been taken into account (Cameron, 2004; Joehnk *et al.*, 2011; Keown, 2013). By estimating the income at retirement, individuals should take cognisance of the fact that if they are in a position to avoid or postpone paying taxes when investing money into a retirement fund, they would be in a position to save a larger amount towards their retirement. Individuals should further realise that they are also in a position to reduce the present level of taxes they are paying when they are actually making a certain level of contributions to a retirement fund from their income (depending on the type of retirement fund), as these contributions are in some instances not subjected to tax until withdrawn from their retirement account. (Madura, 2011).

Take stock of current financial position

Allowing for all the factors that could have a financial impact in setting realistic retirement goals, individuals should be able to determine their current financial position and the financial resources that are currently in place before either compiling their retirement plans or applying successful money management strategies to address all their retirement goals (Joehnk *et al.*, 2011; Burns, 2013; Keown, 2013). Therefore, it seems that realistic goal setting not only plays an important role in the retirement planning process for individuals, but also simplifies the monitoring of the financial progress that is made in this regard. Setting retirement goals requires individuals' commitment, as they would have to make certain decisions and put certain measures in place to ensure that their retirement goals are achievable (Carson, 2014; Joehnk *et al.*, 2011; Roberts *et al.*, 2012). The decisions taken and the measures implemented by individuals when setting realistic goals are closely linked to individuals' personal income. With the exclusion of a possible inheritance, or something with a similar financial impact, individuals' personal income would significantly be affected by factors such as age, geographical location, education, marital status and their career decisions (Joehnk *et al.*, 2011; Keown, 2013) (section 4.2.1).

A personal balance sheet reflecting the current required financial information that pertains to the financial position of individuals at a specific point in time forms part of the initial consideration when determining individuals' financial goals for retirement. The personal balance sheet would further serve as an important tool when assessing individuals' current financial position and their net worth. The next step would be to assess individuals' financial performance over a certain period, based on the information that is contained in their income statements. This tool is used to enable individuals to make a comparison between the actual purchases and expenses, the amounts that were budgeted for these expenses, and how their net worth is affected by their spending and saving habits. The income statement also serves as a measuring tool to assist individuals in controlling their future expenses and purchases, so that they are in a position to fund the financial goals as set out in their financial plans, which includes achieving financial security in retirement (section 4.3.1.8). Lastly, a budget is a

forward-looking financial report and a tool that could be used by individuals to manage their future expenses and purchases (section 4.3.2.2). Budgets also enable individuals to achieve financial security in retirement by assisting them to manage their money appropriately so that they are able to meet some of their pre-determined retirement goals (Dearborn Financial Services, 2004; Joehnk *et al.*, 2011; Madura, 2011; Charupat, Huang & Milevsky, 2012; Keown, 2013; Warschauer, 2013).

The income statement, balance sheet and budget provide individuals with essential information regarding their current financial status and resources. By considering the available financial resources, individuals should create a savings and investment program (section 2.5.3.1) that addresses both their short-term and long-term objectives. After all of this has been done, individuals would have an overview of their current financial position in terms of their financial needs for retirement (Dearborn Financial Services, 2004; Joehnk *et al.*, 2011; Keown, 2013).

Table 2.3 sets out what the analysis of individuals' existing retirement provision entails over the three retirement phases. Social grants was not included as one of the sources of individuals' existing retirement provision as this study focused on retirement planning with the funds that individuals set aside for their retirement.

Table 2.3: Analysing existing retirement provision across the three retirement phases (step 3 of the practical retirement planning process)

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Duration of phase (age)	Through age 54	Age 55 to 64	Age 65 and over
Terms of financial retirement goals	Long-term	Intermediate-term	Short-term
Sources of existing retirement provision	Employer sponsored retirement funds. Voluntary retirement vehicles such as retirement annuities and tax savings accounts.	Employer sponsored retirement funds. Voluntary retirement vehicles such as retirement annuities and tax savings accounts.	Lump sum income. Annuities. Investment income.
Level of retirement savings (status)	In the pre-retirement phase there is uncertainty regarding the adequacy of existing retirement savings due to the extent of assumptions that have to be made to determine the required level of retirement savings to address the pre-determined retirement goals. The duration of this phase and possible changes in individuals' personal circumstances are key factors that have to be considered when making these assumptions (Joehnk <i>et al.</i> , 2011; Keown, 2013).	In the close-to-retirement phase, individuals are at a point where they have a good indication of the total amount of retirement savings that would be required by the time that they retire to achieve their re-assessed retirement goals. They would just have to make an estimation of the income that they anticipate to have when entering into retirement based on all their existing sources of retirement funding [as mentioned above] (Botha <i>et al.</i> , 2011; Joehnk <i>et al.</i> , 2011; Keown, 2013).	At retirement, when entering the post-retirement phase, individuals would have to re-assess whether their actual retirement savings would be sufficient to address their retirement goals in the future. They would therefore have to make an estimation of the income they anticipate to receive in the future, based on all their existing sources of retirement funding, which includes lump sums, annuity income from re-invested pensions, social security (where applicable) and/or other personal retirement savings (Cameron, 2004; Botha <i>et al.</i> , 2011; Joehnk <i>et al.</i> , 2011; Keown, 2013).

(Source: Author's own)

2.5.2.3 Step 4: Calculate the annual inflation adjusted shortfall, and determine the annual savings rate between now and retirement

Individuals are now at a point where they have a good indication of the total amount of retirement savings that need to be in place to address their future retirement needs and the existing retirement provision that they have in place. During this step, the future retirement needs (size of the nest egg) (section 2.5.2.1) would be compared with the income that individuals would receive based on their existing retirement provisions (section 2.5.2.2) to determine whether there are any shortfalls. Where the future retirement needs exceed the existing retirement provision, there would be a shortfall, which would mean that individuals would need to generate additional retirement income through a supplementary retirement program to be able to maintain their standard of living in retirement and to achieve any other pre-determined retirement goals. Individuals would therefore have to decide how they would go about ensuring that this annual shortfall would in fact be saved by the time that they reach retirement, therefore during the pre-retirement and close-to-retirement phases. The alternative would be to downscale on their pre-determined financial goals for retirement (Joehnk *et al.*, 2011; Keown, 2013).

In the majority of the cases, there are significant differences between the current retirement income levels and actual needs at retirement (Keown,2013). In addressing these shortfalls, individuals need to determine the extent of the additional annual savings that would be required to eliminate the annual shortfall. The annual shortfall would also have to be adjusted to compensate for the financial effect of inflation; as a result, the annual shortfall would be much higher at retirement. The amount of the shortfall would therefore escalate with the inflation rate over time. Together with the impact of inflation, individuals should also consider the rate of return that could be generated on their investments after retirement, so that these retirement investments could provide the required increase in the annual retirement funds to be able to generate returns that would counteract for the eroding effect of inflation. The estimation process, which addresses the annual shortfall, still requires that the following two steps be performed: determining (1) their future retirement needs that should enable them to

have coverage for the projected annual income shortfall, and (2) the *annual savings amount* that would be needed to accumulate the required amount by the date they retire (Joehnk *et al.*, 2011; Keown, 2013).

Table 2.4 sets out what is involved in the calculation of the shortfall and the determination of the annual savings level to compensate for the shortfall over the three retirement phases.

Table 2.4: Calculate shortfall and determine level of annual savings to compensate for shortfall across the three retirement phases (*step 4 of the practical retirement planning process*)

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Duration of phase (age)	Through age 54	Age 55 to 64	Age 65 and over
Terms of financial retirement goals	Long-term	Intermediate-term	Short-term
Extent of shortfall and remedial action to compensate for the shortfall	<p>In the pre-retirement phase, it is even more eminent due to the long range of projections that have to be made, taking into account the duration of this phase, inflation and rates of return.</p> <p>In the case of significant differences, individuals should either increase the level of retirement savings (if possible) by doing the related calculations to determine the amount that needs to be saved to eliminate the shortfall by retirement or they would have to downscale on their pre-determined financial goals for retirement.</p>	<p>It would depend on the outcome of steps 2 and 3. It might be lower in the close-to- retirement phase due to lower levels of living expenses according to the typical individual's financial life cycle (Charupat <i>et al.</i>, 2012; Keown, 2013).</p> <p>The element of uncertainty is also inherent in making retirement planning projections.</p> <p>However, in the close-to-retirement phase these projections are even more crucial as the duration of this phase is not very long; should there be significant differences, individuals would have to either drastically increase the level of their retirement savings or they would have to downscale on their pre-determined financial goals for retirement.</p>	<p>It would depend on the outcome of steps 2 and 3. The level of living expenses would vary from individual to individual, depending on their personal circumstances.</p> <p>Individuals would however have to depend on their retirement savings to address their financial needs.</p> <p>The element of uncertainty is also inherent in making retirement planning projections, even in the post-retirement phase, to ensure that individuals do not run out of funds to support themselves. This makes it one of the toughest phases.</p> <p>Individuals should however also realise that it is possible to remedy this situation; by using the most appropriate method, they could be in the position to retire satisfactorily.</p>

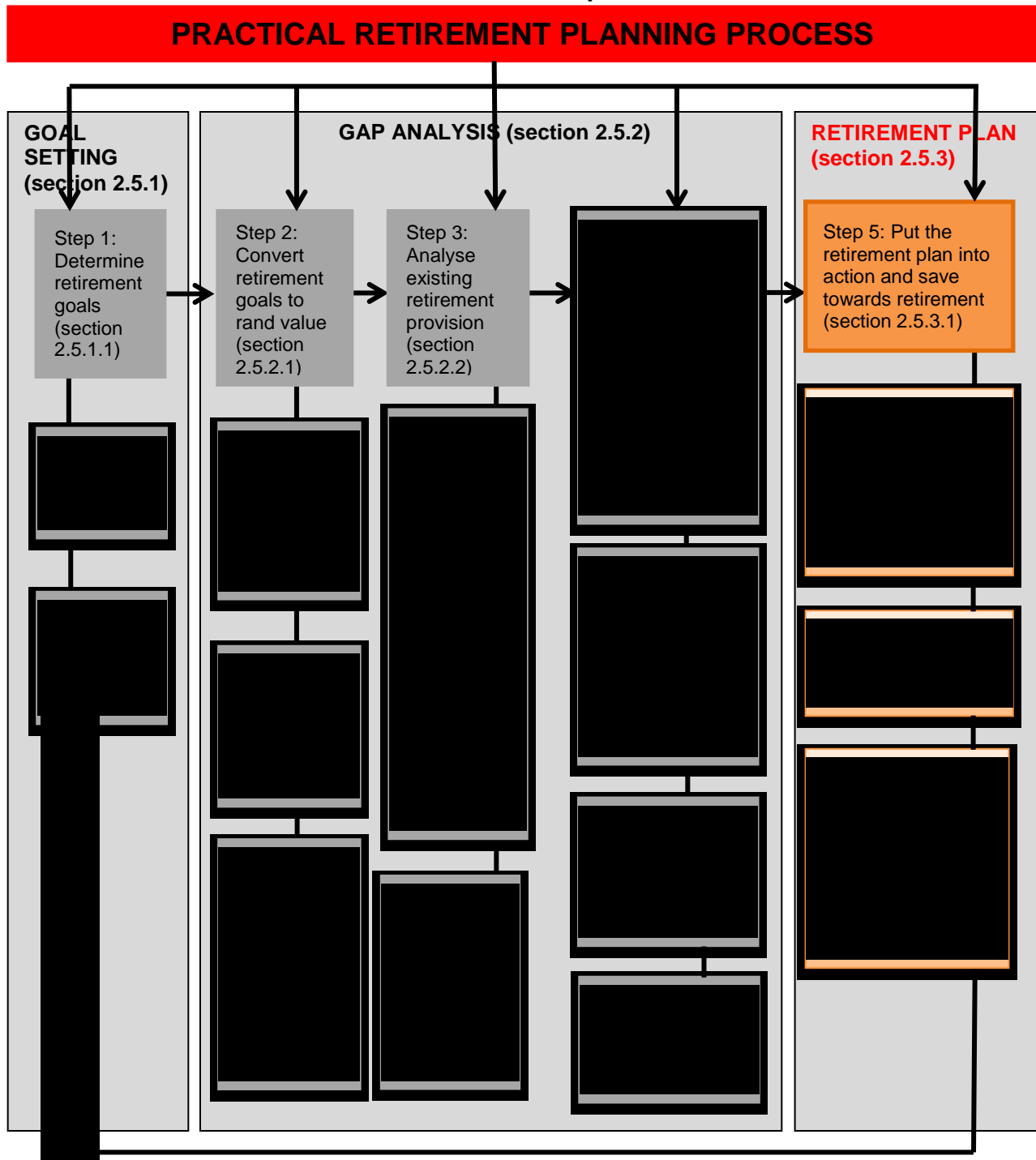
	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Extent of shortfall and remedial action to compensate for the shortfall		<p>At this stage, individuals in the close-to-retirement phase who have a shortfall should realise that this is their last opportunity in which they could actually save and prepare themselves for their upcoming retirement years, save and prepare themselves for their upcoming retirement years, with the outcome playing a key role in the standard of living that they would have in retirement (Joehnk <i>et al.</i>, 2011; Keown, 2013). They should also obtain information regarding the impact of taxation on their current retirement benefits, as this would also affect the level of retirement savings that should be in place to still be able to achieve their retirement goals (Botha <i>et al.</i>, 2011).</p>	<p>Individuals that embark on this route after their official retirement could improve their cash flow over the duration of their retirement, as they are in effect delaying the withdrawal from their retirement savings (Burns, 2013).</p> <p>Furthermore, individuals might benefit from the positive results on their investments by assuming an increased investment risk, but the outcome of this approach cannot be guaranteed. The latter therefore requires a proper understanding and acceptance of risks when considering such approaches (Burns, 2013).</p>

(Source: Author's own)

2.5.3 Core area 3: Formulation of a retirement plan

Formulation of a retirement plan relates to step 5 of the practical retirement planning process as highlighted in Figure 2.13.

Figure 2.13: Core area 3 in the practical retirement planning process: Formulation of a retirement plan



(Source: Author's own)

2.5.3.1 Step 5: Put the retirement plan into action and save towards retirement

After determining the required annual savings levels that have to be saved by individuals to compensate for any anticipated shortfalls in terms of their retirement and that would contribute towards achieving their pre-determined retirement goals, individuals need to increase their savings levels accordingly. Saving and maintaining these additional amounts would assist individuals to accumulate the required level of retirement savings that could eliminate the calculated shortfalls by the time they reach retirement (Joehnk *et al.*, 2011; Keown, 2013). Therefore, at the final point of the retirement planning process where individuals have determined the exact annual savings amount that would enable them to achieve their pre-determined retirement goals, they need to start saving towards retirement. This sounds simple, but is actually complex due to the range of savings options that are available. Individuals are therefore required to be aware of the different available savings options, which would then enable them to decide on the best option that would address their needs (Joehnk *et al.*, 2011; Keown, 2013).

Take stock of future financial position

The value of the required additional savings to address individuals' financial needs in retirement would depend on the value of the current assets that are available for retirement, the expected rate of return on the retirement investments, and the years until retirement (Burns, 2013). This information would provide individuals with details regarding the extent of their future retirement needs (size of nest egg) when they reach retirement to eliminate the expected annual shortfall. For the majority of individuals, this would mean that they would have to set up a systematic savings plan as discussed later in this section, which would require that a certain amount of money (over and above what has been saved in the past up to now) should be saved annually to ensure that this shortfall is eliminated by the time they retire. Annuity factors could be used to determine the value of the annual savings amount. The appropriate interest factor for this additional savings would depend on the anticipated rate of return as well as duration of the investment period (Joehnk *et al.*, 2011; Keown, 2013).

The balance sheet could also serve as a planning tool to assist individuals in tracking their progress in terms of meeting their savings and investment goals to ensure that the shortfall is eliminated by the time they reach retirement, strengthening their retirement reserves and paying off their debts (Joehnk *et al.*, 2011; Charupat *et al.*, 2012).

Over time, individuals would also have to assess their budget to establish whether they are making progress in achieving their initial pre-determined retirement goals. Budgets might also be used to assist individuals in identifying items that could change to improve their financial position in the future (Madura, 2011). Individuals' current budgets provide essential information regarding their current spending and savings patterns (section 4.2.2). The information contained in the current budget could be used to predict the amount and type of retirement expenses that individuals are expected to have and this would assist them to make the necessary forecasts of the level of income that would be needed to meet their future financial needs (Dearborn Financial Services, 2004).

Compile or adjust financial plan

To accomplish their retirement goals (initial and re-assessed) irrespective of the phase in which they might be, individuals would need a financial plan (section 4.3.3.2) for retirement, financial statements, and a budget to steer them in the direction of doing so. The financial plan (section 4.3.3.2) is used to guide individuals on their way towards achieving financial security in retirement, whereas the personal financial statements are used to indicate the status of their current financial position (Dearborn Financial Services, 2004; Joehnk *et al.*, 2011; Charupat *et al.*, 2012) (section 4.3.1.8). Retirement plans therefore play a vital role in creating financial security, as they determine the required level of savings and investments that would be needed to generate the required level of retirement income to accommodate the pre-determined retirement goals (Clark, d'Ambrosio, McDermed & Sawant, 2006). Retirement plans should also form part of individuals' financial routine and should not be postponed, as it would just become tougher and tougher for individuals to achieve their pre-determined retirement goals (Keown, 2013) (section 4.3.1.4).

Personal circumstances drive the decisions individuals have to make when compiling and executing their retirement plans. In addition, individuals have to understand that they would have to rethink their current consumption when making decisions to save towards retirement. It might sometimes be necessary to trade their current consumption to be able to consume it in future. Individuals should therefore acknowledge the importance of using time to their advantage by starting to save for retirement as early as possible to benefit from the compounding factor (Botha *et al.*, 2011; Joehnk *et al.*, 2011; Keown, 2013) (section 4.2.2).

Once all of the retirement goals have been cross-examined to determine whether they are realistic and achievable, individuals could compile a list of their final retirement goals. This would then form the basis of their retirement plan. Individuals could potentially start to focus on putting the financial plan for retirement into action. Retirement plans would provide guidance for the actions that need to be taken in order to achieve these pre-determined retirement goals, and serve as a measure for evaluating the effectiveness of the retirement plans. However, individuals should take cognisance of the fact that the retirement plan is not the goal; it only serves as a tool to assist them in achieving the retirement goals stipulated in their retirement plan (Botha *et al.*, 2011; Joehnk *et al.*, 2011; Madura, 2011; Keown, 2013).

Formulate an investment program

This part of the retirement process is also closely linked to tax and investment planning. Tax planning is an important objective for sound retirement planning to legitimately safeguard as much as possible of individuals' retirement income from taxes and by doing so maximising the accumulation factor of retirement funds. However, tax also plays a major role when determining individuals' future retirement needs as it provides them with an estimate of the taxes that would be paid on their required levels of retirement income. Individuals have to decide, based on their personal circumstances, what would be the best way for them to save towards retirement. The deferring of taxes being charged on retirement plans grant individuals the opportunity to re-invest money that would otherwise have to be paid over to the South African Revenue Services

(SARS). In some retirement plans, the contributions are either fully or partially deductible. This would also allow individuals to earn compound interest on these amounts that would have otherwise been paid over to SARS (Keown, 2013). For those individuals that are serious about saving optimally for their retirement, this is a very simple but smart way of contributing sensibly towards their retirement savings and utilising these types of investment vehicle as discussed later in this section to their own benefit (Cameron, 2004; Botha *et al.*, 2011).

Create a systematic savings plan

The requirements for something as basic as formulating a savings decision might be challenging for individuals, as they are required to collect and to make certain predictions, taking into account all possible future variables, ranging from, for example, their pensions to expected inflation rates and interest rates (section 4.3.2.9). At the very least, individuals would have to do calculations that require an understanding of concepts such as time value of money and compound interest. Very few studies have acknowledged the complexity of making savings decisions in comparison to the majority of studies where the key focus areas are individuals' preferences and lifetime resources that best capture their economic environment and characteristics, including the uncertainty of future forecasts. Therefore, individuals would have to spend a significant amount of time and effort searching for the relevant information to equip them for making informed savings decisions. It is even more alarming that some individuals are not equipped with the necessary skills and abilities to perform the calculations that are embedded in the compilation of savings plans (Lusardi, 2008).

During the process of deciding which savings option to choose, individuals might find that there are a number of possibilities to save for retirement. From a holistic point of view, there are basically two main approaches towards retirement savings. The first approach is to postpone retirement savings until very close to retirement. This approach would require a huge amount of savings to be put aside very close to retirement. The second approach is that individuals should start saving from early in their working lives (section 4.2.2) by investing small amounts, allowing compound interest to do the bulk of

the work for them. Those individuals who opt to set aside money as early as possible in retirement plans, savings accounts and other investments would benefit, as the value of these investment instruments could increase over time, depending on the kind of investment instruments they elect and the level of risk that they are willing to take. The value of investment instruments would increase due to the rate of return (also referred to as the valuation rate) that is applicable to these investments; making funds invested today worth more when including these rates of return versus investing the same amount a year from now (Dearborn Financial Services, 2004; Joehnk *et al.*, 2011; Charupat *et al.*, 2012).

Saving for retirement to enable individuals to maintain their current standard of living in the future would require that they make decisions during their pre- and close-to-retirement years about which percentage of their salaries would be available for immediate spending and which percentage would have to be set aside for future savings. Consumption smoothing is one of the economic measures that would assist individuals to maximise their standard of living over their lifetime and is therefore a balancing act between their savings and spending patterns during their different life stages. The implication of this is that individuals would typically borrow early in their lives when their income levels are low and their expenditure levels are high and save when their income exceeds their expenditure levels. Older individuals have usually settled the bond on their house and are also consuming less, compared to younger individuals (Charupat *et al.*, 2012). Although the authors might have referred to salaries, it should be broader interpreted as either income or revenue as both salaried and non-salaried individuals in the pre- and close to retirement years would have to make decisions about future savings that pertains to their retirement.

Despite the consumption-smoothing framework that individuals could use for making consumption and/or savings decisions, it should also be compared to two other recommendations that are commonly provided by financial planners: the fixed-percentage savings rule and the 70 percent income replacement rule (Charupat *et al.*, 2012). Both these recommendations have to be considered carefully, as they could have a significant financial impact on individuals' standard of living once they retire.

a) The fixed-percentage savings rule

Setting aside a fixed percentage of individuals' salaries towards savings seems very simple and uncomplicated, but does not take into account individuals' lifetime budgets and/or preferences; once individuals have achieved the required savings rate, they would consume whatever is left of their salaries. This could have a major negative financial impact on individuals' standard of living once they reach retirement (Charupat *et al.*, 2012). Although the authors might have referred to salaries, it should be broader interpreted as either income or revenue as both salaried and non-salaried individuals are making these decisions that could have a financial effect on their standard of living in retirement.

b) The 70 percent income replacement rule

There are various debates about what is an appropriate replacement rate, "a percentage of individuals' pre-retirement income that would be financially acceptable for them to maintain their standard of living in retirement" (Botha *et al.*, 2011:844), to aim for and, even more importantly, how it fits into the bigger picture of consumption smoothing. After all, randomly selecting a percentage that could range from anything between 50 percent and 100 percent, and on top of that proclaiming that it should be a target to aim for, does not make any sense at all. The logic of such a decision is questionable, as each individual has different preferences for a constant, increasing or decreasing discretionary consumption pattern (Botha *et al.*, 2011; Charupat *et al.*, 2012).

In an attempt to promote retirement savings amongst South Africans, government implemented the tax-free savings accounts initiative from 1 March 2015 to create an environment in which all employees could retire without having to be exposed to vulnerability in old age (National Treasury, 2015a). This initiative is also another way of trying to get households to increase their overall savings due to the low rate of savings in South Africa. From the 2014 Sanlam Benchmark survey, it is clear that globally there are low levels of retirement savings and that this is not unique to South Africa. It is also evident from the member and pensioner survey findings that South Africans are not ready to retire at the age of 65 and the problem is increasing on an annual basis (De

Villiers, 2014). There are, however, annual limits for tax purposes when investing in tax-free savings accounts, criteria for replacing and withdrawing from these accounts, and benefits in terms of the returns that would not be subject to any of the related taxes [no income tax on the interest earned, no dividends tax and no capital gains tax] (National Treasury, 2014; Le Roux & Hannah, 2015). Access to these funds is not restricted as in the case of retirement funds, which makes it very tempting to individuals to utilise in emergencies. It is therefore better to have a separate investment account that would serve as an emergency fund and to utilise the tax-free savings account only for additional retirement savings that should not be used except in exceptional cases and where individuals have no other option (Le Roux & Hannah, 2015) (section 4.3.2.5).

Despite the extent of savings options available to individuals and initiatives to address low levels of retirement savings, there are also the uncertainties that are linked to the future against which individuals should buffer themselves. They would therefore also have to make provision for an emergency fund that would cover their expenses for a three to six-month period, the benchmark that is used by the majority of experts in the field of personal finance, to deal with issues such as sickness, job loss, economic downturn or any other emergency (section 4.3.2.5). The provision for the emergency fund is over and above the provision that is made for retirement. Setting up an emergency fund could in some instances decrease the need for individuals to utilise some of their retirement savings to deal with unplanned expenses, as the funding of these expenses from their retirement accounts could have several negative financial consequences in the future, such as retiring from the formal sector with insufficient retirement provision. The emergency fund would contribute towards financial stability at a micro level, but it would also increase the stability of the macro economy (National Treasury, 2004; Lusardi, 2010; Taylor, 2010). Each individual's needs would determine the extent of the emergency fund amount that would best suit their financial needs.

Identify types of investment vehicles

Retirement funds are accumulated by investment and investment planning vehicles. These two vehicles form the heart of what retirement planning is all about, making it the active and ongoing part of retirement planning, as it requires individuals to invest and manage their retirement savings. It is thus not surprising that the major part of most individuals' investor portfolios is dedicated to building up a pool of funds for their retirement (Joehnk *et al.*, 2011).

Investment planning is the vehicle that drives the entire process of building up individuals' retirement funds. It requires active and ongoing involvement from individuals when investing and managing their individual retirement fund (Joehnk *et al.*, 2011; Keown, 2013; Wynn *et al.*, 2013). Regardless of the fact that most individuals are saving too little towards their retirement, they are also inclined to invest these funds in a far too conservative manner by making use of low-yielding fixed-income securities to invest a large portion of their retirement savings. Despite the fact that one should never speculate about something as valuable as retirement savings, it is also wrong to keep away from risk altogether. Incorporating a reasonable amount of risk into an investment program is acceptable, as long as individuals are compensated in an appropriate manner by receiving the expected return that they deserve for taking on that level of risk. On the other hand, individuals who are very cautious as to where to invest their retirement savings sometimes end up paying much more for the investment than what they are getting out. Accepting low levels of return on retirement savings has a significant impact on their long-term accumulation, as it could mean the difference between just coping financially and living comfortably in retirement (Joehnk *et al.*, 2011). Individuals should therefore also take cognisance that there are various investment choices available to them in the market, which could be categorised into five asset classes (*"group of assets with similar risk/return characteristics and behave similar when responding to changes in economic factors"*) (Charupat *et al.*, 2012:186), namely real estate, commodities, equity, fixed income (bonds) and cash equivalents. Individuals would therefore have to decide how they would allocate their investments among the

different asset classes in order to take advantage of the imperfect relationships that exist among them (Charupat *et al.*, 2012).

The extent of available options, some of which are job or occupation related, is endless and thereby increases the complexity of making general statements about retirement plans that would be applicable to everyone. In order to fill the gap between the funds that are currently available and the funds that are required to fund retirement, additional savings (either private, through individual retirement arrangements (IRAs) or corporate benefit plans) have to be put in place to address the financial need (Burns, 2013). A safer option for retirement saving would be for individuals to make use of tax-favoured retirement plans, as this would leave them with fewer out-of-pocket funds and simultaneously assist them to achieve their retirement savings goals. The majority of retirement plans are tax deferred and would increase with the earnings on the related investments without being taxed until the point of withdrawal from the specific retirement plan (Burns, 2013; Keown, 2013). Therefore, deciding among the different types of investment vehicle available to individuals in the process of saving for retirement would require consideration given to their personal circumstances, risk tolerance levels (section 4.3.3.1), risk/return levels and how to best diversify their investment portfolio to benefit and to address their retirement needs in the most appropriate manner.

Table 2.5 sets out what is involved in putting the retirement plan into action and saving towards retirement over the three retirement phases.

Table 2.5: Put retirement plan into action and save towards retirement over the three retirement phases (step 5 of the practical retirement planning process)

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Duration of phase (age)	Through age 54	Age 55 to 64	Age 65 and over
Terms of financial goals	Long-term	Intermediate	Short
Risk tolerance level applicable to different savings options	Higher risk level	Lower risk level	Lower risk level

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Approach to savings options/ Investment vehicles	Aggressive	More conservative	Conservative
Investment program	<p>When compiling the investment program, individuals' feelings regarding important investment factors such as income, risk (section 4.3.3.1), growth and liquidity as well as their future aspirations, plans and goals should be taken into account (Dearborn Financial Services, 2004; Joehnk <i>et al.</i>, 2011; Keown, 2013).</p> <p>Individuals would therefore have to carefully consider, based on the rate of return and other factors, such as risk tolerance, that are applicable to the different savings options where they would like to invest their retirement savings.</p> <p>Investments with more risk attached could be taken by younger individuals who are far from retirement (Madura, 2011).</p>	<p>In contrast, individuals that are close to retirement should switch to investments that are more conservative in nature. Individuals who want to accumulate a higher level of retirement savings and who are investing should avoid investing in mutual funds with high expense ratios (Madura, 2011).</p>	<p>In the post-retirement years, individuals would just need to formulate an investment program that is less risky, yet would still address their retirement needs.</p> <p>At the final step of the retirement planning process in the post-retirement phase, individuals should do a proper re-assessment of their retirement goals and they should have simultaneously determined the required level of the annual retirement income that would be needed to fund their re-assessed retirement goals in the future (Joehnk <i>et al.</i>, 2011; Keown, 2013).</p> <p>In the post-retirement phase, individuals would also need to determine the extent of the tax free lump sums that would be available to them, which portion thereof they would be utilising immediately, and which portion thereof would be used to purchase annuities.</p>

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Investment program			The extent of the lump sums would however be affected by the type of retirement fund individuals belong to because members of a defined contribution provident fund can take all their pension benefits as a lump sum, whereas with a defined benefit pension, defined contribution pension and retirement annuity funds only one-third can be taken as a cash lump sum. Individuals should also bear in mind that all lump sums, irrespective from which retirement fund/s they are taken, would be subject to taxation (after considering the initial exemptions). During this whole process individuals would also have to decide on the type of annuities that would best suit their financial needs, as the annuities would now become their main source of income (Cameron, 2004; Botha <i>et al.</i> , 2011; Joehnk <i>et al.</i> , 2011; Keown, 2013).

(Source: Author's own)

2.5.4 Summary of the activities that should form part of each step in the practical retirement planning process

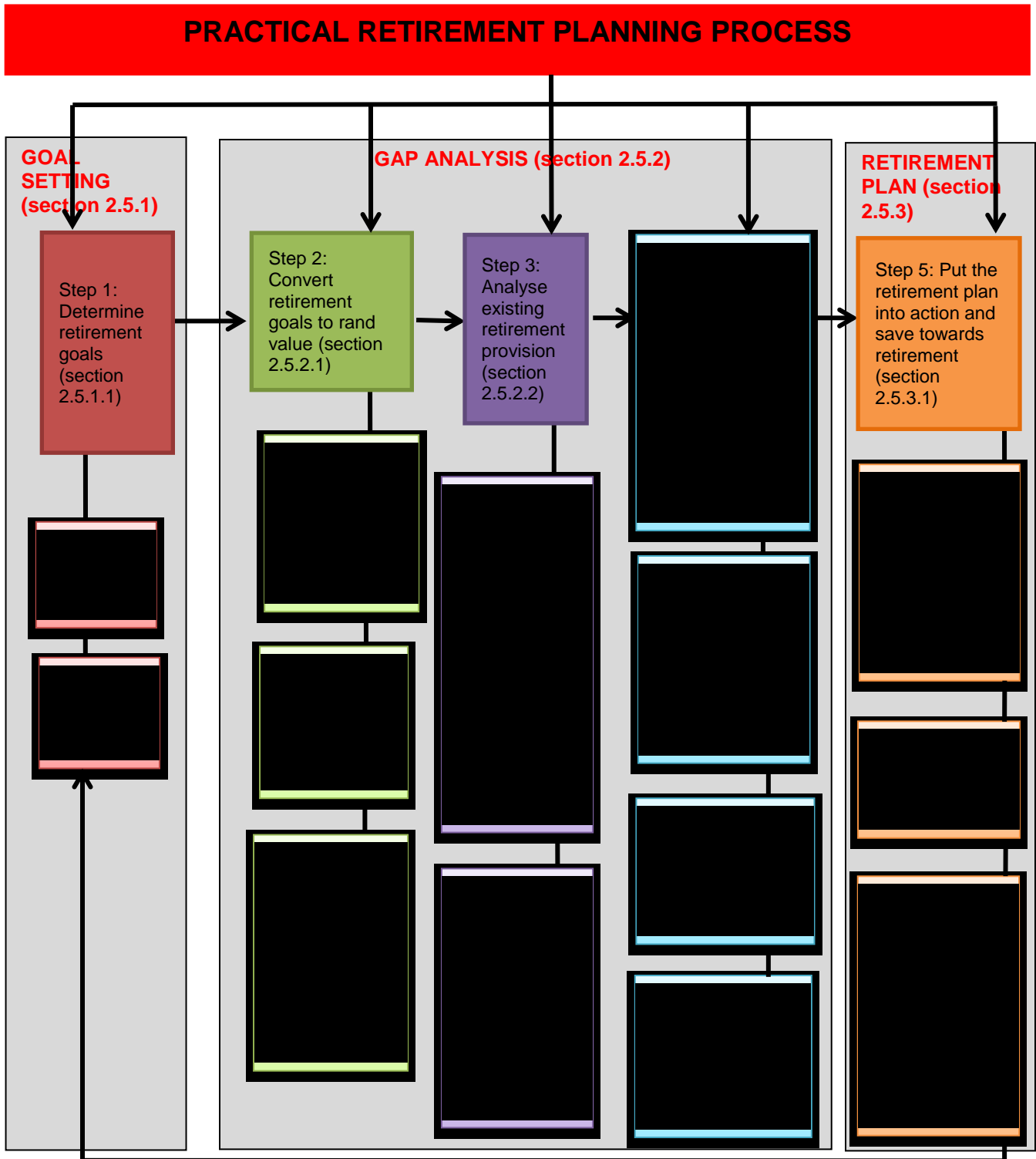
Section 2.5.1 to section 2.5.3 provided a discussion of what individuals are required to do within each step of the practical retirement process across the three retirement

phases. This is the heuristic model for the purpose of this study. Figure 2.14 provides a summary of what individuals are required to do within each of the practical retirement planning process steps, which were combined into the three core retirement planning areas, namely goal setting, doing a comprehensive gap analysis, and formulation of a retirement plan.

Among the three phases, the five steps stay basically the same; only the way in which it is approached by individuals differs slightly when incorporating the element of time and its impact on their overall retirement savings.

The methodology that was used to analyse the data for this study will be discussed in the following chapter. Since the data from the Financial Services Board study was used for the purpose of this study, their methodology will also be reviewed.

Figure 2.14: Summary of what individuals should do within each of the practical retirement planning process steps



(Source: Author's own)

CHAPTER 3

RESEARCH METHODOLOGY

3.1. INTRODUCTION

The importance of retirement planning with regard to the three core areas in the practical retirement planning process within each of the three retirement phases was illustrated in Chapter 2, where the first and second research sub-problems were addressed by means of a literature review. This chapter will focus on the research methodology that was used for this study. Chapter 4 will address the third research sub-problem, which requires an analysis of the South African FSB survey's data in order to do a comparison of the possible differences that might exist across the three retirement phases with regard to the three core areas of the practical retirement planning process.

The purpose of this chapter is to provide a description of how the researcher went about conducting the research (Roodt & Fouché, 2004). This chapter sets out the research approach, design and method (section 3.2) and the research process (section 3.3) that was followed in this study in order to determine whether there are differences across the three retirement phases with regard to the three core areas of the practical retirement planning process. This chapter will conclude in section 3.4 with the ethical considerations that were applicable to this study.

3.2. RESEARCH APPROACH, DESIGN AND METHOD

The following section describes the research approach, design and method that were applicable to this study. A quantitative research approach was followed, which was based on the secondary data from the South African FSB national baseline survey. The questionnaire used by the South African FSB to conduct the national baseline survey was designed in such a way as to facilitate the quantitative data collection and therefore made it possible to quantitatively analyse the final list of questions for the purpose of this study. Section 3.3 contains detail regarding the final list of questions that were selected for the purposes of this study and the process that was followed in order to do the comparison across the three retirement phases. According to Aliaga and Gunderson

(2000), quantitative research entails describing phenomena that relate to the collection of numerical data for analysis purposes by using mathematical methods. The phenomena of this study are the possible differences that exist across the three retirement phases within the three core areas of the practical retirement planning process.

A research design includes all the decisions taken by a researcher when planning for a study (De Vos, Strydom, Fouché & Delport, 2011). These decisions are driven by the specific study area, which part of the population would be affected by it, the research methods that would be used as well as the purpose for which it is intended (Babbie, 2010). The research design that was used for this study was the same questionnaire that was used by the South African FSB in order to conduct the national baseline survey, but only questions related to the aims of this study were selected. The data that was constructed from the questionnaire made the application of quantitative research methods possible.

This study therefore made use of quantitative research methods in order to answer the third research question relating to the identification and comparison of possible differences that could exist over the three retirement phases within the three core areas of the practical retirement planning process. However, in order to identify the existence of possible differences, both descriptive and inferential statistical analyses were performed on the selected data from the South African FSB's national baseline survey (Roberts *et al.*, 2012). Section 3.3 contains detail regarding the final list of questions that were selected for the purposes of this study and the process that was followed in order to do the comparison of the possible differences that exist across the three retirement phases. The foundations of quantitative research methods are also linked to certain underlying philosophies and underlying paradigms (Muijs, 2010).

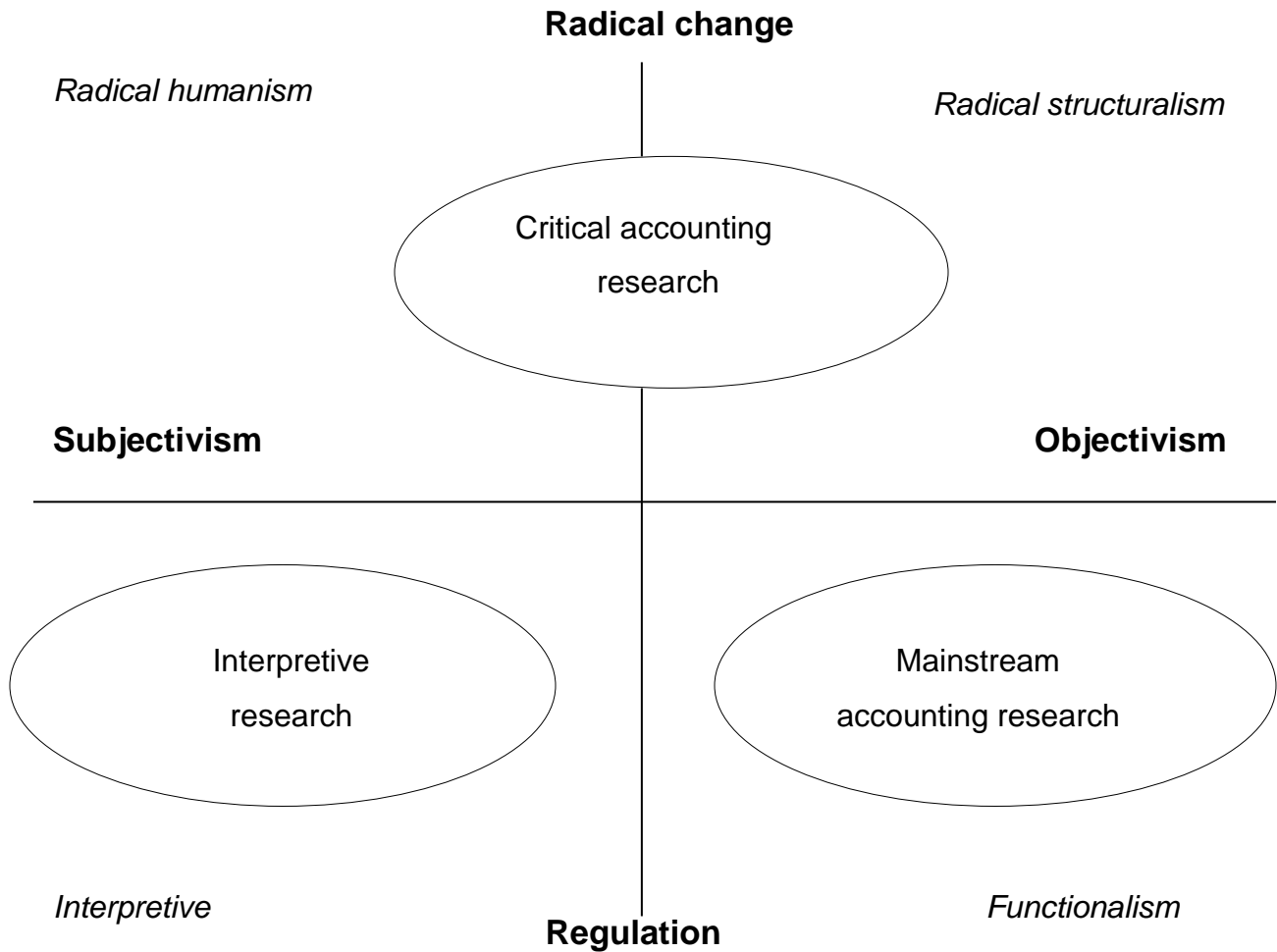
Researchers align themselves to different underlying philosophies and worldviews within certain paradigms (also referred to as epistemologies). The worldview for quantitative research is linked to the paradigm of either being a 'realist' or sometimes a 'positivist'. Realists take the view that research reveals an existing reality. They believe

that 'the truth is out there' and therefore the job of the researcher is to use objective research methods to reveal that truth and to decrease the level of involvement of the researcher in the research. Positivists, however, take the most extreme worldview, namely that the world works with 'fixed laws of cause and effect'. When testing the theories about these laws, they use scientific thinking to provisionally either accept or reject these theories, but ultimately the truth about how the world works would be understood (Muijs, 2010).

However, many researchers take a pragmatist approach to their research, and use different methods in an effort to answer their research questions. In some cases, quantitative research might be the result of this approach to research, for example in cases where a quantitative answer needs to be provided for a research question, the generalisation of findings to a population, or mathematically testing of a theory. Pragmatism was developed as a philosophy in the USA by philosophers such as Peirce (1992, 1999), Dewey (1999) and James (1902, 1975, 1979, 1981). The truth and the meaning behind any idea that is a function of its practical outcome(s) represent one of the key arguments behind the philosophy of this school. Absolutism, which is key to most other philosophical beliefs, is strongly opposed by the pragmatists (Muijs, 2010; Baker & Schaltegger, 2015). As this study provided quantitative answers to the third research sub-problem and generalised findings regarding the South African population, the pragmatist approach was appropriate.

It follows that the positioning of research within the accounting and finance fields requires the identification of a research paradigm. It also necessitates the views pertaining to knowledge as the epistemology and the views of reality and the world as the ontology in the present study. In the accounting and finance fields, critical accounting research, interpretive research and mainstream accounting research have been identified as the three generally accepted paradigms (Hopper & Powell, 1995). However, Ryan, Scapens and Theobald (2002:40) adapted these paradigms as illustrated in Figure 3.1.

Figure 3.1: Finance and accounting paradigms



(Source: Ryan et al., 2002:40)

In the taxonomy of accounting and finance research, interpretive research is involved in the comprehension of the social world, which includes work that endeavours to comprehend the social environment of accounting and finance practices (Ryan et al., 2002). Interpretive research belongs to the regulation and subjectivism categories of accounting research. This area of finance is also included in the scope of interpretive research.

Social sciences made their appearance during the second half of the 19th century, and started the shift back to the ontological view of realism, which assumes that the physical world is real, with the world being perceived as external and existing independently from

our thoughts. The epistemological view was then transformed into one that was more 'positivistic' where, according to the scientists, experimentation and observation were key elements to obtaining more knowledge about the true nature of the world (Scholten, 2015; Crowther & Lancaster, 2008).

Application to natural phenomena was mostly done via the realistic, positivistic view. However, as development progressed to the point where the social sciences became distinct scientific fields, the applicability of the realistic view to the social and psychological phenomena became questionable. It was supported, however, by the objectivist view, which is an ontological position of realism. 'Intelligence' and 'social cohesion', such as psychological and social phenomena, are independent, external properties where the existence of these properties is separated from our mental representation (Scholten, 2015).

The data collection on behalf of the South African FSB was done via face-to-face interviews with a representative sample of South Africans to gain knowledge about their financial literacy levels. This data was used as secondary data for the purposes of this study. The responses to the questions could be counted and were therefore measurable, which enabled the data to be analysed over the four core areas of financial literacy. Therefore, the data collected by the South African FSB that was used as secondary data for this study was analysed by using quantitative statistical techniques and then interpreted through an objective approach in order to do the necessary comparisons over the three retirement phases. As this is a quantitative study, it could be associated with the objectivist-positivist view (Scholten, 2015). Reality is an absolute, according to objectivists, as facts are facts despite what anyone might desire, fear or hope. They further state that there is a world that is independent of our minds which controls our thinking, which should relate to our thoughts and should it be true, it would be of practical use when protecting our rights, living our lives and pursuing our values (Biddle, 2016). The view of the positivist is as described above.

Comparative research was found to be the best research approach for this study, as its aim was to examine the differences between two or more groups (the independent

variables) with one or more dependent variables (Laerd Dissertation, 2015). In the case of this study there are three groups, the pre-retirement, close-to-retirement and post-retirement phases, which are the independent variables as defined in Chapter 2 (section 2.4), with the dependent variable being all the selected questions from the South African FSB survey as highlighted in Table 3.4. These questions were selected based on their applicability to this study and the answers to these questions were therefore used to test for possible differences between the three retirement phases. The results relating to each of the identified questions are compared over the three retirement phases to determine whether there are differences and how these differences affect the three core areas of the practical retirement process as discussed in Chapter 2 (sections 2.3 and 2.5). This process of comparison and interpretation also dealt with factors that could influence individuals' financial ability and financial decision making when doing retirement planning across the three phases of retirement as well as their understanding of the process. In doing all of this, the third research sub-problem was addressed, with benchmarking the results against the heuristic model. Section 3.3 briefly indicates the research process that was followed in analysing the secondary data.

3.3. RESEARCH PROCESS

The research process followed a step-by-step approach in addressing the third research problem, namely the identification and comparison of the possible differences that could exist over the three phases of retirement within the three core areas of the practical retirement planning process. The steps included in the research process are the following:

- Step 1: Literature review to construct a heuristic framework
- Step 2: Inspection of the South African FSB questionnaire for utilisation in this study
- Step 3: Description of the process followed by the South African FSB
- Step 4: Description of the data preparation process followed in this study
- Step 5: Selection of relevant questions
- Step 6: Data analysis.

Each of the steps will now be discussed in detail.

Step 1: Literature review to construct heuristic framework

A heuristic model was developed from the literature review that was conducted for the purposes of this study as described in Chapter 2. This was done in order to evaluate the data from the South African FSB survey over the three retirement phases in order to identify potential expected differences and to establish what data would be required for purposes of this study. According to Cronje (2007) and Venter (2008), the review of literature is an evaluation process that is performed on the most credible, recent and relevant scholarship within the area of interest. The reasons for the importance of reviewing the relevant scholarship are to ensure the following:

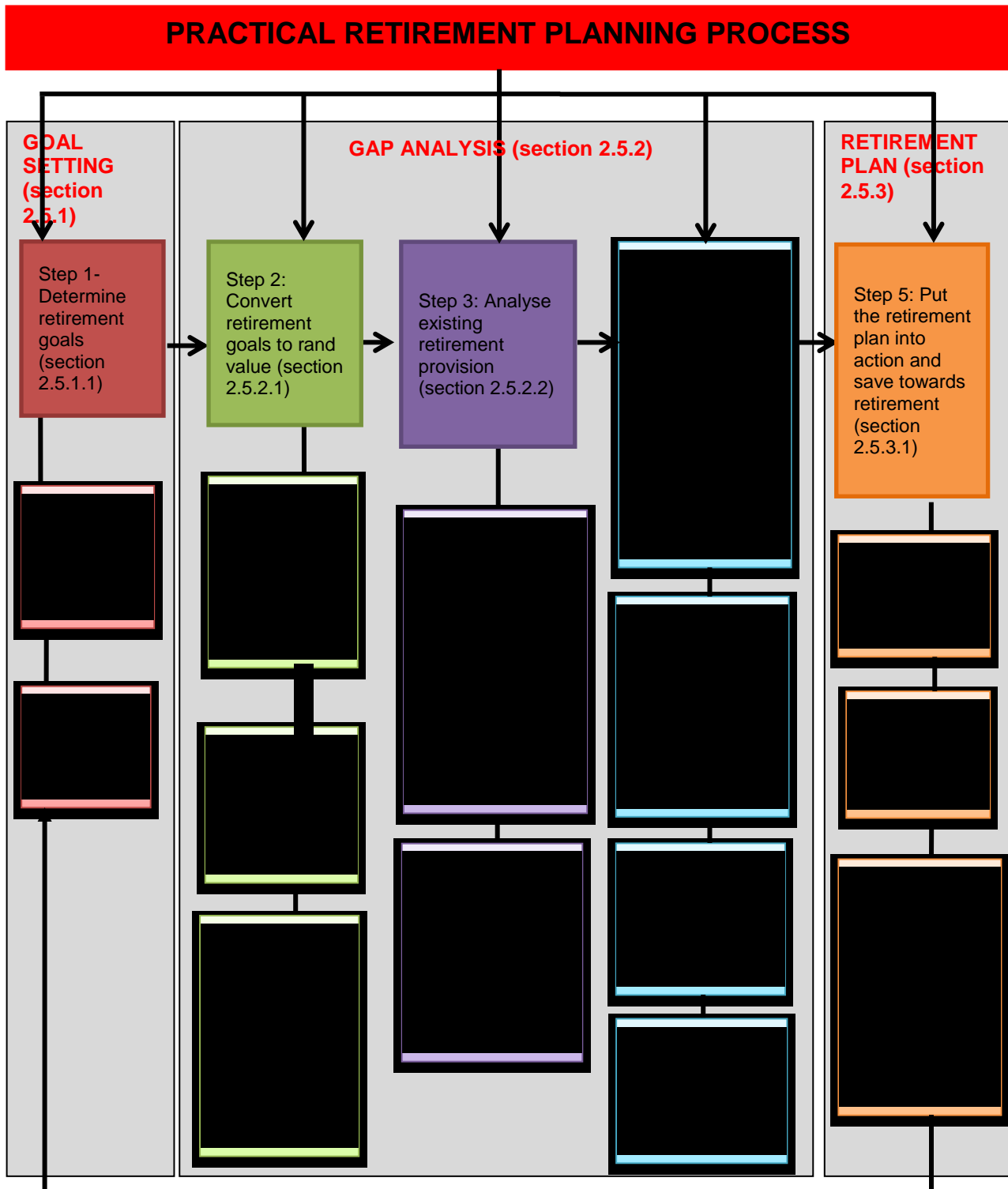
- no duplication of previous studies;
- coverage of the most recent and authoritative theorising within the area of interest;
- identification of the most widely accepted empirical findings within the area of interest;
- identification of reliable and valid instruments; and
- utilisation of the most widely accepted definitions of key concepts within the area of interest (Cronje, 2007; Venter, 2008).

As part of the literature review process, national and international subject journal articles, accredited journal articles, theses, dissertations and relevant books were evaluated. Authoritative references were mostly obtained through searches on the electronic library (i.e. Oasis) of the University of South Africa (UNISA). Access to electronic books and journals was obtained through the UNISA library.

The literature review results of this study addressed both the first research sub-problem, namely the identification of the five steps within the three core areas of the practical retirement process (sections 2.3 and 2.5) and the second research sub-problem, which defined the three retirement phases (section 2.4). The heuristic model was based on the results of the literature review and provided a holistic view of the study. The heuristic

model was also applied to the empirical data collected by the South African FSB (section 3.3) in order to determine whether the third research sub-problem, namely the identification and comparison of possible differences that could exist over the three retirement phases within the three core areas of the practical retirement planning process, would be achievable. Chapter 2 concluded with the heuristic model as illustrated in Figure 3.2. It shows the steps within the practical retirement planning process that have to be applied in all three the retirement phases. It is repeated here for the convenience of the reader.

Figure 3.2: Summary of the steps in the practical retirement planning process applicable to each of the retirement phases



(Source: Author's own)

Step 2: Inspection of the South African Financial Services Board's questionnaire for utilisation in this study

The questionnaire used by the South African Financial Services when conducting their national financial literacy baseline survey was visually inspected in order to determine whether it contained questions that would be appropriate for utilisation in this study in order to address the third research problem. It was found that the South African FSB's survey contained questions that could relate to the steps in the practical retirement planning process. The fact that the age of each respondent was required during the South African FSB's survey, as they had to be 16 years and older, made it possible to group the respondents according to the age categories relevant to the three retirement phases that are applicable to this study. Furthermore, some of the questions included in the four core areas of financial literacy and in the demographic information could contribute towards providing a better understanding of South Africans' background as well as their attitude towards planning for retirement and the making of financial decisions that could potentially affect their financial ability to save towards retirement.

Based on the elements mentioned above, the South African FSB's national survey was deemed appropriate for the secondary data analysis to address the third research sub-problem of this study, pending further diagnostic analysis (see step 4 below).

Step 3: Description of the process followed by the South African Financial Services Board

The South African FSB, who as part of its mandate promotes financial education, in partnership with National Treasury (NT), wanted to get a better understanding of the current financial literacy levels of individuals living in South Africa. It was done by conducting the national financial literacy baseline survey. The survey was executed by the HSRC on behalf of the South African FSB during 2011 (Roberts *et al.*, 2012). The process followed by the South African FSB is described below.

A. Questionnaire design and testing

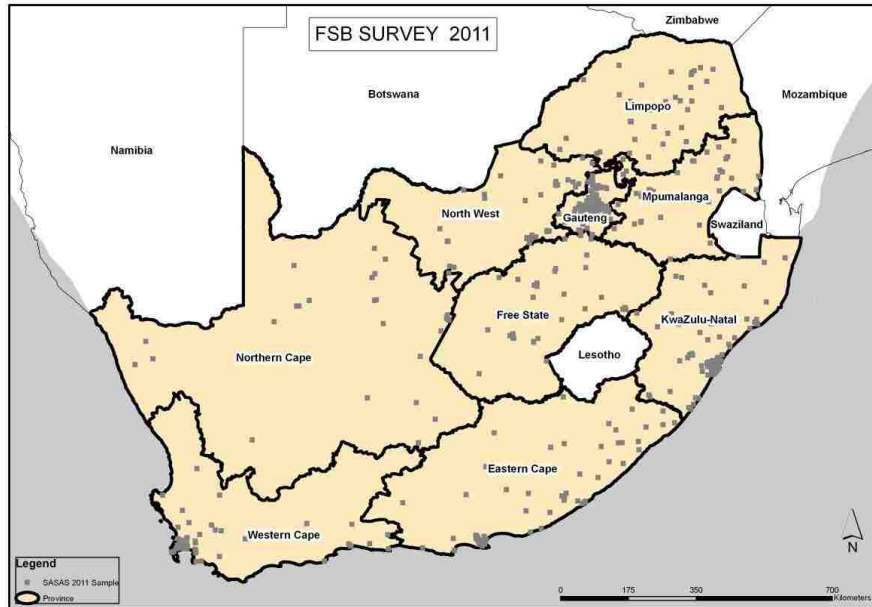
The South African FSB's survey was conducted using a structured questionnaire. The HSRC drafted a questionnaire on which a pilot study was performed and completed and upon which feedback was provided to the OECD in order to design their final questionnaire. After finalisation, the questionnaire was developed and translated into six languages to ensure translation consistency. Hard copies of the translated templates were issued to the fieldworkers to ensure consistency of translations among the various language groups. Together with the questionnaire, a training manual was developed to address and explain the difficult concepts in the questionnaire (Roberts *et al.*, 2012).

B. Sampling design

A national representative sample of South Africans aged 16 years and older was selected for the South African FSB's survey. To achieve this required a multifaceted sample design that included stratification and multi-stage sampling procedures. The explicit stratification variable was based on factors such as provinces, people living in different types of areas (for example informal settlements, farmlands, formal urban, and traditional areas) and urban/rural population. Implicit stratification was based on the geo-demographic categories that were established by the HSRC from the 2001 national census data, which also served as a representation in terms of South Africa's ethnic and cultural diversity. The sampling unit for the South African FSB's survey was based on 500 Enumerator Areas according to the 2001 census data, which were selected throughout South Africa.

Seven households or visiting points were identified within each of the 500 enumerator areas, which in total amounted to 3 500 households or visiting points that took part in the survey. Figure 3.3 is indicative of the 500 enumerator areas as well of their locations within the nine provinces as used in the survey (Roberts *et al.*, 2012:5).

Figure 3.3: A graphical representation of the 500 enumerator areas



(Source: Roberts et al., 2012:5)

Upon selection of a household, a member aged sixteen or above was selected randomly as a respondent within that household. The Kish grid, which is used in cases of equal-probability sampling, was used to select the member on a random basis where there was more than one individual in a household suitable for sampling. The final sample totalled 2 972 respondents, which included respondents from all nine provinces (Roberts et al., 2012).

C. Data collection and capturing

The fieldwork for the South African FSB's 2012 survey was conducted between September 2011 and October 2011. In all parts of the country there was a network of locally based fieldwork supervisors who assisted with the data collection. Fieldworkers were employed for this project based on their experience together with a thorough understanding of the local areas (Roberts et al., 2012).

An external company was responsible for the data-capturing function, which was monitored by the HSRC's Data Management Centre, and the data was subjected to 100

percent verification as required by the HSRC. All variables were therefore captured twice to achieve the 100 percent authentication requirement. The Data Management Centre commenced with cleaning the data after it was received. Data was subjected to checks and edits to test it for acceptable ranges, filter instructions, logical uniformity and for the reliability of established variables (Roberts *et al.*, 2012). Table 3.1 is a representation of the adapted sample realisation rates that were compiled after the completion of the data cleaning process.

Table 3.1: Sample realisation rates

	Ideal sample	Realised sample	% Realisation
Eastern Cape	420	349	83
Free State	252	221	88
Gauteng	721	576	80
KwaZulu-Natal	595	582	98
Limpopo	280	273	98
Mpumalanga	266	228	86
North West	266	214	81
Northern Cape	203	154	76
Western Cape	497	375	75
TOTAL	3 500	2 972	85

(Source: Roberts *et al.*, 2012:8-9)

D. Validity and reliability of the data collected

Throughout the data collection process, quality control procedures were conducted on a continuous basis to ensure the validity and reliability of the data. The quality control procedures performed were as follows:

During the fieldwork phase and as another quality control measure, selected areas were randomly visited by researchers from the HSRC who worked with the fieldworkers for a certain duration of time to confirm adherence to all the ethical aspects, proper administration of the research instrument, accurate selection of households and respondents within the households and full comprehension of the aim of the questions

included in the questionnaire. Two additional measures were used to monitor the quality of the data, namely performing field back checks in eight of the nine provinces and the subsection of ten percent of the total sample to telephonic back checks (Roberts *et al.*, 2012).

The statistician was provided with the final data set for benchmarking and weighting purposes. As indicated in Table 3.2, 2 972 individuals were interviewed during the study. The total was then weighted to the 2010 mid-year population estimates as published by Stats SA and represents South Africans who are aged sixteen and above. The HSRC was approached by the South African FSB in the same year to conduct the survey (Roberts *et al.*, 2012:9-10).

Based on the thorough process followed by the South African FSB, it can thus be concluded that the data is valid and reliable and that it was ethically obtained. Based on the process followed above and with compliance to validity, reliability and ethical issues, the secondary data relating to this survey could be used for the purposes of this study. The data relating to the South African FSB's survey was therefore obtained for use in this study. Because it is secondary data, certain steps had to be taken in order to prepare the data so that it would meet the needs of this study. This will be further elaborated on in the following section.

Step 4: Description of the data preparation process followed in this study

The data received from the South African FSB contained the actual age of the respondents. Making it applicable for this study required that the outliers had to be removed, as indicated above, because their ages were inappropriate to this study and all the respondents younger than 18 had to be re-coded as missing values, as the survey was based on respondents aged 16 and older.

Through visual inspection of the frequency tables of the age variable included in the survey, three outliers were identified that indicated the age for the particular respondents as 2, 4 and 4 years respectively, which could have been due to finger trouble during the data capturing process. In an attempt to clean the data for the

purposes of this study, these respondents' answers were removed from the data set. The effect of this was that the number of initial respondents that formed part of the survey was reduced from 2 972 to 2 969. Table 3.2 depicts the adjusted number of respondents, the related sample as well as weighted population description.

Table 3.2: Sample description (unweighted and weighted)

Demographic variable	Unweighted N	Percent	Weighted N	Percent
Total	2 969	100	33 715 436	100
Province				
Western Cape	375	13	3 667 183	11
Eastern Cape	349	12	4 432 274	13
Northern Cape	154	5	743 436	2
Free State	220	7	1 888 152	6
KwaZulu-Natal	582	20	6 934 181	21
North West	214	7	2 168 448	6
Gauteng	575	19	8 004 633	24
Mpumalanga	227	8	2 381 230	7
Limpopo	273	9	3 495 899	10
Sex				
Male	1 302	44	16 018 285	48
Female	1 666	56	17 691 550	52
Age group				
16-17 years	61	2	1 150 607	3
18-24 years	462	15	7 867 099	23
25-34 years	729	25	8 626 948	26
35-44 years	623	21	6 209 217	18
45-54 years	465	16	4 405 953	13
55-64 years	335	11	3 050 057	9
65+years	288	10	2 379 431	7
Population group				
Black African	1 857	62	25 849 913	77
Coloured	450	15	3 204 050	9
Indian	285	10	967 106	3
White	376	13	3 688 766	11
Household income				
Low	1 329	49	15 752 672	51
Average	1 277	46	13 833 297	44
High	136	5	1 584 490	5

(Source: Author's own)

Table 3.2 indicates the demographic characteristics of the sample as weighted to the South African population. The highest number of respondents was recorded in KwaZulu-Natal (582) and the lowest in the Northern Cape (154). However, more female respondents (1 666) took part in the South African FSB's survey than male respondents (1 302). The black African population group had the highest number of respondents, namely 1 857, and the Indian population group had the lowest, with 285 respondents.

In order to create the three retirement phases on the South African FSB's dataset, a new age variable had to be created, which grouped the respondents aged 18 to 54 years in the pre-retirement phase, respondents aged 55 to 64 years in the close-to-retirement phase, and those respondents aged 65 and above in the post-retirement phase. Table 3.3 indicates how the respondents were distributed over the three retirement phases following the grouping for the purposes of this study. These percentages were then verified with Stats SA's 2011 mid-year population estimates in order to determine whether they were still nationally representative after making the adjustments for both the outliers and respondents younger than 18. It was found representative, which was a good indication that this study could progress to the relevant data analyses.

Table 3.3: Distribution of respondents over the three retirement phases

	Age group	Weighted population percentage (using 2010 mid-year population estimates) %	Statistics South Africa - 2011 mid-year population estimates %
Pre-retirement	18-54	83.2	82.5
Close-to-retirement	55-64	9.3	9.5
Post-retirement	65+	7.5	8.0
Total		100.0	100.0

(Source: Author's own; Statistics South Africa, 2011)

Based on the process conducted by the South African FSB as well as the national representability of the data across the three retirement phases, one can therefore

conclude that the secondary data is reliable and valid and complies with the necessary integrity requirements for the purposes of this study.

Step 5: Selection of relevant questions

The initial selection of questions from the South African FSB's questionnaire that could be used for this study required a thorough reviewing process that entailed that each of the questions had to be subjected to the elements included in the core areas of the retirement planning process that formed part of the heuristic model of this study. This process also included the reviewing of the demographic information that could provide some insight into the background of respondents that could influence their financial ability and financial decision making when doing retirement planning across the three phases of retirement. By a process of elimination, questions were identified that would best address some of the elements in the core areas of the practical retirement planning process.

These questions were subjected to the running of frequencies in SPSS V23 to determine the number of missing values after the recoding was done (per retirement phase) in order to determine whether the question would contribute positively towards this study. All the 'don't know', 'refusals' and 'irrelevant answers' were re-coded to reflect as missing values, since the total of all missing values had to be determined. The missing values were used as the main criteria for the inclusion or exclusion of questions into the final list of questions that would be analysed for this study. The norm for accepting questions for data analysis purposes varies regarding missing values. This study allows for rejecting variables with missing values in excess in 10 percent. There are, however, certain exceptions that could result in a deviation from the norm leading to including variables with missing values higher than 10 percent. There were some instances where a question reflected missing values higher than 10 percent, but due to the importance of information that could be provided and the contribution that it was anticipated to make to the study, it was included. This process was only applied to all the questions that were initially selected for this study and not to all of the questions in the South African FSB's survey.

However, two questions were included as part of the final list of questions where individuals were allowed to indicate more than one option (question 65 and question 40), depending on the number of investment/savings products they have in place as well as number of products and/or options that are included in their financial plans for retirement. This required the creation of two new variables for purposes of this study: number of investments or savings products held (question 65), and number of products/options included in financial plan for retirement (question 40). The responses to each of the options available under these two questions were grouped together to reflect the combined responses per option.

In order to create the three retirement phases on the South African FSB's dataset, a new age variable also had to be created, which grouped the respondents aged 18 to 54 years in the pre-retirement phase, respondents aged 55 to 64 years in the close-to-retirement phase, and those respondents aged 65 and above in the post-retirement phase.

Table 3.4 presents all the questions that were initially regarded as relevant, the percentage of missing values, and comments explaining the basis for the selection or rejection of the question for this study. The results for the general and demographic characteristics questions will be presented in section 4.2, which deals with descriptive statistics, and the results of the analysis of the questions relating to the three core areas of the practical retirement planning process will be presented in section 4.3, which deals with inferential statistics.

Table 3.4: Initial questions selected versus final list of questions (after consideration of the missing values)

	Detail of question with options	Missing values (%)	Comments
GENERAL QUESTIONS			
6	How often do you stay within your budget? <i>Always / Usually / Sometimes / Never</i>	57.4%	<p>Individuals are required to have a certain level of financial knowledge in order to make sensible financial decisions that could affect their financial well-being in the future.</p> <p>Having a budget and sticking to it as far as possible could assist individuals when formulating their retirement plans. This includes creating a savings plan that would contribute to a certain standard of living during retirement.</p> <p>Based on this, questions 6 and 26 were excluded for the purposes of this study, due to the high level of missing values in these questions.</p> <p>Questions 15 and 31 were included, although their missing values both marginally exceeded the maximum accepted level of 10%, as they added more value in establishing whether individuals have budgets and how accurate they are applying them in practice or what the status is of their</p>
15	How accurately do you know how much money you have available to spend. Do you....? <i>have no idea at all</i> <i>know roughly, but not within R500</i> <i>know within R500</i> <i>know within R100</i> <i>know within R50</i> <i>know within R10</i> <i>know within a rand or two</i>	10.7%	
26	During the past 12 months, did you...? <i>Save money from your income</i> <i>Just get by on your income</i> <i>Spend some of your savings</i> <i>Spend some of your savings and borrow money to get by</i>	23%	

	Detail of question with options	Missing values (%)	Comments
27	<p>Sometimes people find that their income does not quite cover their living costs. In the last 12 months, has this happened to you?</p> <p>Yes / No</p>	3.8%	<p>financial position. Answers to both these questions would affect individuals' financial decision-making and financial ability to save towards retirement.</p> <p>Both questions 27 and 29 were included as they were related to each other and provide more insight into how some individuals deal with financial crises and the financial effect that it could have on retirement savings. This is despite the fact that question 29 had 57.7% missing values. The fact is that question 29 would only have been answered by those respondents who answered "yes" to question 27 (45.8% of the population).</p>

	Detail of question with options	Missing values (%)	Comments
29 (only applicable to the "yes" answers of Q27)	<p>Of the things you mentioned, which does your household rely on the most?</p> <p><i>Draw money out of savings or transfer savings into current account</i></p> <p><i>Cut back on spending, spend less, do without</i></p> <p><i>Sell something that I own</i></p> <p><i>Work overtime, earn extra money</i></p> <p><i>Borrow food or money from family or friends</i></p> <p><i>Borrow from employer or salary advance</i></p> <p><i>Pawn something that I own</i></p> <p><i>Take a loan from my savings and loans clubs</i></p> <p><i>Take money out of a flexible home loan account</i></p> <p><i>Apply for loan or withdraw on pension fund</i></p> <p><i>Use authorised, arranged overdraft or line of credit</i></p> <p><i>Use credit card for cash advance, to pay bills, buy food</i></p> <p><i>Take out personal loan from formal financial service provider</i></p> <p><i>Take out a payday loan</i></p> <p><i>Take out a loan from an informal provider or moneylender</i></p> <p><i>Pay my bills late; miss payments</i></p> <p><i>Other</i></p>	57.7%	
31	<p>In the next two years, do you think your household's financial situation will get better, stay the same, or get worse</p> <p><i>Get better / Stay the same / Get worse</i></p>	10.3%	

	Detail of question with options	Missing values (%)	Comments
39	At what age do you think people should begin to make a financial plan for their retirement?	12.1%	This question was excluded due to the high level of missing values. It was decided rather to use question 125 as it had a lower level of missing values and was related to the same concept.
102	Within the last five years, have you discovered that you have been paying for a financial product that was unsuitable? Yes / No	8.2%	Questions 102 and 103 were related to each other, but due to the low response rate, the South African FSB also indicated there might have been a flaw in these questions. There was +94% who indicated "no" to question 102, which also influenced the response rate on question 103. Therefore both these questions were excluded for the purpose of this study
103 (option 3,5 & 6)	What type of product was that? <i>Private pension, provident fund or retirement annuity</i> <i>Investment or savings policy</i> <i>Stokvel or umgalelo or savings club</i>	95.4%	
125	To what extent do you agree: The earlier you start saving for retirement, the better. <i>Strongly agree/agree/Neither nor/disagree/strongly disagree</i>	4.8%	This question was included as it had low missing values and reflected on the financial impact that earlier retirement savings could have on individuals' standard of living in retirement when implemented in their retirement plans.

	Detail of question with options	Missing values (%)	Comments
DEMOGRAPHIC CHARACTERISTICS OF RESPONDENT			
142	How many children under the age of 18 live with you? (0 – 12)	2.6%	Questions 142,147,150,152, 203, 204 and 205 were selected from the questionnaire to deal with the respondents' demographic characteristics that could possibly influence individuals' financial ability to save towards retirement as well as their ability to make sensible financial decisions. Question 204's level of missing values exceeded the maximum acceptable level of 10%, but due to the significant financial effect that irregular and unreliable income has on individuals' ability to save towards retirement it was included in the final list of questions that would be used for this study.
147	What is your current marital status? <i>Married - customary only</i> <i>Married - civil only</i> <i>Married - both customary and civil</i> <i>Widower or widow</i> <i>Divorced</i> <i>Separated</i> <i>Never married</i>	1.9%	
150	What is the highest level of education that you have ever completed? <i>(No schooling – Postgraduate degree)</i>	2.2%	
152	Which of these best describes your current work situation? <i>Self-employed for 30 hours or more per week</i> <i>Self-employed for less than 30 hours per week</i> <i>In paid employment for 30 hours or more per week</i> <i>In paid employment for less than 30 hours per week</i> <i>Looking for work</i> <i>Looking after the home</i> <i>Unable to work due to sickness or ill-health</i> <i>Retired</i> <i>Student or learner</i> <i>Not working and not looking for work</i> <i>Apprentice</i> <i>Other</i>	4.6%	

	Detail of question with options	Missing values (%)	Comments
203	Considering all the sources of income coming into your household each month, which of these categories does your household income fall into? <i>Low income / Average income / High income</i>	7.5%	
204	Which of the following describes how regular or reliable your household income is? <i>My income varies from week to week, month to month, or season to season</i> <i>Sometimes I do not receive my income on time</i> <i>Sometimes I [we] do not receive any money at all</i> <i>My income is regular and predictable</i>	14%	
205	What is the main source of income in your household? <i>Salaries and or wages</i> <i>Remittances</i> <i>Pensions and or grants</i> <i>Sale of farm products and services</i> <i>Other non-farm income</i> <i>No income</i>	8.1%	
CORE AREA 1: GOAL SETTING (STEP 1)			
19	How often you do these things or not: I set long-term financial goals and work hard to achieve them. <i>Always / Often / Some of the time / Seldom / Never</i>	6.6%	A few questions were selected from the questionnaire dealing with setting financial goals for retirement, which is the first step in the practical retirement process, but it also drives the whole retirement planning process.
41	Taking all sources of retirement income into account, how confident are you that your income will give standard of living throughout retirement <i>Very confident / Fairly confident / Not very confident / Not at all confident</i>	13.3%	Maintaining a certain standard of living is one of the main financial goals that individuals could have for retirement. With the standard of living playing such a significant role, individuals have to provide adequately during their working

	Detail of question with options	Missing values (%)	Comments
133	How well does each of the following statements apply to you: I put money aside for the future on a regular basis <i>Always / Very often / Fairly often / Sometimes / A few times / Hardly ever / Never</i>	1.7%	years by regularly putting money aside for the future and to do financial planning in order to sustain their pre-determined standard of living. Questions 19, 133, 134, 160, 162, 166 were included as they dealt with either setting goals or their current standard of living, achievements in life and financial security in the future, all being elements that are influenced by goals setting. Question 161, dealing with the respondents' health, was included as it could influence individuals' life expectancy as well as the extent of their retirement provision. The level of missing values in all these questions was below the acceptable level of 10%. Confidence levels in terms of the income to support a certain standard of living could be indicative of how financially prepared individuals are for retirement, simultaneously emphasising the importance of retirement planning. For this reason, question 41 was included in the final list of questions that would be used for this study despite of having 13.3% missing values.
134	How well does the following statement apply to you: I do financial planning for the future <i>Always / Very often / Fairly often / Sometimes / A few times / Hardly ever / Never</i>	2.5%	
160	How satisfied are you with your standard of living? <i>Completely dissatisfied (0) – Completely satisfied (10)</i>	1.6%	
161	How satisfied are you with your health? <i>Completely dissatisfied (0) – Completely satisfied (10)</i>	1.6%	
162	How satisfied are you with what you are achieving in life? <i>Completely dissatisfied (0) – Completely satisfied (10)</i>	1.5%	
166	How satisfied are you with your future financial security? <i>Completely dissatisfied (0) – Completely satisfied (10)</i>	1.6%	
CORE AREA 2: GAP ANALYSIS (STEP 2- 4)			
4	Which ONE of the following best describes the extent to which you personally monitor your regular expenses? <i>I don't keep an eye on expenses at all</i> <i>I keep my eye on expenses a bit</i> <i>Without keeping written records, I keep a fairly close eye on expenses</i> <i>I use written records to keep a close eye on expenses</i>	5%	In order to do the gap analysis, individuals have to convert their retirement goals into rands in order to determine their financial needs in terms of retirement by comparing it to their existing retirement provision and to calculate whether there is a shortfall.

	Detail of question with options	Missing values (%)	Comments
5	Do you have a household budget? Yes / No	5.9%	<p>In order to do this, individuals should be equipped with the necessary financial knowledge to be able to assess their financial position, making use of financial statements and budgets to be able to take stock of their current financial position. They should also be equipped with the necessary taxation knowledge to determine the levels of taxation that they would be exposed to when taking the different levels and sources of income into account within each of the retirement phases. The taxation expense could also influence the levels of retirement savings. Individuals' financial position as well as their financial life cycle could also affect their financial ability to provide for their retirement.</p> <p>The manner in which individuals deal with financial emergencies also influences their level of retirement savings and therefore stresses the importance of having an emergency fund to deal with these emergencies rather than delving into savings that are meant for retirement, hence the inclusion of question 32. Question 33 also dealt with this issue, but it was excluded due to the high level of missing values.</p> <p>During this whole process, individuals should also take into account the influence that economic factors such as compound interest, inflation and time value of money could have on their retirement savings. Questions 98, 109, 112 were excluded due to their high level of missing values. Both questions 114 and 128 dealt with the concept of inflation and they both had similar results. Although question 114 had missing values of 10.9%, which just exceeded the acceptable</p>
25	Overall, thinking of your assets, debts and savings, how satisfied are you with current personal financial condition? <i>Extremely dissatisfied / Dissatisfied / Neither satisfied nor satisfied / Satisfied / Extremely satisfied</i>	6.3%	
30	In a typical month, how difficult is it for you to cover your expenses and pay all your bills? <i>Extremely easy / Easy / Neither easy nor difficult / Difficult / Extremely difficult</i>	7.4%	
32	Have you set aside emergency or rainy day funds that would cover your expenses for 3 months, in case of sickness, job loss, economic downturn, or other emergencies? Yes / No	4.6%	
33	If you lost your main source of income, for how long could you continue to cover your living expenses, without borrowing/moving house? <i>Less than a week</i> <i>At least a week, but not one month</i> <i>At least one month, but not three months</i> <i>At least three months, but not six months</i> <i>More than six months</i>	20.2%	

	Detail of question with options	Missing values (%)	Comments
65	<p>And now can you tell me whether you currently hold any of these types of investment or savings products?</p> <p><i>Unit trusts</i></p> <p><i>Education policy or plan</i></p> <p><i>Investment or savings policy</i></p> <p><i>Shares on the stock exchange</i></p> <p><i>Retirement annuity</i></p> <p><i>Provident fund</i></p> <p><i>Pension fund</i></p> <p><i>Stokvel or umgalelo or savings club</i></p> <p><i>Giving money to someone who will guard it for you, to keep it safe</i></p> <p><i>Keep cash or savings at home</i></p> <p><i>Other savings club</i></p> <p><i>None of above</i></p>	3.5%	<p>level of missing values in comparison to question 128, which had missing values of 9.2%, it was decided to use question 114 instead of question 128. The reason was that question 128 dealt with the influence of inflation on food prices only, whereas question 114 covered a greater spectrum by considering the impact that it has on living costs as opposed to food prices, which addresses only one of the components of living costs.</p> <p>Bearing all of this in mind, questions 4, 5, 25, 30, 65,114, 116, 124 and 129 were included, as they addressed some of the factors that should be dealt with within this core area of the practical retirement planning process. All of these questions had low levels of missing values.</p>
98	<p>How much do you agree or disagree?: I've got a clear idea of the sort of financial products/services that I need without consulting a financial adviser</p> <p><i>Totally agree / Tend to agree / Tend to disagree / Totally disagree</i></p>	21.7%	
109	<p>Now imagine that the brothers have to wait for one year to get their share of the R1,000. In one year's time will they be able to buy:</p> <p><i>More with their share of the money than they could today</i></p> <p><i>The same amount</i></p> <p><i>Or, less than they could buy today</i></p> <p><i>It depends on inflation</i></p> <p><i>It depends on the types of things that they want to buy</i></p>	25.4%	

	Detail of question with options	Missing values (%)	Comments
112	And how much would be in the account at the end of five years <i>More than R110 / Exactly R110 / Less than R110</i> <i>Or is it impossible to tell from the information given</i>	32.4%	
114	Do you think the following statement is true or false: High inflation means that the cost of living is increasing rapidly. <i>True / False</i>	10.9%	
116	How would you rate your level of financial knowledge on a scale of 1 to 5 where 1 is: Not at all knowledgeable, 5: Very knowledgeable	3.1%	
124	To what extent do you agree :If you have savings, it is a good thing if interest rates go up <i>Strongly agree / Agree / Neither nor / Disagree / Strongly disagree</i>	9.6%	
128	To what extent do you agree: If inflation goes up, food prices will go up. <i>Strongly agree / Agree / Neither nor / Disagree / Strongly disagree</i>	9.2%	
129	To what extent do you agree: The more money you earn, the more tax you pay. <i>Strongly agree / Agree / Neither nor / Disagree / Strongly disagree</i>	10.2%	
CORE AREA 3: FORMULATION OF RETIREMENT PLAN (STEP 5)			
37	Do you agree or disagree: I am prepared to risk some of my own money when saving or making an investment. <i>Completely agree / Agree / Neither nor / Disagree / Completely disagree</i>	8.1%	Another factor that has to be considered when doing retirement planning is risk diversification. Individuals' risk tolerance levels (question 37) also play a key role, as it would influence the levels at which investments would grow over

	Detail of question with options	Missing values (%)	Comments
40	<p>Which of the following are included in your financial plan for retirement?</p> <p><i>Government old age pension</i></p> <p><i>Work-place pension</i></p> <p><i>Personal retirement savings plan</i></p> <p><i>Moving to a cheaper property in the same area</i></p> <p><i>Moving to a cheaper area</i></p> <p><i>Sell your financial assets</i></p> <p><i>Sell your non-financial assets</i></p> <p><i>Use an inheritance</i></p> <p><i>Rely on your spouse or partner to support you</i></p> <p><i>Rely on your children to support you</i></p> <p><i>Rely on financial support from your wider family</i></p> <p><i>Draw an income from your own business</i></p> <p><i>Continue to work after retirement age to earn money</i></p> <p><i>Other</i></p>	11.4%	<p>time. This is especially applicable when formulating the retirement plan where individuals have to formulate their investment program, which entails creating a savings plan and the identification of the type of investments that would best suit their financial needs, bearing in mind their risk tolerance levels.</p> <p>Individuals should therefore be equipped with the necessary investment and taxation knowledge to determine the investment products that would best suit their financial needs and which have limited taxation exposure in order to accumulate as much as possible in retirement funds during their working years.</p> <p>Questions 37, 113 and 130 dealt with individuals' risk tolerance levels; hence the inclusion of question 37, as it had the lowest level of missing values.</p>
69	<p>How often do you personally check whether your savings products still meet your needs?</p> <p><i>At least once a year / Less often / Never</i></p>	45.2%	<p>Question 40's missing values exceeded the acceptable level, but because it included products that relate to retirement savings as well as to the financial plan as addressed in core area 3 of the practical retirement planning process, it was included in the selection of questions.</p>
113	<p>Do you think the following statement is true or false: If someone offers you the chance to make a lot of money it is likely to lose a lot of money.</p> <p><i>True / False</i></p>	8.4%	<p>Question 115's missing values also exceeded the acceptable level, but since it was the only question dealing with risk diversification, it was included in the selection of questions.</p>
115	<p>Do you think the following statement is true or false: It is less likely that you will lose all of your money if you save in more than one place.</p> <p><i>True / False</i></p>	11.8%	<p>Questions 37, 40 and 115 were included for the data analysis</p>

	Detail of question with options	Missing values (%)	Comments
130	When thinking about making a financial investment, how willing are you to take risks? <i>Not at all willing / Not very willing / Neither willing not unwilling / Willing / Very willing</i>	18.8%	purposes. Question 69 was excluded due to the high level of missing values.

(Source: Roberts et al., 2012; Author's own)

In the section dealing with the general questions, 10 questions were initially selected; however, due to the missing values and other reasons as mentioned in Table 3.4, only five of the questions were usable for the purpose of this study. For the section dealing with the demographic characteristics, seven questions were initially selected and all seven were deemed usable for this study. Step 1 (goal setting) initially included eight questions, all of which were used in this study. Steps 2 to 4 (gap analysis) initially included 15 questions of which five were not used due to reasons mentioned in Table 3.4. Finally, step 5 (formulation of retirement plan) included six questions of which three were excluded for the reasons mentioned in Table 3.4. Although 46 questions were initially identified, the final set of questions usable for purposes of this study amounted to 33, due to the high levels of missing values reported that led to the rejection of those questions as well other reasons as mentioned in Table 3.4.

Step 6: Data analysis

This was a comparative study, which required both descriptive and inferential statistics to identify and interpret the results for each question selected in the final list. In order to do a visual inspection of the secondary data over the three retirement phases as defined in Chapter 2, cross tabulations were performed in SPSS V23 on all the selected questions to determine whether there are differences amongst the three retirement phases.

The process of comparison and interpretation commenced by dealing with factors that could influence individuals' financial ability and financial decision making when doing retirement planning across the three phases of retirement. Based on the cross tabulations performed on both the general and the demographic characteristics questions it was possible to discuss the results with regard to retirement planning over the three phases of retirement. No further statistical test would be performed on these questions, as their results were sufficient for the intended purpose. The intention was to obtain a better understanding of South Africans' financial ability and financial decision-making skills with regard to retirement planning across the three retirement phases.

Comparison and interpretation of the cross-tabulation results for the questions relating to the three core areas of the practical retirement planning process over the three retirement phases was done in terms of benchmarking it against the heuristic model to address some of the factors that should be considered during the practical retirement planning process. Further inferential analyses, namely the Kruskal-Wallis test and the Mann-Whitney U test, were however required to determine whether there are statistically significant differences over the three retirement phases within the three core phases of the practical retirement planning process. The following section provides a brief overview of the techniques used during inferential analyses.

A. Nature of the data

Two types of statistical technique exist in the statistical field, namely parametric and non-parametric techniques. 'Parametric' stems from the word 'parameter', which could also mean a population's characteristics. Assumptions are made from the sample of the population that has been drawn when parametric tests such as t-tests and analysis of variances are used. The shape of the population distribution, for example normally distributed, is sometimes included in these assumptions (Pallant, 2013). Data which are measured on interval and ratio scales are ideal for using parametric statistics. Examples of interval scales would include variables such as temperature in Celsius or Fahrenheit scales and year to date in a calendar, whereas the ratio scales would apply to most physical quantities such as length of residence in a given place, mass and age (Costanzo, 2012).

The non-parametric statistical technique does not require assumptions about the underlying population distribution and it does not have strict (or fixed) requirements. Non-parametric statistics however have disadvantages, despite being less stringent, as they are inclined to be less reflective in comparison to their prevailing parametric counterparts and might fail to detect actual differences that exist amongst the different groups. Data that are measured on nominal (categorical) and ordinal (ranked) scales are ideal when using non-parametric techniques (Pallant, 2013). Examples of nominal scales would include making comparisons between variables such as gender, race and

country of residence, whereas ordinal scales would apply to data with a ranking order with an unknown difference between connecting values, such as levels of education, satisfaction or attitude questions and Likert scales (Costanzo, 2012). Nominal scales are however not appropriate for this study, as the manner in which the majority of questions were presented to the respondents resulted in the data collected by the South African FSB's survey having certain ranking orders, making the measurement of the data more ordinal than nominal in nature.

Therefore, in defining the differences between parametric and non-parametric testing and by also looking at the different variables that are applicable to both these statistical techniques, it could be concluded that the secondary data used for this study is ordinal in nature and would therefore require the application of non-parametric statistics.

B. General assumptions applicable when using non-parametric statistical techniques

Certain general assumptions should be tested or verified when using non-parametric statistical techniques, despite not being compelled to very strict assumptions (Pallant, 2013). The general assumptions that relate to non-parametric statistical technique samples with an indication of how they relate to this study are as follows (Pallant, 2013):

- The dependent variable should be measured at the ordinal or continuous level. Examples of ordinal variables include Likert scales and ranking categories as mentioned above, which are applicable to this study and which are evident in the way that the majority of the selected questions were structured.
- The independent variable should consist of two or more categorical, independent groups. The independent groups in this study are the three phases of retirement.
- Independent observations are required, meaning that there is no relationship between the observations in each group or between the groups themselves. The independent observations would require counting each

person or case only once, appearance is limited to one category or group, and no influence from one subject's data on the data from another. The only exception to these requirements is in the cases where the measuring techniques are repeated, by exposing the same participants to retesting under different conditions or on different occasions. In this study, the respondents in the South African FSB's survey (secondary data) were interviewed independently of each other and they were only counted once. In terms of the three retirement phases, individuals could only be included in one of the retirement phases, with their age being the determining factor.

C. Types of non-parametric statistical techniques being applicable to this study

The two non-parametrical statistical techniques that were applicable for this study are the Kruskal-Wallis and the Mann-Whitney U tests, as the nature of the secondary data is ordinal and it could be ranked. The Kruskal-Wallis tests were performed to determine whether there are statistically significant differences over the three retirement phases, but in the cases where statistically significant differences were identified, it did not identify the applicable phase to which the statistical difference relates, in which cases the Mann-Whitney U test had to be performed. Details relating to both the Kruskal-Wallis test and the Mann-Whitney U test will be discussed below and the results will be discussed in Chapter 4 (section 4.3).

Kruskal-Wallis test

This test is also referred to as the Kruskal-Wallis H Test or a "one-way ANOVA on ranks", which is categorised as a rank based non-parametric test. This test could be used as an alternative to a one-way between groups' analysis of variance (ANOVA) and as an extension of the Mann-Whitney U test (Pallant, 2013). This would allow for comparisons between the three retirement phases. This test is very similar in nature to the Mann-Whitney U test, with the only exception that the Mann-Whitney U test allows for comparisons between two groups only. The Kruskal-Wallis test converts scores into ranks, which compared the mean rank for each retirement phase, with the data also divided into the three respective age groups as per Table 3.3 to enable the data

analyses between the three retirement phases. Two variables, one categorical independent variable with three or more categories, being the three phases of retirement in this study, and one continuous dependent variable, being each of the selected questions as per Table 3.4, were needed to perform this test (Laerd Statistics, 2015a, 2015b; Pallant, 2013).

The most important information needed from the output to interpret the Kruskal-Wallis test is the **Chi-Square** value, the degrees of freedom (**df**), and the significance level (presented as **Asymp. Sig**). Significance levels less than 0.05 indicated that there was a statistically significant difference at a five percent level in the selected questions (continuous variable) as per Table 3.4 across the three retirement phases. In terms of the Kruskal-Wallis test, this also means that the null hypothesis of no significant differences has been rejected.

In the case where the result of the Kruskal-Wallis test indicates statistical significance, the precise statistically significant difference amongst the three retirement phases is still unknown. This would require the performance of the Mann-Whitney U test in order to identify the retirement phase to which the statistically significant difference applies. The post-hoc tests for the Kruskal-Wallis test available in SPSS were performed in this study prior to performing the Mann-Whitney U tests in an attempt to identify the existence of statistical differences across the three retirement phases.

Mann-Whitney U test

On a continuous measure, the Mann-Whitney U test is used to test for differences between two independent groups, which are two of the retirement phases that are used interchangeably. This test is also used as a non-parametric alternative to the t-test for independent samples. In the case of the t-test, the means of two retirement phases would have been compared, whereas with the Mann-Whitney U test median ranks are compared. Across the two retirement phases the scores on the selected questions as per Table 3.4 are converted into ranks. The ranks for the two retirement phases are then evaluated for significant statistical differences. The actual distribution of scores does not matter, with the scores being converted into ranks. Two variables, one

categorical variable (age group with two of the retirement phases) and the selected question as per Table 3.4 (one continuous variable), are needed to perform this test. The general assumptions related to non-parametric techniques (as mentioned above) would also be applicable to the Mann-Whitney U test (Pallant, 2013).

In order to reveal the retirement phase that relates to the statistically significant difference as identified by the Kruskal-Wallis test and as highlighted by the Kruskal-Wallis post-hoc test, the Mann-Whitney U test was performed interchangeably between the pre-retirement, close-to-retirement and post-retirement phases (pre-retirement with close-to-retirement, pre-retirement with post-retirement and close-to-retirement with post-retirement), as it provided additional assurance of possible statistically significant differences within the three retirement phases.

The most important information needed from the output to interpret from the Mann-Whitney U test is the **Z** value and the significance level, which is presented as **Asymp. Sig (2-tailed)**. The significance is then interpreted in a similar manner to that of the significance levels in the Kruskal-Wallis test.

Effect size

Both the Kruskal-Wallis post-hoc tests and the Mann-Whitney U tests may reveal the existence of the statistically significant differences within the three retirement phases, but they do not indicate the extent of these differences. In such cases the effect size of each of the alternate phases, in the instances where the null-hypotheses were rejected, need to be calculated. Effect size estimates for the Mann-Whitney U test are used to measure the size of the statistically significant differences. In SPSS when running the Mann-Whitney U tests, the report also includes both the *U*-value and the standardised *Z*-score, which could be used to calculate the correlation coefficient, *r*. The effect sizes for each of the Mann-Whitney U tests were therefore calculated by hand according to the following formula (Tomczak & Momczak, 2014):

$$r = \frac{Z}{\sqrt{n}}$$

where r = correlation coefficient where r assumes the value ranging from -1.00 to 1.00

Z = standardised value for the U -value

n = the total number of observations on which Z is based

As the correlation coefficient includes the whole range of relationship strengths, these relationships range anything from no relationship, being zero, to what they refer to as a perfect relationship, being either 1 or -1. The effect size therefore indicates the extent of the relationship that exists between the different variables, being the three retirement phases in this study, and is therefore independent from the number of individuals that were tested. Cohen provided certain guidelines when interpreting these effect sizes, and he suggested that an r of 0.1 represents a small effect size, 0.3 represents a medium effect size and 0.5 represents a large effect size (Coolican, 2009).

3.4. ETHICAL CONSIDERATIONS

The South African FSB and their service providers adhered to the necessary ethical standards and code of conduct during the initial data collection (Roberts *et al.*, 2012). Although the data is in the public domain, specific permission was obtained from the South African FSB to utilise the data for purposes of this study. The Research Ethics Review Committee of the College of Accounting Sciences granted ethical clearance for this study and the analysis that would be done by utilising the secondary data from the South African FSB's survey. Password protected computers were used by the University to protect the data obtained from the South African FSB. The University did not receive the personal information of the respondents who formed part of the South African FSB's survey and therefore protecting the privacy of the related respondents is not an issue. Other parties would not be sharing the data.

3.5. CONCLUSION

Comparative research was found to be the best research approach for this study with the aim of identifying and comparing possible differences that exist over the three retirement phases within the three core areas of the practical retirement planning process. As the results for each of the selected questions had to be interpreted over the

three retirement phases, it was found that the interpretive research paradigm would be appropriate for this study.

In order to address the research problem, the research process followed a step-by-step approach as discussed in section 3.3. This section addressed the heuristic model that was constructed for this study through a thorough literature review as discussed in Chapter 2; the assessment of the applicability of the South African FSB's questionnaire as well as the process that was followed to prepare the data for the purposes of this study; the questions that were selected for the purposes of this study; and the methods involved in the data analysis that was performed. The data was analysed by using descriptive and inferential statistics. Because the data was ordinal and could be ranked, non-parametric statistical techniques, in the form of the Kruskal-Wallis test and the Mann-Whitney U test, were used to analyse the questions relating to the three core areas of the practical retirement planning process as addressed in Table 3.4 in order to identify in which retirement phases there are statistically significant differences in relation to the related question. The Kruskal-Wallis test was used to assess whether there are any statistically significant differences between the three retirement phases; however, because it did not identify which phase/s is significantly different from the other, the Mann-Whitney U test was used to test for differences between two of the retirement phases to determine which phase is statistically significantly different from the other. Although both the Kruskal-Wallis post-hoc tests and the Mann-Whitney U tests may have revealed the existence of the statistically significant differences within the three retirement phases, they did not indicate the extent of these differences. In these cases, the effect size of each of the alternate phases, which measures the size of the statistically significant differences, in the instances where the null-hypotheses were rejected, needed to be calculated. The results for both the Kruskal-Wallis and Mann-Whitney U tests as well as the results of the effect size calculations will be provided and discussed in Chapter 4 (sections 4.3).

CHAPTER 4

FINDINGS AND DISCUSSIONS

4.1. INTRODUCTION

Chapter 3 discussed the research approach, design and method that govern this research as well as the methodology that was followed in the South African FSB survey on financial literacy in South Africa. It was also indicated that it was a comparative study which aimed to identify possible differences that might exist across the three retirement phases within the three core retirement planning areas of the practical retirement planning process based on the questions selected from the South African FSB's survey for the purpose of this study.

As discussed in section 3.3, in order to find out whether there are differences over the three retirement phases, a visual inspection was done on the data pertaining to each of the questions selected for this study as per Table 3.4. These questions related to general and demographic characteristics as well as questions that were specifically related to the three core retirement planning areas of the practical retirement planning process. The visual inspection requires that each of these questions be exposed to cross tabulation based on the age variable that was created to accommodate the three retirement phases identified for this study. Section 3.3 furthermore indicated that both the Kruskal-Wallis and Mann-Whitney U tests, both non-parametric tests, would provide relevant information regarding the significance of the differences (if any) between the three retirement phases. The Kruskal-Wallis test, a non-parametric statistical technique, was used to assess whether there are any statistically significant differences between the three retirement phases. The Mann-Whitney U test was used to test for differences between pairs of the phases to confirm the results as per the Kruskal-Wallis post-hoc tests as to which phases are significantly different from the others. The Mann-Whitney U test was therefore performed to provide additional assurance for the cases where the Kruskal-Wallis post-hoc test indicated that there is a statistically significant difference. As the extent of the statistical differences was not indicated by these non-parametric

tests, the effect size needed to be calculated. The data analyses executed on the secondary data are presented as descriptive and inferential statistics in this chapter.

Section 4.2 sets the scene by using descriptive statistics to describe both the demographics and general attitudes of individuals towards retirement. Section 4.3 continues with unpacking the possible statistical differences between the three retirement phases by discussing the descriptive and inferential statistics relating to the cross-tabulation results of the final list of questions (Table 3.4 in Chapter 3) based on the three core areas of the practical retirement planning process. All these questions are included in Annexure B, but are repeated in the related sections for the convenience of the reader.

4.2. SETTING THE SCENE: DESCRIPTIVE STATISTICS DESCRIBING THE DEMOGRAPHICS AND GENERAL ATTITUDES TOWARDS RETIREMENT PLANNING

As indicated in Annexure B, the weighted responses to the questions selected for the purposes of this study were analysed. The general questions were analysed to obtain an understanding of how individuals in general perceive their financial positions, the factors that could influence individuals' financial ability and financial decision making when doing retirement planning across the three phases of retirement, as well as their views on when to start saving for retirement. Included in the general questions were also a few questions dealing with the individuals' demographic characteristics that could possibly affect their decision-making, and their financial ability to save and do the necessary planning for retirement. The descriptive statistical analysis of these questions is discussed in section 4.2.1.

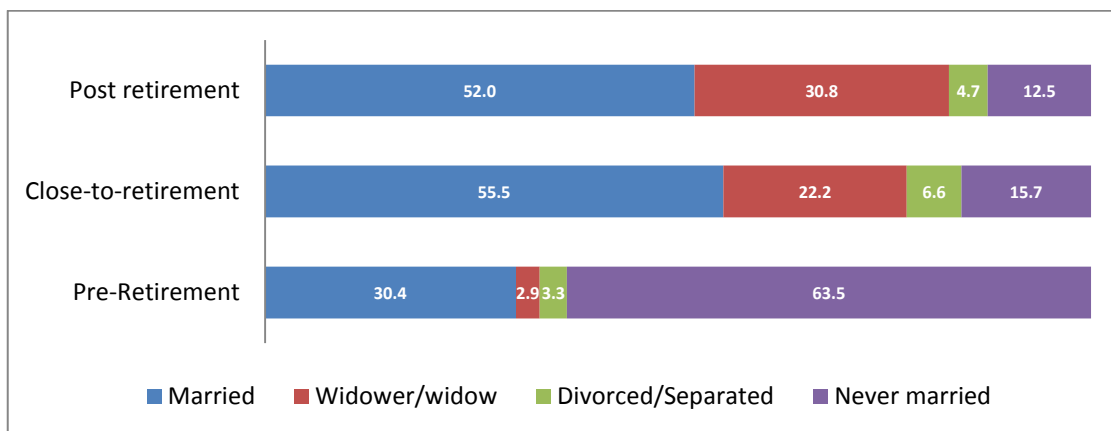
4.2.1 Demographic information: factors that could influence individuals' financial ability and financial decisions to save towards retirement

As discussed in Chapter 2, there could be a relationship between the demographic information and the retirement planning phases (section 2.4). This section will therefore discuss the relationships found among the demographic variables and the retirement

phase, based on the data obtained. Questions dealing with individuals' marital status, the number of children they have, levels of education, current work situation, levels of income, regular and reliable household income, and their main source of income are all factors that could influence individuals' financial ability and financial decisions to save towards retirement. Certain of these factors were highlighted in section 2.4 and section 2.5.2.2.

In terms of marital status (section 2.4 and section 2.5.2), only 30.4 percent of individuals in the pre-retirement phase are married, and 55.5 percent in the close-to-retirement phase and 52.0 percent in the post-retirement phase, as illustrated in Figure 4.1. This could be a reflection of the younger generation that gets married only later in life, which could have a negative financial impact on their financial planning for retirement, as literature has shown that younger individuals tend to postpone saving for retirement, thinking that it is still a long way into the future. It is important to highlight that the pre-retirement phase includes individuals from the age of 18 up to 54 years (section 2.4.1). This is a relatively large group of individuals that may differ among themselves, but as shown in section 1.4, the focus of this study was to determine whether there are any significant differences between the retirement phases and therefore this grouping is necessary.

Figure 4.1: Marital status across retirement phases

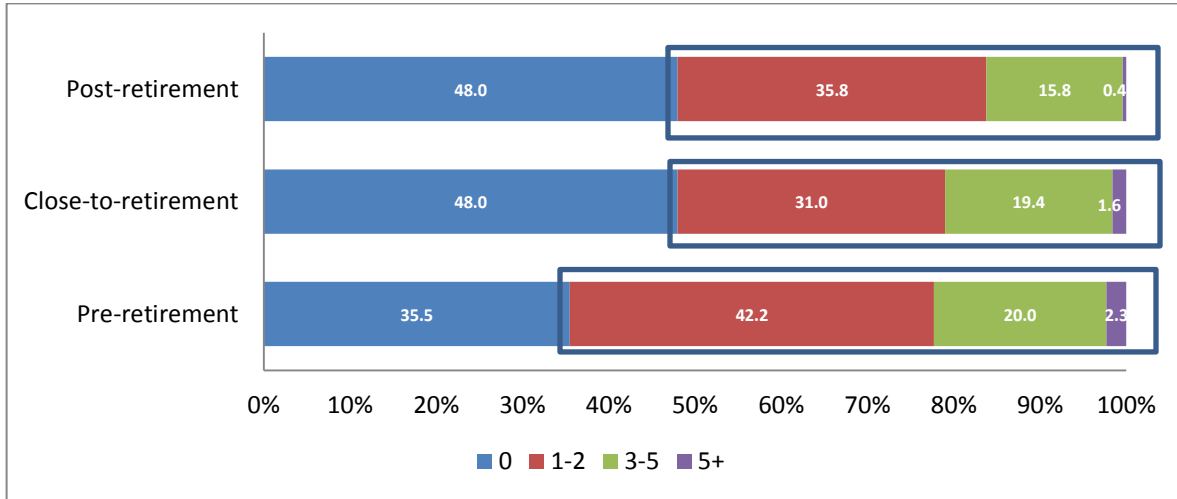


It is evident from Figure 4.1 that in the pre-retirement phase 63.5 percent of the individuals, almost two-thirds of individuals in this phase, have never been married,

which might mean that these individuals are either living together or that they are single. If these individuals' marital status changes, the financial implication is that they might be postponing doing proper financial planning for their retirement. They are therefore significantly shortening the longest phase in which they should prepare themselves financially for their retirement. All these aspects negatively affect individuals' financial ability to save for their retirement. The 30.8 percent of individuals in the post-retirement phase who are either widowers or widows was expected for that particular age group.

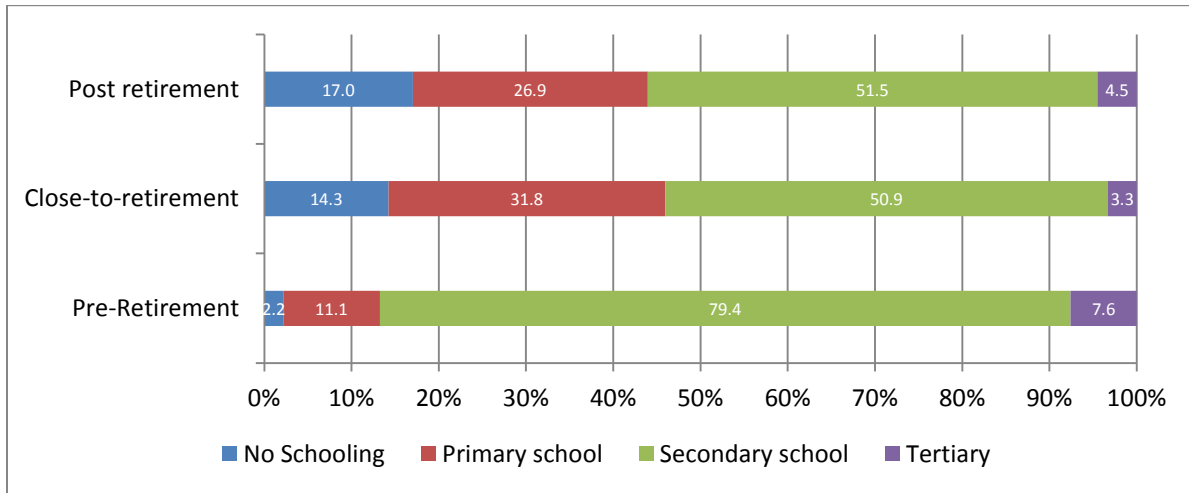
The financial effect of being responsible for children under the age of 18 (section 2.4) should also be considered over the three retirement phases when doing retirement planning, as it could possibly influence individuals' financial ability to save towards retirement and/or the level of their retirement savings. As illustrated in Figure 4.2, 64.5 percent of the individuals in the pre-retirement phase have children under the age of 18 and 52.0 percent in both the close-to-retirement and post-retirement phases. Family formation, as per the typical financial life cycle of individuals that was discussed in section 2.4, usually takes place in the pre-retirement phase and therefore justifies the fact that these individuals would have children under the age of 18; however, this was not expected for the individuals within the close-to-retirement and post-retirement phases. This, however, could be due to the large number of children being raised by their grandparents.

Figure 4.2: Number of dependent children under the age of 18 across retirement phases



Education levels (section 2.4) are another factor that could influence individuals' ability to make sensible financial decisions, which in turn could also influence the levels of individuals' retirement savings and the extent to which they are planning for their retirement. Within the context of South African history and the improved level of access that individuals have to education, it is evident from Figure 4.3 that the levels of education are rising among South Africans when comparing the education levels of individuals in pre-retirement with those in both the close-to-retirement and post-retirement phases. Only 2.2 percent of individuals in the pre-retirement phase had no schooling in comparison to the 14.3 percent in the close-to-retirement phase and 17.0 percent in the post-retirement phase.

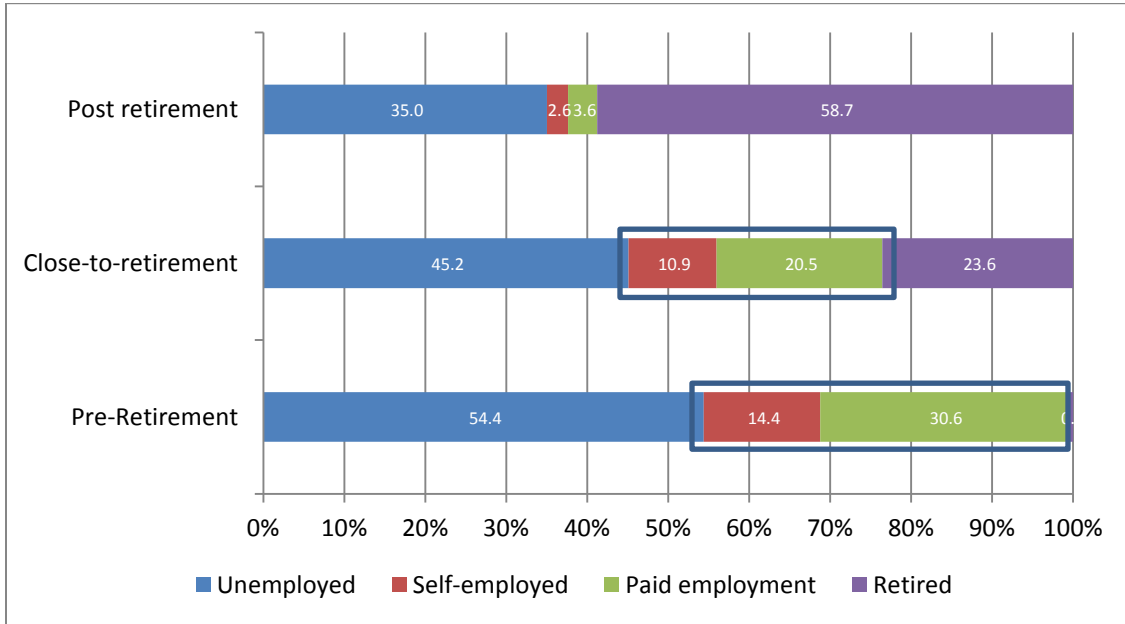
Figure 4.3: Education levels across retirement phases



As illustrated in Figure 4.3, the rise in education levels is even more visible, as 79.4 percent of the individuals in the pre-retirement phase have some form of secondary school education in comparison to 50.9 percent in the close-to-retirement phase and 51.5 percent in the post-retirement phase. The level of individuals who have either a degree, postgraduate degree or diploma is however still low, with only 7.6 percent of the individuals being in the pre-retirement phase, 3.3 percent in the close-to-retirement phase and 4.5 percent in the post-retirement phase. This indicates that different levels of education are evident across all three the retirement phases. It therefore seems that education levels are on average lower within both the close-to-retirement and post-retirement phases, in comparison to the levels of education that were attained by the individuals in the pre-retirement phase.

Individuals' levels of education could also contribute towards their employment status (section 1.2 and section 2.4), as illustrated in Figure 4.4. The 58.7 percent of the post-retirement individuals who indicated that they were retired, the 45.0 percent of individuals in the pre-retirement phase, and the 31.4 percent in the close-to-retirement phase who are employed, were expected.

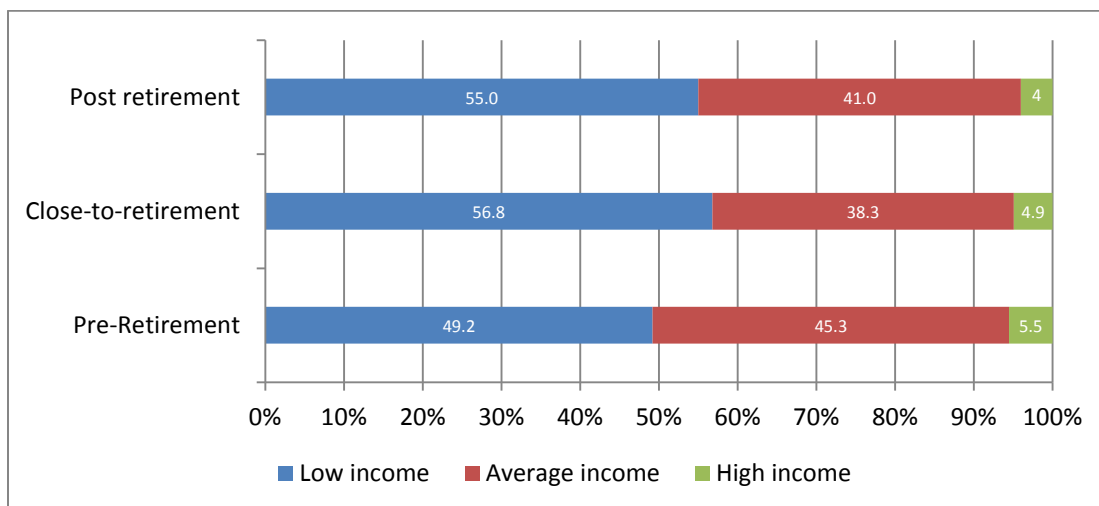
Figure 4.4: Employment status across retirement phases



Unemployment as included in Figure 4.4 combined the options of individuals who indicated that they were looking for a job, unable to work due to sickness or ill-health, being a student, learner, under apprenticeship, not working or not looking for work and other sundry related reasons. At the time that this survey was performed, 54.4 percent of the individuals in the pre-retirement phase indicated that they were unemployed, in comparison to the 45.2 percent in the close-to-retirement phase and 35.0 percent in the post-retirement phase. This is of great concern, as the affected individuals most probably will not be in a position to save towards retirement. This could further have a negative financial effect on the level of retirement savings individuals would have to accumulate and the period in which they have to do so in order to avoid financial vulnerability when reaching retirement. There were however 23.6 percent of individuals in the close-to-retirement phase who indicated that they were retired, which could possibly imply that they either went on early retirement, as their financial positions allowed them to do so, they retired early due to medical reasons, or they received an inheritance which gave them the opportunity to go on early retirement. Whatever the reason might be, it could have a negative financial impact on individuals' retirement, taking into consideration that their life expectancy is increasing and that they would therefore require additional retirement savings to compensate for it.

Individuals' household income (section 2.5.2.2) is another factor that should be considered, as it could influence their level of retirement savings. Figure 4.5 illustrates individuals' holistic view of the level of their household income.

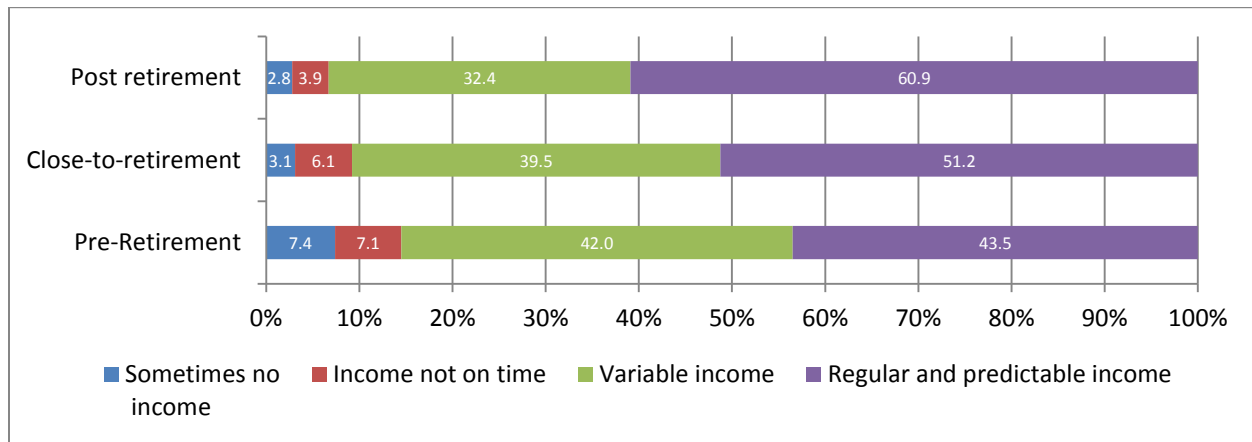
Figure 4.5: Household income across retirement phases



As illustrated in Figure 4.5, the distributions in terms of household income are approximately the same despite the different retirement phases, which seems to be a skewed distribution of income and mirrors South Africa's reported income distribution, where inequality is a problem. In the post-retirement phase, 55.0 percent of individuals indicated that their household income could be categorised as low. This could be a result of inadequate savings towards retirement in the pre-retirement and close-to-retirement phases or indicate that they were over optimistic by setting unrealistically high goals for retirement, which were not achievable when considering their income and levels of retirement savings prior to retirement. Even during pre-retirement, 49.2 percent of the individuals and 56.8 percent in the close-to-retirement phases perceived their household income to be low, which could possibly have a negative influence on the level of retirement savings that they would be able to save.

Not only the level of income is important for adequate retirement planning, but also regular or reliable income (section 1.2), as illustrated in Figure 4.6, as it could also have a significant influence on individuals' financial ability to contribute towards retirement in both the pre-retirement and close-to-retirement phases.

Figure 4.6: Regular and reliable household income across retirement phases

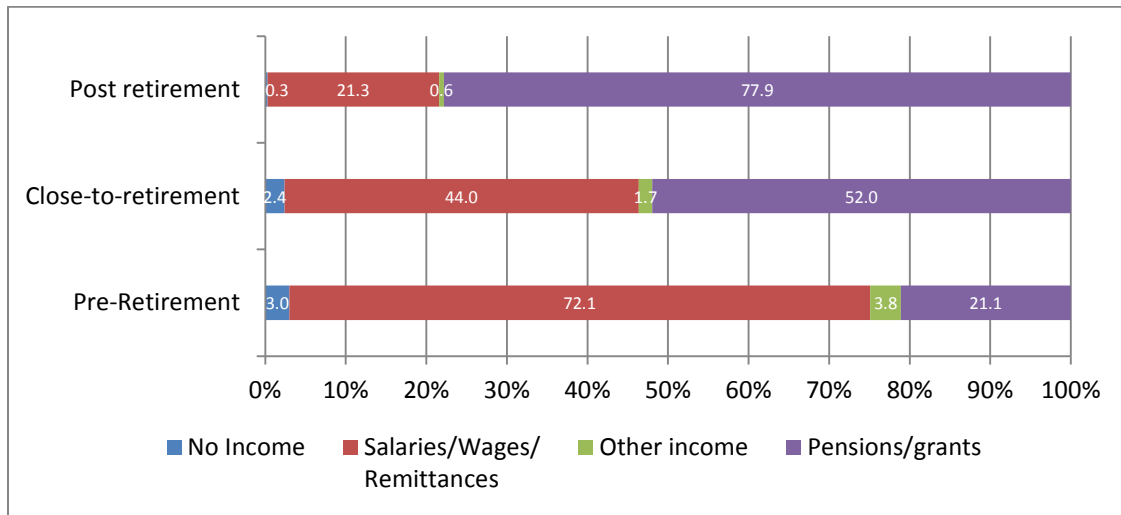


As illustrated in Figure 4.6, the distribution between the retirement phases does not differ that much. However, only 43.5 percent individuals in the pre-retirement phase indicated that they had regular and predictable incomes, which grant them the opportunity to do proper retirement planning, as they are in a position to exactly determine their discretionary income as well as the level of their retirement savings. In the post-retirement phase, the percentage is even higher, namely 60.9 percent of individuals who indicated that their income was regular and predictable. This is positive, as these individuals know exactly what to expect and could address their financial needs accordingly.

However, 7.4 percent of the individuals in the pre-retirement phase indicated that they sometimes received no income, in comparison to the 2.8 percent of individuals in the post-retirement phase. Then 7.1 percent of the individuals in the pre-retirement phase indicated that they did not receive their income on time, in comparison to the 3.9 percent in the post-retirement phase. These are but some of the factors that could negatively influence the financial ability of individuals to save towards their retirement, but it could possibly also have an impact on the levels of dependence that is placed on family and/or friends to provide financial support in the case of insufficient retirement income.

The irregular and variable frequency in income raises a question concerning households' main source of income (section 2.2 and section 2.5.3). Figure 4.7 sheds some light on this issue.

Figure 4.7: Main source of household income across retirement phases



As illustrated in Figure 4.7, the main source of income in the pre-retirement phase was salaries and/or wages, as expected, at 67.7 percent. When combined with remittances, it amounted to 72.1 percent. Salaries and wages in general are a form of regular income that would enable individuals to make financial provision for their retirement, as they would be able to budget to see what they could afford to set aside for their retirement. Being married, where both parties are working, could mean having dual incomes that could assist individuals in providing for retirement. This could increase the level of retirement income received, which means having an overall positive financial effect on the standard of living that married individuals would be able to maintain in retirement.

It was still alarming, however, that 21.1 percent of individuals who were already in the pre-retirement phase and 52.0 percent in the close-to-retirement phase indicated that they received either pensions or grants as their main source of household income. Employment status (Figure 4.4) is measured on an individual level, whereas main source of income is measured at a household level. This could possibly explain why 23.6 percent of respondents in the close-to-retirement phase (Figure 4.4) indicated that they were retired, versus the 52.0 percent of individuals who indicated that they

received pensions and/or grants as their main source of household income. However, some of the individuals in both the pre-retirement and close-to-retirement phases who stated that they were unemployed (addressed above) could very well be in households where pensions and/or grants form part of their main source of income.

As expected, pensions and/or grants were the main source of household income in the post-retirement phase and were received by 77.9 percent of individuals. It would have been interesting to see a split between these two categories of income, but due to the nature of the data, this was not possible. However, 21.3 percent of the individuals in the post-retirement phase indicated that they still received either salaries, wages and/or remittances, which reiterates the fact that there are individuals who are still working (full-time or part-time) beyond the age of 65.

It was not really expected that 52.0 percent of the individuals in the close-to-retirement phase would already be receiving pensions and/or grants as their main source of household income. This is despite the fact that only 23.6 percent of the individuals in the close-to-retirement phase were actually retired. What should be taken into account is that individuals' employment status is measured on an individual basis, whereas household income is measured at a household level, meaning that other members of the family could be receiving a pension and/ grant. This could possibly explain the difference between the employment status and the main source of income for individuals in the close-to-retirement phase. It would have been interesting to see a split between these two categories of income, namely pensions and/or grants, to be able to distinguish what the real reason was behind this result. This could possibly have included individuals who went on early retirement, perhaps because their financial position allowed them to do so, they retired early due to medical reasons, or they received an inheritance. Only 44.0 percent of individuals in the close-to-retirement phase indicated that their main source of household income was salaries, wages and/or remittances.

Table 4.1 provides a summary of the main findings relating to individuals' demographic information across the three retirement phases with regard to retirement planning.

Table 4.1: Summary of main findings relating to the demographic information of the individuals

Demographic	Distribution across the three phases		Brief summary of main conclusion
	Similar	Different	
Marital status		X	Only 30.4% of pre-retirement phase were married compared to at least 50.0% and more in both close-to-retirement and post-retirement phases. This might mean that individuals in the pre-retirement phase are either living together or single.
Number of dependent children		X	In pre-retirement, 64.5% had children under the age of 18, compared to the 52.0% in both the close-to and post-retirement phases.
Education level		X	Higher levels of education among younger individuals. 79.4% percent of the individuals in the pre-retirement phase have some form of secondary school education in comparison to 50.9% in the close-to-retirement phase and 51.5% in the post-retirement phase. Tertiary education was still low across all three phases.
Employment status		X	In the post-retirement phase, 58.7% of the individuals indicated that they were retired, compared to the 45.0% of individuals in the pre-retirement phase and the 31.4% in the close-to-retirement phase who are employed. In the pre-retirement phase, 54.4% of individuals were unemployed, compared to the 45.2% in the close-to-retirement phase and 35.0% in the post-retirement phase. However, 23.6% of the individuals in the close-to-retirement phase indicated that they had already retired.

Demographic	Distribution across the three phases		Brief summary of main conclusion
	Similar	Different	
Level of household income	X		Fairly the same distribution for low, average and high income across the three phases.
Regularly receiving household income	X		Distribution does not differ that much. 43.5% of individuals in the pre-retirement phase and 60.9% in the post-retirement phase received regular and reliable incomes.
Main source of income		X	In the pre-retirement phase, 72.1% of individuals received salaries/wages in comparison to the 77.9% of the individuals in the post-retirement phase who received pensions/grants. The 52.0% of the individuals in the close-to-retirement phase who received pensions/grants was not expected.

(Source: Author's own)

As identified in this section, only 30.4 percent of individuals in the pre-retirement phase were married, but it was also the phase where 64.5 percent of the individuals had children under the age of 18. In both the close-to-retirement and post-retirement phases, 52.0 percent of the individuals still had children under the age of 18. It was positive to see that there were improvements in the education levels of individuals when comparing the education levels in the pre-retirement phase with those in the close-to-retirement and post-retirement phases. This was reflected in the 79.4 percent of the individuals in the pre-retirement phase who had some form of secondary school education in comparison to 50.9 percent in the close-to-retirement phase and 51.5 percent in the post-retirement phase. Despite the improvement in education levels, 54.4 percent of the individuals in the pre-retirement were still unemployed in comparison to the 45.2 percent in the close-to-retirement phase and 35.0 percent in the post-retirement phase. However, in the pre-retirement phase, 45.0 percent of the individuals

indicated that they were employed via either paid employment or self-employment, in comparison to the 31.4 percent in the close-to-retirement phase. The 58.7 percent of the individuals in the post-retirement phase who indicated that they had retired was as expected, but the 23.6 percent of the individuals in the close-to-retirement phase who indicated that they had retired was not expected. In the pre-retirement phase, 72.1 percent of individuals received salaries/wages in comparison to the 77.9 percent of the individuals in the post-retirement phase who received pensions/grants. The 52.0 percent of the individuals in the close-to-retirement phase who received pensions/grants was however not expected. The next section will deal with individuals' general financial behaviour and how it could influence their financial ability to save towards retirement.

4.2.2 General financial behaviour of individuals across the three retirement phases

As discussed in Chapter 2, there could be a relationship between individuals' financial behaviour and the retirement planning phases (section 2.4). This section will therefore discuss the relationships found among the financial behavioural variables and the three retirement phases, based on the data obtained. Questions dealing with individuals' financial ability when it comes to managing their finances (section 2.2 and section 2.5.2.1), dealing with related insufficiencies and the incorporation of early retirement savings (section 2.2 and section 2.5.3) into their financial plans could have a significant financial effect on how they would experience their retirement. All these questions relate to individuals' general financial behaviour and attitude towards making financial decisions that could affect their financial ability to save towards retirement.

As illustrated in Figure 4.8, it seems that just over a quarter of individuals across all three phases did not keep a close eye on their finances, as they indicated that they did not exactly know what level of their money was available for spending (section 2.2 and section 2.4). This was evident from the 26.6 percent in the pre-retirement, 28.7 percent in the close-to-retirement and 25.8 percent in the post-retirement phase who indicated that they had no idea at all how much money they had available to spend.

Figure 4.8: Knowledge of available discretionary income across retirement phases

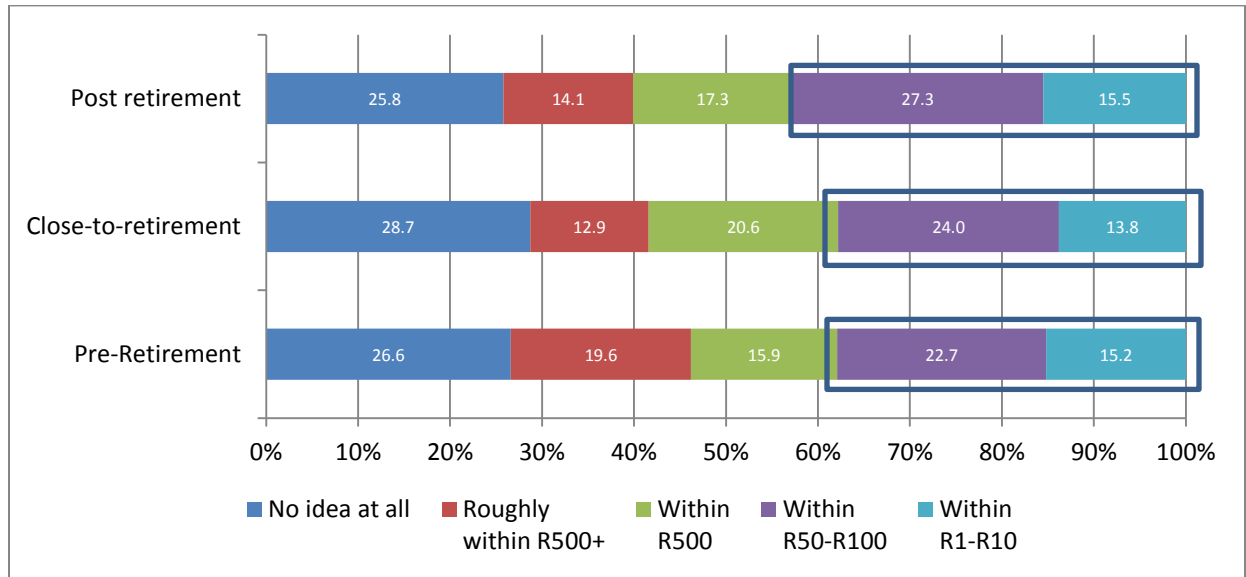


Figure 4.8 illustrates on the positive side that 37.9 percent of individuals in the pre-retirement phase, 37.8 percent in the close-to-retirement phase and 42.8 percent in the post-retirement phase keep a close eye on their income by being able to determine the level of discretionary income they have available for spending within R100 across all three phases. This therefore illustrates that individuals do not necessarily change their financial management behaviour as they become older. However, between the different accuracy level options at which individuals could determine their discretionary income there were instances where individuals in the close-to-retirement and post-retirement phases could better determine the discretionary amount that they have available for spending in comparison to the individuals in the pre-retirement phase. It could also be an indication that age and experience could be contributing factors that could improve individuals' financial ability. Overall, the distribution of individuals' discretionary income across the three retirement phases seemed very similar.

However, not knowing the extent of money that is available for spending could result in situations where individuals' living costs exceed their income (section 2.5.3). Figure 4.9 illustrates to what extent individuals were able to cover their living costs during the last 12 months.

Figure 4.9: Living cost exceeding current levels of income across retirement phases (replacement ratio)

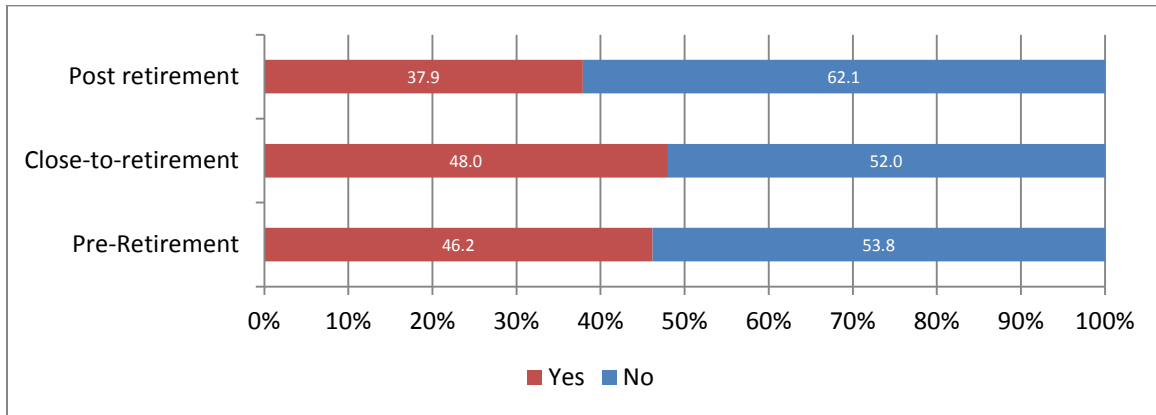


Figure 4.9 illustrates that 46.2 percent of individuals in the pre-retirement phase, 48.0 percent in the close-to-retirement phase and 37.9 percent in the post-retirement phase were not able to cover their living costs during the last 12 months. The pre-retirement and close-to-retirement phases are both crucial phases in which individuals have the opportunity to set aside money for their retirement in order to avoid financial vulnerability in old age. Situations like these could have a negative financial effect on the financial position of the majority of individuals; affecting their ability to set aside any money for their retirement.

However, 62.1 percent of the individuals in the post-retirement phase indicated that they did not experience insufficient income during the last 12 months with regard to covering their living costs (section 1.1). Looking at this from a positive angle, this could possibly be indicative that individuals are taking a step in the right direction. However, this does not disregard the fact that these individuals could be experiencing higher levels of dependence on family and/or friends (as indicated below in Figure 4.10) that assist them to survive financially. There might also be individuals in the post-retirement phase who have decided to continue working either on a full-time or part-time basis, whatever their reason/s might be.

Those individuals who indicated above that they experienced financial difficulty in the last 12 months to cover their living costs also indicated various coping mechanisms that they utilise when these conditions occur. Figure 4.10 illustrates the coping mechanisms

used by individuals to make ends meet in the instances where their incomes were insufficient.

Figure 4.10: Making ends meet across retirement phases

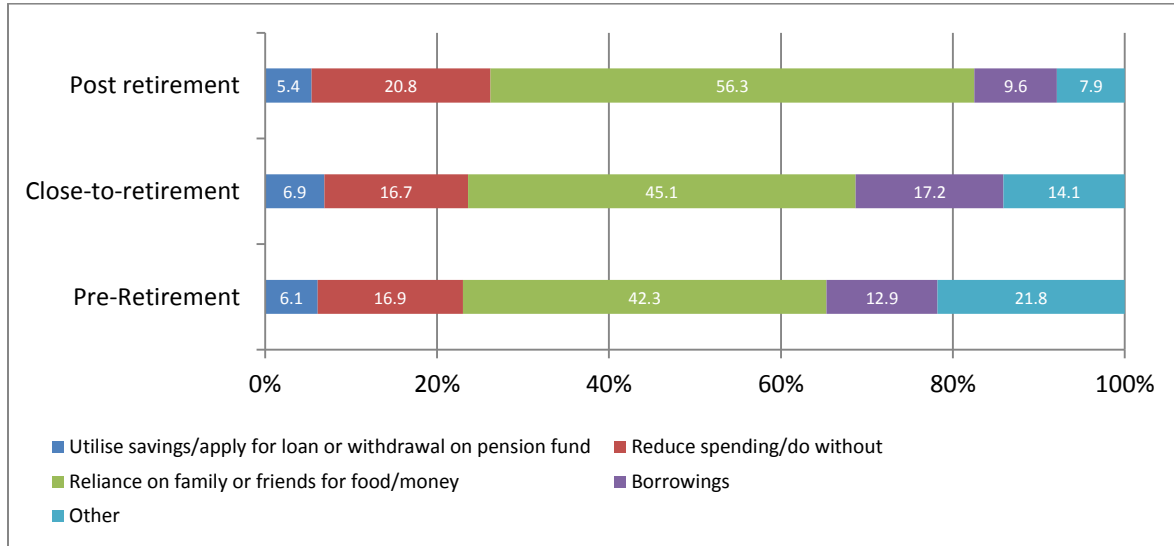
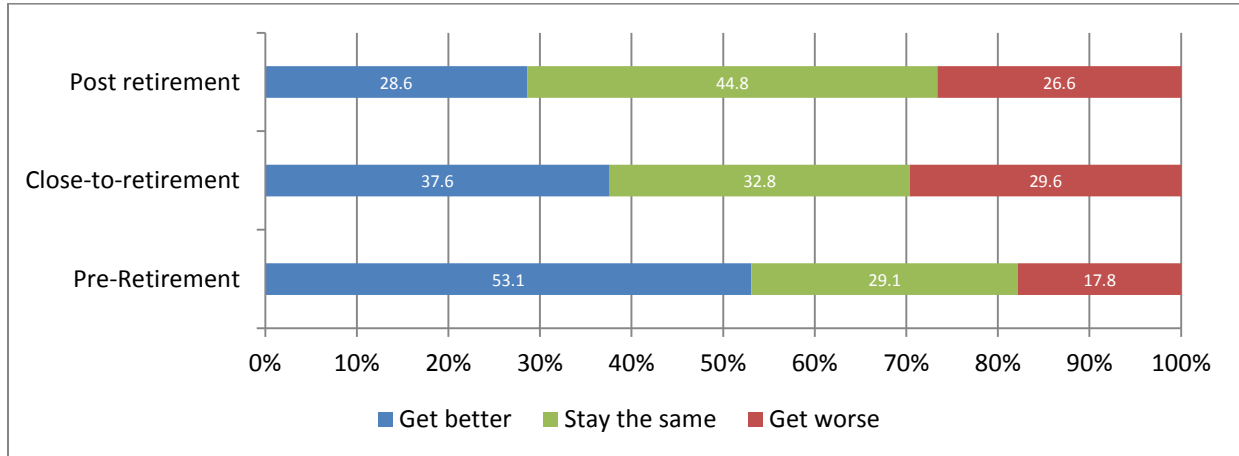


Figure 4.10 illustrates that in all three the retirement phases the greatest reliance is placed on family and/or friends to support them by borrowing food or money from them when they are not able to cover their living expenses. It further indicates that 56.3 percent of the individuals within the post-retirement phase placed their highest level of reliance on their families or friends to assist them in making ends meet, in comparison to the 45.1 percent in the close-to-retirement phase and 42.3 percent in the pre-retirement phase. Dependence on friends and/or family was also reflected in the South African Household Financial Wellness Index of 2014 (De Clercq, Meiring, Van Aardt and Van Tonder, 2014) as being individuals' first coping strategy when they encounter financial difficulty. The lowest level of borrowings was contracted by 9.6 percent of individuals in the post-retirement phase, followed by 12.9 percent of the individuals in the pre-retirement phase and 17.2 percent in the close-to-retirement phase. This might possibly be because the access that individuals in the post-retirement phase have to credit is limited, forcing them to seek other resources in order to cope financially.

Figure 4.11 illustrates individuals' expectation regarding their financial situation within the next two years. The majority of the individuals indicated that there would either be

an improvement in their financial situation or that their financial situation would stay the same within the next two years.

Figure 4.11: Financial situation across retirement phases



In the pre-retirement phase, 53.1 percent of the individuals indicated that there would be an improvement in their financial situation within the next two years, compared to 37.6 percent in the close-to-retirement phase and 28.6 percent in the post-retirement phase. This might be an unfounded expectation, as individuals might think that it would get better, but their income distributions remained fairly consistent across the three retirement phases (refer to section 4.2.1, Figure 4.5). Bearing in mind what individuals indicated when they had to respond to the coverage of their living costs during the last 12 months (Figure 4.9), this might reflect on individuals' expectations for the future with regard to their financial situation.

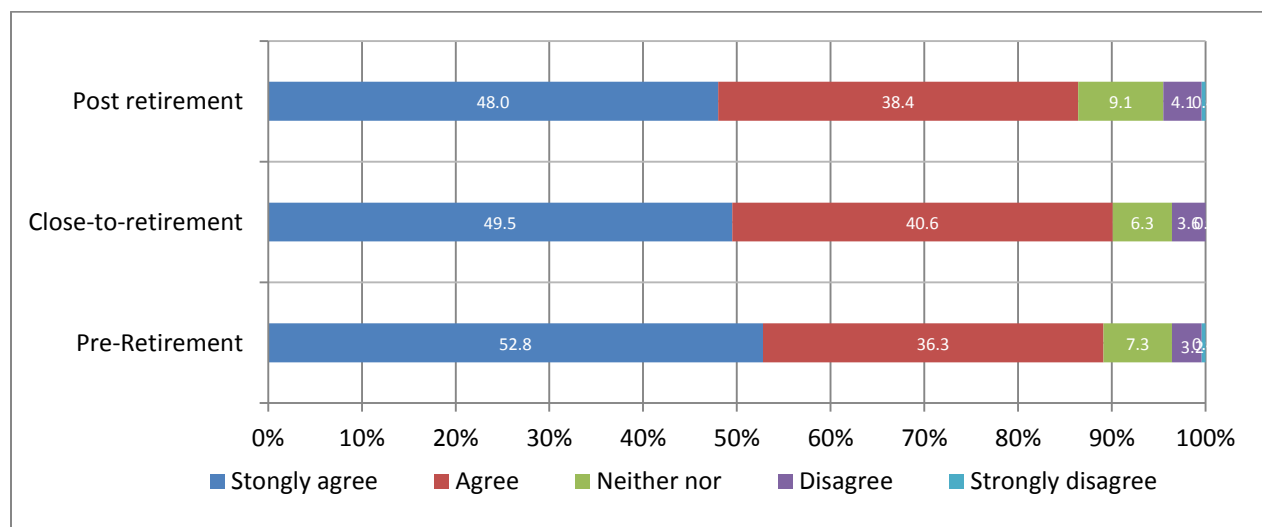
Where individuals' financial position would stay the same for the next two years, the percentage of responses was the highest in the post-retirement phase, with 44.8 percent, which could include that a significant percentage of these individuals might already have retired and were living off their inflation adjusted retirement income and/or that they were either still working full time or part time. By continuing to work either full time or part time, these individuals could postpone the utilisation of their retirement income and in that way improve their financial situation. However, these individuals are no longer in a position to influence the levels of their retirement income significantly, and could potentially only influence their expenditure levels. Individuals' financial situation

might not stay the same for the next two years, as the income distribution indicated that it would not really change as they progress up the retirement phases.

In the cases where individuals' financial position would deteriorate within the next two years, the highest level of responses was recorded in the close-to-retirement phase, namely 29.6 percent. This might be an indication that individuals within the close-to-retirement phase realised that they might have not accumulated enough funding for their upcoming retirement and that they have very little time in which they could rectify the matter. Longevity should also be taken into consideration when determining the level of funding they would possibly require when trying to remedy their financial situation going forward.

In order to remedy situations where individuals find that they have not accumulated enough to support them in retirement, they should be proactive by starting as early as possible to provide for their retirement. Figure 4.12 confirms that the majority of the individuals across the three retirement phases agreed with the statement that the earlier you start saving for retirement the better, but it is evident that although people know that, not everyone was in a position to actually do it (section 1.1, section 1.2 and section 2.5.3).

Figure 4.12: Individuals' perception on early commencement with regard to retirement savings across retirement phases



In the pre-retirement phase, when combining the strongly agree and agree options, 89.1 percent agreed that it is better to start saving earlier for retirement, with 90.1 percent in the close-to-retirement phase and 86.4 percent in the post-retirement phase. The agreement with this statement over all three phases emphasises the importance of retirement savings and individuals' implementation thereof as soon as possible in their financial and/or retirement plans. These findings therefore reveal that there is a general understanding among South Africans about the importance and the essence of saving for retirement.

Table 4.2 provides a summary of the main findings with regard to individuals' general financial behaviour across the three retirement phases in terms of retirement planning.

Table 4.2: Summary of main findings with regard to individuals' general financial behaviour

General financial behaviour	Distribution across the three phases		Brief summary of main conclusion
	Similar	Different	
Knowledge regarding discretionary income	X		This illustrated that individuals do not necessarily change their financial behaviour when they become older.
Replacement ratio	X		This indicated that 62.1% of individuals in the post-retirement phase were able to live within their means, with 53.8% in the pre-retirement phase and 52% in the close-to-retirement phase.
Making ends meet	X		In order to make ends meet, reliance on family or friends for food or money had the highest responses. In the post-retirement phase, 56.3% of individuals indicated that they relied on family or friends to make ends meet. These individuals had the lowest level of borrowings, which could have been because of limited access to credit, forcing them to seek other resources to assist them in coping financially.

General financial behaviour	Distribution across the three phases		Brief summary of main conclusion
	Similar	Different	
Financial situation		X	In the pre-retirement phase, 53.1% of individuals indicated that their financial situation would get better over the next two years, compared to the 37.6% in the close-to-retirement phase and 28.6% in the post-retirement phase. The income distribution across the three retirement phases remained fairly consistent, which indicates that this expectation was unfounded.
Commencement of retirement saving	X		Individuals across all three phases agreed that it is better to commence early with saving towards retirement.

(Source: Author's own)

From this section, it is evident that individuals do not necessarily change their financial management behaviour when they get older. In the post-retirement phase, 62.1 percent of individuals indicated that they were able to cover their living costs for the last 12 months. In the cases where individuals were not able to cover their living costs, reliance on family or friends for money or food had the highest level of responses across all three phases, but the post-retirement phase had the highest number of responses, 56.3 percent in this regard. In the pre-retirement phase, 53.1 percent of individuals indicated that their financial situation would get better over the next two years, in comparison to the 37.6 percent in the close-to-retirement phase and 28.6 percent in the post-retirement phase. The income distribution across the three retirement phases remained fairly consistent, which indicated this expectation to be unfounded. Individuals across all three phases agreed that it is better to commence early with saving towards retirement.

The focus of the next section is to unpack the possible statistical differences that exist across the three retirement phases with regard to the three core areas of the practical

retirement planning process. The results relating to sections 4.2.1.and 4.2.2 provided the necessary foundation regarding the demographic status of South Africans and their financial behaviour in order to assist individuals in making sensible financial decisions relating to planning for retirement. These results were not used for further analysis.

4.3. UNPACKING THE POSSIBLE STATISTICAL DIFFERENCES BETWEEN THE THREE RETIREMENT PHASES

As discussed in Chapter 2, there could be differences across the three retirement phases (section 2.4) within the three core areas of the practical retirement planning process (section 2.3 and section 2.5). The aim of this section is therefore to discuss the questions relating to the three core areas of the practical retirement process and to do so within the context of the descriptive statistics to try to identify potential similarities or differences among the three phases of retirement, based on their 'face value'. Inferential analyses were performed on the same questions by way of the Kruskal-Wallis and Mann-Whitney U non-parametric tests, which would indicate whether the possible differences could be considered statistically significant or whether statistically significant differences exist where the descriptive statistics indicate that no 'face value' difference exists.

4.3.1 Core area 1 – Setting retirement goals

In core area 1, which deals with setting goals for retirement as discussed in Chapter 2 (section 2.3 and section 2.5.1), the following issues as identified in the South African FSB study will be discussed:

- the frequency of financial goal setting;
- confidence levels with regard to maintaining a certain standard of living throughout retirement;
- regularity of retirement savings;
- long-term financial planning;
- standard of living;
- health satisfaction;

- achievements in life; and
- future financial security.

Each of the questions relating to the above-mentioned issues of core area 1 of the practical retirement planning process will be repeated in the respective sections below for the convenience of the reader.

4.3.1.1 Frequency of financial goal setting

Goal setting is the first step in practical retirement planning and plays a vital role in the planning process (section 2.3 and section 2.5). The question below deals with the frequency of goal setting.

Question number	Question detail				
19	How often you do these things or not: I set long-term financial goals and work hard to achieve them.				
	Always	Often	Some of the time	Seldom	Never

Goals play an important role in practical retirement planning, as they are the starting point of the retirement planning process. By not setting goals, individuals might not realise, until it is too late, what the extent of their retirement funding should be. As illustrated in Figure 4.13, individuals had to indicate how often they set long-term financial goals and work hard to achieve them.

Figure 4.13: Long-term financial goal setting

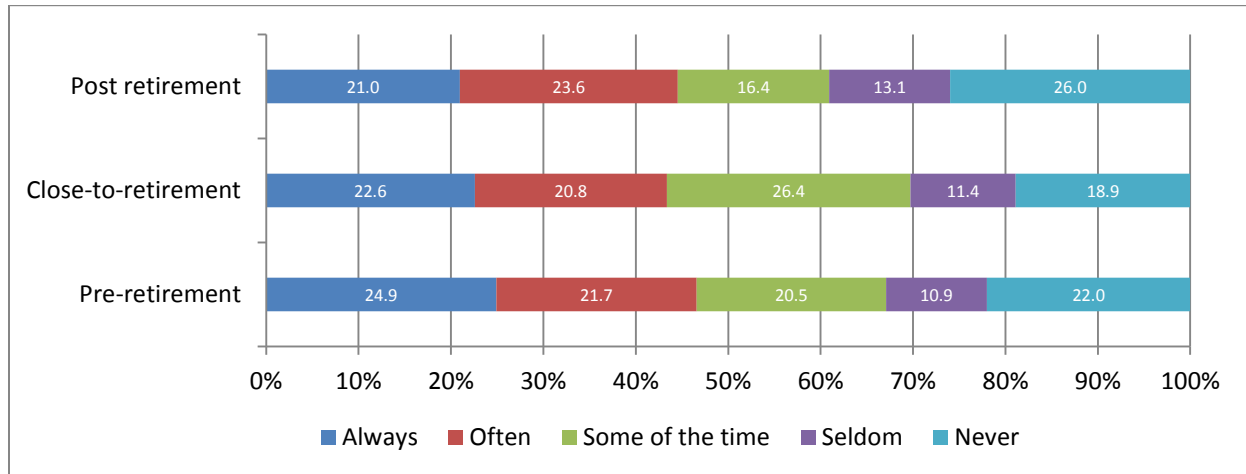


Figure 4.13 illustrates that only 24.9 percent of the individuals in the pre-retirement phase indicated that they always set long-term financial goals and work hard to achieve them. This is not a very high percentage, taking into account as indicated earlier in this chapter that this phase includes individuals in the age group 18 to 54 years (section 4.2.1). As highlighted in Chapter 1 (section 1.1), younger individuals tend to postpone saving for retirement and also tend to be the least likely to set goals, in comparison to older individuals (Roberts *et al.*, 2012; Joehnk *et al.*, 2011).

The highest percentage in Figure 4.13 is 26.4 percent, which was reported under the option that goals are set only some of the time and indicated by those individuals in the close-to-retirement phase. Goal setting is a key element, especially in the pre-retirement and the close-to-retirement phases, as it requires from individuals to either set and/or reassess their retirement goals to determine whether they would be achievable by the time that they reach retirement. However, 26.0 percent of the individuals in the post-retirement phase also indicated that they had never set long-term goals.

Across the three retirement phases, the problem of setting long-term financial goals seems to persist, irrespective of the important role of setting retirement goals within the practical retirement planning process. It was further evident that individuals do not necessarily change their outlook regarding the frequency of financial goal setting when they get older.

Table 4.3 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to whether individuals set long-term financial goals and work hard to achieve them.

Table 4.3: Long-term financial goal setting

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test			
22 835.923	2	0.000	Statistically significant differences exist				
Post-hoc result							
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*		
Pre-retirement /Close-to-retirement	-92 377.044	-17.445	0.000	0.000	Statistically significant differences		
Pre-retirement/ Post-retirement	-890 826.825	-151.073	0.000	0.000	Statistically significant differences		
Close-to-retirement /Post-retirement	-798 449.041	-105.680	0.000	0.000	Statistically significant differences		
Mann-Whitney U- and effect size results							
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)	
Pre-retirement/Close-to-retirement	35 378 210 786 888.000	17.894	0.000	Statistically significant differences	0.003	Small	
Pre-retirement/Post-retirement	29 383 918 411 315.000	150.478	0.000	Statistically significant differences	0.029	Small	
Close-to-retirement/Post-retirement	3 330 229 792 857.000	109.787	0.000	Statistically significant differences	0.049	Small	

*Based on 5% significance level

(Source: Author's own)

As presented in Table 4.3, the Kruskal-Wallis test revealed that there tend to be statistically significant differences for individuals across the three retirement phases when setting long-term financial goals and working hard to achieve them, with the chi-square being $X^2(2) = 22\ 835.923$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be statistically significant differences with regard to goal setting over all three the retirement phases. As can be seen from the graph for the post-hoc test, the mean rank (indicated by the bold black lines) is similar for each retirement phase, but the distributions (indicated by the blocks) differ. This was also confirmed when performing the Mann-Whitney U tests, as these also indicated the significance of the differences that exist among individuals across the three retirement phases when setting long-term financial goals for retirement. The effect size of these statistically significant differences was nevertheless small. Thus, although the visual distribution (Figure 4.13) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.3) concluded that the differences were statistically significant, despite the effect size thereof being small.

The statistical significance of the small differences was as expected and was a good indication of the frequency with which individuals are actually involved in setting and re-assessing their long-term financial goals. It further seemed that individuals underestimate the importance of long-term financial goal setting, irrespective of their age, and that regularly monitoring such goals to determine whether they are still financially viable also seems to be neglected. Chapter 5 will discuss how financial knowledge and financial management skills could possibly assist individuals when setting long-term financial goals, working hard to achieve them, as well as the frequency of monitoring such goals.

4.3.1.2 Confidence levels with regard to maintaining a certain standard of living throughout retirement

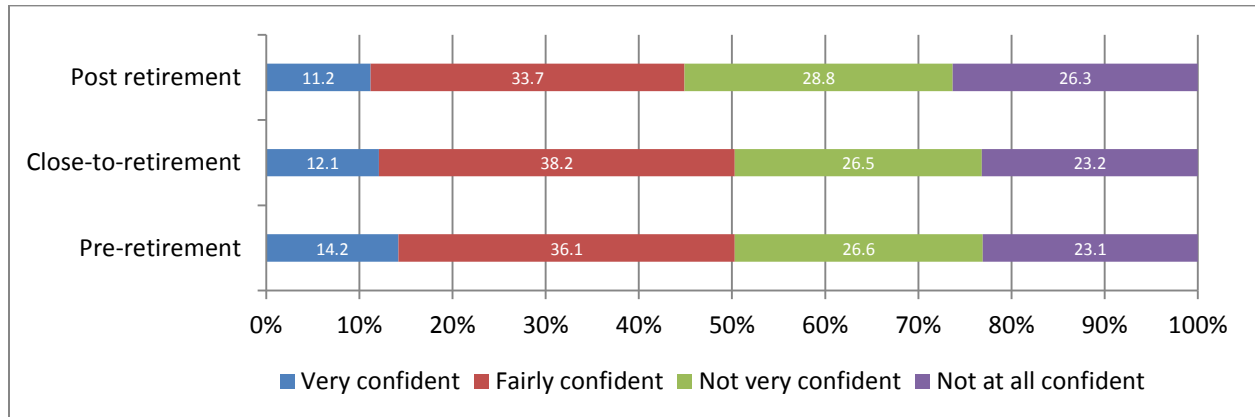
Maintaining a certain standard of living throughout retirement is one of the most important financial goals for retirement (sections 1.1, 1.2, 2.2, 2.3, 2.4.2, 2.4.3 and

2.5.1.1). The question below deals with individuals' confidence levels with regard to maintaining a certain standard of living throughout retirement.

Question number	Question detail				
41	<p>Taking all sources of retirement income into account, how confident are you that your income will maintain your standard of living throughout retirement</p> <table border="1" data-bbox="462 575 1297 674"> <tr> <td data-bbox="462 575 672 674">Very confident</td> <td data-bbox="672 575 881 674">Fairly confident</td> <td data-bbox="881 575 1091 674">Not very confident</td> <td data-bbox="1091 575 1297 674">Not at all confident</td> </tr> </table>	Very confident	Fairly confident	Not very confident	Not at all confident
Very confident	Fairly confident	Not very confident	Not at all confident		

Figure 4.14 illustrates individuals' confidence levels with regard to the standard of living they anticipate to have throughout retirement. In both the pre-retirement and the close-to-retirement phases the split between those individuals who were confident that their income would give them the required standard of living throughout retirement and those that were not confident, is very similar when combining the very confident and fairly confident options, where 50.3 percent of the individuals indicated that they were confident versus 49.7 percent who indicated that they were not confident when combining the not very confident and not at all confident. In the post-retirement phase, the split is 44.9 percent of individuals being confident versus 55.1 percent who indicated that they were not confident that their income would provide them with the required standard of living throughout retirement.

Figure 4.14: Confidence levels with regard to individuals' income and standard of living throughout retirement across retirement phases



Across the three retirement phases, the distribution with regard to individuals' sources of income and their confidence levels about maintaining a certain standard of living throughout retirement, one of the most important financial goals, seemed to be a problem. It was also evident that individuals do not necessarily address this issue as they get older.

Table 4.4 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to individuals' confidence levels with regard to the standard of living they anticipate to have throughout retirement.

Table 4.4: Confidence levels with regard to individuals' income and standard of living throughout retirement across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
28 336.789	2	0.000	Statistically significant differences exist	<p>The figure is a box plot titled 'Independent-Samples Kruskal-Wallis Test'. The y-axis is labeled 'OLS Taking all sources of retirement income into account, how confident are you that your income will give standard of living throughout retirement' and ranges from 1.00 to 4.00. The x-axis is labeled 'AGE_GROUPS_FINAL' and has three categories: 'Pre-retirement', 'Close-to-retirement', and 'Post-retirement'. Each category has a box plot showing the distribution of confidence levels. The 'Post-retirement' group shows the highest median confidence level, followed by 'Pre-retirement' and 'Close-to-retirement'.</p>		
Post-hoc result						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement /Close-to-retirement	-163 514.727	-32.662	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	-906 987.590	-167.506	0.000	0.000	Statistically significant differences	
Close-to-retirement/Post-retirement	-743 472.863	-106.009	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	31 134 825 258 434.500	32.910	0.000	Statistically significant differences	0.006	Small
Pre-retirement/Post-retirement	27 545 030 588 695.000	167.177	0.000	Statistically significant differences	0.033	Small
Close-to-retirement/Post-retirement	3 152 434 906 516.000	107.977	0.000	Statistically significant differences	0.049	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.4, the Kruskal-Wallis test revealed that there tend to be statistically significant differences in individuals' confidence levels that their income would provide them with the standard of living they hope for throughout retirement across the three retirement phases, with the chi-square being $X^2(2) = 28\ 336.789$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences in respect of individuals' confidence levels about their income and the standard of living they would have in retirement over all three the retirement phases. This was confirmed when performing the Mann-Whitney U tests, as these also indicated the significance of the differences that exist among individuals across the three retirement phases with regard to their confidence levels about their income and the standard of living they would have in retirement. However, the effect size of these statistically significant differences was small across all three the retirement phases. Thus, although the visual distribution (Figure 4.14) created the impression that there were no significant differences across the three phases, the additional tests (as indicated in Table 4.4) concluded that the differences were statistically significant, despite the effect size thereof being small.

The small statistical significance of the differences was as expected and was a good reflection of individuals' confidence levels with regard to the standard of living they expected to maintain throughout their retirement. This was done after taking into account all the sources of retirement income that they would possibly have in retirement. It therefore seems that despite the expression of low levels of confidence by individuals with regard to the standard of living they anticipate to maintain throughout retirement, the problem persists as they get older. Chapter 5 will discuss how financial knowledge, financial management and mathematical skills could possibly assist individuals to increase their confidence levels with regard to maintaining a certain standard of living throughout retirement.

4.3.1.3 Regularity of retirement savings

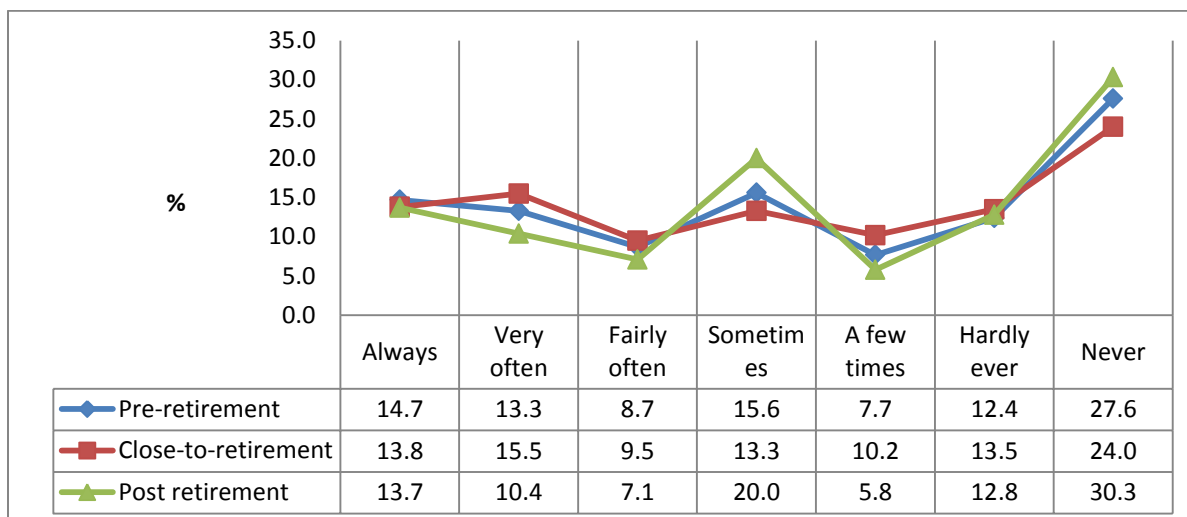
Putting money aside for the future on a regular basis is an outflow of individuals' retirement plans for achieving their pre-determined financial goals for retirement

(section 2.3, section 2.4 and section 2.5.1.1). The question below deals with the regularity of putting money aside for the future.

Question number	Question detail				
133	How well does the following statement apply to you: I put money aside for the future on a regular basis				
	Always	Often	Some of the time	Seldom	Never

It seems that individuals' willingness to set aside money for the future on a regular basis could be influenced by the frequency levels at which they are setting long-term financial goals (Figure 4.13), their confidence levels to maintain a certain standard of living throughout retirement (Figure 4.14), and possibly their financial ability to do so. Figure 4.15 illustrates whether individuals are regularly putting money aside for the future.

Figure 4.15: Regularity of retirement savings across retirement phases



As illustrated in Figure 4.15, 27.6 percent of the individuals in the pre-retirement phase indicated that they never put money aside for the future on a regular basis, compared to the 24.0 percent in the close-to-retirement phase. However, these are two phases in which individuals have the opportunity to accumulate funds for their retirement that could affect their future standard of living. It further seems that some individuals only

contribute to a retirement fund via their employers. Merely contributing to a retirement fund seems to be insufficient to achieve individuals' current standard of living during retirement, which is only one of the retirement goals. This does not take into account any other retirement goals that individuals might have. Thorough retirement planning is therefore required by individuals to provide adequately for all their retirement goals. On the positive side, 14.7 percent of the individuals in the pre-retirement phase indicated that they always put money aside on a regular basis for the future, compared to the 13.8 percent in the close-to-retirement phase and 13.7 percent in the post-retirement phase.

In the post-retirement phase, 30.3 percent of the individuals indicated that they never put money aside for the future on a regular basis, which in essence should not be a problem, as in this phase individuals retire and start enjoying the retirement funds that have been accumulated over their working years. They are therefore not really saving anymore during this phase, but rather spending their accumulated retirement funds. The problem arises with individuals who have no or very little accumulated retirement funds, or if they live longer than expected, as their retirement income would most probably be inadequate for addressing their financial needs, forcing them to continue working in retirement.

Across the three retirement phases, the distribution with regard to individuals' putting money aside on a regular basis seemed to be a general problem; 27.6 percent of individuals in the pre-retirement phase indicated that they never regularly set aside money for the future, compared to 24.0 percent of individuals in the close-to-retirement phase and 30.3 percent in the post-retirement phase. It was thus evident that individuals do not necessarily change their outlook regarding regularly putting money aside for the future when they get older.

Table 4.5 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to whether individuals are putting money aside for the future on a regular basis.

Table 4.5 Regular retirement savings across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
20 512.204	2	0.000	Statistically significant differences exist			
Post-hoc result						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement /Close-to-retirement	396 638.412	72.117	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	-703 043.062	-116.603	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	-1 099 681.474	-141.358	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	37 060 083 117 681.000	-71.868	0.000	Statistically significant differences	0.013	Small
Pre-retirement/Post-retirement	32 440 113 257 756.500	116.397	0.000	Statistically significant differences	0.022	Small
Close-to-retirement/Post-retirement	3 717 651 528 082.500	143.043	0.000	Statistically significant differences	0.062	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.5, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in individuals' ability to put money aside for the future on a regular basis, with the chi-square being

$\chi^2(2) = 20\ 512.204$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences over the three retirement phases with regard to individuals' ability to put money aside regularly for the future. This was confirmed when performing the Mann-Whitney U tests, as they also indicated the significance of the differences that exist among individuals across the three retirement phases with regard to their ability to regularly put money aside for the future. The effect size of these statistically significant differences was however small across all three the retirement phases. Thus, although the visual distribution (Figure 4.15) created the impression that there were no significant differences across the three phases, the additional tests (as indicated in Table 4.5) concluded that the differences were statistically significant although the effect size was small.

The small statistical significance of the differences was as expected and was a good reflection of individuals' ability to put money aside for the future on a regular basis. It therefore seems that despite the financial impact that irregular retirement savings might have on maintaining a certain standard of living throughout their retirement, the trend of irregular retirement savings persists as individuals get older. Chapter 5 will discuss how financial knowledge and financial management skills could possibly assist individuals to address the issue of irregular retirement savings in order to reduce financial vulnerability in old age.

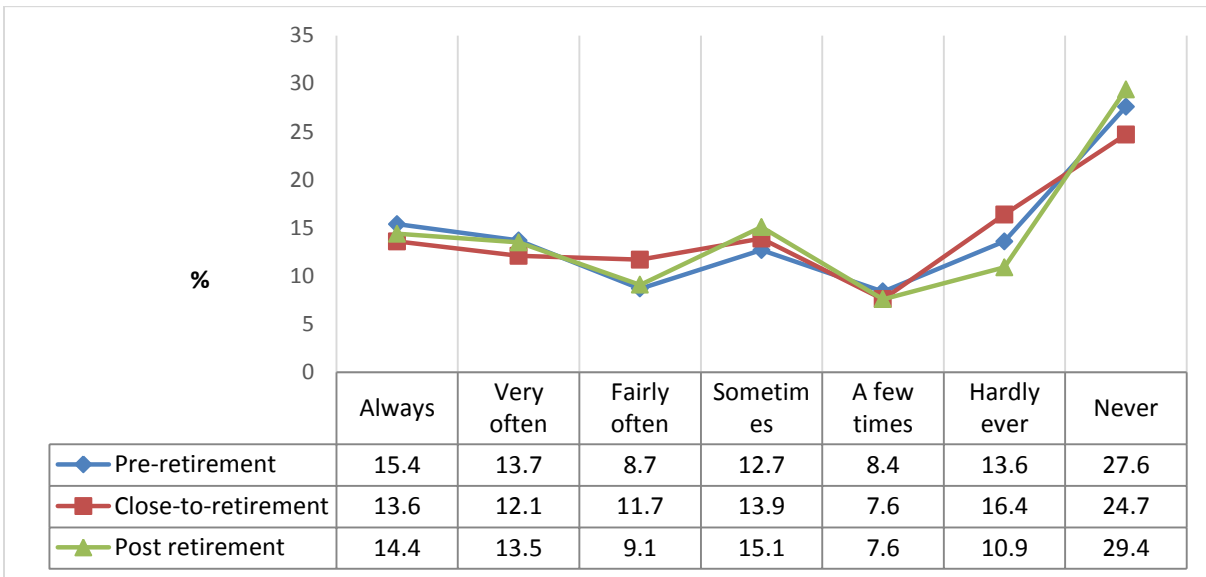
4.3.1.4 Long-term financial planning

Long-term financial planning assists individuals to plan towards achieving their pre-determined financial goals for retirement (section 2.3 and section 2.5.1.1). The question below deals with financial planning for the future.

Question number	Question detail						
134	How well does the following statement apply to you: I do financial planning for the future.						
	Always	Very Often	Fairly often	Sometimes	A few times	Hardly ever	Never

Figure 4.16 illustrates whether individuals do financial planning for the future based on their attitude and behaviour towards financial planning, which includes retirement planning. The individuals responded in a very similar manner as to the regularity of retirement savings above where they had to indicate whether they put money aside on a regular basis.

Figure 4.16: Long-term financial planning across retirement phases



As illustrated in Figure 4.16, 27.6 percent of the individuals in the pre-retirement phase indicated that they never did long-term financial planning, in comparison to the 24.7 percent in the close-to-retirement phase and 29.4 percent in the post-retirement phase. Thorough retirement planning is therefore required by individuals to sufficiently provide for all their retirement goals. On the positive side, 15.4 percent of the individuals in the pre-retirement phase indicated that they always did long-term financial planning, in comparison to the 13.6 percent in the close-to-retirement phase and 14.4 percent in the post-retirement phase.

Across all three retirement phases the distribution with regard to individuals' doing long-term financial planning seemed to be an overall problem; 27.6 percent of individuals in the pre-retirement phase indicated that they never did financial planning for the future, compared to 24.7 percent of individuals in the close-to-retirement phase and 29.4 percent in the post-retirement phase. It was also evident that individuals do not

necessarily change their outlook regarding long-term financial planning when they get older.

Table 4.6 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to whether individuals did financial planning for the future.

Table 4.6: Long-term financial planning across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
629.612	2	0.000	Statistically significant differences exist			
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement/ Close-to-retirement	-10 561.586	-1.934	0.053	0.159	Statistically significant differences do not exist	
Pre-retirement/ Post-retirement	-150 075.550	-25.089	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	-139 513.964	-18.079	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/ Close-to-retirement	37 690 808 995 577.000	1.914	0.056	Statistically significant differences do not exist		
Pre-retirement/ Post-retirement	31 106 405 563 699.000	25.118	0.000	Statistically significant differences	0.005	Small
Close-to-retirement/ Post-retirement	3 509 058 370 156.500	17.918	0.000	Statistically significant differences	0.008	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.6, the Kruskal-Wallis test revealed that there tend to be statistically significant differences in individuals' ability to do financial planning for the future across the three retirement phases, with the chi-square being $\chi^2(2) = 629.612$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences with regard to individuals' ability to do financial planning over two pairs of the three retirement phases, but no statistically significant difference exists between the pre-retirement and close-to-retirement phases. This was confirmed when performing the Mann-Whitney U tests, as these also indicated the significance of the differences that exist among individuals across the three retirement phases with regard to their ability to do financial planning for the future. The results of the Mann-Whitney U test when comparing the pre-retirement phase with the close-to-retirement phase indicated that the statistical difference was not significant, as the p -value exceeded 0.05. There were however statistically significant differences when comparing the pre-retirement phase with the post-retirement phase and the close-to-retirement with the post-retirement phase, as their p -values were smaller than 0.05. The effect sizes of these statistically significant differences were however small. Thus, although the visual distribution (Figure 4.16) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.6) concluded that the differences were statistically significant for the phases mentioned above, although the effect size was small.

The small statistical significance of the differences when comparing the pre-retirement phase with the post-retirement phase and the close-to-retirement with the post-retirement phase was as expected and was a good reflection of individuals' ability to do long-term financial planning. The fact that there were no statistically significant differences between the pre-retirement and the close-to-retirement phases was not expected, but was in line with the visual distribution. It therefore seems that despite the financial impact of not doing long-term financial planning and its effect on individuals' anticipated standard of living throughout retirement, the trend of not doing long-term financial planning persists as individuals get older. Chapter 5 will discuss how financial knowledge, financial management and mathematical skills could possibly assist

individuals to do long-term financial planning in order reduce financial vulnerability in old age.

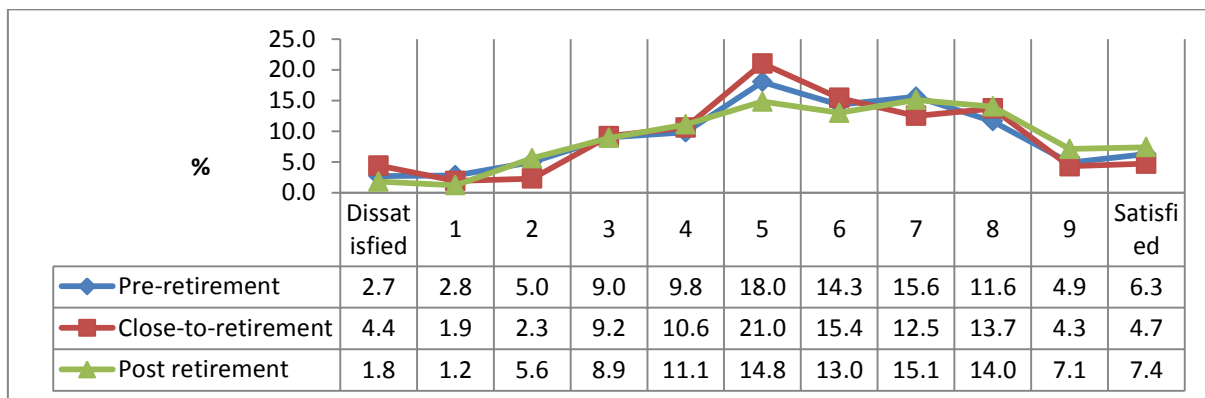
4.3.1.5 Standard of living

Maintaining a certain standard of living in retirement is one of the most important financial goals that individuals could have and would therefore affect their satisfaction levels in this regard (section 2.3 and section 2.5.1.1). The question below deals with individuals' satisfaction levels concerning their standard of living.

Question number	Question detail										
160	How satisfied are you with your standard of living?										
	Completely dissatisfied	1	2	3	4	5	6	7	8	9	Completely satisfied

According to the responses, South Africans' overall levels of financial planning are very low. This could possibly have an impact on the satisfaction levels of individuals in terms of their standard of living and retirement planning for maintaining a certain standard of living. Figure 4.17 illustrates whether individuals are satisfied with their standard of living. Individuals in the post-retirement phase overall were more satisfied with their standard of living than those individuals in the pre-retirement- and close-to-retirement phases.

Figure 4.17: Standard of living across retirement phases



As indicated in Figure 4.17, it is clear from the responses that the majority of individuals over all three the retirement phases are neither satisfied nor dissatisfied with their current standard of living as the majority reported a score of around 5 out of 10 across all three phases. Individuals in the pre-retirement and close-to retirement phases are in the position to address any form of dissatisfaction provided that they have the financial ability and will to do so. The practical retirement planning process could serve as a measure to assist these individuals to improve their standard of living in retirement, if they follow the steps that are embedded in the retirement planning process. This would most probably require the inclusion of certain savings strategies within their financial means into their retirement plans. Individuals in the post-retirement phase could however try to remedy their financial disposition by working part-time (if possible) to address some of their financial needs. Individuals' level of satisfaction with their standard of living could also be influenced by their level of health.

Across all three retirement phases the distribution of individuals' satisfaction levels with regard to their standard of living were fairly similar, except where it spiked at a score of 5 which was indicated by 18.0 percent of the individuals in the pre-retirement phase, 21.0 percent in the close-to-retirement phase, and 14.8 percent in the post-retirement phase. It was also evident that the levels do not change drastically as individuals get older.

Table 4.7 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to whether individuals are satisfied with their standard of living.

Table 4.7: Standard of living across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
28 714.100	2	0.000	Statistically significant differences exist			
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement / Close-to-retirement	208 603.611	37.734	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	-977 927.089	-161.013	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	-1 186 530.700	-151.601	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	37 735 984 567 543.000	-37.868	0.000	Statistically significant differences	0.007	Small
Pre-retirement/Post-retirement	33 026 210 694 996.500	161.141	0.000	Statistically significant differences	0.030	Small
Close-to-retirement/Post-retirement	3 768 485 018 451.500	150.619	0.000	Statistically significant differences	0.065	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.7, the Kruskal-Wallis test revealed that there tend to be statistically significant differences in individuals' satisfaction levels with regard to their standard of living across the three retirement phases, with the chi-square being

$\chi^2(2) = 28\,714.100$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences with regard to individuals' satisfaction levels regarding their standard of living over all three the retirement phases. This was confirmed when performing the Mann-Whitney U tests, which also indicated the significance of the differences that exist among individuals across the three retirement phases with regard to their satisfaction levels in respect of their standard of living. The effect size of these statistically significant differences was small across all three the retirement phases. Thus, although the visual distribution (Figure 4.17) created the impression that there were no significant differences across the three phases, the additional tests (as indicated in Table 4.7) concluded that the differences were statistically significant, even though the effect size thereof was small.

The statistical significance of the small differences was not expected. When looking at Figure 4.17, it seems that individuals are on average more satisfied than dissatisfied with their current standard of living. This is despite the expression of their confidence levels to maintain a certain standard of living throughout retirement (Figure 14), the irregularity of retirement savings (Figure 4.15), and the trend of not doing long-term financial planning (Figure 4.16). Even when considering this it seems that no real action is taken to plan financially for retirement and individuals' financial behaviour persists in this manner as they get older. Chapter 5 will discuss how financial knowledge, financial management and mathematical skills could possibly assist individuals to reconsider their current standard of living and to do proper long-term financial planning for retirement within the scope of their personal circumstances in an attempt to reduce financial vulnerability in old age.

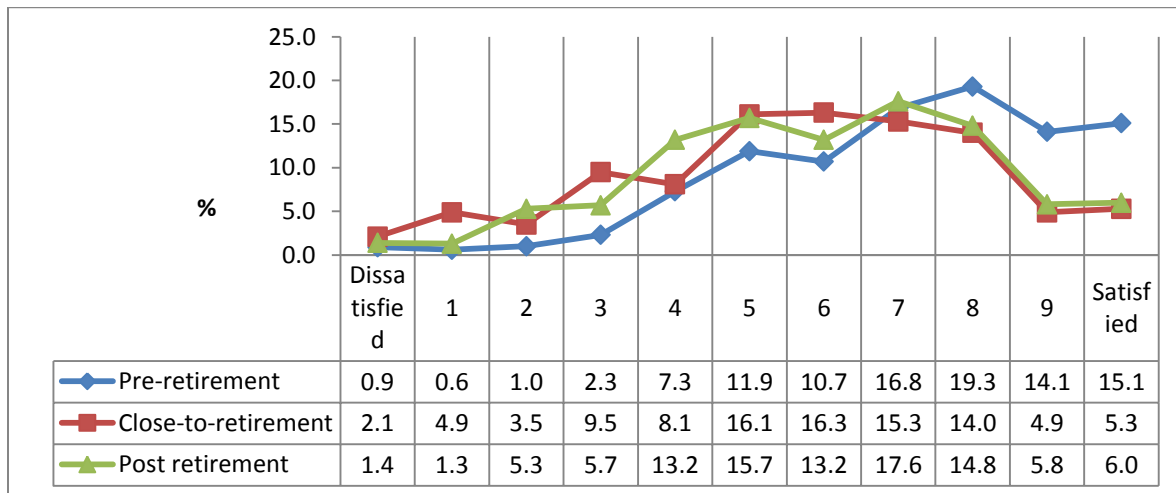
4.3.1.6 Health satisfaction

Health satisfaction influences the type of financial goals that individuals set for the future as well as for retirement, bearing in mind that the financial impact takes their life expectancies into consideration (section 2.5.1.1). The question below deals with the individuals' satisfaction levels in terms of their health.

Question number	Question detail										
161	How satisfied are you with your health?										
	Completely dissatisfied	1	2	3	4	5	6	7	8	9	Completely satisfied

Figure 4.18 illustrates how satisfied individuals are with their health. As is to be expected, individuals in the pre-retirement phase were generally more satisfied with their health than those individuals in the close-to-retirement and post-retirement phases (being older and less healthy).

Figure 4.18: Satisfaction with health status across retirement phases



As illustrated in Figure 4.18, as individuals move closer towards retirement, this seems to influence their satisfaction levels in terms of their health. This is more of a reality check when compared to those in the pre-retirement phase who are generally more satisfied with their health status. Individuals' health status and the impact thereof on their life expectancy could also influence how they approach planning for retirement.

Across the three retirement phases the distribution of individuals' satisfaction levels with regard to their health status differed when comparing the responses between the three retirement phases. It was also evident that it did change when they got older, as the individuals were ultimately more satisfied with their health status in the pre-retirement phase in comparison to those in the close-to-retirement and post-retirement phases.

Table 4.8 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to how satisfied individuals were with their health.

Table 4.8: Health satisfaction across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
1 432 843.261	2	0.000	Statistically significant differences exist			
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement/ Close-to-retirement	5 405 725.045	975.995	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	4 728 850.838	779.730	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	-676 874.208	-86.461	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	24 933 344 318 289.000	-974.187	0.000	Statistically significant differences	0.181	Medium
Pre-retirement/Post-retirement	21 707 783 942 326.000	-782.529	0.000	Statistically significant differences	0.147	Medium
Close-to-retirement/Post-retirement	3 657 634 403 171.500	102.664	0.000	Statistically significant differences	0.045	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.8, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in individuals' satisfaction levels with regard to their health, with the chi-square being $\chi^2(2) = 1\,432\,843.261$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences over all three the retirement phases with regard to individuals' satisfaction levels concerning their health. This was confirmed when performing the Mann-Whitney U tests, as it indicated the statistical significance of the differences that exist among individuals across the three retirement phases with regard to their satisfaction levels in respect of their health. The effect size of these statistically significant differences was medium when comparing the pre-retirement phase with the close-to-retirement phase and the pre-retirement phase with the post-retirement phase. The effect size was however small when comparing the close-to-retirement phase with the post-retirement phase. Thus, although the visual distribution (Figure 4.18) created the impression that there were no significant differences between two of the three phases, the additional tests (as indicated in Table 4.8) however concluded that the differences were statistically significant across all three phases, even though the effect sizes were small and medium.

The statistical significance of the differences being small and medium as indicated above was as expected and therefore a good reflection of individuals' satisfaction levels with regard to their health status across the three retirement phases. It therefore seems that younger individuals are more inclined to be satisfied with their health status in comparison to older individuals. Chapter 5 will discuss how financial knowledge, financial management and mathematical skills could possibly assist individuals in doing planning for retirement by taking into consideration their health status and the impact that it could have on their life expectancy.

4.3.1.7 Achievements in life

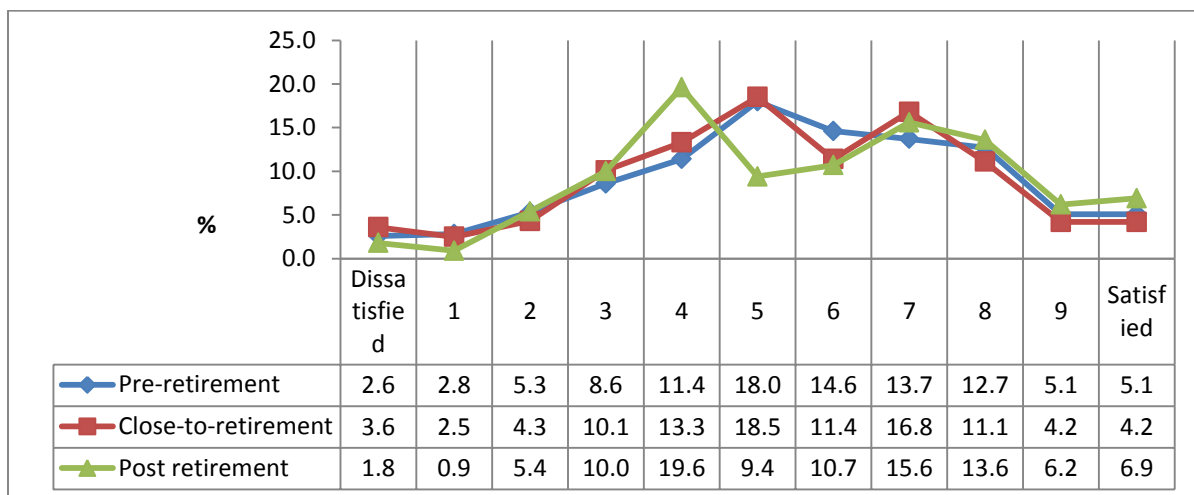
Achievements in life could also have an influence on individuals' goal setting ability as well as the type of financial goals that they would set for their retirement. The question

below deals with individuals' satisfaction levels in terms of what they have achieved in life.

Question number	Question detail										
162	How satisfied are you with what you are achieving in life?										
	Completely dissatisfied	1	2	3	4	5	6	7	8	9	Completely satisfied

Figure 4.19 illustrates how satisfied individuals are with their achievements in life. Individuals in the post-retirement phase were generally more satisfied with what they had achieved in life than those individuals in the pre-retirement and close-to-retirement phases.

Figure 4.19: Assessment of achievements in life across retirement phases



Across the three retirement phases the distribution of individuals' satisfaction levels with regard to their achievements in life was fairly similar, except where it spiked at a score of 4, which was indicated by 19.6 percent of the individuals in the post-retirement phase. It was also evident that it does not change significantly when they get older, but the individuals in the post-retirement phases were generally more satisfied with what they had achieved in life.

Table 4.9 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to how satisfied individuals were with their achievements in life.

Table 4.9: Assessment of achievements in life across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
17 252. 885	2	0.000	Statistically significant differences exist	<p>Independent-Samples Kruskal-Wallis Test</p> <p>0162 How satisfied are you with what you are achieving in life?</p> <p>AGE_GROUPS_FINAL</p>		
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement/ Close-to-retirement	584 505.279	105.595	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	-413 886.943	-68.058	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	-998 392.222	-127.393	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	36 861 773 033 580.000	-106.136	0.000	Statistically significant differences	0.020	Small
Pre-retirement/Post-retirement	31 952 748 856 385.500	68.637	0.000	Statistically significant differences	0.013	Small
Close-to-retirement/Post-retirement	3 720 946 943 923.000	123.399	0.000	Statistically significant differences	0.053	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.9, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in individuals' satisfaction levels with what they had achieved in life, with the chi-square being $\chi^2(2) = 17\ 252.885$ and the $p < 0.05$. The post-hoc test also indicated differences over all three the retirement phases with regard to individuals' satisfaction levels with what they had achieved in life. This was confirmed when performing the Mann-Whitney U tests, which indicated the significance of the differences that exist among individuals across the three retirement phases with regard to their satisfaction levels in respect of their achievements in life. However, the effect size of these statistically significant differences was small across all three the retirement phases. Thus, although the visual distribution (Figure 4.19) created the impression that there were no significant differences across the three phases, the additional tests (as indicated in Table 4.9) indicated that the differences were statistically significant, even though the effect size was small.

The statistical significance of the differences being small was not as expected. From Figure 4.19 it seems that individuals were on average more satisfied than dissatisfied with their achievements in life, despite the expression of their confidence levels to maintain a certain standard of living throughout retirement (Figure 14), the irregularity of retirement savings (Figure 4.15), and the trend of not doing long-term financial planning (Figure 4.16). Nevertheless, it seems that no real action is taken to plan financially for retirement and individuals' financial behaviour persists in this manner as they get older. Chapter 5 will discuss how financial knowledge, financial management and mathematical skills could possibly assist individuals to reconsider their achievements in life and to do proper long-term financial planning for retirement within the scope of their personal circumstances in an attempt to reduce financial vulnerability in old age.

Individuals' satisfaction levels with their standard of living, health and achievements in life could also affect their satisfaction levels in terms of their financial security for the future.

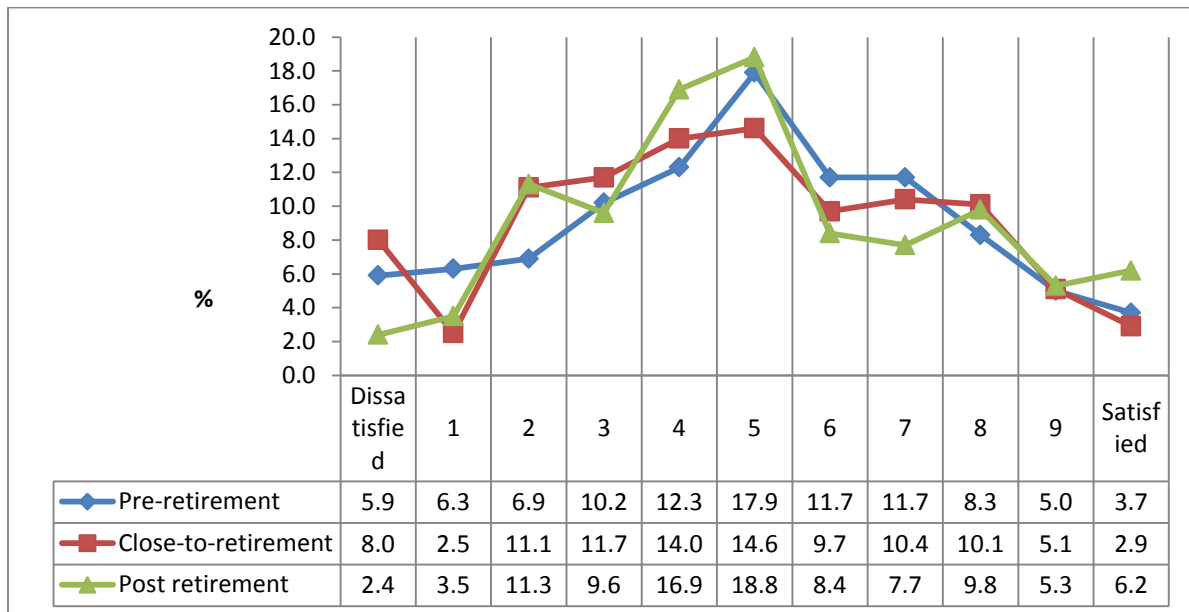
4.3.1.8 Future financial security

Future financial security plays a key role when setting goals for retirement and in the practical retirement planning process (section 2.5.2.2, section 2.5.1.1 and section 2.5.3.1). The question below deals with individuals' satisfaction levels in terms of future financial security.

Question number	Question detail										
166	How satisfied are you with your future financial security?										
	Completely dissatisfied	1	2	3	4	5	6	7	8	9	Completely satisfied

Figure 4.20 illustrates individuals' satisfaction levels in terms of their future financial security. However, when comparing these levels of satisfaction with their satisfaction levels in terms of standard of living (Figure 4.17), health satisfaction (Figure 4.18) and achievements in life (Figure 4.19), it seems that the dissatisfaction levels were generally higher in respect of their future financial security.

Figure 4.20: Future financial security across retirement phases



As illustrated in Figure 4.20, individuals in the close-to-retirement phase were generally more dissatisfied with their financial security than those individuals in the post-retirement and pre-retirement phases. However, Figure 4.20 spiked at a score of 5, which was indicated by 18.8 percent of the individuals in the post-retirement phase, 17.9 percent in the pre-retirement phase and 14.6 percent in the close-to-retirement phase. It was further evident that this does not change significantly when they get older, except for the spike as mentioned above, but individuals in the post-retirement phase were largely more satisfied with their achievements in life.

Individuals had to express their level of satisfaction with their *current* standard of living, which seemed to be fairly satisfactory, but their satisfaction in terms of *future* financial security seems to be a more worrying factor, as individuals were mostly more dissatisfied than satisfied. The reason for the higher dissatisfaction levels in the close-to-retirement- and post-retirement phases could be that reality starts to kick in. These individuals perhaps realised that they had either very little time to prepare themselves financially for their upcoming retirement and/or that they were in retirement realising that their retirement savings were insufficient to address their future financial needs.

Across all three retirement phases the distribution of individuals' satisfaction levels with regard to their future financial security were fairly similar, but when compared to their satisfaction levels in terms of their standard of living, health status and achievements in life they were more dissatisfied with their future financial security. It was also evident that this does not change significantly when they get older.

Table 4.10 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to individuals' satisfaction levels in terms of their future financial security.

Table 4.10: Future financial security across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
15 275.881	2	0.000	Statistically significant differences exist			
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement / Close-to-retirement	577 822.031	104.267	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	-344 974.911	-56.515	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	-922 796.942	-117.421	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	36 816 412 450 147.500	-103.448	0.000	Statistically significant differences	0.019	Small
Pre-retirement/Post-retirement	31 554 305 670 094.000	55.605	0.000	Statistically significant differences	0.010	Small
Close-to-retirement/Post-retirement	3 688 389 319 358.000	123.780	0.000	Statistically significant differences	0.054	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.10, the Kruskal-Wallis test revealed that there tend to be statistically significant differences in individuals' satisfaction levels with their future financial security across the three retirement phases, with the chi-square being $\chi^2(2) = 15\ 275.881$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences over all three the retirement phases with regard to individuals' satisfaction levels with their future financial security. This was confirmed by the Mann-Whitney U tests, as this also indicated the significance of the differences that exist among individuals about their satisfaction levels in respect of their future financial security across the three retirement phases. The effect size of these statistically significant differences was however small across all three the retirement phases. Thus, although the visual distribution (Figure 4.20) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.10) concluded that the differences were statistically significant, despite the effect size being small.

The statistical significance of the differences being small was as expected and was a good reflection of individuals' satisfaction levels with regard to their future financial security.

From Figure 4.19 it seems that individuals are on average more dissatisfied than satisfied with their future financial security. This is more in line with individuals' confidence levels regarding maintaining a certain standard of living throughout retirement (Figure 14), the irregularity of retirement savings (Figure 4.15), and the trend of not doing long-term financial planning (Figure 4.16). Despite their levels of dissatisfaction with their future financial security, they continue to persist in this manner as they get older. Chapter 5 will discuss how financial knowledge, financial management and mathematical skills could possibly assist individuals to reconsider their future financial security and do proper long-term financial planning for retirement within the scope of their personal circumstances in an attempt to reduce financial vulnerability in old age.

4.3.1.9 Summary

The results of all questions in core area 1 indicated that all phases tended to be statistically significantly different from each other. However, in one instance, where the responses within the pre-retirement and close-to-retirement phases were compared for individuals who indicated whether they do financial planning for the future had a p -value which exceeded the 0.05 significance level (Table 4.6). In this instance, the effect size was not calculated. However, the effect size had to be calculated across all three phases for each of the questions related to core area 1 that were found to be statistically significant to determine whether there were statistically small, medium or large differences. The outcomes when calculating the effect sizes for all these questions across all three the retirement phases were that the statistically significant differences were small except in two instances (Table 4.8), where it was medium. These two instances related to individuals' health satisfaction levels when comparing the responses in the pre-retirement phase with those in the close-to-retirement phase and the responses in the pre-retirement phase with those in the post-retirement phase. This means that no major differences were found between the three phases of retirement, which is a worrying factor in terms of goal setting within the practical retirement planning process across all three phases of retirement, as it could possibly mean that individuals do not really actively take part in setting goals for their retirement and therefore are not giving it the attention that it deserves. This trend seemed to continue as individuals were getting older. The importance of identifying the financial gap that individuals have when planning for retirement plays a crucial role, as it could mean the difference between facing financial vulnerability and living comfortably in retirement. This core area will be discussed in the next section.

4.3.2 Core area 2 – Identifying the financial gap that individuals have in terms of their retirement planning

In core area 2, which deals with doing a comprehensive gap analysis in terms of practical retirement planning, as discussed in Chapter 2 (section 2.3 and section 2.5.2), the following issues as identified in the South African FSB study will be discussed:

- monitoring of regular expenses;
- household budgets;
- current personal financial condition;
- difficulty paying monthly expenses;
- emergency funds;
- investments and/or savings products;
- the effect of inflation on living costs;
- financial knowledge;
- the effect of interest rate increases on savings; and
- earning levels and taxation expenses.

Each of the questions relating to the above-mentioned issues of core area 2 of the practical retirement planning process are repeated in the respective sections below for the convenience of the reader.

Identifying the financial gap could assist individuals in planning financially for retirement as shortfalls could be identified in good time in order to avoid financial vulnerability in old age. Section 4.3.2.1 to section 4.3.2.10 will highlight some of the aspects that individuals across the three retirement phases need to attend to when doing financial planning for retirement.

4.3.2.1 Monitoring of regular expenses

Monitoring of regular expenses assists individuals in determining the levels of their discretionary income and it would assist them to determine the level of their retirement

savings. The question below deals with individuals' ability to monitor personally the extent of their regular expenses.

Question number	Question detail			
4	Which ONE of the following best describes the extent to which you personally monitor your regular expenses?			
	I don't keep an eye on expenses at all	I keep my eye on expenses a bit	Without keeping written records, I keep a fairly close eye on expenses	I use written records to keep a close eye on expenses

Figure 4.21 illustrates the degree to which individuals monitor their regular expenses.

Figure 4.21: Monitoring of regular expenses across retirement phases

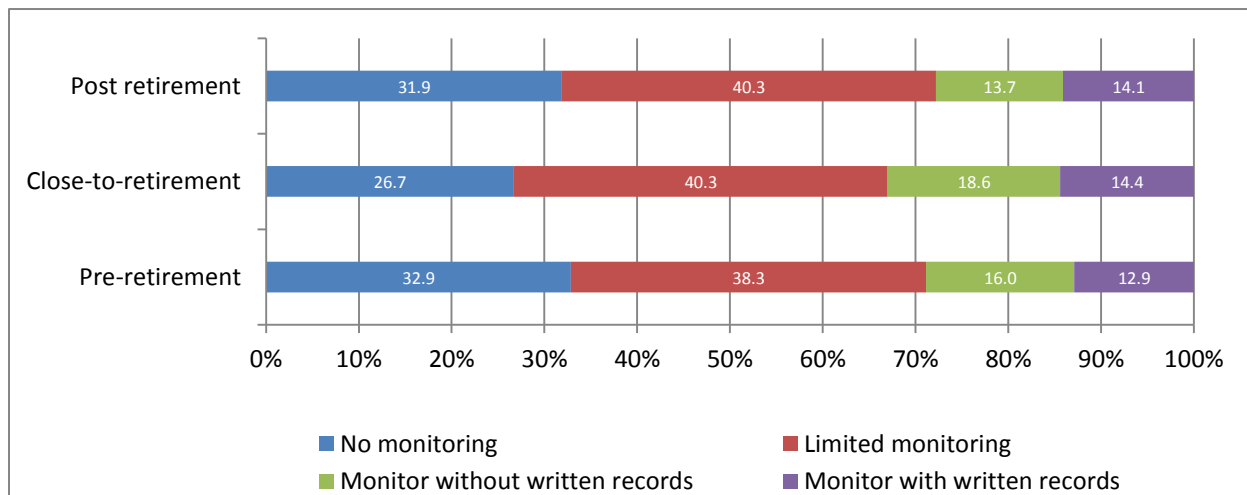


Figure 4.21 illustrates that 32.9 percent of individuals in the pre-retirement phase do not keep an eye on their expenses at all, in comparison to 26.7 percent of individuals in the close-to-retirement phase and 31.9 percent in the post-retirement phase. Monitoring of regular expenses could affect individuals' ability to save towards retirement, to take stock of their future financial position, and to compile or adjust their financial plan. This could also allude to the fact that there is no form of measurement when it comes to

paying regular expenses and this could possibly affect and/or prevent individuals' ability to compile financial statements to address their financial positions.

In the close-to-retirement phase, 18.6 percent of individuals indicated that they kept a fairly close eye on their expenses without keeping written records. These individuals might be at this stage of their lives where they have a fairly good idea of the extent of their regular expenses. These individuals might also be at the point in the typical individual financial life cycle where their personal circumstances might have changed, resulting in a decrease in the level of their regular expenses such as bonds that might be repaid and their children leaving the house. These individuals might also experience an increase in their discretionary income, which would enable them to increase the level of their retirement savings. In cases where shortfalls are anticipated in terms of retirement funding, it could also be addressed accordingly.

In the pre-retirement phase, when combining the limited monitoring, monitoring without written records, and monitoring with written records options, 67.2 percent of the individuals monitored their expenses. It seems that individuals are monitoring their regular expenses to some degree, with 73.3 percent in the close-to-retirement phase and 68.1 percent in the post-retirement phase. Individuals should however start to monitor their regular expenses from as early as possible in life, as this would provide them with the opportunity to identify any discretionary income that could possibly be utilised to save towards retirement. Doing it from as early as possible would also benefit from things such as compounding interest. A budget could further assist individuals in monitoring their regular expenses over all three the retirement phases.

Across all three retirement phases the distribution of individuals' ability to monitor their regular expenses was fairly similar. It was also evident that this does not change significantly when they get older. Table 4.11 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to the monitoring of regular expenses.

Table 4.11: Monitoring of regular expenses across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
42 598.162	2	0.000	Statistically significant differences exist	<p>Independent-Samples Kruskal-Wallis Test</p> <p>Q4RC Which ONE of the following best describes the extent to which you personally monitor your regular expenses?</p> <p>AGE_GROUPS_FINAL</p>		
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement/ Close-to-retirement	-1 088 949.372	-206.309	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	-73 593.710	-12.779	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	1 015 355.662	136.261	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	37 828 436 605 013.500	206.180	0.000	Statistically significant differences	0.039	Small
Pre-retirement/Post-retirement	29 289 738 413 580.500	12.874	0.000	Statistically significant differences	0.002	Small
Close-to-retirement/Post-retirement	2 978 181 646 189.000	-136.873	0.000	Statistically significant differences	0.061	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.11, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in individuals' behaviour to personally monitor their regular expenses, with the chi-square being $\chi^2(2) = 42\ 598.162$ and the $p < 0.05$. The post-hoc test also indicated differences over all three the retirement phases with regard to individuals' behaviour to personally monitor their regular expenses. This was confirmed when performing the Mann-Whitney U tests, as it indicated the significance of the differences that exist among individuals across all three retirement phases with regard to monitoring their regular expenses. However, the effect size of these statistically significant differences was small across all three the retirement phases. Thus, although the visual distribution (Figure 4.21) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.11) however concluded that the differences were statistically significant, even though the effect size thereof was small.

The statistical significance of the differences being small was as expected and was a good reflection of individuals' financial ability to monitor their regular expenses. It therefore seems that the financial impact of not monitoring their regular expenses could possibly influence individuals' knowledge about the availability of discretionary income that could be utilised to make up for possible financial gaps between what is needed to achieve their retirement goals and their existing retirement provision. Chapter 5 will discuss how financial knowledge, financial management, and mathematical skills could possibly assist individuals in monitoring their regular expenses, which could enable them to determine the value of the discretionary income (if any) that could be utilised to address possible financial gaps in their retirement provision. It could also serve as an indication that individuals should reassess the achievability of their retirement goals. This would provide individuals with the opportunity to make the necessary adjustments to their retirement goals and to do so in good time.

4.3.2.2 Household budgets

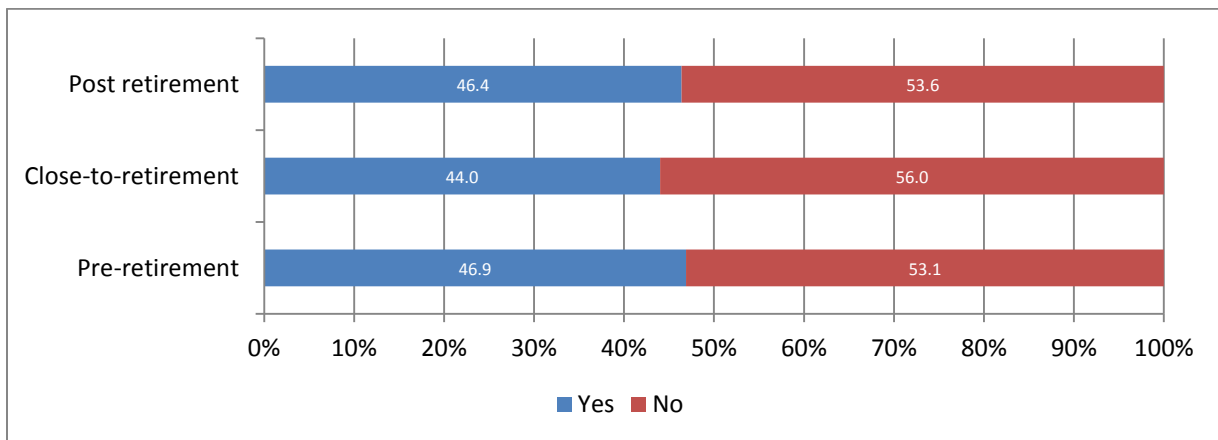
Household budgets assist individuals with managing their finances and enable them to determine the level of their retirement savings, which accommodates their personal

circumstances (section 2.5.2.2). The question below deals with whether individuals have household budgets.

Question number	Question detail
5	Do you have a household budget? <input type="checkbox"/> Yes <input type="checkbox"/> No

Figure 4.22 illustrates whether individuals have budgets or not, which is a financial tool that could assist them when planning for retirement. From this it is clear that more than half of the population indicated that they did not have a budget, with 53.1 percent of the individuals being in the pre-retirement phase, a close 53.6 percent in the post-retirement phase, and 56.0 percent in the close-to-retirement phase not having a budget.

Figure 4.22: Household budgets across retirement phases



Having a budget could be indicative of a positive awareness pertaining to financial management (Arrowsmith & Pignal, 2010). Factors such as budgeting, monthly expenses and planning for future activities contribute positively towards the financial well-being of individuals now and in the future (Arrowsmith & Pignal, 2010). Age, income and education attained also have a positive relationship when it comes to having a budget or not (Roberts *et al.*, 2012). The budget together with a set of personal financial statements could assist individuals in monitoring their financial condition more closely.

Across all three retirement phases the distribution of individuals who had household budgets was fairly similar. It was also evident that this does not change significantly when they get older. Table 4.12 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to whether individuals had budgets or not.

Table 4.12: Individuals possession of a household budget across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
8 865.438	2	0.000	Statistically significant differences exist	<p>Independent-Samples Kruskal-Wallis Test</p> <p>Q5 Do you have a household budget?</p> <p>AGE_GROUPS_FINAL</p>		
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement/ Close-to-retirement	-437 460.756	-94.043	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	-69 958.391	-13.412	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	367 502.365	55.215	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	37 814 491 792 776.000	94.041	0.000	Statistically significant differences	0.018	Small
Pre-retirement/Post-retirement	28 674 181 672 296.000	13.407	0.000	Statistically significant differences	0.003	Small
Close-to-retirement/Post-retirement	3 269 410 883 327.500	-55.357	0.000	Statistically significant differences	0.024	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.12, the Kruskal-Wallis test revealed statistically significant differences across the three retirement phases for individuals who have a household budget, with the chi-square being $\chi^2(2) = 8\ 865.438$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences over all three the retirement phases with regard to individuals who have a household budget. This was confirmed when performing the Mann-Whitney U tests, as they indicated the statistical significance of the differences that exist among individuals across all three retirement phases with regard to having a household budget. However, the effect size of these statistically significant differences was small across all three the retirement phases. Thus, although the visual distribution (Figure 4.22) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.12) concluded that the differences were statistically significant, despite the effect size being small.

The statistical significance of the differences being small was as expected and, as indicated in Figure 4.22, the distribution between having a household budget or not was very similar across all three phases, indicating that the trend continues as individuals get older. Chapter 5 will discuss how financial knowledge, financial management, and mathematical skills could possibly assist those individuals who do not have household budgets with the preparation thereof, but even more important, for every individual who does have a budget, to try to adhere to it as far as possible. The budget would serve as an indicator to individuals of the level of retirement savings they could afford by also considering their personal circumstances. In cases where individuals' personal circumstances change, the changes should also be incorporated into the budget, thus possibly enabling individuals to address the financial gaps in their retirement provision.

4.3.2.3 Current personal financial condition

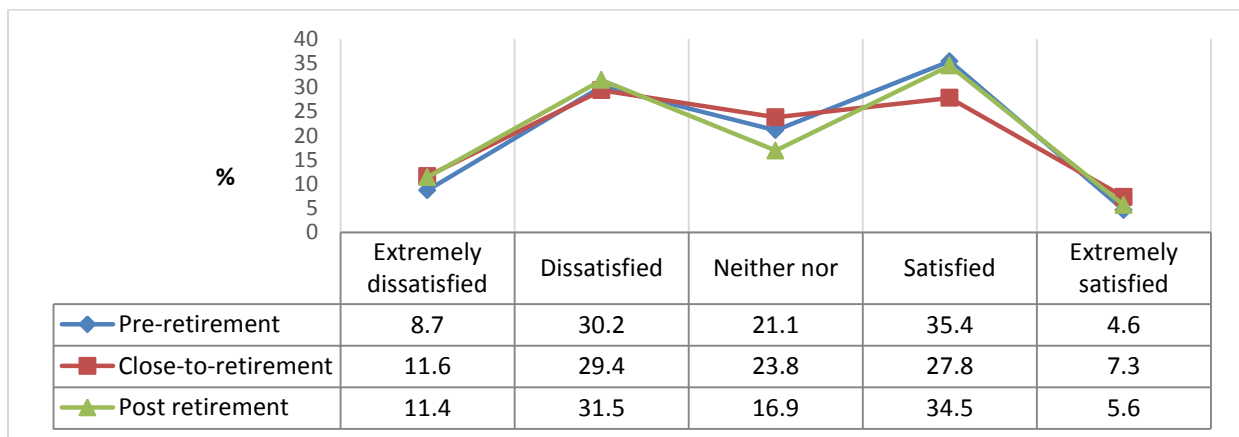
Individuals' current personal financial condition is influenced by factors such as the current levels of their assets, debts and savings that they have in place. Comparing these with their financial goals for retirement would enable them to identify whether there are any shortfalls that should be addressed in order to achieve their pre-

determined financial retirement goals (section 2.5.1.1). The question below deals with individuals' satisfaction levels in terms of their current personal financial condition.

Question number	Question detail					
25	Overall, thinking of your assets, debts and savings, how satisfied are you with current personal financial condition					
	<table border="1"> <tr> <td>Extremely dissatisfied</td> <td>Dissatisfied</td> <td>Neither satisfied nor dissatisfied</td> <td>Satisfied</td> <td>Extremely satisfied</td> </tr> </table>	Extremely dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Extremely satisfied
Extremely dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Extremely satisfied		

Figure 4.23 illustrates how individuals perceive the status of their assets, debts and savings and how this could influence their satisfaction levels with regard to their current personal financial condition.

Figure 4.23: Current personal financial condition across retirement phases



As illustrated in Figure 4.23, when adding the extremely dissatisfied and dissatisfied options together, 38.9 percent of individuals in the pre-retirement phase indicated that they were dissatisfied with their current personal financial condition in comparison to 41.0 percent of the individuals in the close-to-retirement phase and 42.9 percent individuals in the post-retirement phase. This could mean that retirement is a reality for the individuals in the post-retirement phase and they might have realised, after considering all their assets, debts and savings, that their retirement funding would not be adequate enough to support them during retirement. There were however also

individuals who indicated that they were neither satisfied nor dissatisfied with their current personal financial condition, thus being neutral about their financial condition. This included 21.1 percent of the individuals in the pre-retirement phase, 23.8 percent in the close-to-retirement phase, and 16.9 percent in the post-retirement phase. However, 40.0 percent of the individuals were satisfied with their current personal financial condition in the pre-retirement phase, in comparison to the 35.1 percent in the close-to-retirement phase and 40.1 percent in the post-retirement phase when adding the satisfied and extremely satisfied options together.

The distribution of individuals' satisfaction levels with regard to their personal financial condition was fairly similar across all three retirement phases. It was also evident that this does not change significantly when they get older.

Table 4.13 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to how individuals perceived their levels of assets, debts and savings and how these could influence their satisfaction levels with regard to their current personal financial condition.

Table 4.13: Current personal financial condition across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test			
15 716.839	2	0.000	Statistically significant differences exist				
Post-hoc test							
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*		
Pre-retirement/ Close-to-retirement	573 099.560	110.065	0.000	0.000	Statistically significant differences		
Pre-retirement/ Post-retirement	405 397.794	69.880	0.000	0.000	Statistically significant differences		
Close-to-retirement/ Post-retirement	-167 701.766	-22.569	0.000	0.000	Statistically significant differences		
Mann-Whitney U- and effect size results							
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)	
Pre-retirement/Close-to-retirement	34 169 774 974 821.500	-110.487	0.000	Statistically significant differences	0.021	Small	
Pre-retirement/Post-retirement	27 250 453 166 170.500	-69.499	0.000	Statistically significant differences	0.013	Small	
Close-to-retirement/Post-retirement	3 224 081 513 256.000	19.229	0.000	Statistically significant differences	0.009	Small	

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.13, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in individuals' overall satisfaction levels with their personal financial condition when thinking of their assets, debts and savings, with the chi-square being $X^2(2) = 15\ 716.839$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences over all three the retirement phases with regard to individuals' overall satisfaction levels with their personal financial condition in terms of their assets, debts and savings. This was confirmed when performing the Mann-Whitney U tests, as it also indicated the significance of the differences that exist among individuals across all three retirement phases with regard to their overall satisfaction levels with their personal financial condition in terms of their assets, debts and savings. The effect size of these statistically significant differences was however small across all three the retirement phases. Thus, although the visual distribution (Figure 4.23) created the impression that there were no significant differences across the three phases, the additional tests (as indicated in Table 4.13) concluded that the differences were statistically significant, even though the effect size thereof was small.

The statistical significance of the differences being small was as expected and was a good reflection of individuals' satisfaction levels in terms of their current personal financial condition when considering their assets, debts and savings. It also indicated that the trend continues as individuals get older. Chapter 5 will discuss how financial knowledge, financial management and mathematical skills could possibly assist those individuals to determine their personal conditions with respect to their assets, debts and savings in an effort to calculate whether there are any shortfalls when comparing the rand value of their retirement goals with their existing retirement provision. In cases where there are shortfalls, these skills could also assist individuals to determine whether it is financially possible to address these shortfalls.

4.3.2.4 Difficulty paying monthly expenses

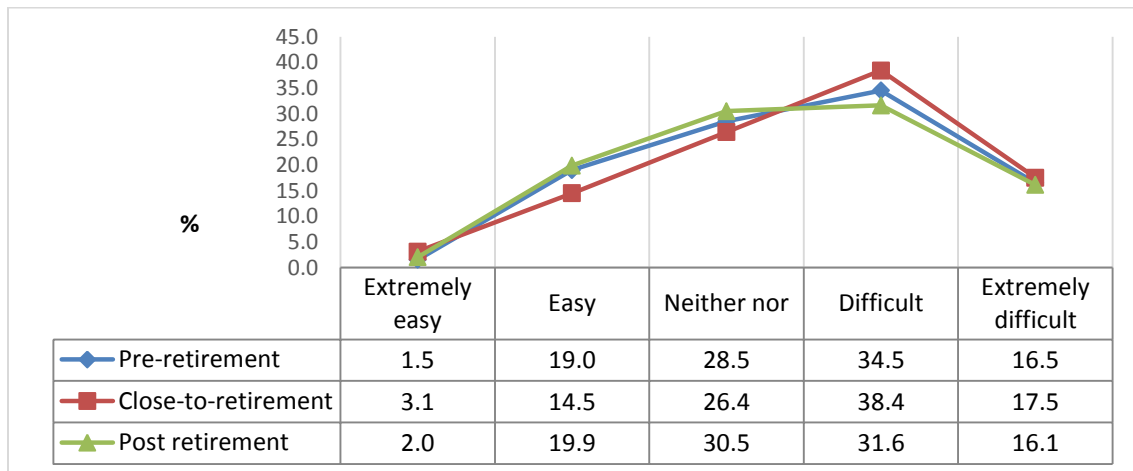
The level of difficulty that individuals experience in order to cover their expenses and pay their bills within a typical month could influence their financial ability to reach their

pre-determined goals for retirement and in some instances might necessitate adjusting their goals. It could also influence the level of individuals' retirement savings. The question below dealt with the level of difficulty individuals experience in order to cover their expenses and pay their bills.

Question number	Question detail				
30	In a typical month, how difficult is it for you to cover your expenses and pay all your bills?				
	Extremely easy	Easy	Neither easy nor difficult	Difficult	Extremely difficult

Figure 4.24 illustrates the difficulty levels individuals experience in a typical month when it comes to covering their expenses and pay their bills. Figure 4.24 further illustrates that a significant number of individuals indicated that it was difficult to cover their expenses and pay their bills on a monthly basis.

Figure 4.24: Difficulty paying monthly expenses across retirement phases



When combining the difficult and extremely difficult options in the pre-retirement phase, 51.0 percent of the individuals indicated that they had trouble in covering their monthly expenses and paying their bills. In the close-to-retirement phase there were 55.9 percent and in the post-retirement phase 47.7 percent who experienced difficulty. There were however also individuals who did not really indicate whether it was easy or difficult to cover their monthly expenses and pay their bills. These included 28.5 percent of the

individuals in the pre-retirement phase, 26.4 percent in the close-to-retirement phase, and 30.5 percent in the post-retirement phase. The financial effect of this is that these individuals would not really have scope to save towards their retirement, which could result in a shortfall that would have to be funded mainly in the pre-retirement and close-to-retirement phases. If this were not addressed, individuals would have to adjust their retirement goals in line with the retirement savings that would be accumulated by the time that they retire. Individuals in the post-retirement phase who are unable to pay their monthly expenses would possibly have to lower their standard of living or cut back on their expenses to be able to pay their monthly expenses. In not being able to pay their expenses in a typical month, something like setting funds aside for emergencies and saving towards retirement becomes almost impossible.

Across all three retirement phases the distribution of individuals' ability to pay their monthly expenses with regard to their personal financial condition was fairly similar. It was also evident that this does not change significantly when they get older.

Table 4.14 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to the difficulty levels individuals experience in a typical month when it comes to covering their expenses and paying their bills.

Table 4.14: Difficulty of paying monthly expenses across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test			
26 537.097	2	0.000	Statistically significant differences exist				
Post-hoc test							
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*		
Pre-retirement/ Close-to-retirement	-682 809.319	-133.006	0.000	0.000	Statistically significant differences exist.		
Pre-retirement/ Post-retirement	464 903.903	81.128	0.000	0.000	Statistically significant differences exist.		
Close-to-retirement/ Post-retirement	1 147 713.223	156.680	0.000	0.000	Statistically significant differences exist.		
Mann-Whitney U- and effect size results							
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)	
Pre-retirement/Close-to-retirement	37 017 423 059 411.000	133.076	0.000	Statistically significant differences	0.025	Small	
Pre-retirement/Post-retirement	26 889 888 418 126.500	-81.148	0.000	Statistically significant differences	0.016	Small	
Close-to-retirement/Post-retirement	3 005 416 235 804.000	-156.463	0.000	Statistically significant differences	0.069	Small	

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.14, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in the financial difficulty levels experienced by individuals when they have to cover their expenses and pay their bills in a typical month, with the chi-square being $X^2(2) = 26\,537.097$ and the $p < 0.05$. The post-hoc test also indicated differences over all three the retirement phases with regard to the financial difficulty levels experienced by individuals when they have to cover their expenses and pay their bills in a typical month. This was also confirmed when performing the Mann-Whitney U tests, as it indicated the significance of the differences that exist among individuals across all three retirement phases with regard to the financial difficulty levels they experienced when they had to cover their expenses and pay their bills in a typical month. The effect size of these statistically significant differences was however small across all three the retirement phases. Thus, although the visual distribution (Figure 4.24) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.14) concluded that the differences were statistically significant, even though the effect size thereof was small.

The statistical significance of the small differences was as expected, and indicates whether individuals experience any financial difficulty in a typical month in terms of covering their expenses and paying their bills. The financial difficulty experienced by individuals seems to continue as individuals get older. Based on levels of financial difficulty experienced by individuals in a typical month, it therefore seems that it could be financially difficult to adjust their levels of retirement savings. Chapter 5 will discuss how financial knowledge, financial management, and mathematical skills could possibly assist individuals to manage their finances sufficiently and in such a manner that they could possibly incorporate retirement savings into their financial plans. If financially possible and based on their personal circumstances, individuals could even provide additional amounts to address any financial shortfalls in their retirement provision.

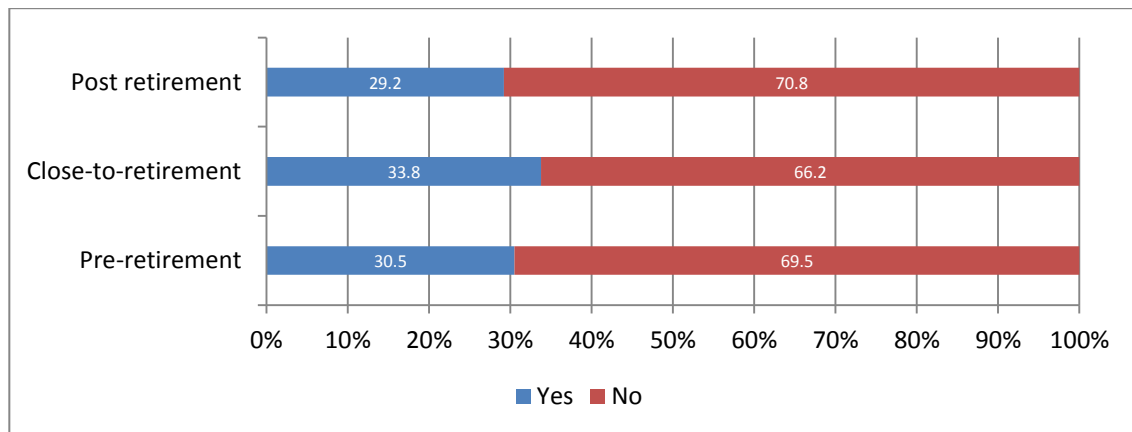
4.3.2.5 Emergency funds

Emergency funds could prevent individuals from tapping into their retirement savings to finance periods affected by factors such as an economic downturn, job loss, sickness and/or other emergencies, and could therefore assist them in the preservation of their retirement funds (section 2.5.3.1). The question below dealt with whether individuals have an emergency fund in place that could cover their expenses for a period of three months in case of sickness, job loss, economic downturn or other emergencies.

Question number	Question detail
32	Have you set aside emergency or rainy day funds that would cover your expenses for 3 months, in case of sickness, job loss, economic downturn, or other emergencies? <div style="display: flex; justify-content: space-around; border: 1px solid black; padding: 5px;"> Yes No </div>

Figure 4.25 illustrates whether individuals are setting aside money for an emergency fund that could cover expenses for three months in cases of job losses, sickness and other emergencies without tapping into their savings (if applicable) meant for retirement.

Figure 4.25: Emergency funds across retirement phases



As illustrated in Figure 4.25, only 30.5 percent of individuals in the pre-retirement phase indicated that they were setting aside emergency or rainy day funds, with only 33.8 percent in the close-to-retirement phase and 29.2 percent in the post-retirement phase.

A significant number of individuals were not setting aside emergency or rainy day funds, which could have a significant negative financial impact on their retirement savings and on their retirement in the future. In the pre-retirement phase, 69.5 percent of the individuals were not setting aside any emergency or rainy day funds, 66.2 percent in the close-to-retirement phase and 70.8 percent in the post-retirement phase. It might be financially difficult for individuals who are already in the post-retirement phase to set aside emergency or rainy day funds as they are no longer working and are living on their retirement income. Therefore, the pre-retirement and close-to-retirement phases are crucial for building up an emergency or rainy day fund.

Across all three retirement phases the distribution of individuals who set aside emergency or rainy day funds was fairly similar. It was also evident that this does not change significantly when they get older.

Table 4.15 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to whether individuals are setting aside money for an emergency fund that could cover expenses for three months in cases of job losses, sickness and other emergencies without tapping into their savings (if applicable) meant for retirement.

Table 4.15: Emergency funds across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
16 666.972	2	0.000	Statistically significant differences exist	<p>Independent-Samples Kruskal-Wallis Test</p> <p>Q3: Emergency/rainy day funds to cover expenses for 3 months: sickness, job loss, emergencies</p> <p>AGE_GROUPS_FINAL</p>		
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement/ Close-to-retirement	515 789.465	119.094	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	-191 419.584	-38.745	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	-707 209.049	-112.875	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	36 233 543 689 728.500	-118.969	0.000	Statistically significant differences	0.022	Small
Pre-retirement/Post-retirement	28 412 975 796 120.000	38.865	0.000	Statistically significant differences	0.007	Small
Close-to-retirement/Post-retirement	3 416 512 121 681.500	111.740	0.000	Statistically significant differences	0.049	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.15, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in individuals' financial ability to set aside emergency or rainy day funds to cover their expenses for three months, with the chi-square being $X^2(2) = 16\ 666.972$ and the $p < 0.05$. The post-hoc test also indicated differences over all three the retirement phases with regard to individuals' financial ability to set aside emergency or rainy day funds to cover their expenses for three months. This was confirmed when performing the Mann-Whitney U tests, which indicated the significance of the differences that exist among individuals across all three retirement phases with regard to their financial ability to set aside emergency or rainy day funds to cover their expenses for three months. The effect size of these statistically significant differences was however small across all three the retirement phases. Thus, although the visual distribution (Figure 4.25) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.15) concluded that the differences were statistically significant, even though the effect size thereof was small.

The statistical significance of the differences being small was as expected, and indicated that only about one third of individuals across all three retirement phases did have emergency funds to cover their expenses for three months in case of sickness, job loss, economic downturn, or other emergencies. It therefore seems that the financial impact on individuals' retirement savings (if any) caused by such emergencies could be significant in some instances, negatively affecting their retirement provision. The trend of not having an emergency fund continues as individuals get older. Chapter 5 will discuss how financial knowledge, financial management, and mathematical skills could possibly assist individuals to manage their finances effectively and in such a manner that they could possibly incorporate both emergency funds and retirement savings into their financial plans. If financially possible and based on their personal circumstances, individuals could even provide additional amounts in order to address any financial shortfalls that they might have in their retirement provision.

4.3.2.6 Investments and/or savings products

Investments and/or savings products are used by individuals to save towards retirement. The products currently held could provide information regarding their existing retirement savings that form part of the calculation to determine whether individuals are on track to achieving their goals for retirement or whether there are any shortfalls to be addressed prior to retirement (section 2.5.2.1). The question below deals with the type of investment and/or savings products currently held by individuals.

Question number	Question detail				
65	And now, can you tell me whether you currently hold any of these types of investment or savings products?				
Unit trusts		Education policy or plan	Investment or savings policy	Shares on the stock exchange	Retirement annuity
Provident fund		Pension fund	Stokvel or umgalelo or savings club	Other savings club	Keep cash or savings at home
Giving money to someone who will guard it for you, to keep it safe			None of above		

Figure 4.26 illustrates the type of investments and savings individuals had in place in terms of retirement provision. It is important to note that the graph illustrates the number of investments and/or savings products currently held by individuals, as they were allowed to indicate more than one option, if applicable to them. However, for purposes of this study, we were looking only at retirement products and additional savings products that could relate to possible retirement savings that individuals had in place.

Figure 4.26: Investment and/or savings products across retirement phases

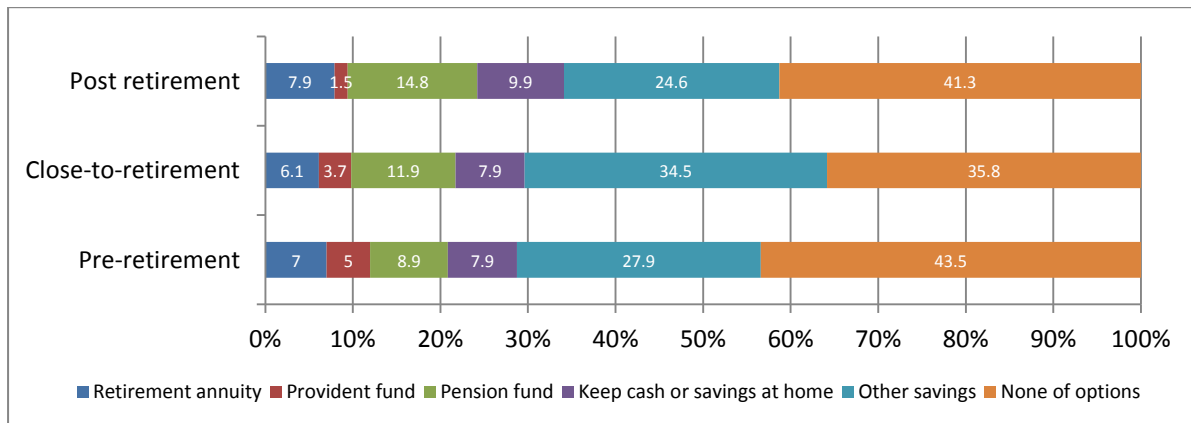


Figure 4.26 indicates that only 20.9 percent of the individuals in the pre-retirement phase had retirement products in the form of retirement annuities, provident fund and pension fund retirement benefits, in comparison to the 21.7 percent in the close-to-retirement phase and 24.2 percent in the post-retirement phase. The low percentage relating to individuals with retirement products in their retirement plans might also be due to employers not offering such products to their employees or that those who are self-employed are using other investment vehicles to provide for their retirement. The South African FSB's study also found that South Africans' awareness relating to the savings and investment products was relatively low. Other forms of saving such as stokvel, umgalelo or savings clubs also had very low responses in all three the retirement phases. Although keeping cash or savings at home is not an investment per se, 7.9 percent of individuals in the pre-retirement phase did so, compared to 7.9 percent in the close-to-retirement phase and 9.9 percent in the post-retirement phase. This possibly says something about their risk tolerance levels or that they are uninformed about better investment and/or savings options in which they could invest their money to generate better returns over time.

In terms of retirement products and products relating to personal savings and/or voluntary savings, it seems that individuals are not really investing in retirement products or they are investing in multiple investments with a small portion thereof being retirement products. This could also possibly be due to the wide variety or complex nature of savings or investment products that are available to individuals to address

their financial needs. Individuals' risk tolerance levels (section 4.3.3.1) are another factor that could influence their investment and savings choices. All of these factors could influence individuals' choices when deciding to purchase an investment product. However, 43.5 percent of individuals in pre-retirement did not have any retirement or any of the savings products as mentioned, in comparison to the 35.8 percent in the close-to-retirement phase and 41.3 percent in the post-retirement phase. Before deciding to invest in a particular investment and/or savings product, individuals have to consider several aspects, such as inflation, the level of their financial knowledge, interest and the financial impact that taxation could have on that type of investing and/or savings instruments.

Across all three retirement phases, the distribution of individuals' holding of investment or savings products, or not holding any such products, was fairly similar. It was also evident that this does not change significantly when they get older.

Table 4.16 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to the type of investments and savings individuals had in place in terms of retirement provision.

Table 4.16: Investment and/or savings products across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test			
102 484.043	2	0.000	Statistically significant differences exist				
Post-hoc test							
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*		
Pre-retirement/ Close-to-retirement	1 314 793.885	265.570	0.000	0.000	Statistically significant differences		
Pre-retirement/ Post-retirement	1 090 576.266	202.619	0.000	0.000	Statistically significant differences		
Close-to-retirement/ Post-retirement	-224 217.619	-32.183	0.000	0.000	Statistically significant differences		
Mann-Whitney U- and effect size results							
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)	
Pre-retirement/Close-to-retirement	33 377 883 004 324.500	-266.775	0.000	Statistically significant differences	0.050	Small	
Pre-retirement/Post-retirement	28 221 011 904 383.000	-202.525	0.000	Statistically significant differences	0.038	Small	
Close-to-retirement/Post-retirement	3 444 138 137 044.500	25.375	0.000	Statistically significant differences	0.011	Small	

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.16, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in individuals' current holding of investment or savings products, with the chi-square being $\chi^2(2) = 102\,484.043$ and the $p < 0.05$. The post-hoc test also indicated differences with regard to individuals' current holding of investment or savings products over all three the retirement phases. This was confirmed when performing the Mann-Whitney U tests, as these also indicated the significance of the differences that exist among individuals across all three retirement phases with regard to their current holding of investment or savings products. However, the effect size of these statistically significant differences was small across all three the retirement phases. Thus, although the visual distribution (Figure 4.26) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.16) concluded that the differences were statistically significant, despite the effect size thereof being small.

The statistical significance of the differences being small was as expected and was a good reflection of the type of investment and/or savings products that were currently held by individuals in order to provide financially for retirement. The type and number of investments and/or savings products currently held by individuals continues to stay very similar as they get older. Chapter 5 will discuss how financial knowledge, financial management, investment knowledge and mathematical skills could possibly assist individuals to manage their finances sufficiently to enable them to incorporate retirement products into their financial plans and to identify investment products that would best address their financial needs for retirement. This would also assist them to determine the value of their existing retirement provision.

4.3.2.7 The effect of inflation on living costs

Inflation is an economic factor that could influence the growth and the value of individuals' retirement savings, if the returns on their retirement savings products do not exceed the inflation rate. This could create additional shortfalls in terms of individuals' retirement provision. High inflation rates however also increase individuals' living costs,

which could affect their financial ability to save towards retirement or to increase their retirement savings to make up for any shortfalls in their retirement provision (section 2.3 and section 2.5.2.1). The question below requested individuals to indicate whether high inflation would rapidly increase their living costs.

Question number	Question detail
114	Do you think the following statement is true or false: High inflation means that the cost of living is increasing rapidly. <input type="checkbox"/> True <input type="checkbox"/> False

Figure 4.27 illustrates individuals' view on whether it is true or false that high inflation would increase their cost of living. Individuals' responses over all three the phases indicated that they had a greater awareness of the concept of inflation than was initially anticipated.

Figure 4.27: The effect of inflation on living costs across retirement phases

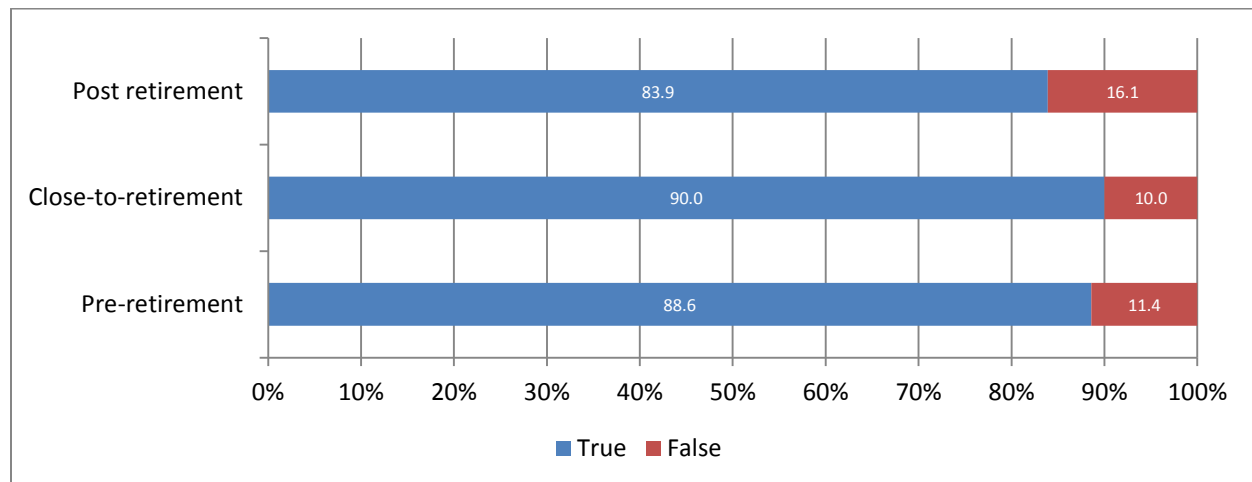


Figure 4.27 illustrates that in the pre-retirement phase 88.6 percent of individuals indicated that high inflation would rapidly increase their cost of living, in comparison to the 90.0 percent in the close-to retirement phase and 83.9 percent in the post-retirement phase. The South African FSB however concluded in their study that the South African population has inadequate knowledge about inflation, despite understanding the impact thereof on their daily lives (Roberts *et al.*, 2012). Thus, there

seems to be a lack of understanding amongst South Africans on precisely how inflation works. The effect of inflation on the daily lives of the majority of South Africans is thus indicative of some basic understanding thereof. Individuals therefore need knowledge of the effect of economic factors such as inflation as well as the necessary financial knowledge to make sensible decisions that would have a positive financial effect on their retirement savings and the growth thereof.

Across all three retirement phases the distribution of individuals' knowledge regarding the effect of inflation on living costs was fairly similar. It was also evident that this did not change dramatically when they get older.

Table 4.17 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to individuals' view on whether high inflation would increase their cost of living. The graph, which is a schematic illustration of the Kruskal-Wallis test, differs from the other graphs, which could be a result of the fact that there were only two options (true or false) available to individuals, the majority of which chose true (Figure 4.27) (i.e. the 1). The graph therefore shows the mean rank at 1 (the bold stripes), which indicates that a high level of agreement existed among individuals.

Table 4.17: The effect of inflation on living costs across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test			
48 116.404	2	0.000	Statistically significant differences exist	<p>The chart, titled 'Independent-Samples Kruskal-Wallis Test', plots the response to the question '0114 Do you think the rate of inflation means that the cost of living is increasing rapidly?' on the y-axis (ranging from 1.00 to 2.00) against three retirement phases on the x-axis: 'Pre-retirement', 'Close-to-retirement', and 'Post-retirement'. All three phases show a mean response of approximately 2.00, with each bar topped by an asterisk indicating statistical significance.</p>			
Post-hoc test							
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*		
Pre-retirement/ Close-to-retirement	212 032.893	70.876	0.000	0.000	Statistically significant differences		
Pre-retirement/ Post-retirement	-661 150.688	-200.485	0.000	0.000	Statistically significant differences		
Close-to-retirement/ Post-retirement	-873 183.581	-205.383	0.000	0.000	Statistically significant differences		
Mann-Whitney U- and effect size results							
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)	
Pre-retirement/Close-to-retirement	30 167 761 747 136.500	-71.825	0.000	Statistically significant differences	0.014	Small	
Pre-retirement/Post-retirement	25 878 335 325 062.000	199.237	0.000	Statistically significant differences	0.039	Small	
Close-to-retirement/Post-retirement	2 843 783 578 139.500	197.907	0.000	Statistically significant differences	0.092	Small	

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.17, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in individuals' understanding that high inflation increases the living costs rapidly, with the chi-square being $X^2(2) = 48.116.404$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences over all three the retirement phases with regard to individuals' understanding that high inflation increases their living costs rapidly. This was confirmed when performing the Mann-Whitney U tests, also indicating the significance of the differences that exist among individuals across all three retirement phases with regard to their understanding that high inflation rapidly increases their living costs. The effect size of these statistically significant differences was however small across all three the retirement phases. Thus, although the visual distribution (Figure 4.27) created the impression that there were no significant differences across the three phases, the additional tests (as indicated in Table 4.17) concluded that the differences were statistically significant, despite the effect size thereof being small.

The statistical significance of the differences being small was as expected and was a good reflection of individuals' knowledge of the effect of inflation on their living costs. Individuals' knowledge in this regard continues to stay very similar as individuals get older. Chapter 5 will discuss how financial knowledge, financial management, investment knowledge, and mathematical skills as well as knowledge about economic factors could possibly assist individuals to determine the effect that inflation could have on their retirement savings and to manage their retirement savings in such a manner that they keep track with the effect of inflation. This would also assist individuals to convert their retirement goals to rand value by considering the effect of inflation to ensure that the returns that could be earned on their investment and/or savings products exceed the inflation rate.

4.3.2.8 Financial knowledge

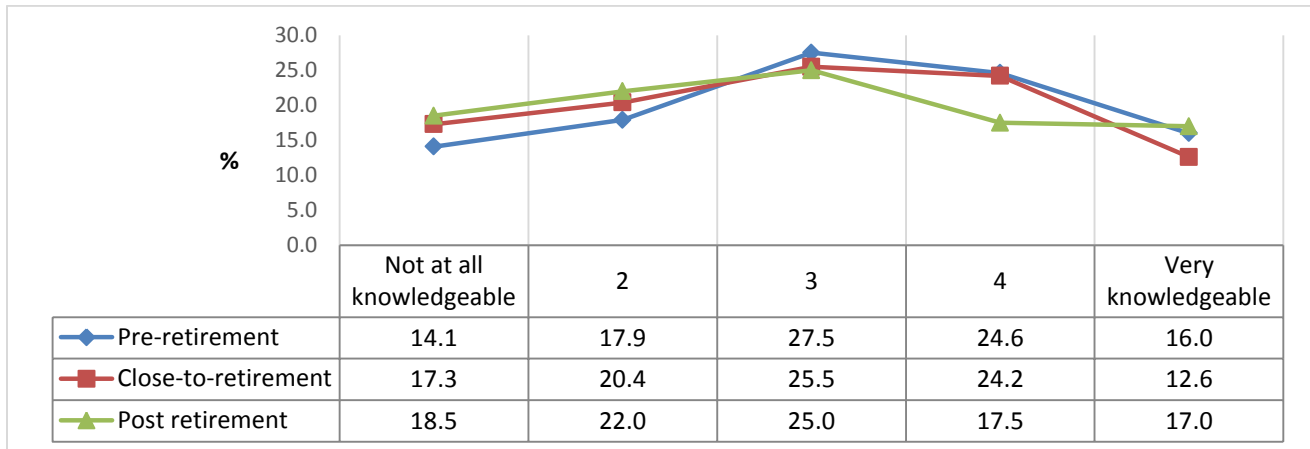
Financial knowledge also plays a key role in the practical retirement planning process where individuals have to make several financial decisions during the three retirement phases that could have financial implications for them in the future. Retirement planning

requires individuals to be acquainted with basic financial knowledge such as the preparation, interpretation and understanding of budgets and financial statements. The question below deals with the levels of financial knowledge at which individuals rate themselves.

Question number	Question detail				
116	How would you rate your level of financial knowledge on a scale of 1 to 5 where 1 is: Not at all knowledgeable, and 5: Very knowledgeable				
	Not at all knowledgeable	2	3	4	Very knowledgeable

Figure 4.28 illustrates the levels at which individuals rate their financial knowledge from not at all knowledgeable to very knowledgeable.

Figure 4.28: Levels of financial knowledge across retirement phases



As illustrated in Figure 4.28, 14.1 percent of the individuals in the pre-retirement phase indicated that they were not at all financially knowledgeable, with 17.3 percent in the close-to-retirement phase and 18.5 percent in the post-retirement phase. However, with regard to being financially knowledgeable, 16.0 percent of the individuals in the pre-retirement phase indicated that they regarded themselves as financially very knowledgeable, with 12.6 percent in the close-to-retirement phase and 17.0 percent in the post-retirement phase. This could possibly be an outflow of the higher educational

levels among individuals in the pre-retirement phase in comparison to the lower educational levels for those in both the close-to-retirement and post-retirement phases.

Across all three retirement phases the distribution of individuals' levels of financial knowledge was fairly similar. It was also evident that this did not change significantly when they get older.

Table 4.18 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to individuals' rating of their levels of financial knowledge.

Table 4.18: Levels of financial knowledge across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
77 841.594	2	0.000	Statistically significant differences exist			
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement/ Close-to-retirement	1 082 782.390	200.523	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	1 255 091.425	211.709	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	172 309.035	22.551	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	34 666 377 395 017.500	-201.031	0.000	Statistically significant differences	0.038	Small
Pre-retirement/Post-retirement	27 888 721 989 033.000	-211.255	0.000	Statistically significant differences	0.040	Small
Close-to-retirement/Post-retirement	3 386 812 139 838.000	-25.785	0.000	Statistically significant differences	0.011	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.18, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in individuals' financial knowledge levels, with the chi-square being $X^2(2) = 77\ 841.594$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences with regard to individuals' financial knowledge levels over all three the retirement phases. This was confirmed when performing the Mann-Whitney U tests, which also indicated the significance of the differences among individuals across all three retirement phases with regard to their levels of financial knowledge. The effect size of these statistically significant differences was however small across all three the retirement phases. Thus, although the visual distribution (Figure 4.28) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.18) concluded that the differences were statistically significant, even though the effect size was small.

The statistical significance of the differences being small was as expected and was a good reflection of individuals' levels of financial knowledge. Levels of financial knowledge continue to stay very similar as individuals get older. Chapter 5 will discuss how financial knowledge and mathematical skills could possibly assist individuals to convert their retirement goals into rand value, to determine the value of their existing retirement provision, and to determine whether there are any financial shortfalls in terms of their retirement provision. Financial knowledge could also assist individuals in making sensible financial decisions with regard to their retirement provision.

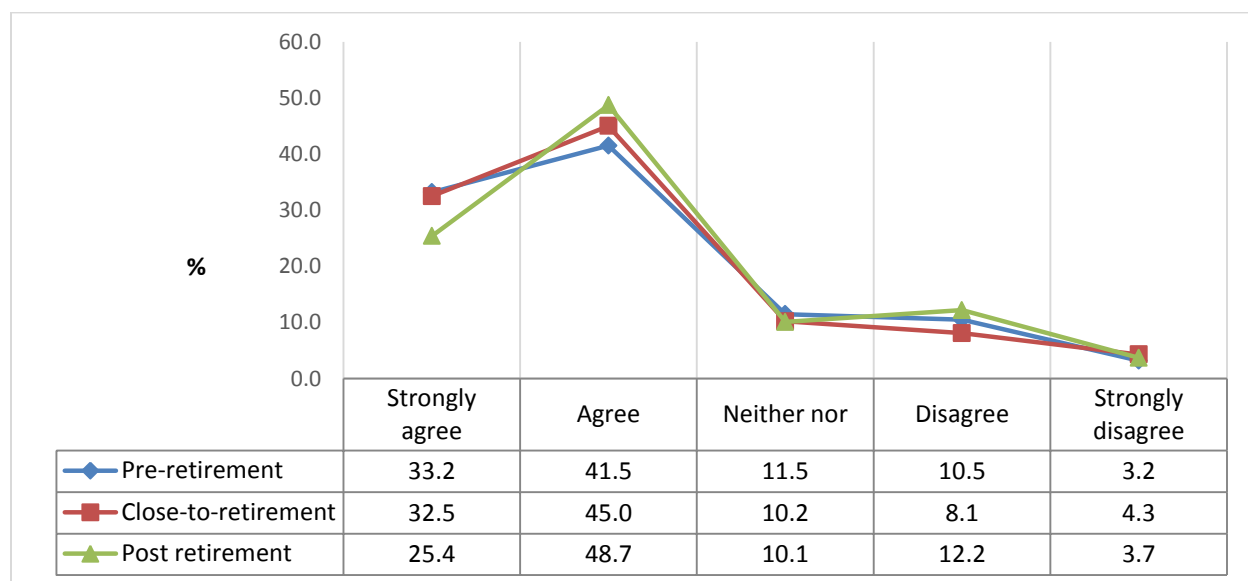
4.3.2.9 The effect of interest rate increases on savings

Interest rates are another economic factor that could influence individuals' levels of retirement savings in terms of compound interest, especially when they have interest bearing investment products (section 2.5.3.1). The question below determines whether individuals agree that when they have savings it is a good thing that interest rates rise.

Question number	Question detail					
124	To what extent do you agree: If you have savings, it is a good thing if interest rates go up.					
	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>Strongly agree</td> <td>Agree</td> <td>Neither nor</td> <td>Disagree</td> <td>Strongly disagree</td> </tr> </table>	Strongly agree	Agree	Neither nor	Disagree	Strongly disagree
Strongly agree	Agree	Neither nor	Disagree	Strongly disagree		

As mentioned in the previous paragraph, interest is one of the economic factors that could have a financial impact on individuals' retirement plans. Figure 4.29 illustrates whether individuals agree to the principle that if they have savings in place an increase in interest rate is beneficial.

Figure 4.29: The effect of interest rate increases on savings across retirement phases



As illustrated in Figure 4.29 and when combining the strongly agree and agree options, 74.7 percent of the individuals in the pre-retirement phase indicated that they agreed that when having savings it was a good thing that interest rates increase, with 77.5 percent in the close-to-retirement phase and 74.1 percent in the post-retirement phase.

The responses are very positive and indicate that the majority of South Africans have the general ability to link the changes in interest rates to their savings amounts. Higher

interest rates also motivate some individuals to save and for those individuals who are not willing to take high levels of risk this might be an incentive to increase their level of savings. This would also be appropriate for individuals in the post-retirement phase who have a more conservative approach when it comes to their retirement savings. However, as interest rates rise, the income earned would also increase, which might have possible taxation implications should it exceed the exemption levels. This might be one of the reasons for low levels of savings, especially for individuals in the higher income groups.

Across all three retirement phases the distribution of individuals' knowledge of the effect of interest rate increases on savings was fairly similar. It was also evident that it did not change significantly when they get older.

Table 4.19 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to whether individuals agree to the principle that if they have savings in place an increase in interest rate would be beneficial.

Table 4.19: The effect of interest rate increases on savings across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
31 809.455	2	0.000	Statistically significant differences exist			
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement/ Close-to-retirement	147 806.526	28.756	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	-983 953.284	-172.863	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	-1 131 759.811	-154.375	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	30 757 413 257 381.000	-28.465	0.000	Statistically significant differences	0.006	Small
Pre-retirement/Post-retirement	26 544 720 889 564.500	172.429	0.000	Statistically significant differences	0.034	Small
Close-to-retirement/Post-retirement	2 849 654 408 086.500	158.056	0.000	Statistically significant differences	0.074	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.19, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in individuals' understanding about the financial impact that an increasing interest rate would have on their savings, with the chi-square being $X^2(2) = 31\ 809.455$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences over all three the retirement phases with regard to individuals' understanding of the financial impact that an increasing interest rate would have on their savings. This was confirmed when performing the Mann-Whitney U tests, as this indicated the significance of the differences that exist among individuals across all three retirement phases with regard to their understanding of the financial impact that an increasing interest rate would have on their savings. However, the effect size of these statistically significant differences was small across all three the retirement phases. Thus, although the visual distribution (Figure 4.29) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.19) concluded that the differences were statistically significant although the effect size thereof was small.

The statistical significance of the differences being small was as expected and was a good reflection of individuals' knowledge with regard to the financial effect of interest rate increases and/or changes on their savings. Individuals' knowledge about the effect of interest rate increases on savings continues to stay very similar as individuals get older. Chapter 5 will discuss how financial knowledge, financial management, investment knowledge and mathematical skills as well as knowledge about economic factors could possibly assist individuals to determine the financial effect of interest rate increases and/or changes on their retirement savings. Financial knowledge and knowledge about economic factors could play a key role in assisting individuals to manage their retirement savings in such a manner that it keeps track with any interest rate changes and to move to more conservative investment products on which interest is earned as they get closer to retirement in order to protect their accumulated retirement savings. This would also assist individuals to convert their retirement goals to rand value and to determine the value of their existing retirement provision in instances

where interest rates need to be taken into account. This would also apply when calculating the value of any shortfalls with regard to their retirement provision.

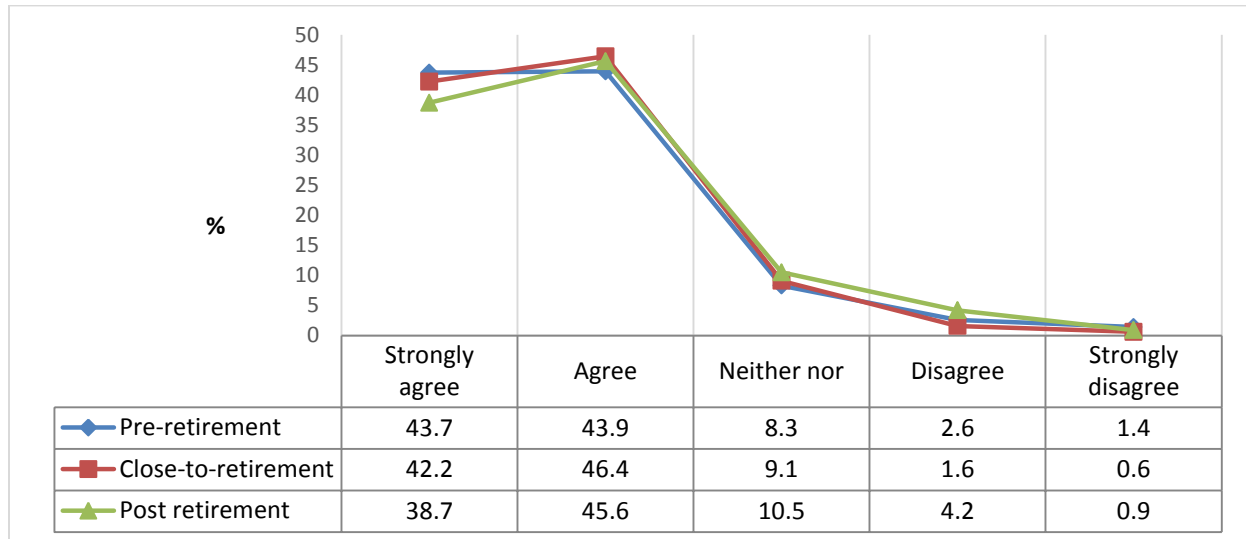
4.3.2.10 Earning levels and taxation expenses

Taxation, the respective legislation, and the possible effect that it could have on individuals' retirement savings represent another component to consider when planning for retirement (section 2.5.2.1). Taxation knowledge would equip individuals to invest in tax-favoured products where they would have limited taxation exposure in order to accumulate as ample as possible retirement funds during their working years. It would also inform those who are retiring about the tax-free amount that can be taken as a lump sum. The question below determines whether individuals agreed that their taxation expense would increase when they earned more money.

Question number	Question detail					
129	<p>To what extent do you agree: The more money you earn, the more tax you pay.</p> <table border="1" data-bbox="391 1173 1395 1251"> <tr> <td data-bbox="391 1173 602 1251">Strongly agree</td> <td data-bbox="605 1173 816 1251">Agree</td> <td data-bbox="820 1173 1031 1251">Neither nor</td> <td data-bbox="1034 1173 1245 1251">Disagree</td> <td data-bbox="1248 1173 1395 1251">Strongly disagree</td> </tr> </table>	Strongly agree	Agree	Neither nor	Disagree	Strongly disagree
Strongly agree	Agree	Neither nor	Disagree	Strongly disagree		

As previously discussed in this section, individuals require the necessary taxation knowledge so that they could equip themselves to make sensible financial decisions. Individuals should further be aware that their taxation expense would change, depending on the level of income, the income class and much more, as prescribed by the applicable taxation legislation. Figure 4.30 illustrates whether individuals agreed with the statement that the more money they earn, the higher would be their taxation expenses.

Figure 4.30: Level of earnings influences taxation expense across retirement phases



As illustrated in Figure 4.30 and when combining the strongly agree and agree options, 87.6 percent of the individuals in the pre-retirement phase indicated that they agreed that the taxation expense increases with higher levels of income, with 88.6 percent in the close-to-retirement phase and 84.3 percent in the post-retirement phase. Understanding taxation and all the related legislation of when and which income would be taxable would assist individuals in retirement planning. The responses over all three phases are also indicative of individuals' awareness of the financial effect that taxation could have on their financial position and retirement planning. Taxation knowledge and understanding is essential in all three the phases of retirement as it would assist individuals to make decisions that are beneficial to them. In both the pre-retirement and close-to-retirement phases it would assist individuals to make the most beneficial financial decisions in terms of tax-favoured products to save optimally towards retirement and to avoid paying unnecessary taxes. In the close-to-retirement phase, it would assist individuals to decide on how to spread their retirement benefits, determining the level of lump sums that should be taken as well as the type of retirement products that should be purchased and to do this with minimal tax consequences. In the post-retirement phase, it would also assist individuals to manage

how their retirement income should be distributed and invested to receive the optimal tax benefit.

Across all three retirement phases the distribution of individuals' knowledge with regard to the linkage between the level of earnings and the related taxation expense was fairly similar. It was also evident that it did not change significantly when they get older.

Table 4.20 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to whether individuals agree with the statement that the more money they earn, the higher their taxation expenses would be.

Table 4.20: Earnings levels and taxation expense across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
25 722.197	2	0.000	Statistically significant differences exist			
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement/ Close-to-retirement	-70 248.487	-14.336	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	-880 547.935	-160.381	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	-810 299.448	-115.288	0.000	0.000	Statistically significant difference	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp . Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/ Close-to-retirement	31 779 918 743 899.000	14.689	0.000	Statistically significant differences	0.003	Small
Pre-retirement/ Post-retirement	26 146 051 378 933.500	159.922	0.000	Statistically significant differences	0.031	Small
Close-to-retirement/ Post-retirement	2 864 108 458 718.500	117.924	0.000	Statistically significant differences	0.054	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.20, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in individuals' understanding of how taxation works and the financial effect of taxation on higher levels of income earned, with the chi-square being $X^2(2) = 25\ 722.197$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be such differences over all three the retirement phases. This was confirmed when performing the Mann-Whitney U tests, as it indicated the significance of the differences that exist among individuals across the three retirement phases with regard to their understanding of how taxation works and the financial effect of taxation on higher levels of income earned. The effect size of these statistically significant differences was however small across all three the retirement phases. Thus, although the visual distribution (Figure 4.30) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.20) concluded that the differences were statistically significant, although the effect size thereof was small.

The statistical significance of the differences being small was as expected and was a good reflection of individuals' knowledge with regard to the levels of earnings and the related taxation expense. Individuals' knowledge with regard to the earning levels and the related taxation expenses continues to stay very similar as individuals get older. Chapter 5 will discuss how financial knowledge, financial management, investment knowledge, mathematical and taxation knowledge skills could possibly assist individuals to determine the financial effect of taxation expenses on their retirement savings. This could enable them to select more tax-favoured investment products when saving for retirement by limiting taxation expenses (in compliance with applicable legislation) to increase their retirement savings optimally and to do the necessary taxation calculations to determine the value of after tax money. This would also assist individuals to convert their retirement goals to rand value and to determine the value of their existing retirement provision after considering the taxation effect, which would also apply when calculating the value of any shortfalls with regard to individuals' retirement provision.

4.3.2.11 Summary

The results to all core area 2's questions indicated that all phases tend to be statistically significantly different from each other. However, the outcomes when calculating the effect size for each of the questions relating to core area 2 were that the statistically significant differences over the three phases of retirement were in fact small. This means that no major differences were found between the three phases of retirement, which is a concerning factor when doing a comprehensive gap analysis within the practical retirement planning process across the three phases of retirement. This could possibly mean that individuals do not actively take part in doing a comprehensive gap analysis which requires converting their retirement goals into rand value, analysing their existing retirement provision to determine the current value of their retirement savings and whether they have any financial shortfalls in terms of reaching their pre-determined retirement goals. Therefore, individuals have to realise that not giving this core area of the practical retirement planning process the attention that it deserves could potentially contribute to retiring financially insecure and/or that it would require that they would have to make adjustments to their pre-determined retirement goals in order not to be exposed to financial vulnerability in old age.

The importance of formulating a retirement plan that would enable individuals to save for their retirement and to do so within their financial means should not be underestimated. This would assist them to take stock of their future financial position, to compile or adjust their financial plan and to formulate their investment program, which includes creating a systematic savings plan and identifying the types of investments that they should be investing in. Individuals should take part in all of this after considering their risk tolerances levels. Therefore, core area 3 will deal with individuals' ability to formulate a retirement plan.

4.3.3 Core area 3 – Individuals' ability to formulate a retirement plan

In core area 3, which deals with the formulation of a retirement plan in terms of practical retirement planning process as discussed in Chapter 2 (section 2.3 and section 2.5.3), the following issues as identified in the South African FSB study will be discussed:

- risk tolerance levels;
- financial plans; and
- risk diversification.

Each of the questions relating to the above-mentioned issues of core area 3 of the practical retirement planning process will be repeated in the respective sections below for the convenience of the reader.

4.3.3.1 Risk tolerance

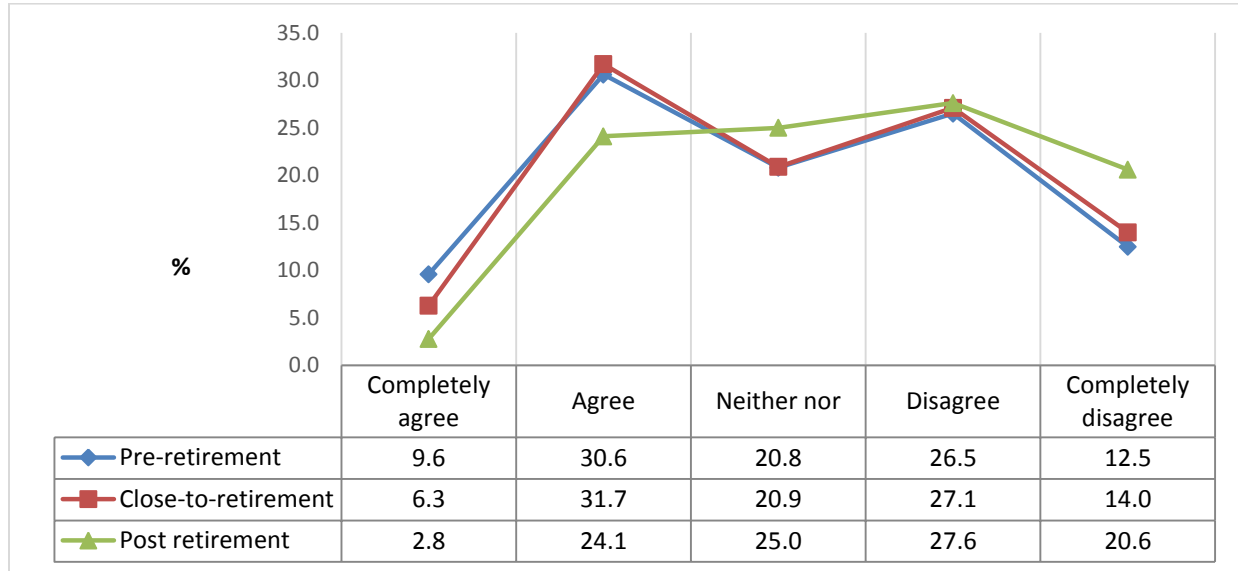
The type of investments and/or savings products that individuals would choose to invest in when saving for retirement and the growth that could be earned on these investments and/or savings would depend on the degree of risk that individuals are willing to take. Risk tolerance levels should however be revisited as individuals grow older and when moving from accumulation of retirement funds to the distribution thereof (section 2.4 and section 2.5.3.1). The question below determines whether individuals are prepared to risk some of their own money when saving or making an investment.

Question number	Question detail					
37	Do you agree or disagree: I am prepared to risk some of my own money when saving or making an investment					
	<table border="1"><tr><td data-bbox="407 1577 618 1665">Completely agree</td><td data-bbox="623 1577 834 1665">Agree</td><td data-bbox="839 1577 1050 1665">Neither nor</td><td data-bbox="1055 1577 1266 1665">Disagree</td><td data-bbox="1271 1577 1482 1665">Completely disagree</td></tr></table>	Completely agree	Agree	Neither nor	Disagree	Completely disagree
Completely agree	Agree	Neither nor	Disagree	Completely disagree		

Figure 4.31 illustrates individuals' willingness to risk some of their money when saving or making an investment. The outcome of this statement is based purely on individuals' risk tolerance levels. This could also vary, as younger individuals should in fact be more

willing to take higher levels of risk when saving or making investments in comparison to older individuals.

Figure 4.31: Risk tolerance levels across retirement phases



As illustrated in Figure 4.31, and when combining the completely agree and agree options, 40.2 percent of the individuals in the pre-retirement phase agreed that they were prepared to risk some of their own money when saving or making an investment, with 38.0 percent in the close-to-retirement phase and 26.9 percent in the post-retirement phase. However, a significant percentage of individuals were not willing to risk any of their money when saving or making an investment. Figure 4.31 illustrates further that when combining the disagree and completely disagree options 48.2 percent of individuals in the post-retirement phase had the highest percentage of those who disagreed with the statement indicating that they were not willing to risk their own money when saving or making an investment. This was followed by 41.1 percent of individuals in the close-to-retirement phase and 39.0 percent in the pre-retirement phase. Incorporating a reasonable amount of risk in an investment program is acceptable as long as individuals are compensated appropriately by receiving the expected return that they deserve for taking on that level of risk.

However, in instances where individuals are very cautious as to where to invest their retirement savings, they would sometimes end up paying much more for the investment

than what they are getting out of it. The acceptance of low levels of return on retirement savings has a significant impact on the long-term accumulation thereof, as it could mean the difference between just coping financially and living comfortably in retirement (Joehnk *et al.*, 2011). Higher levels of education could also have a positive effect when individuals consider the level of risk that they are willing to take when saving or making investments (Roberts *et al.*, 2012). The level of risk individuals are willing to take when it comes to savings and investments would determine the type of investment vehicles that would be included in their financial plan.

Across the three retirement phases, the distribution of individuals' risk tolerance levels was fairly similar, except for the individuals in the post-retirement phase who were perhaps a bit sceptical in terms of being prepared to risk their own money when saving or making an investment. This is however acceptable for the individuals in the post-retirement phase, as they have to be more conservative in their approach towards saving and/or making investments in order to protect their retirement savings for the remainder of their lifetime. It was also evident that individuals' willingness to take risk relating to investments and/or savings changed from the pre-retirement phase to the post-retirement phase.

Table 4.21 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to individuals' willingness to risk some of their money when saving or making an investment.

Table 4.21: Risk tolerance levels across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
189 089.948	2	0.000	Statistically significant differences exist			
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement/ Close-to-retirement	-596 284.101	-113.903	0.000	0.000	Statistically significant differences	
Pre-retirement/ Post-retirement	-2 524 808.766	-428.208	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	-1 928 524.664	-256.302	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	35 523 004 403 214.000	114.432	0.000	Statistically significant differences	0.022	Small
Pre-retirement/Post-retirement	30 773 562 170 928.500	427.534	0.000	Statistically significant differences	0.083	Small
Close-to-retirement/Post-retirement	3 356 798 587 375.500	260.370	0.000	Statistically significant differences	0.117	Medium

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.21, the Kruskal-Wallis test revealed that there tend to be statistically significant differences in individuals' willingness to risk some of their own money when saving or making an investment across the three retirement phases, with the chi-square being $X^2(2) = 189\ 089.948$ and the $p < 0.05$. The post-hoc test also

indicated that there tend to be differences with regard to individuals' willingness to risk some of their own money when saving or making an investment over all three the retirement phases. This was confirmed when performing the Mann-Whitney U tests, as it also indicated the significance of the differences that exist among individuals across the three retirement phases with regard to their willingness to risk some of their own money when saving or making an investment. The effect sizes of these statistically significant differences were however small when comparing the pre-retirement phase with the close-to-retirement phase and the pre-retirement phase with the post-retirement phase. It was however medium when comparing the close-to-retirement phase with the post-retirement phase. Thus, although the visual distribution (Figure 4.31) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.21) concluded that the differences were statistically significant, even though the effect size was both small and medium.

The statistical significance of the differences being both small and medium (as indicated above) was expected and was a good indication of individuals' risk tolerance levels with regard to being prepared to risk some of their own money when saving or making an investment. Individuals' risk tolerance levels play a key role when choosing investments to be included in their investments, as it would also influence the levels at which investments would grow over time. This is especially applicable for individuals when formulating their retirement plans, as it requires the identification of the type of investment that would best suit their financial needs, bearing in mind their risk tolerance levels. Younger individuals (pre-retirement phase) seemed to be a bit more aggressive in their approach when saving or making an investment compared to older individuals (post-retirement phase), who seem to be a bit more conservative. Individuals' risk tolerance levels continue to stay very similar for individuals on both the pre-retirement and close-to-retirement phases in comparison to those in the post-retirement phase who seem to have a more conservative approach when making investments. Chapter 5 will discuss how financial knowledge, financial management, investment knowledge, mathematical and taxation knowledge as well as knowledge about economic factors could possibly assist individuals to determine their risk tolerance levels prior to utilising their own money for savings or making an investment to determine the financial effect of

the investment and/or savings. This includes deciding whether such savings or investments are favourable for tax purposes, the returns that would be earned on the investment and/or savings, and whether the returns exceed the costs and are fixed or linked to market conditions. Financial knowledge and knowledge about economic factors could also play a key role in assisting individuals to manage their retirement savings in such a manner that they keep track with any changes in the market. As individuals get closer to retirement, such knowledge could guide them to move to more conservative investment products on which interest is earned, in order to protect their accumulated retirement savings. The formulation of individuals' retirement plans to assist individuals in reaching their retirement goals would be guided by their risk tolerance levels to create a systematic savings plan and identify the type of investments.

4.3.3.2 Financial plans

Financial plans set out individuals' goals for retirement and how they are planning to achieve these goals. Such plans could include various outcomes to suit their personal circumstances. Financial plans are also affected by individuals' risk tolerance levels, as it would influence their decisions with regard to the type of investment they would be including in their investment program for retirement. These financial plans are also subject to change that might affect individuals' goals, their ability to implement some of their expectations for retirement, and their personal finances (section 2.5.3.1). The question below deals with some of the aspects that individuals could possibly include in their financial plans for retirement.

Question number	Question detail				
40	Which of the following are included in your financial plan for retirement?				
	Government old age pension	Work-place pension	Personal retirement savings plan	Moving to cheaper property in the same area	Moving to a cheaper area
	Sell your financial assets	Sell your non-financial assets	Use an inheritance	Rely on your spouse or partner to support you	Rely on your children to support you
	Rely on financial support from your wider family	Drawing an income from your own business	Continue to work after retirement age to earn money	Other	

Figure 4.32 illustrates some of the things that individuals included in their financial plans, such as retirement related investment and/or savings vehicles, provision of financial support when needed, and coping mechanisms should their income be insufficient. It is important to note that the graph illustrates the number of products and/or options that are included in individuals' financial plans for retirement, as they were allowed to indicate more than one option if applicable to them.

Figure 4.32: Financial plans across retirement phases

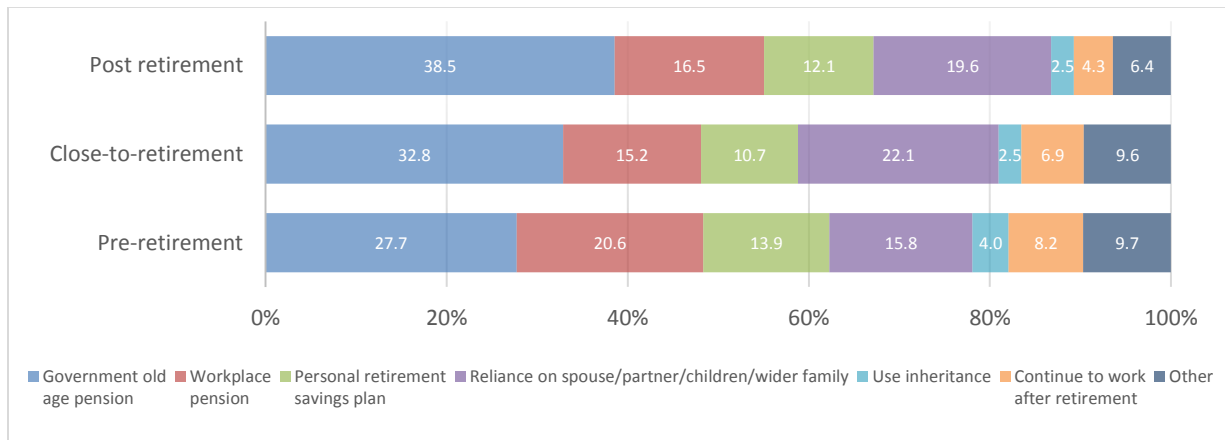


Figure 4.32 illustrates that government grants were included as an option to individuals, but these will not be discussed in detail here, as they were excluded for the purposes of this study. However, it is worthwhile mentioning that 27.7 percent of the individuals in the pre-retirement phase already view government as a provider when they retire by including government old age grants as part of their financial plan for retirement, with 32.8 percent of individuals in the close-to-retirement phase and 38.5 percent in the post-retirement phase who had a similar view. This could possibly indicate vulnerability in old age for these individuals, should this be their only source of retirement income. These percentages are even higher than the percentage of individuals who indicated that a work-place pension is included in their financial plan for retirement.

Only 20.6 percent of the individuals in the pre-retirement phase, 15.2 percent in the close-to-retirement phase and 16.5 percent in the post-retirement phase included a work-place pension in their financial plan for retirement. Such low percentages are significant, considering that in the majority of the cases this is the only form of retirement savings for these individuals.

The individuals who have personal savings plans in place could possibly be those who supplement their work-place pensions with personal savings plans to address the shortfalls that they might have in the future, those who are self-employed, and/or those without a work-place pension who are making provision for retirement. Therefore, when combining the personal retirement savings plan with the work-place pensions, individuals' provisions for retirement still do not look that promising. In the pre-retirement this equates to 34.5 percent, with 25.9 percent in the close-to-retirement and 28.6 percent in the post-retirement phase. However, 8.2 percent of the individuals in the pre-retirement phase, 6.9 percent in the close-to-retirement phase and 4.3 percent in the post-retirement phase indicated that they would have to continue working after their retirement age or might already be working after their retirement age. This is actually a very serious problem. It highlights the fact that continuing to work after retirement could be due to insufficient retirement funding to support their financial needs, or an attempt to compensate for any anticipated deficits in retirement or for shortfalls that those already

in retirement are currently experiencing. Individuals' level of educational attainment could also influence what they include in their financial plan for retirement.

Across the three retirement phases, the distribution of individuals with regard to what they include in their financial plans was fairly similar except for the level of government grants included in the post-retirement phase, but this is acceptable due to the scope of the post-retirement phase. It was also evident that government grants escalated as individuals got older, the work place pensions and personal savings plans increased in the pre-retirement phase in comparison to the close-to-retirement and post-retirement phases, and the reliance on spouses/partner/children/wider family started to decrease in the pre-retirement phase when compared to the close-to-retirement and post-retirement phases. The remainder of the options did not change significantly when they grew older.

Table 4.22 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to the number of things which individuals have included in their financial plans, including retirement related investment and/or savings vehicles, provision of financial support when needed and coping mechanisms, should their income be insufficient.

Table 4.22: Financial plans across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test		
113 547.476	2	0.000	Statistically significant differences exist			
Post-hoc test						
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*	
Pre-retirement /Close-to-retirement	589 012.442	120.367	0.000	0.000	Statistically significant differences	
Pre-retirement/Post-retirement	1 780 980.615	324.684	0.000	0.000	Statistically significant differences	
Close-to-retirement/ Post-retirement	1 191 968.173	170.575	0.000	0.000	Statistically significant differences	
Mann-Whitney U- and effect size results						
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
Pre-retirement/Close-to-retirement	31 775 288 711 807.000	-120.389	0.000	Statistically significant differences	0.023	Small
Pre-retirement/Post-retirement	22 423 668 685 465.000	-324.384	0.000	Statistically significant differences	0.064	Small
Close-to-retirement/Post-retirement	2 810 464 266 809.500	-173.679	0.000	Statistically significant differences	0.078	Small

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.22, the Kruskal-Wallis test revealed that there tend to be statistically significant differences across the three retirement phases in what individuals include in their financial plan for retirement, with the chi-square being $\chi^2(2) = 113.547.476$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences in what individuals include in their financial plans for retirement over the three retirement phases. This was confirmed when performing the Mann-Whitney U tests, as it also indicated the significance of the differences that exist among individuals across the three retirement phases with regard to what they tend to include in their financial plans for retirement. However, the effect size of these statistically significant differences was small across the three retirement phases. Thus, although the visual distribution (Figure 4.32) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.22) concluded that the differences were statistically significant, even though the effect size thereof was small.

The statistical significance of the differences being small was as expected, and was a good reflection of what is included in individuals' financial plans. The number of elements that are included in such financial plans continue to stay very similar as individuals get older. Individuals' risk tolerance levels play a key role in what would be included in their financial plans. This is especially applicable when formulating the retirement plan, where individuals have to formulate their investment program. This entails creating a savings plan and the identification of the type of investments that would best suit their financial needs, bearing in mind their risk tolerance levels. Younger individuals (pre-retirement phase) seemed to be a bit more aggressive in their approach when saving or making an investment in comparison to older individuals (post-retirement phase), who seemed to be rather more conservative. Chapter 5 will discuss how financial knowledge, financial management, investment knowledge, mathematical and taxation knowledge skills as well as knowledge about economic factors could possibly assist individuals to determine what to include in their retirement plans, bearing in mind factors such as their risk tolerance levels, level of their investment returns and/or the sufficiency of their retirement savings. Financial knowledge and knowledge about economic factors could also play a key role in assisting individuals to manage

their retirement savings in such a manner that they keep track of any changes in the market and of which products would be best to include in their financial plans for addressing their financial needs for retirement. The formulation of individuals' retirement plans to assist them in reaching their retirement goals would require consideration of their risk tolerance levels in order to identify the type of investments that should be included.

4.3.3.3 Risk diversification

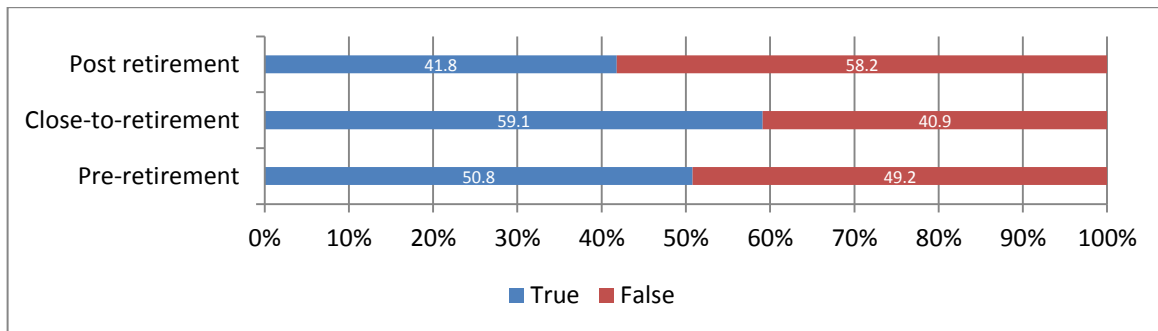
When formulating their financial plan for retirement, individuals should also consider including different types of investment and/or savings products in order to diversify their risk exposure, which simultaneously addresses their financial needs for retirement.

The question below determines whether individuals agreed that they would not lose all their money if they saved in more than one place.

Question number	Question detail
115	Do you think the following statement is true or false: It is less likely that you will lose all of your money if you save in more than one place. <input type="checkbox"/> True <input type="checkbox"/> False

Figure 4.33 illustrates individuals' understanding of the principle of risk diversification, as they had to state whether they were less likely to lose all their money should they invest in more than one place.

Figure 4.33: Risk diversification across retirement phases



As illustrated in Figure 4.33, 50.8 percent of the individuals in the pre-retirement phase agreed with the statement that it is less likely that you will lose all of your money if you save in more than one place, with 59.1 percent in the close-to-retirement phase and 41.8 percent in the post-retirement phase. From the responses received, it seems that South Africans do not have the necessary knowledge about the potential benefits and/or gains that could flow from diversifying their risks, which relates to savings across different products or financial institutions. This was supported by the responses provided by the individuals over the three phases. However, in the post-retirement phase the scope for diversification is not that extensive, as individuals would then have a much more conservative approach towards risk in order to protect their retirement savings as far as possible from devaluation, versus the much more aggressive approach that could be taken by the younger individuals in the pre-retirement phase. Individuals in the close-to-retirement phase are moving in the direction of following a more conservative approach, as they are not that far from retirement, with limited scope in terms of diversifying their portfolios. This stance would however vary from individual to individual and depend on their risk tolerance levels.

Across the three retirement phases, the distribution of individuals' knowledge about the potential benefits and/or gains that could flow from diversifying their risks, which relates to savings across different products or financial institutions, was different for the post-retirement phase due to their conservative approach when saving and/or making investments. It was also evident that this did change significantly from the pre-retirement phase to the post-retirement phase.

Table 4.23 presents the results of the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U test and the effect size relating to the individuals' understanding of the principle of risk diversification, as they had to state whether they were less likely to lose all their money, should they invest in more than one place.

Table 4.23: Risk diversification across retirement phases

Test Statistic (Chi-Square)	Degrees of freedom (df)	Asymp. Sig. (p-value)	Statistical Result*	Schematic illustration of Kruskal-Wallis test			
138 732.542	2	0.000	Statistically significant differences exist				
Post-hoc test							
Retirement phase	Test statistic	Std. test statistic	Sig	Adj. sig	Statistical Result*		
Pre-retirement/ Close-to-retirement	1 178 362.880	251.366	0.000	0.000	Statistically significant differences		
Pre-retirement/ Post-retirement	-1 268 523.828	-251.400	0.000	0.000	Statistically significant differences		
Close-to-retirement/ Post-retirement	-2 446 886.708	-372.168	0.000	0.000	Statistically significant differences		
Mann-Whitney U- and effect size results							
Retirement phases	Mann-Whitney U (U)	Std. test statistic	Asymp. Sig. (p-value)	Statistical Result*	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)	
Pre-retirement/Close-to-retirement	26 915 241 880 913.000	-251.454	0.000	Statistically significant differences	0.049	Small	
Pre-retirement/Post-retirement	27 241 583 226 919.000	251.366	0.000	Statistically significant differences	0.050	Small	
Close-to-retirement/Post-retirement	3 107 251 262 924.000	372.215	0.000	Statistically significant differences	0.173	Medium	

* Based on 5% significance level

(Source: Author's own)

As presented in Table 4.23, the Kruskal-Wallis test revealed that there tend to be statistically significant differences in how individuals diversify their risk by saving money in more than one place across the three retirement phases, with the chi-square being $\chi^2(2) = 138.732.542$ and the $p < 0.05$. The post-hoc test also indicated that there tend to be differences over the three retirement phases in how individuals diversify their risk by saving money in more than one place. This was confirmed when performing the Mann-Whitney U tests, as it also indicated the significance of the differences that exist among individuals across the three retirement phases on how they diversify their risk by saving money in more than one place. However, the effect sizes of these statistically significant differences were small when comparing the pre-retirement phase with the close-to-retirement phase and the pre-retirement phase with the post-retirement phase. It was however medium when comparing the close-to-retirement phase with the post-retirement phase. Thus, although the visual distribution (Figure 4.33) created the impression that there were no significant differences across the three phases, the additional tests conducted (as indicated in Table 4.23) concluded that the differences were statistically significant, even though the effect size was both small and medium.

The statistical significance of the differences being both small and medium (as indicated above) was as expected and indicated individuals' ability to diversify their risk by saving in more than one place and in doing so decrease the likelihood of losing all their money. Individuals' willingness to diversify their risk by investing their savings in more than one place could also influence what would be included in their retirement plans. Therefore, individuals' risk tolerance levels and the diversifying of their risk exposure play key roles in identifying what type of investments should be included in their retirement plans, bearing in mind what would best suit their financial needs. Chapter 5 will discuss how financial knowledge, financial management, investment knowledge, mathematical and taxation knowledge skills as well as knowledge about economic factors could possibly assist individuals to determine what to include in their retirement plans, bearing in mind factors such as the diversifying of their risk prior to investing any of their funds, their current risk exposure, the type of products that are currently included in their retirement plans, their risk tolerance levels, the level of their investment returns, and/or the sufficiency of their retirement savings. Financial knowledge and knowledge about

economic factors could also play a key role in assisting individuals to manage their retirement savings in such a manner that it keeps track with any changes in the market, to decide which products would be best to include in their retirement plans by diversifying their risks, and to address their financial needs for retirement. The formulation of individuals' retirement plans to assist them in reaching their retirement goals would require consideration of their risk tolerance levels and the diversifying of their risks in order to identify the type of investments that should be included to address both these issues.

4.3.3.4 Summary

The results to all core area 3's questions indicated that all phases tend to be statistically significantly different from each other. However, the outcomes when calculating the effect size for each of the questions relating to core area 3 were that the statistically significant differences over the three phases of retirement were actually small to medium. This means that no major differences were found between the three phases of retirement, which is a factor of concern when formulating a retirement plan within the practical retirement planning process across the three phases of retirement. This could possibly mean that individuals do not actively take part in formulating a retirement plan that requires that they take stock of their future financial position, compile or adjust their financial plans or formulate an investment program that includes creating a systematic savings plan and identifying types of investments that would suit their financial needs. Therefore, individuals have to realise that not giving this core area of the practical retirement planning process the attention that it deserves could potentially contribute to retiring financially insecure and/or having to adjust their pre-determined retirement goals in order not to be exposed to financial vulnerability in old age.

4.4. CONCLUSION

Descriptive statistics were presented for each of the 33 selected questions across the three retirement phases by using cross tabulation in order to do a visual inspection of the data. This enabled the analysis, comparison and interpretation of each of the selected questions according to the demographic characteristics and financial behaviour

of the individuals for the three core areas of the practical retirement planning process in order to identify possible differences that could exist across the three retirement planning phases.

The process of comparison and interpretation commenced by dealing with factors that could influence individuals' financial ability and financial decision making when doing retirement planning across the three phases of retirement. Based on the cross tabulations performed on both the general and the demographic characteristics questions, it was possible to discuss the results with regard to retirement planning over the three phases of retirement. The discussion of the differences that were found was addressed in section 4.2. No further statistical tests were performed on these questions, as the results of the responses to these questions were sufficient for the intended purpose, namely to obtain a better understanding of South Africans' financial ability and financial decision making skills with regard to retirement planning across the three retirement phases.

Comparison and interpretation of the cross-tabulation results for the final list of questions (Table 3.4) relating to the three core areas of the practical retirement planning process over the three retirement phases were based on the heuristic model as defined in Chapter 2 (section 2.3 and section 2.5) to address some of the factors that should be considered during the practical retirement planning process. Each step was included in the practical retirement planning process (section 2.3). Further inferential analyses, namely the Kruskal-Wallis test, post-hoc test, the Mann-Whitney U test and the calculation of the effect size to determine the extent of the statistically significant differences were also performed to address the third research sub-problem that aimed to determine whether there tend to be statistically significant differences across the three retirement phases with regard to the three core areas of the practical retirement planning process. All but one pairing, as highlighted in section 4.3.1.4, were found to show the existence of statistically significant differences, as the $p > 0.05$ when performing the Kruskal-Wallis post-hoc test and Mann-Whitney test. The results as well as the discussions surrounding the Kruskal-Wallis tests, post-hoc tests, Mann-Whitney U tests and the effect sizes thereof were presented in section 4.3 according to the three

core areas of the practical retirement planning process. These effect size results revealed that statistically significant differences existed within all three the core areas of the practical retirement planning process across the three retirement phases and were in fact small to medium. The effect size being small to medium for all the other questions used for this study as indicated in sections 4.3.1 to 4.3.3 with regard to the three core areas of the practical retirement planning process across all three the retirement phases implies that there were no major differences between the three retirement phases in respect of planning for retirement.

Chapter 5 will provide a summary of the findings of this study, as well as a discussion relating to some of the competencies required in order to do retirement planning within the three core areas of the practical retirement planning process across the three phases of retirement as identified by this study. It is in no way a comprehensive discussion in this regard.

CHAPTER 5

SUMMARY AND CONCLUSION

5.1. INTRODUCTION

Individuals' decisions to do retirement planning or not could be influenced by many factors. Some of these factors that could negatively affect South African individuals' ability to do financial planning for retirement are unemployment, poverty and inequality. In the majority of the cases, individuals who are affected by these factors are not in a position to put money aside for the future and/or they do not have access to affordable and applicable retirement and investment products. The approach of individuals who are in the position to actually put money aside for retirement is not flawless, as they tend to make mistakes such as saving too little, starting too late and/or investing too conservatively. All of the mentioned factors and mistakes could have a negative financial impact on individuals' retirement savings and reemphasise the importance of proper retirement planning. Therefore, in attempting to adequately address their retirement needs, individuals would have to decide how they would go about using their available financial resources to meet their financial needs, together with setting aside funds for their retirement. This study dealt with three retirement phases, namely pre-retirement, close-to-retirement and post-retirement (section 2.4), which incorporates the typical financial life cycle within which individuals need to apply the practical retirement planning process (section 2.3, section 2.5 and Figure 2.14) in order to address their financial retirement needs. For a better understanding of why the percentage of South Africans that are able to maintain their pre-retirement standard of living is so low, this study investigated the research problem whether there are differences across the three retirement phases with regard to the practical retirement planning process that could possibly explain South Africans' financial ability to plan for retirement.

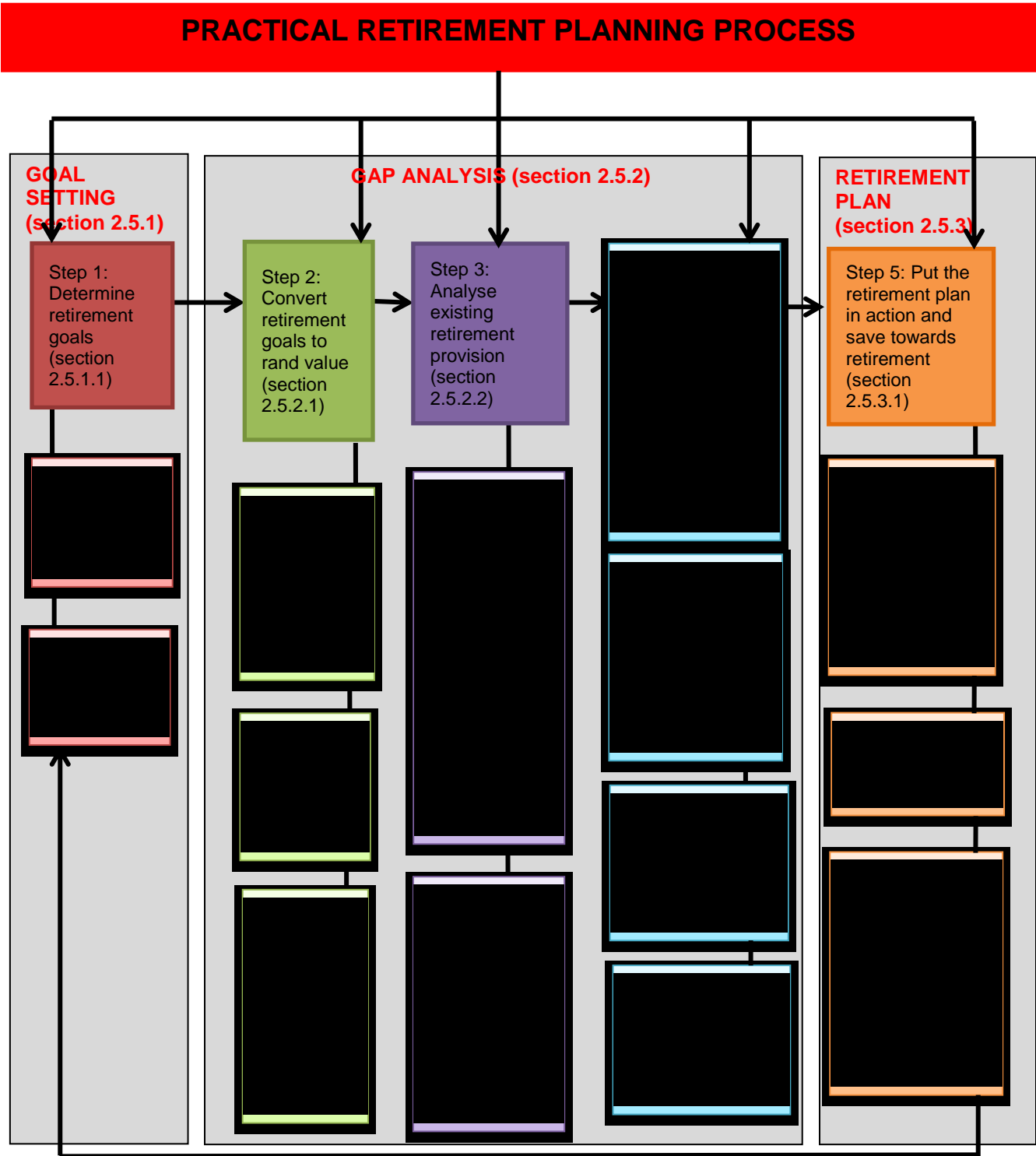
The following sections (section 5.2, section 5.3 and section 5.4) discuss the research sub-problems that were formulated in order to answer the research question, as well as a number of significant findings of this study.

5.2. PRACTICAL RETIREMENT PLANNING PROCESS

Research question 1: Identify the different steps that individuals need to follow when doing retirement planning and incorporate each of the identified steps into the practical retirement planning process by describing the purpose of each of these steps which is embedded in the three core areas of the practical retirement planning process (section 2.3 and section 2.5).

The research sub-problem was addressed by doing a literature review to determine the steps that individuals need to follow within the practical retirement planning process (section 2.3). The research sub-problem was further addressed by evaluating empirical data according to a heuristic model that was developed from the literature (section 2.5). The heuristic model applied in this study is summarised in Chapter 2 (Figure 2.14), with the three core areas of the practical retirement planning process serving as a framework within which individuals should be planning for retirement. Figure 5.1 below is therefore a repetition of the model for the convenience of the reader. These steps should be followed in all three the retirement phases as defined in section 2.4 of this study, namely pre-retirement, close-to-retirement and post-retirement.

Figure 5.1: Summary of the three core areas of the practical retirement planning



(Source: Author's own)

Figure 5.1 indicates that the retirement planning process for individuals commences by determining both their general and financial goals for retirement (step1). The first core area thus deals with setting goals for retirement. Once individuals have determined their retirement goals, they have to convert their retirement goals into a rand value (step 2). This requires a projection of their retirement income and future investment needs in order to achieve their pre-determined retirement goals. The total amount required to meet their financial needs in retirement would have to be compared with their existing retirement provision (if any) (step 3). The level of individuals' existing retirement provision could be determined through analysing their current financial position. This information could be used to calculate whether there would be a shortfall by deducting the existing retirement provision from the future retirement funds needed to achieve the pre-determined retirement goals (step 4). Any shortfall should be funded financially during individuals' working years or, in the case of retirees, they would have to cut back on their retirement goals when already in retirement. In combining steps 2 to 4, individuals are in essence doing a comprehensive gap analysis, which is the second core area of the practical retirement planning process. Lastly, after individuals have identified their financial needs for retirement and after taking stock of their future financial position, they need to formulate their retirement plans, which include creating a savings plan and formulating an investment program that would address their retirement needs respectively (step 5), which are the key elements of core area 3. In cases where individuals have to make adjustments due to changes in their personal circumstances or not being able to achieve all their retirement goals, they need to start the practical retirement process all over again.

The practical retirement planning process is not a once-off event, but rather an ongoing process that should be monitored on a regular basis in order to avoid financial vulnerability in old age. This therefore necessitates the identification of the retirement phases within which individuals need to do retirement planning.

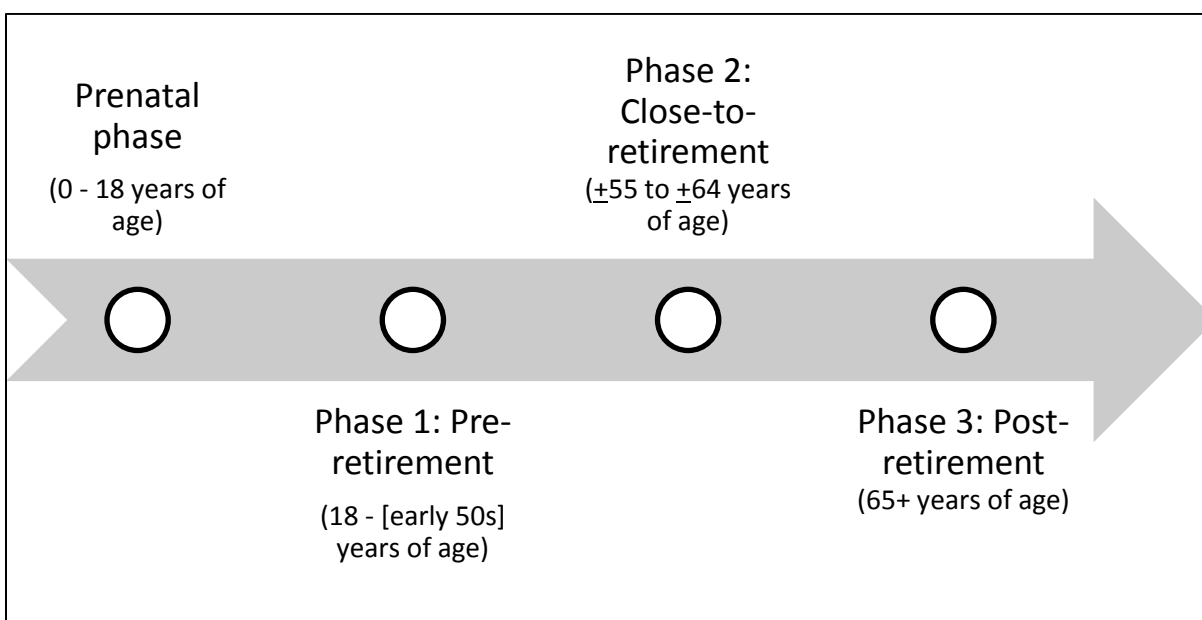
5.3. RETIREMENT PHASES

Research question 2: Identify the phases within which individuals need to do retirement planning as addressed by previous studies and simultaneously take cognisance of individuals' financial life cycle (section 2.4).

Financial planning for retirement during an individual's lifetime could be divided into various phases, depending on how and by whom it is perceived. Regardless of the number of phases that are included in the retirement planning process, each phase has both opportunities and challenges for individuals (Middlingthrough, 2013). Some authors are of the opinion that retirement planning consists of five phases and some of three (Krooks, 2011; Severson, 2013; Wynn *et al.*, 2013; Cameron, 2004; Campos, 2010; Botha *et al.*, 2011; Berger, 2013; Keown, 2013). Even among these authors, there are differences: although they might initially agree that there are either five or three phases of retirement, they have their own perceptions of when each of the phases would be applicable. The typical financial life cycle approach that would apply to the majority of individuals irrespective of the fact that everyone might have their own customised financial plans formed the basis of the discussion on the different phases of retirement. The typical financial life cycle approach also reflected on the fact that although individuals are faced with other financial challenges during their lifetime, they should still be involved with financial retirement planning to enable them to live comfortably in retirement. This approach identified three phases of retirement, which were also supported by other studies and were used for the purposes of this study. The three retirement phases therefore identified for this study were pre-retirement, close-to-retirement and post-retirement phases, which addressed the second research sub-problem. The detail below is only a summarised version of how the three retirement phases were defined in Chapter 2 (section 2.4) and are only repeated for the convenience of the reader. The pre-retirement phase is the first and also the longest retirement investing phase in the retirement planning process and relates to individuals who are in the age group 18 to 54. The close-to-retirement phase is the second and shortest phase that individuals would encounter in the retirement planning process, as it

usually lasts between three and ten years and relates to individuals who are in the age group 55 to 64 years of age. The post-retirement phase is the third and final phase in the retirement planning process, with the duration period being uncertain, and relates to individuals who are in the age group 65 years and older. Figure 5.2 indicates the three retirement phases, pre-retirement, close-to-retirement and post-retirement, that were identified in Chapter 2 (section 2.4) for the purposes of this study. It also includes the prenatal phase, which illustrates the period in which individuals generate negative income (usually in the first 17 or 18 years of individuals' lives), as they would still be at school and their parents would be responsible for settling any debts that might be incurred. Figure 5.2 therefore illustrates all the phases that individuals might encounter within the financial life cycle and thereby addresses the second research sub-problem by identifying the three retirement phases within which individuals need to do retirement planning, incorporating it into their financial life cycle. This was corroborated by previous studies.

Figure 5.2: The various retirement phases



(Source: Author's own)

5.4. COMPARISON ACROSS RETIREMENT PHASES

Research question 3: Identify and compare the possible differences that could exist across the three retirement phases within the three core areas of the practical retirement planning process (section 4.3).

This comparative study required that both descriptive and inferential statistics be performed in order to identify and interpret the results for each question that appears on the final list that was selected for this study. In order to do a visual inspection of the secondary data over the three retirement phases as defined in section 2.4, cross tabulations were performed in SPSS V23 on all the selected questions to determine whether there are differences amongst the three retirement phases. It was noted from the visual inspection that there seem to be some differences over the three retirement phases. The descriptive statistical results for all the selected questions dealing with demographic and general factors that could influence individuals' financial ability and financial decision making when doing retirement planning across the three phases of retirement were presented in section 4.2. This was done through a process of comparison and the interpretation of the cross-tabulation results that were performed on both the general and the demographic characteristics questions. It was therefore possible to discuss these results within the context of retirement planning over the three phases of retirement.

Section 4.2.1 contains the results pertaining to the demographic information, which identified that only 30.4 percent of individuals in the pre-retirement phase were married, but this was also the phase where 64.5 percent of the individuals had children under the age of 18. In both the close-to-retirement and post-retirement phases, 52.0 percent of the individuals still had children under the age of 18. It was positive to see that there were improvements in the education levels of individuals when comparing the education levels in the pre-retirement phase with those in the close-to-retirement and post-retirement phases. This was reflected in the 79.4 percent of individuals in the pre-retirement phase who had some form of secondary school education in comparison to

50.9 percent in the close-to-retirement phase and 51.5 percent in the post-retirement phase. Despite the improvements in education, 54.4 percent of the individuals in pre-retirement were still unemployed, compared to the 45.2 percent in the close-to-retirement phase and 35.0 percent in the post-retirement phase. However, in the pre-retirement phase, 45.0 percent of the individuals indicated that they were employed via either paid employment or self-employment, in comparison to the 31.4 percent in the close-to-retirement phase. The 58.7 percent of individuals in the post-retirement phase who indicated that they had retired was expected, whereas the 23.6 percent of individuals in the close-to-retirement phase who indicated that they had retired was not expected. In the pre-retirement phase, 72.1 percent of individuals received salaries/wages as their household's main source of income in comparison to the 77.9 percent of the individuals in the post-retirement phase who received pensions/grants. The 52.0 percent of the individuals in the close-to-retirement phase who received pensions/grants as their household's main source of income was however not expected. These are but some of the demographic factors that could influence individuals' decisions with regard to retirement planning. In addition, financial behaviour could also play a role when doing retirement planning, and this study looked only at a few factors that could influence individuals' financial ability to save towards retirement.

The results pertaining to the factors considered regarding individuals' financial behaviour as discussed in section 4.2.2 revealed that individuals do not necessarily change their financial management behaviour when they get older. In the post-retirement phase, 62.1 percent of individuals indicated that they were able to cover their living costs for the last 12 months. In the cases where individuals were not able to cover their living costs, reliance on family or friends for money or food had the highest level of responses across all three phases, but the post-retirement phase had the highest number of responses in this regard, namely 56.3 percent. In the pre-retirement phase 53.1 percent of individuals indicated that their financial situation would get better over the next two years, in comparison to the 37.6 percent in the close-to-retirement phase and 28.6 percent in the post-retirement phase. However, the income distribution across the three retirement phases remained fairly consistent, which meant that this

expectation was unfounded. Individuals across all three phases agreed that it is better to commence early with saving towards retirement.

The evaluation of individuals' demographic characteristics and their financial behaviour was done in order to obtain a better understanding of South Africans' financial ability and financial decision-making skills with regard to retirement planning across the three retirement phases. No further statistical tests were performed on the demographic and general questions, as the results to these questions were sufficient for the intended purpose.

Comparison and interpretation of the cross-tabulation results were also performed for the final list of questions (Table 3.4) relating to the three core areas of the practical retirement planning process in order to determine whether there are any differences across the three retirement phases. Due to the nature of the South African FSB's data, non-parametric statistical tests were also performed, which included the Kruskal-Wallis-, post-hoc- and Mann-Whitney U tests. These non-parametric tests seemed to be the most appropriate for this study and were applied to the selected questions relating to the three core areas of the practical retirement planning process. All of these non-parametric statistical tests were performed to determine whether there are statistically significant differences across the three retirement phases within the three core phases of the practical retirement planning process. As the extent of the statistically significant differences was not indicated by these non-parametric tests (as indicated above), it was necessary to calculate the effect size for each of the statistically significant differences identified.

5.4.1 Core area 1 – Setting retirement goals

Table 5.1 summarises what the determination of retirement goals entails across the three retirement phases in respect of core area 1 of the practical retirement planning process as discussed in Chapter 2 (section 2.5.1).

Table 5.1: Determining retirement goals over the three retirement phases (step 1 of the practical retirement planning process)

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Duration of phase (age)	Through age 54	Age 55 to 64	Age 65 and over
Terms of financial goals	Short term (S) Intermediate term (I) Long term (L)	Short term (S) Intermediate term(I)	Short term (S)
General goals	Having a family. Owning a four bedroom house. Buying a new motor vehicle every three years. Establishing retirement age.	Owning a smaller house and selling family home. Buying a new motor vehicle every three years. Establishing retirement age.	Owning a smaller house or retirement home and selling the family home. Buying a new motor vehicle every three years. Taking an extended trip around the world/travel overseas every two years. Maintaining health and fitness after retirement.
Type of financial goals	Vacation trip/s cost (S). Setting aside money for children's education (I). Buying a house (L). Family formation costs (L). Saving for retirement to be able to maintain a certain standard of living in retirement and to achieve other retirement goal/s (L).	Vacation trip/s cost (S). Saving for retirement to be able to maintain a certain standard of living in retirement and to achieve other retirement goal/s (I).	Maintain a certain standard of living in retirement and achieve other retirement goals such as taking overseas trips and buying a new motor vehicle(S).
Status of goal setting	Initial goal setting.	Re-assess goals.	Re-assess goals.
Financial aim of phase/ outcome of financial retirement goals	Wealth accumulation.	Preservation and continued growth of wealth already accumulated.	Distribution of wealth already accumulated. Despite not having an income ensuring continued growth of wealth.
Time-frame of goal setting	The time horizon of retirement goals during the pre-retirement phase is long-term in nature, as this phase would last for the majority of individuals until they are in their mid-50s (Keown, 2013).	As time goes by and individuals get older, their retirement goals would be subject to change due to the role that the financial life cycle pattern plays in effecting these changes as well as the financial impact that unexpected events could have on their financial well-being (Botha <i>et al.</i> , 2011; Joehnk <i>et al.</i> , 2011, Keown, 2013).	In the post-retirement phase, individuals are living off the retirement savings they have accumulated over their working lifetimes.

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Time-frame of goal setting		<p>However, in the close-to-retirement phase individuals would have to re-assess their retirement goals, taking into account that the period up to retirement is significantly shorter when compared to the pre-retirement phase in which they have to prepare themselves financially for retirement.</p> <p>Therefore, the time horizon of their retirement goals in the close-to-retirement phase will change from long-term- to intermediate retirement goals (Keown, 2013).</p> <p>At retirement and prior to determining financial goals for retirement, individuals might have to make crucial financial decisions based upon the level of retirement savings they have accumulated up to that point in time.</p>	<p>The financial focus for individuals in retirement is thus to manage their retirement savings and assets in such a way that they do not run out of money and to rather preserve than to create their wealth by having a less risky investment strategy (Botha <i>et al.</i>, 2011; Joehnk <i>et al.</i>, 2011, Keown, 2013).</p> <p>Greater health care expenses would also have to be considered by retired individuals who have an expectation that they might live longer (Banks, 2010; Burns, 2013).</p> <p>However, in the post-retirement phase individuals would have to re-assess their retirement goals thoroughly as they would be living off their retirement savings for an uncertain period of time.</p> <p>Therefore, they would have to change the time horizon of their retirement goals in the post-retirement phase from long-term to short-term retirement goals (Keown, 2013; Monarch Advisory Group, 2014).</p>

(Source: Author's own)

Table 5.2 summarises the results of the inferential analysis conducted with regard to core area 1 and obtained through performing the non-parametric tests as indicated in Chapters 3 and 4 (section 3.3 and section 4.3.1).

Table 5.2: Summary of the goal-setting inferential analysis results

Issue	Visual difference		Statistical difference (Kruskal-Wallis test result)	Statistical result in respect of Mann-Whitney U test		Effect size of the difference	
	Similar	Different	Yes/No	Comparing phases	Yes/No	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
1. Frequency of financial goal setting	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.003	Small
				Pre-retirement/ Post-retirement	Yes	0.029	Small
				Close-to-retirement/ Post-retirement	Yes	0.049	Small
2. Confidence levels with regard to maintaining a certain standard of living throughout retirement	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.006	Small
				Pre-retirement/ Post-retirement	Yes	0.033	Small
				Close-to-retirement/ Post-retirement	Yes	0.049	Small

Issue	Visual difference		Statistical difference (Kruskal-Wallis test result)	Statistical result in respect of Mann-Whitney U test		Effect size of the difference	
	Similar	Different	Yes/No	Comparing phases	Yes/No	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
3. Regularity of retirement savings	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.013	Small
				Pre-retirement/ Post-retirement	Yes	0.022	Small
				Close-to-retirement/ Post-retirement	Yes	0.062	Small
4. Long-term financial planning	X		Yes	Pre-retirement/ Close-to-retirement	No		
				Pre-retirement/ Post-retirement	Yes	0.005	Small
				Close-to-retirement/ Post-retirement	Yes	0.008	Small
5. Standard of living	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.007	Small
				Pre-retirement/ Post-retirement	Yes	0.030	Small
				Close-to-retirement/ Post-retirement	Yes	0.065	Small

Issue	Visual difference		Statistical difference (Kruskal-Wallis test result)	Statistical result in respect of Mann-Whitney U test		Effect size of the difference	
	Similar	Different	Yes/No	Comparing phases	Yes/No	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
6. Health satisfaction		X	Yes	Pre-retirement/ Close-to-retirement	Yes	0.181	Medium
				Pre-retirement/ Post-retirement	Yes	0.147	Medium
				Close-to-retirement/ Post-retirement	Yes	0.045	Small
7. Achievements in life	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.020	Small
				Pre-retirement/ Post-retirement	Yes	0.013	Small
				Close-to-retirement/ Post-retirement	Yes	0.053	Small
8. Future financial security	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.019	Small
				Pre-retirement/ Post-retirement	Yes	0.010	Small
				Close-to-retirement/ Post-retirement	Yes	0.054	Small

(Source: Author's own)

According to Table 5.2 and through performing the inferential analysis, it seems that there are no major differences across the three phases with regard to goal setting. One way in which this could be addressed is to provide the required financial education in order to assist individuals to gain certain competencies for improving their goal setting ability when doing retirement planning. Some of the competencies that individuals need within the first core area of the practical retirement planning process will be discussed below.

Across the three retirement phases, the distribution of individuals' satisfaction levels with regard to their future financial security was fairly similar, but when compared to their satisfaction levels in terms of their standard of living, health status and achievements in life, they were more dissatisfied with their future financial security. It was also evident that this does not change significantly when they get older.

The initial setting of general and financial goals for retirement does not really require any specific competency, except that individuals have to be as thorough as possible, but realistic at the same time. This is the step where individuals need to figure out exactly what they want to do in retirement. They would also have to consider their own personal circumstances and incorporate their retirement goals accordingly. Financial management skills are however necessary when making financial decisions that relate to setting realistic retirement goals. These financial management skills would assist individuals in determining whether their retirement goals are realistic and achievable. Monitoring of the pre-determined retirement goals at regular intervals is required to ensure that individuals stay on track with achieving these goals and that they remain within their budget when determining new and/or additional financial goals for retirement. It is therefore essential to do a detailed gap analysis to identify shortfalls in retirement goals in good time so that individuals are able to address these timeously or to adjust their goals if this is not financially possible. Table 5.3 provides some of the competencies that individuals need when setting financial goals for retirement across the three retirement phases.

Table 5.3: Competencies needed for goal setting across the three retirement phases

Retirement planning steps	Competencies within all three retirement planning phases
Core area 1- Goal setting <i>(Step 1 – Determine general and financial retirement goals)</i>	<ul style="list-style-type: none"> • Financial knowledge to compile a balance sheet, income statement and budget to see how realistic the retirement goals are and to simultaneously determine whether the current standard of living would be possible in retirement. • Financial management skills by having a budget and financial retirement goals that have to be monitored regularly to address the achievability of retirement goals. To determine if individuals can stay within their budgets, should new financial goals be set for retirement. • Mathematical skills to calculate the financial impact of the retirement goals on the balance sheet, budget and income statement. Also to determine the rand value of maintaining a certain standard of living (one of the most important retirement goals).

(Source: Author's own)

5.4.2 Core area 2 – Identifying the financial gap that individuals have in terms of their retirement planning

Identifying the financial gap that individuals have in terms of retirement planning across the three retirement phases requires that individuals project their retirement income and investments, analyse their existing retirement provision, calculate their shortfall, and determine the level of annual savings to compensate for the shortfall. Tables 5.4 to 5.6 summarise what individuals need to do in order to identify the financial gap by addressing these factors, as discussed in Chapter 2 (section 2.5.2).

Table 5.4 summarises what individuals need to consider when projecting their retirement income and investment needs across the three retirement phases in order to achieve their pre-determined financial goals. This forms part of core area 2 of the practical retirement planning process and was discussed in Chapter 2 (section 2.5.2.1).

Table 5.4: Project retirement income and investment needs over the three retirement phases (step 2 of the practical retirement planning process)

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Duration of phase (age)	Through age 54	Age 55 to 64	Age 65 and over
Terms of financial retirement goals	Long-term	Intermediate-term	Short-term
Retirement income and investment needs	Estimate: - Required annual level of retirement income to maintain desired standard of living after retirement. - Required annual level of investments that would be needed to support all retirement goals.	Estimate: - Adjusted required annual level of retirement income to maintain desired standard of living after retirement. - Adjusted required annual level of investments that would be needed to support all retirement goals.	Actual and estimate: - Adjusted annual level of retirement income available to maintain standard of living in retirement. - Adjusted level of investment available to support the pre-determined retirement goals.
Status of projected income and investment needs	Initial projection of required retirement income and investment needs.	Re-assess projection of required retirement income and investment needs.	Re-assess projection of required retirement income and investment needs.
Factors to consider when projecting future retirement income and investment needs (Joehnk et al., 2011; Burns, 2013)	- Projected retirement age/years to retirement; - Retirement income required to maintain desired standard of living after retirement (based on current living expenses). - Inflation rates; - Return on investments; - Life expectancy after retirement; - Time value of money; and - Taxation.	- Re-assess projected retirement age based on level of retirement savings accumulated to date; - Adjust retirement income (if needed) to maintain desired standard of living after retirement; - Inflation rates; - Return on investments; - Life expectancy after retirement; - Time value of money; and - Taxation.	- Re-assess (adjust if needed) annual level of retirement income that would be needed to maintain standard of living based on the level of accumulated retirement savings; and - Work part-time in the case where retirement funding is too little or insufficient.

(Source: Author's own)

Table 5.5 summarises what individuals should consider when they analyse their existing retirement provision across the three retirement phases as part of identifying the financial gap in their retirement planning. This forms part of core area 2 of the practical retirement planning process and was discussed in Chapter 2 (section 2.5.2.2).

Table 5.5: Analysing existing retirement provision across the three retirement phases (step 3 of the practical retirement planning process)

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Duration of phase (age)	Through age 54	Age 55 to 64	Age 65 and over
Terms of financial retirement goals	Long-term	Intermediate-term	Short-term
Sources of existing retirement provision	Employer sponsored retirement funds. Voluntary retirement vehicles such as retirement annuities and tax savings accounts.	Employer sponsored retirement funds. Voluntary retirement vehicles such as retirement annuities and tax savings accounts.	Lump sum income. Annuities. Investment income.
Level of retirement savings (status)	In the pre-retirement phase there is uncertainty regarding the adequacy of existing retirement savings due to the extent of assumptions that have to be made to determine the required level of retirement savings to address the pre-determined retirement goals. The duration of this phase and possible changes in individuals' personal circumstances are key factors that have to be considered when making these assumptions (Joehnk <i>et al.</i> , 2011; Keown, 2013).	In the close-to-retirement phase, individuals are at a point where they have a good indication of the total amount of retirement savings that would be required by the time that they retire to achieve their re-assessed retirement goals. They would just have to make an estimation of the income that they anticipate to have when entering into retirement based on all their existing sources of retirement funding [as mentioned above] (Botha <i>et al.</i> , 2011; Joehnk <i>et al.</i> , 2011; Keown, 2013).	At retirement, when entering the post-retirement phase, individuals would have to re-assess whether their actual retirement savings would be sufficient to address their retirement goals in the future. They would therefore have to make an estimation of the income they anticipate to receive in the future, based on all their existing sources of retirement funding, which includes lump sums, annuity income from re-invested pensions, social security (where applicable) and/or other personal retirement savings (Cameron, 2004; Botha <i>et al.</i> , 2011; Joehnk <i>et al.</i> , 2011; Keown, 2013).

(Source: Author's own)

Table 5.6 summarises what it requires from individuals to calculate their shortfall and to determine the level of annual savings to compensate for the shortfall across the three retirement phases in respect of core area 2 of the practical retirement planning process, as discussed in Chapter 2 (section 2.5.2.3).

Table 5.6: Calculate shortfall and determine level of annual savings to compensate for shortfall across the three retirement phases (step 4 of the practical retirement planning process)

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Duration of phase (age)	Through age 54	Age 55 to 64	Age 65 and over
Terms of financial retirement goals	Long-term	Intermediate-term	Short-term
Extent of shortfall and remedial action to compensate for the shortfall	<p>In the pre-retirement phase, it is even more eminent due to the long range of projections that have to be made, taking into account the duration of this phase, inflation and rates of return.</p> <p>In the case of significant differences, individuals should either increase the level of retirement savings (if possible) by doing the related calculations to determine the amount that needs to be saved to eliminate the shortfall by retirement or they would have to downscale on their pre-determined financial goals for retirement.</p>	<p>It would depend on the outcome of steps 2 and 3. It might be lower in the close-to- retirement phase due to lower levels of living expenses according to the typical individual's financial life cycle (Charupat <i>et al.</i>, 2012; Keown, 2013).</p> <p>The element of uncertainty is also inherent in making retirement planning projections.</p> <p>However, in the close-to-retirement phase these projections are even more crucial as the duration of this phase is not very long; should there be significant differences, individuals would have to either drastically increase the level of their retirement savings or they would have to downscale on their pre-determined financial goals for retirement.</p> <p>At this stage, individuals in the close-to-retirement phase who have a shortfall should realise that this is their last opportunity in which they could actually save and prepare themselves for their upcoming retirement years, save and prepare themselves for their upcoming retirement years, with the outcome playing a key role in the standard</p>	<p>It would depend on the outcome of steps 2 and 3. The level of living expenses would vary from individual to individual, depending on their personal circumstances.</p> <p>Individuals would however have to depend on their retirement savings to address their financial needs.</p> <p>The element of uncertainty is also inherent in making retirement planning projections, even in the post-retirement phase, to ensure that individuals do not run out of funds to support themselves. This makes it one of the toughest phases.</p> <p>Individuals should however also realise that it is possible to remedy this situation; by using the most appropriate method, they could be in the position to retire satisfactorily.</p> <p>Individuals that embark on this route after their official retirement could improve their cash flow over the duration of their retirement, as they are in effect delaying the withdrawal from their retirement savings (Burns, 2013).</p>

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Extent of shortfall and remedial action to compensate for the shortfall		of living that they would have in retirement (Joehnk <i>et al.</i> , 2011; Keown, 2013). They should also obtain information regarding the impact of taxation on their current retirement benefits, as this would also affect the level of retirement savings that should be in place to still be able to achieve their retirement goals (Botha <i>et al.</i> , 2011).	Furthermore, individuals might benefit from the positive results on their investments by assuming an increased investment risk, but the outcome of this approach cannot be guaranteed. The latter therefore requires a proper understanding and acceptance of risks when considering such approaches (Burns, 2013).

(Source: Author's own)

Table 5.7 summarises the inferential analysis results for core area 2 that were obtained through performing the non-parametric tests as indicated in Chapters 3 and 4 (section 3.3 and section 4.3.2).

Table 5.7: Summary of financial gap analysis inferential analysis results

Issue	Visual difference		Statistical difference (Kruskal-Wallis test result)	Statistical result in respect of Mann-Whitney U test		Effect size of the difference	
	Similar	Different	Yes/No	Comparing phases	Yes/No	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
1. Monitoring of regular expenses	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.039	Small
				Pre-retirement/ Post-retirement	Yes	0.002	Small
				Close-to-retirement/ Post-retirement	Yes	0.061	Small

Issue	Visual difference		Statistical difference (Kruskal-Wallis test result)	Statistical result in respect of Mann-Whitney U test		Effect size of the difference	
	Similar	Different	Yes/No	Comparing phases	Yes/No	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
2. Household budgets	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.018	Small
				Pre-retirement/ Post-retirement	Yes	0.003	Small
				Close-to-retirement/ Post-retirement	Yes	0.024	Small
3. Current personal financial condition	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.021	Small
				Pre-retirement/ Post-retirement	Yes	0.013	Small
				Close-to-retirement/ Post-retirement	Yes	0.009	Small
4. Difficulty paying monthly expenses	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.025	Small
				Pre-retirement/ Post-retirement	Yes	0.016	Small
				Close-to-retirement/ Post-retirement	Yes	0.069	Small

Issue	Visual difference		Statistical difference (Kruskal-Wallis test result)	Statistical result in respect of Mann-Whitney U test		Effect size of the difference	
	Similar	Different	Yes/No	Comparing phases	Yes/No	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
5. Emergency funds	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.022	Small
				Pre-retirement/ Post-retirement	Yes	0.007	Small
				Close-to-retirement/ Post-retirement	Yes	0.049	Small
6. Investment and/or savings products		X	Yes	Pre-retirement/ Close-to-retirement	Yes	0.050	Small
				Pre-retirement/ Post-retirement	Yes	0.038	Small
				Close-to-retirement/ Post-retirement	Yes	0.011	Small
7. The effect of inflation on living costs	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.014	Small
				Pre-retirement/ Post-retirement	Yes	0.039	Small
				Close-to-retirement/ Post-retirement	Yes	0.092	Small

Issue	Visual difference		Statistical difference (Kruskal-Wallis test result)	Statistical result in respect of Mann-Whitney U test		Effect size of the difference	
	Similar	Different	Yes/No	Comparing phases	Yes/No	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
8. Financial knowledge	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.038	Small
				Pre-retirement/ Post-retirement	Yes	0.040	Small
				Close-to-retirement/ Post-retirement	Yes	0.011	Small
9. The effect of interest rate increases on savings	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.006	Small
				Pre-retirement/ Post-retirement	Yes	0.034	Small
				Close-to-retirement/ Post-retirement	Yes	0.074	Small
10. Earning levels and taxation expenses	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.003	Small
				Pre-retirement/ Post-retirement	Yes	0.031	Small
				Close-to-retirement/ Post-retirement	Yes	0.054	Small

(Source: Author's own)

According to Table 5.7 and through performing the inferential analysis, there seem to be no major differences across the three phases with regard to identifying the financial gap that individuals have in terms of their retirement planning. One way in which this could be addressed is to provide the required financial education in order to assist individuals to gain certain competencies for improving their ability to identify the financial gap that they have in terms of their retirement planning. Some of the competencies that individuals need within the second core area of the practical retirement planning process will be discussed below.

In combining steps 2 to 4 of the practical retirement planning process, which represents in essence core area 2, individuals identify the financial gap between their existing retirement provision and what they need in rand value to accomplish their pre-retirement goals. A brief discussion of the competencies individuals could possibly need within core area 2 (steps 2 to 4) of the practical retirement planning process will be provided below.

Step 2: Convert retirement goals to rand value

After determining their retirement goals, individuals should establish how they would go about accomplishing their retirement goals. This would require that they have to make estimates of the amount of money that is needed to achieve their retirement goals. Estimates are however not always accurate or reliable, but because we are not able to predict the future, this is the best way to determine the value of individuals' future retirement needs. Individuals' current living expenses are therefore the starting point for the calculation of their retirement needs, as this would indicate the amount needed to support them financially in retirement. Individuals should have the financial knowledge to compile a balance sheet, income statement and budget to determine their current living expenses. Estimates are based on these figures to determine the acceptable level of retirement income to maintain the required standard of living. Individuals should therefore also have the necessary mathematical skills to calculate their current living expenses and, based on the outcome, to calculate the impact of assumptions and estimates to determine what they would possibly need in the future to maintain their standard of living. Individuals would further need financial management skills to ensure that the applicable amounts are included in their budgets. They would however need knowledge of the

basic economic factors such as compound interest, consumption smoothing, inflation and time value of money to be able to calculate the impact thereof on the assumptions and estimates that were made. This forms the starting point for the calculation of the size of individuals' nest eggs, as maintaining their standard of living is but one of the several retirement goals that individuals might have. In addition, taxation knowledge is required to determine the effect of taxes when calculating the future retirement needs and to be able to reflect the required amounts as after tax money. After considering all these factors, individuals need to benchmark the rand value of their pre-determined retirement goals against their existing retirement provision.

Step 3: Analyse existing retirement provision

Estimating the value of retirement income is based on an analysis of individuals' existing retirement provision. It would require mathematical skills to add the retirement values of the different retirement funding instruments together to get to the total rand value of the available retirement capital and to calculate the future values of retirement funding vehicles by subjecting them to economic factors such as compound interest, inflation, rates of return and time value of money in cases where only the current values are provided. Individuals should also have the necessary investment knowledge to know where to obtain the values of all their retirement funding instruments, and all the relevant legislation applicable in terms of their investments when they retire, such as the one third of the retirement capital that should be commuted in the case of pension and retirement annuity funds (change in legislation is in the pipeline to also subject all provident funds to the same requirement) Individuals currently belonging to a provident fund can still take their full benefit in cash, but this will change from the 2018 year of assessments, where it would also be subjected to the same requirements as the pension and retirement annuity funds. Taxation knowledge is further required to determine the benefits that belong to a retirement fund but also the effect that taxes would have on these values when retiring, such as the taxation that would be deducted in the case of lump sums (withdrawal from these funds) and transfers. Individuals should also have the underlying knowledge relating to economic factors such as compound interest, inflation and rates of return, which all play a role when calculating the values of

retirement funds. These competencies would also assist individuals in calculating whether their retirement provision would be sufficient to provide an income during their post-retirement phase when considering something like individuals' life expectancy after retirement.

Step 4: Calculating the annual inflation adjusted shortfall, how much is needed to cover the shortfall, and determining the annual savings between now and retirement

The necessary mathematical skills are required to be able to calculate the annual shortfall, which is the net result when subtracting their existing retirement provision from their future retirement needs. In cases where the required retirement capital exceeds the available retirement capital, it indicates the shortfall that has to be funded with additional retirement savings. By comparing this value with the income statement and the budget, individuals would be able to determine if they could afford to make up for the shortfall. If not, they would possibly have to re-assess their retirement goals. Financial management skills would assist individuals to monitor these additional retirement savings by including them in the budget to ensure that these amounts are in fact saved (in cases where it is financially possible). Prior to doing this calculation, both these figures should be subjected to the financial effect of economic factors such as time value of money, compound interest, rates of return and inflation. This skill would also be required to calculate how much would be needed to fund the annual shortfall after it has been compared to the existing retirement provision and to calculate the level of the annual savings that are required to fund the shortfall. This would once again imply that individuals have the underlying knowledge of economic factors such as compound interest, inflation, time value of money and rates of return to know that these factors have a financial impact on the level of additional retirement funding that would have to be accumulated in the future. It would further require that individuals have financial and investment knowledge to know which additional retirement or voluntary savings products to invest in that would generate adequate returns so that the shortfall would be funded by the time that they retire. Taxation knowledge is required to know the effect that taxes would have on the different savings options that would be considered for investing these additional retirement savings and investment knowledge to

determine if these products are indeed favourable for tax purposes. In order to select the relevant savings option, individuals should have an understanding about risk, that each product is subject to different levels of risk, and that their level of risk tolerance would ultimately determine the investment product that would be elected, which forms part of the formulation of individuals' retirement plans.

Table 5.8 provides some of the competencies that individuals need when identifying the financial gap that they have when planning for retirement across the three retirement phases.

Table 5.8: Competencies needed for identifying the financial gap in retirement planning across the three retirement phases

Retirement planning steps	Competencies within retirement planning phases	
	Pre-retirement and close-to-retirement	Post-retirement
Core area 2 – Gap analysis <i>(Step 2 – Convert retirement goals to rand value)</i>	<ul style="list-style-type: none"> Financial knowledge to compile a balance sheet, income statement and budget to determine current living expenses. Making/re-assessing of estimates based on these figures to determine the acceptable level of retirement income to maintain the required standard of living. Mathematical skills to do all the calculations relating to the future retirement needs that would enable the achievement of all the pre-determined retirement goals. All these calculations are based on relevant assumptions and estimates. Financial management to monitor that the amounts related to the future retirement needs are included in their retirement plan as well as in their budget (if affordable). Knowledge of economic factors such as compound interest, consumption smoothing, and inflation to make the necessary applicable assumptions. Taxation knowledge to be able to determine the effect that tax would have on this calculation, as it would still be payable in the future, and to convert this figure into after-tax money. 	<ul style="list-style-type: none"> Financial knowledge to compile a balance sheet, income statement and budget to determine current living expenses. Re-assess the estimates based on these figures to determine whether the required standard of living is achievable or should be reduced. Mathematical skills to re-calculate the future retirement needs based on the relevant assumptions and estimates to determine whether all the retirement goals would be achieved or whether there has to be certain adjustments like reducing the standard of living in retirement. Financial management to monitor that all the retirement needs have been included in the retirement plan to re-assess the affordability thereof and which ones to include in the budget. Knowledge of economic factors such as compound interest, and inflation to determine the financial impact thereof on the retirement benefits and to be able to make assumptions that are applicable for the future by considering these factors. Taxation knowledge to be able to determine the effect that tax would have on this calculation as it would still be payable in the future and to convert this figure into after tax money.

Retirement planning steps	Competencies within retirement planning phases	
	Pre-retirement and close-to-retirement	Post-retirement
Retirement planning steps	Competencies within retirement planning phases	
	Pre-retirement and close-to-retirement	Post-retirement
Core area 2 – Gap analysis <i>(Step 3- Analyse existing retirement provision)</i>	<ul style="list-style-type: none"> Mathematical skills to add the values of the retirement funding instrument, if there are more than one, to determine the value of the retirement capital that is available. Investment knowledge to know where to obtain the values of all retirement funding products, all the relevant legislation that is applicable when retiring, such as the one-third commutation applicable in the case of pension and retirement annuity funds (change in legislation is on its way to subject provident funds to the same rules). Taxation knowledge to determine the benefits that are applicable to these funds and effect of taxes on these values in the future. 	<ul style="list-style-type: none"> Mathematical skills to add the values of the retirement funding instruments, if there are more than one, to determine the value of the retirement capital that is available. Investment knowledge to know where to obtain all the retirement funds and to take all the relevant legislation into consideration that is applicable to this funding, such as the one-third commutation that would be applicable in the case of pension and retirement annuity funds (change in legislation is on its way to subject provident funds to the same rules). Taxation knowledge to determine the effect that taxes would have on these values in terms of lumps and transfers.
Core area 2 – Gap analysis <i>(Step 4 – Calculate the annual adjusted shortfall, how much is needed to fund the shortfall, and determine the annual savings between now and retirement)</i>	<ul style="list-style-type: none"> Mathematical skills to calculate the annual shortfall and to subject these calculations to economic factors such as time value of money, compound interest and inflation. This skill would also be needed to calculate how much would be needed to fund the annual shortfall when compared to the existing provision, and to calculate the level of annual savings to compensate for the shortfall. Knowledge of economic factors such as compound interest, inflation, and rates of return to know that these factors have a financial effect on the level of retirement funding that would be accumulated in future. Financial knowledge to know where to find out about the values of the retirement funding currently in place (included in the personal balance sheet and could also be compared to the latest values according to the individual benefit statement that reflects the current value and what it would be worth at retirement [level of benefits receivable at retirement]). This value then has to be compared with the retirement capital that is needed (as calculated in step 2) to 	<ul style="list-style-type: none"> Mathematical skills to calculate the annual shortfall (if any) and the measures that have to be implemented to deal with this shortfall, such as a reduction in the standard of living. To calculate the effect of the reduction by subjecting these calculations to economic factors such as time value of money, compound interest and inflation. This skill would also be needed to calculate how much of the retirement goals would be achievable as well as the adjustments that have to be made to deal with the shortfall. In the case of a surplus, mathematical skills would be required to calculate the financial effect of the economic factors when re-investing the surplus. Knowledge of economic factors such as compound interest, inflation, and rates of return to know that these factors have a financial effect on the level of retirement funding that would be accumulated after retirement. Financial knowledge to know where all the retirement funds have been accumulated prior to retirement to find out about the benefits that are payable (included in the personal balance sheet and could also be

Retirement planning steps	Competencies within retirement planning phases	
	Pre-retirement and close-to-retirement	Post-retirement
	<p>achieve all the retirement goals. Where the existing retirement capital is insufficient, the shortfall would have to be funded by additional affordable retirement savings.</p>	<p>compared to the latest values according to the individual benefit statement that reflects what it would be worth at retirement [level of benefits receivable at retirement]).</p>
<p>Core area 2 – Gap analysis</p> <p><i>(Step 4 – Calculate the annual adjusted shortfall, how much is needed to fund the shortfall, and determine the annual savings between now and retirement)</i></p>	<p>In order to determine affordability, the additional savings amount would have to be compared to the budget and the income statement.</p> <ul style="list-style-type: none"> • Financial management to monitor that the annual savings amount is included in the budget and that the required amounts (when possible) are indeed saved. • Taxation knowledge is required to know the effect of taxes on the different savings options for these additional amounts that are saved to make up for the shortfall. • Investment knowledge to know where the additional savings should be invested and that they are invested in tax-favoured products. • Understanding of risk is needed, as it would have an effect on the type of investment that would be chosen, based on risk tolerance levels. 	<p>This value then has to be compared with the retirement capital that is needed (as calculated in step 2) to achieve all the pre-retirement goals. Where the existing retirement capital is insufficient, the shortfall would have to be addressed in the most appropriate way.</p> <p>The net result would then have to be incorporated into the income statement.</p> <ul style="list-style-type: none"> • Financial management to monitor that all the applicable goals are included in the budget and that just the required amounts are paid out. • Taxation knowledge to know the effect of taxes on all the retirement income that is paid out. • Investment knowledge to know where to invest all the retirement funding released at retirement to obtain the optimal benefit and to ensure that it would last to cover all the applicable retirement goals and retirement expenses within the life expectancy period (or the period as indicated). These funds should be invested in the most tax-favoured products to avoid paying unnecessary taxes. • Understanding of risk is needed, as it would have an effect on the type of investment that would be chosen based on risk tolerance levels.

(Source: Author's own)

5.4.3 Core area 3 – Ability to formulate a retirement plan

Table 5.9 summarises what the formulation of a retirement plan entails across the three retirement phases in respect of core area 1 of the practical retirement planning process as discussed in Chapter 2 (section 2.5.3).

Table 5.9: Implement retirement plan over the three retirement phases and save towards retirement (*step 5 of the practical retirement planning process*)

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Duration of phase (age)	Through age 54	Age 55 to 64	Age 65 and over
Terms of financial goals	Long-term	Intermediate	Short
Risk tolerance level applicable to different savings options	Higher risk level	Lower risk level	Lower risk level
Approach to savings options/ Investment vehicles	Aggressive	More conservative	Conservative
Investment program	<p>When compiling the investment program, individuals' feelings regarding important investment factors such as income, risk, growth and liquidity as well as their future aspirations, plans and goals should be taken into account (Dearborn Financial Services, 2004; Joehnk <i>et al.</i>, 2011; Keown, 2013).</p> <p>Individuals would therefore have to carefully consider, based on the rate of return and other factors, such as risk tolerance, that are applicable to the different savings options where they would like to invest their retirement savings.</p> <p>Investments with more risk attached could be taken by younger individuals who are far from retirement (Madura, 2011).</p>	<p>In contrast, individuals that are close to retirement should switch to investments that are more conservative in nature. Individuals who want to accumulate a higher level of retirement savings and who are investing should avoid investing in mutual funds with high expense ratios (Madura, 2011).</p>	<p>In the post-retirement years, individuals would just need to formulate an investment program that is less risky, yet would still address their retirement needs.</p> <p>At the final step of the retirement planning process in the post-retirement phase, individuals should do a proper re-assessment of their retirement goals and they should have simultaneously determined the required level of the annual retirement income that would be needed to fund their re-assessed retirement goals in the future (Joehnk <i>et al.</i>, 2011; Keown, 2013).</p>

	Retirement phase		
	Pre-retirement	Close-to-retirement	Post-retirement
Investment program			<p>In the post-retirement phase, individuals would also need to determine the extent of the tax free lump sums that would be available to them, which portion thereof they would be utilising immediately, and which portion thereof would be used to purchase annuities. The extent of the lump sums would however be affected by the type of retirement fund individuals belong to because members of a defined contribution provident fund can take all their pension benefits as a lump sum, whereas with a defined benefit pension, defined contribution pension and retirement annuity funds only one-third can be taken as a cash lump sum. Individuals should also bear in mind that all lump sums, irrespective from which retirement fund/s they are taken, would be subject to taxation (after considering the initial exemptions). During this whole process individuals would also have to decide on the type of annuities that would best suit their financial needs, as the annuities would now become their main source of income (Cameron, 2004; Botha <i>et al.</i>, 2011; Joehnk <i>et al.</i>, 2011; Keown, 2013).</p>

(Source: Author's own)

Table 5.10 summarises the inferential analysis results with regard to core area 3 obtained through performing the non-parametric tests as indicated in Chapters 3 and 4 (section 3.3 and section 4.3.3).

Table 5.10: Summary of formulation of a retirement plan inferential analysis results

Issue	Visual difference		Statistical difference (Kruskal-Wallis test result)	Statistical result in respect of Mann-Whitney U test		Effect size of the difference	
	Similar	Different	Yes/No	Comparing phases	Yes/No	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
1. Risk tolerance levels	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.022	Small
				Pre-retirement/ Post-retirement	Yes	0.083	Small
				Close-to-retirement/ Post-retirement	Yes	0.117	Medium
2. Financial plans	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.023	Small
				Pre-retirement/ Post-retirement	Yes	0.064	Small
				Close-to-retirement/ Post-retirement	Yes	0.078	Small

Issue	Visual difference		Statistical difference (Kruskal-Wallis test result)	Statistical result in respect of Mann-Whitney U test		Effect size of the difference	
	Similar	Different	Yes/No	Comparing phases	Yes/No	Effect size	Small (<0.1), Medium (<0.3), Large (<0.5)
3. Risk diversification	X		Yes	Pre-retirement/ Close-to-retirement	Yes	0.049	Small
				Pre-retirement/ Post-retirement	Yes	0.050	Small
				Close-to-retirement/ Post-retirement	Yes	0.173	Medium

(Source: Author's own)

According to Table 5.10 and through performing the inferential analysis, it seems that there are no major differences across the three phases with regard to the formulation of a retirement plan. One way in which this could be addressed is to provide the required financial education in order to assist individuals to gain certain competencies that would improve their ability to formulate their retirement plans. Some of the competencies that individuals need within the third core area of the practical retirement planning process will be discussed below.

The formulation of the retirement plan requires from individuals to create a savings plan and to identify investment vehicles that would also consider their risk tolerance levels. To put their retirement plan into action and save towards retirement, they should have the necessary financial knowledge to determine how the retirement savings option/s would affect both the value of their retirement assets in their personal balance sheet and the financial impact that each of these retirement savings options would have on their income statement. Financial management skills would be required to monitor that the amounts budgeted for retirement savings are indeed saved on a monthly/annual basis. Financial planning skills are required to address the needs for retirement in good time. They would also assist in determining

life expectancy; extent of emergency funds (so that retirement funding is not exhausted or utilised to cover emergency situations); when to compile a financial plan for retirement; and whether they would be doing retirement planning by using either short or long-term intervals and be able to monitor their progress towards achieving their retirement goals. They would further require mathematical skills to calculate the financial impact of each available savings option by incorporating the effect of the economic factors into their calculations and to be able, based on the taxation knowledge, to calculate the tax effect on each of these options. The mathematical skills would also assist individuals to calculate the rate of return that would be generated on their investments before and after retirement.

Knowledge of the economic factors, compound interest, inflation, rates of return and time value of money are required to make proper forecasts of how it would financially impact on individuals' retirement needs, how it would affect the available savings options, and play a key role in selecting a savings option/s. This would enable individuals to monitor that the return on their annual retirement funds exceeds the inflation rate and to adjust their savings options when deemed necessary.

Taxation knowledge is also essential, as it would be beneficial to select tax-favourable products that would allow individuals to save optimally for their retirement without subjecting themselves to unnecessary taxes. This would mean that a greater portion of the savings amount could be invested, which could generate higher returns over the long term (also when considering the compounding effect). Investment knowledge would equip individuals to differentiate between the different savings options in terms of the returns generated versus the cost structure of each, to be able to select the most beneficial products, and to be able to identify those that are favourable for tax purposes. Another factor to be considered when individuals are in the process of selecting a savings option is their understanding about risk and that each product is subject to different levels of risk. Based on this as well as individuals' risk tolerance levels, they could ultimately determine the investment product that would best suit their financial needs. This would furthermore assist them to select the products because they generate sufficient returns and to be able to diversify their investment vehicles in compliance with their risk tolerance levels. Adjustments to their risk tolerance levels could possibly be required from the pre-

retirement to post-retirement phases in order to protect themselves against significant fluctuations in the value of their investments, which would escalate into significant changes to their retirement benefits.

These competencies should also be utilised by individuals to identify any significant changes during the monitoring process and how best to absorb these by incorporating them into their retirement plans and to stay on track with achieving their long-term retirement goals. Table 5.11 provides some of the competencies that individuals need when formulating a retirement plan across the three retirement phases.

Table 5.11: Competencies needed for formulating a retirement plan across the three retirement phases

Retirement planning steps	Competencies within retirement planning phases	
	Pre-retirement and close-to-retirement	Post-retirement
Core area 3 – Formulation of retirement plan <i>(Step 5 -Put retirement plan into action and save towards retirement)</i>	<ul style="list-style-type: none"> • Financial knowledge to determine how the retirement savings option/s would affect the value of the retirement assets in the personal balance sheet and the impact that this would have on the income statement. • Financial management skills to monitor that the amounts budgeted for retirement savings are indeed saved on a monthly/annual basis. • Financial planning skills to address the needs for retirement in good time and to be able to take things like life expectancy, emergency funds, etc. into account. • Mathematical skills to calculate the impact of each of the savings options that are available by incorporating the economic factors into the calculation. Also to calculate the tax effect on each of these options. • Knowledge of economic factors such as compound interest, inflation, rates of return, and how these would affect the available savings options. • The necessary taxation knowledge to select the savings options that are also favourable for tax purposes. • Investment knowledge to differentiate between the different savings options, to be able to identify those that are favourable for tax purposes. • Understanding of risk is needed, as it would have an effect on the type of investment that would be chosen based on risk tolerance levels. 	<ul style="list-style-type: none"> • Financial knowledge to determine how the retirement benefits would affect the value of the retirement assets in the personal balance sheet and the achievability of the pre-retirement goals. The impact of the pre-retirement goals on the income statement would also have to be considered. • Financial management skills to monitor the amounts paid out towards the pre-retirement goals and that they are paid out in accordance with the retirement plan. • Financial planning skills to address the financial needs for retirement based on the pre-retirement goals and to take factors such as life expectancy into account. • Mathematical skills to calculate the impact of each of the pre-retirement goals on the retirement benefits that were received, to incorporate the financial effect of the economic factors into calculating what these benefits would be worth in the future, and to determine the achievability of the pre-retirement goals.

Retirement planning steps	Competencies within retirement planning phases	
	Pre-retirement and close-to retirement	Post-retirement
Core area 3 – Formulation of retirement plan <i>(Step 5 -Put retirement plan into action and save towards retirement)</i>		<p>Calculations would also have to be done to determine the after-tax value of the retirement benefits as well as the taxes that would be payable at retirement.</p> <ul style="list-style-type: none"> • Knowledge of economic factors such as compound interest, inflation, rates of return, and their effect on the future retirement benefits. • The necessary taxation knowledge is required to avoid paying unnecessary taxes at retirement, to know the level of taxes that would be applicable when receiving lump sums and when transferring retirement funds. This would enable the selection of the most appropriate way of withdrawing retirement funds and to be subject to minimal taxes as well as when selecting investment options for these retirement benefits. • Investment knowledge to differentiate between the different options that are available to re-invest retirement benefits and to be able to identify those that are favourable for tax purposes. • Understanding of risk is needed, as it would have an effect on the type of investment that would be chosen, based on risk tolerance levels.

(Source: Author's own)

5.5. CONCLUDING REMARKS

All three the research sub-problems were successfully addressed through the summaries that were provided in sections 5.2 to 5.4. The overall objective of this study was to compare the financial behaviour and ability of individuals across the three retirement phases to determine how individuals within each of these phases approach the practical retirement planning process in order to determine whether any differences exist and whether they are significant. In order to do this, a heuristic model was identified for this study, drawing on the literature review. It sub-divided

the practical retirement planning process into three core areas in which the five steps of the practical retirement planning process were embedded (section 2.3 and 2.5). The three phases on which this study was based – pre-retirement, close-to-retirement and post-retirement – were also addressed during the literature review (section 2.4). In order to do the comparisons across the three retirement phases, a final list of questions (Table 3.4) was identified, which related to demographic and general factors and included questions specifically dealing with elements within the three core areas of the practical retirement planning process. It was thus deemed appropriate to first look at the demographic and general factors that could influence individuals' financial ability to do retirement planning (section 4.2). Thereafter, through performing both descriptive and inferential statistics, it was possible to draw comparisons within the three core areas of the practical retirement planning process across the three retirement phases. Due to the nature of the South African FSB's data, the inferential statistics were based on non-parametric statistical tests, which included the Kruskal-Wallis, post-hoc and Mann-Whitney U tests. These non-parametric tests seemed to be the most appropriate for this study and were applied to the selected questions relating to the three core areas of the practical retirement planning process. All of these non-parametric statistical tests were performed to determine whether there are statistically significant differences across the three retirement phases within the three core phases of the practical retirement planning process. As the extent of the statistically significant differences was not indicated by these non-parametric tests (as indicated above), it was necessary to calculate the effect size for each of the statistically significant differences identified.

Based on the results of the Kruskal-Wallis tests, the differences found were statistically significant for each of the selected questions, as indicated in Table 3.4. This was corroborated when performing the post-hoc tests as well as the Mann-Whitney U tests, with the exception of one instance, as indicated in section 4.3.1, which deals with the ability of individuals across the three retirement phases to do long-term financial planning. Thus, although the visual distributions for each of the options and questions created the impression that there were no significant differences across the three retirement phases, the additional tests conducted (section 4.3.1 to section 4.3.3) concluded that the differences were statistically significant, even though the effect size was both small and medium.

The overall aim of the study was to do a comparison across the three phases of retirement to investigate whether there are differences with regard to the practical retirement planning process, which could possibly explain South Africans' financial ability to plan for retirement, considering that only 10 percent of them would be able to maintain their pre-retirement level of consumption when they stop working (section 1.1). The literature review specified the different steps that should be followed within the practical retirement planning process (section 2.3 and section 2.5) as well as the different retirement phases, bearing in mind individuals' financial life cycle (section 2.4), which relates to the steps and phases that have been identified in previous retirement planning studies. The purpose of this study was therefore to identify if possible differences exist across the three retirement phases with regard to the practical retirement planning process and whether it differed more than expected. This study thus adequately responded to the over-arching research question with the support of the answers obtained from the sub-research problems (as highlighted above) and it adds value to the existing literature on the topics of retirement planning and personal finance.

It seems that individuals across all three phases and within the three core areas of the practical retirement planning process are not that seriously involved in planning financially for their retirement. This is based on the extent of the statistical differences which varied between small and medium for all the questions identified in chapter 3 (table 3.4) and which were analysed and discussed in section 4.3. This is irrespective of the important role that retirement planning plays in individuals' well-being and that it could mean the difference between living comfortably in retirement and experiencing financial vulnerability in retirement. It was further evident that individuals do not necessarily change their outlook regarding retirement planning when they get older (section 4.3). Although the majority of individuals across all three phases were in agreement that they should commence as early as possible with savings towards retirement, it is evident that although people know that, not everyone was in a position to actually do it (section 4.2). Various reasons could be provided to explain the rationale behind this phenomena. One of the reasons might be that individuals need to be educated financially in order to improve their level of involvement in planning financially for their retirement. This study however identified some of the financial competencies that individuals need when doing retirement

planning across the three retirement phases and within the three core areas of the practical retirement planning process and are highlighted in section 5.4. It is in no way a comprehensive list of all the financial competencies required when dealing with the financial planning and preparation for retirement.

5.6. AREAS FOR FUTURE RESEARCH

This study was conducted using the 2011/2012 national baseline survey of the South African FSB, which was the first of its kind in South Africa. This survey included questions that related to the four core domains of financial literacy, namely financial control, financial planning, knowledge and understanding, and choosing and using of appropriate financial products, and was thus by no means a comprehensive retirement planning survey. For this reason, this study focused only on the elements that have been identified in the South African FSB's survey as relating to retirement planning and as identified by previous studies. As this is not a comprehensive study, future studies could use this study as a basis and expand on other retirement planning factors that were not addressed here.

Only three retirement phases were used for the purposes of this study, but these could in future research be disaggregated in more age categories or life stages. In doing this, even more detail could be provided regarding possible differences that could exist between the different retirement phases. As a starting point, pre-retirement could be divided into smaller phases, as this phase included individuals from age 18 up to 54 years, which has proven too large, as certain differences within this group could not be clearly defined due to the extent of inclusion into this phase.

This is therefore also not a comprehensive study of how to improve retirement planning within the South African context. The researcher aimed to identify only possible differences that could exist among the three retirement phases within the three core areas of the practical retirement planning process that could have an impact on the low percentage of individuals who are able to maintain their pre-retirement standard of living after they have retired. This was however limited to the elements that were covered in the South African FSB's survey. Therefore, the study only laid the foundation for further research in this area.

This study further identified some of the competencies that individuals need to attain to be able to do retirement planning. The effect of educational programmes on individuals' ability to do proper financial planning for retirement could also be investigated as a further research area.

Other areas which were identified during this study, but which were outside the scope of this study, are things such as individuals' understanding of retirement products to avoid saving in unsuitable products; the interdependence on other households when individuals made insufficient financial provision for retirement; and individuals lack of mathematical skills when doing retirement planning as an element when they have to calculate things such as future savings for retirement.

Finally, changes in the forthcoming legislation to synchronise the treatment of pension and provident benefits and the influence that this could have on retirement planning could also be investigated. Another form of legislation that has been effective since 1 March 2016 is that those individuals who contribute towards a pension and/or provident fund via their employers will be subject to fringe benefit tax on the portion that is paid by their employers on their behalf. The impact that this taxation legislation as well as future taxation legislation could have on individuals' retirement planning could also be investigated.

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ANNEXURE A

THREE PRACTICAL SCENARIOS TO ILLUSTRATE THE WORKING OF THE RETIREMENT PLANNING PROCESS WITHIN EACH OF THE RETIREMENT PLANNING PROCESS PHASES

SCENARIO 1: PRE-RETIREMENT PHASE

Worksheet 2.1 was used to illustrate the practical steps of the retirement planning process for individuals in the pre-retirement phase.

Worksheet 2.1- Scenario 1- Retirement planning based on the pre-retirement phase

Mr Finance is 35 years old, married and has two children. His wife is currently unemployed and there is no intention that she would enter the working environment in the near future. Mr Finance wants to know whether he is making sufficient provision to be able to retire at the age of 65. Up to this point in time Mr Finance did not consider retirement planning to be that important as he made contributions to a pension fund since he started his working career and believed that it would be sufficient to meet their needs in retirement. He has been working at the same employer since he started his working career at the age of 24. By reading a few financial articles that deals with the issues of retirement and with 30 years remaining before he plans to retire, he seriously wants to re-consider his financial situation to determine if they would be able to maintain the standard of living that would be appealing to them.

The method used to calculate whether sufficient provision is made for Mr Finance's retirement would be based on the following assumptions:

- Mr Finance does not want to preserve the capital that will be available at his retirement date, but that the capital would be consumed because it would be used to purchase annuities to provide him with the required income after retirement;
- The income is required annually in advance (Note 1); and
- The level of income after retirement must increase annually by the assumed

rate of inflation.

The following additional assumptions are made for the remainder of his working life:

- His salary will increase at a rate 7% per year;
- The net average return on all investments prior to and after retirement will be 9% per year;
- All recurring investments are made annually in advance;
- The required retirement income must be provided annually in advance;
- The average inflation rate is 6% per annum throughout; and
- Both the income and the expenditures would be exposed to a similar average.

Note 1: This assumption is made to keep the example and the calculations simple.

Note 2: The financial software used in practice will probably work on a monthly income requirement, which will produce a much more accurate result. A manual calculation could also be done on that basis, but for the purpose of the example it will complicate it so that the process may not be clear to understand.

Mr Finance needs and wishes (*retirement goals*) are as follow:

- He would like his income after retirement to be provided to him until he reaches the age of 80;
- His income after retirement must increase annually by a rate of 6% per annum (the assumed rate of inflation);
- He expects that all his debts will have been repaid before he attains the age of 65 years;
- On retirement date he would also like to have an additional amount of R300 000 (in today's value and after taken into consideration the trade-in value of the car that he currently owns) in order to purchase a new car that he wants to utilise for the duration of his retirement, as he doesn't want to make additional debt on his retirement; and

- After retirement he would like to receive a gross pre-tax income of R500 000 per annum in today's (real) money terms.

He has made the following provision for his retirement:

Type	Illustrative value at age 65
Pension Fund	To be determined
Retirement Annuity Fund	R350 000
Endowment Policy	R250 000

Additional notes

- According to the rules of the pension fund of which he is a member, he must retire on attaining the age of 65 years;
- His current retirement funding salary is R560 000 per year and the total contribution to the defined contribution pension fund (employer and employee contributions) is 15% of his retirement funding salary. The net contribution (after provision of the premium for risk benefits) is 13% of such salary; and
- His current annual household expenditure (excluding any savings) amounts to R480 000. After considering his personal circumstances, he estimated that his household expenditure in retirement would be at least 70% of his current household expenses. This would also enable him to maintain their desired standard of living.

The current value of his pension fund is R896 562.

Mr Finance wants his advisor to calculate the following:

- The illustrative value of the pension fund at age 65; and
- The projected surplus or shortfall in respect of his retirement provision at age 65.

In the event of a shortfall at his retirement age he also wants his advisor to calculate:

- The level annual investment instalment required to finance the shortfall; and
- The escalating annual investment instalment required to finance the shortfall if the investment instalment is to escalate by 6% per annum.

Calculation of retirement capital that will be available at retirement date

All calculations were done using a Sharp EL-735 financial calculator.

Pension fund at age 65 (FV of contributions)

$$\begin{aligned}\text{Current investment contribution} &= 13\% \times \text{R}560\,000 \\ &= \text{R}72\,800\end{aligned}$$

The contributions will increase by 7% per annum (in line with his salary). The interest rate that he can earn is 9%.

$$\therefore \text{Resultant rate } (9-7) \div 1.07 = 1.869159\%$$

BGN Mode

1P/YR

+/- PMT R72 800

N 30

I/YR 1.869159%

PV (in display) R1 691 212

PMT R0

I/YR 9%

FV R22 438 458

The value of the pension fund as it is currently (future contributions excluded) will grow to:

1 P/YR

PV R896 562

N 30

I/YR 9%

FV R11 895 296

Value of pension fund at age 65:

FV (current value) R11 895 296

FV (Future contributions) R22 438 458

Total value of pension fund at age 65 R34 333 754

At the age of 65 the total capital available will be:

	R
Pension Fund	34 333 754
Retirement annuity fund	350 000
Endowment policy	<u>250 000</u>
Total capital available	<u>34 933 754</u>

Calculation of retirement capital that will be needed at retirement date

The income that he needs in the first year adjusted for inflation is as follows:

BGN Mode

1 P/YR

PV R500 000

I/YR 6%

N 30

FV R2 871 746

Interest rate = 9% pa

Rate at which income must increase = 6%

∴ Resultant rate $(9-6) \div 1.06 = 2.830189\%$

1 P/YR

PMT R2 871 746

N 15

I/YR 2.830189%

PV R33 800 454

The amount of capital that he will need, adjusted for inflation, to purchase a new car is:

1 P/YR

PV 300 000

I/YR 6%

N 30

FV R1 723 047

The capital needed at retirement date is

R

Capital needed for annuity income	33 800 454
Capital needed for motor car	<u>1 723 047</u>
	<u>35 523 501</u>

He will thus have a shortfall of R589 747 (R35 523 501 – R34 933 754) at the age of 65.

The level annual investment required to finance the shortfall at age 65 is:

BGN Mode

1 P/YR

FV R589 747

N 30

I/YR 9%

PMT R3 969 per annum

The escalating annual investment required to finance the shortfall at age 60 is:

Interest rate = 9%

Escalation rate = 6%

∴ Resultant rate = 2.830189%

BGN Mode

1 P/YR

FV R589 747

N 30

I/YR 9

PV R44 450(in display)

FV 0

I/YR 2.830189%

PMT R2 157

The first instalment would be R2 157.

The next step in the process would be to make recommendations as to the type of investment that must be used to supplement the shortfall.

Application

Step 1: Determining retirement goals. As per worksheet 2.1, Mr Finance has stipulated certain retirement goals when he was 35 years old. He firstly indicated that he would like to retire at the age of 65. This being his general retirement goal. Refer to worksheet 2.1 for the formulation of his retirement goals.

Step 2: Determining future retirement needs. Refer to worksheet 2.1 where the retirement capital needed at retirement as well the retirement income required in order to maintain his standard of living was calculated for Mr Finance when he was 35 years old.

Step 3: Estimating the income at retirement. Refer to worksheet 2.1 with regard to the retirement income that Mr Finance, age 35, indicated he would like to have in retirement together with the sources of income that would be available to finance the required retirement income.

The value of Mr Finance's current retirement funds (now aged 35) projected to the age of 65 and when taking all the future contributions, the time value of money and inflation (based on assumptions) into account, are reflected in worksheet 2.1.

Step 4: Calculating the annual inflation adjusted shortfall, how much is needed to cover the shortfall, and determining the annual savings between now and retirement. Refer to worksheet 2.1 for Mr Finance's (now aged 35) for the calculation of the annual shortfall when taking all of the related assumptions into account.

Step 5: Putting the retirement plan in action and saving towards retirement. Refer to worksheet 2.1 for detail on the investments that Mr Finance used to provide for his retirement.

SCENARIO 2: CLOSE-TO-RETIREMENT PHASE

Worksheet 2.2 will be used to illustrate the practical steps of the retirement planning process for individuals in the close-to-retirement phase.

Worksheet 2.2 – Scenario 2 – Retirement planning based on the close-to-retirement phase

Mr Finance is now 60 years old, married and has three children. His wife is still unemployed and their children are now aged 28, 25 and 22. The two eldest children are working and stay on their own. The last born are however still studying; he would be completing his studies in the next two years from now and are still staying with Mr Finance and his wife. Ever since Mr Finance were 35 years of age, when he was first introduced to the retirement planning process, he did not reassess his retirement goals to determine if he is indeed on track to meet them, as he decided to follow a long term strategy when it comes to his retirement funding. He however did not provide for any of the additional funds that were required at that stage to eliminate the shortfall, as it was not financially possible at that stage and he decided to deal with it once his finances allowed for it or when he had lesser debt. He also felt that the shortfall was not that extensive and that it might sort itself out in the end. He also changed jobs a few times during this period. He transferred the pension fund contributions of his first employer, for which he worked 15 years to a preservation fund. He worked at three other employers including the one that he is currently employed with. At the previous two employers, for which he worked 14 years in total, there were no retirement benefits on offer and Mr Finance then contributed to an additional retirement annuity. He is currently employed for seven years at his latest employer and there he is a member of their provident fund. Mr Finance decided to do a reassessment at the age of 60 to determine if his retirement goals are achievable and especially to establish if it would still be possible to retire at the age of 65. He also now has the finances to make up for any shortfalls that there might be as there as his personal household expenses decreased over the last couple of years. He decided to do a proper retirement plan this time and whatever the outcome it would be incorporated into his budget for the next five years to ensure that he would achieve the retirement goals that he has set for himself.

The method as well as note 1 and 2 used to calculate whether sufficient provision is made for Mr Finance's retirement at this stage is the same as in worksheet 2.1.

The following additional assumptions are made for the remainder of his working life:

- his salary will increase at a rate 5% per year;
- the net average return on all investments prior to and after retirement will be 9% per year;
- all recurring investments are made annually in advance;
- the required retirement income must be provided annually in advance
- the average inflation rate is 8% per annum throughout; and
- both the income and the expenditures would be exposed to a similar average inflation rate.

Mr Finance did a re-assessment of his needs and wishes (*retirement goals*) and they are as follow:

- he would still like his income after retirement to be provided to him until he reaches the age of 80;
- his income after retirement must still increase annually by a rate of 8% per annum (the assumed rate of inflation);
- he still expects that all his debts will have been repaid before he attains the age of 65 years;
- on retirement date he would also still like to have an additional amount of R500 000 in order to purchase a new car that he wants to utilise for the duration of his retirement (R350 000 in today's value and after taken into consideration the trade-in value of the car that he currently owns) and R150 000 to take his wife on a proper overseas holiday, as he doesn't want to make any additional debt after he has retired; and
- after retirement he would like to increase the gross pre-tax income that he would like to receive to R600 000 per annum in today's (real) money terms.

He has made the following provision for his retirement:

Type	Illustrative value at age 65
Preservation Pension Fund	To be determined
Provident Fund	To be determined
Retirement Annuity Fund	R550 000
Endowment Policy	R250 000

Additional notes

- According to the rules of the provident fund of which he is a member, he must retire on attaining the age of 65 years;
- his current retirement funding salary is R1 550 000 per year and the total contribution to the defined contribution pension fund (employer and employee contributions) is 11% of his retirement funding salary. The net contribution (after provision of the premium for risk benefits) is 7.5% of such salary; and
- his current annual household expenditure (excluding any savings) amounts to R790 000. After considering his personal circumstances, he estimated that his household expenditure in retirement would be at least 70% of his current household expenses. This would also enable him to maintain their desired standard of living.

The current value of his provident fund is R565 891.

The current value of his preservation fund is R6 573 896.

Mr Finance wants his advisor to calculate the following:

- the illustrative value of the pension fund at age 65; and
- the projected surplus or shortfall in respect of his retirement provision at age 65.

In the event of a shortfall at his retirement age he also wants his advisor to calculate:

- the level annual investment instalment required to finance the shortfall; and
- the escalating annual investment instalment required to finance the shortfall if the investment instalment is to escalate by 8% per annum.

Calculation of retirement capital that will be available at retirement date

All calculations were done using a Sharp EL-735 financial calculator.

The value of the preservation pension fund at age 65 (in five years' time)

BGN Mode

1 P/YR

PV R6 573 896

N 5

I/YR 9%

FV R10 114 754

Provident fund at age 65 (FV of contributions)

Current investment contribution = 7.5% x R1 550 000
= R116 250

The contributions will increase by 5% per annum (in line with his salary). The interest rate that he can earn is 9%.

∴ Resultant rate $(9-5) \div 1.05 = 3.8095\%$

BGN Mode

1P/YR

+/- PMT R116 250

N 5

I/YR 3.8095%

PV (in display) R540 127

PMT R0

I/YR 9%

FV R831 052

The value of the provident fund as it is currently (future contributions excluded) will grow to:

BGN Mode

1 P/YR

PV R565 891

N 5

I/YR 9%

FV R870 693

Value of provident fund at age 65:

FV (current value) R 870 693

FV (Future contributions) R 831 052

Total value of provident fund at age 65 R 1 701 745

At the age of 65 the total capital available will be:

R

Provident fund 1 701 745

Preservation fund 10 114 754

Retirement annuity fund 550 000

Endowment policy 250 000

Total capital available 12 616 499

Calculation of retirement capital that will be needed at retirement date

The income that he needs in the first year adjusted for inflation is as follows:

BGN Mode

1 P/YR

PV R600 000

I/YR 8%

N 5

FV R881 597

Interest rate = 9% pa
 Rate at which income must increase = 8%
 ∴ Resultant rate $(9-8) \div 1.08 = 0.9259\%$

1 P/YR

PMT R881 597
 N 15
 1/YR 0.9259%
 PV R12 407 583

The amount of capital that he will need, adjusted for inflation, to purchase a new car and overseas travel is:

1 P/YR

PV R500 000
 I/YR 8%
 N 5
 FV R734 664

The capital needed at retirement date is

	R
Capital needed for annuity income	12 407 583
Capital needed for motor car and overseas trip	<u>734 664</u>
	<u>13 142 247</u>

He will thus have a shortfall of R525 748 (R13 142 247 – R12 616 499) at the age of 65.

The level annual investment required to finance the shortfall at age 65 is:

BGN Mode

1 P/YR

FV	R525 748
N	5
I/YR	9%
PMT	R80 595 per annum

The escalating annual investment required to finance the shortfall at age 65 is:

Interest rate	= 9%
Escalation rate	= 8%
∴ Resultant rate $(9-8) \div 1.08$	= 0.9259%

BGN Mode

1 P/YR

FV	R525 748
N	5
I/YR	9%
PV	R341 700(in display)
FV	0
I/YR	0.9259%
PMT	R69 605

The first instalment would be R69 605.

The next step in the process would be to make recommendations as to the type of investment that must be used to supplement the shortfall.

Application:

Step 1: Determining retirement goals. Mr Finance re-assessed his retirement goals and implemented the changes as reflected in worksheet 2.2.

At the age of 35, Mr Finance made his first attempt towards retirement planning. He however did not implement any of the suggestions to address the shortfall due to insufficient finances at that stage, thinking that the inadequate retirement might sort itself out and on top of it, he decided to follow a long-term strategy when planning for his retirement. He also did not monitor his financial progress to determine if he was indeed on track to achieve his retirement goals. Mr Finance (now aged 60) indicated that his finances are of such a nature now that he could save additionally for his retirement.

Mr Finance prepared a proper retirement plan since he was 60 which he would incorporate into his budget for the next five years to enable him to achieve the retirement goals that he has set for himself.

Step 2: Determining future retirement needs. Refer to worksheet 2.2 for the retirement capital that Mr Finance would need.

Mr Finance also has to consider the effect of taxes on the lump sum amounts that would be available to him on the day that he retires.

Mr Finance indicated that he does not want to preserve the capital that will be available at his retirement date, but that the capital would be consumed because it would be used to purchase annuities to provide him with the required income after retirement.

In terms of Mr Finance's investment strategy he also has to consider the level of risk that he is willing to take as the different investments have different levels of risk attached to it.

The most recent income and expenditures statement would reflect the value of Mr Finance's annual household expenditures. Mr Finance would however have to make some obvious adjustments to take things such as their home being fully repaid, children that are no longer in the house and so on, into account when calculating the

estimate of an acceptable standard of living.

Step 3: Estimating the income at retirement. Refer to worksheet 2.2 for the income that Mr Finance (Now aged 60) would have available by the time that he retires (age 65) in order to fund his pre-determined retirement goals. This is based on his current sources of retirement funding as per worksheet 2.2.

Step 4: Calculating the annual inflation adjusted shortfall, how much is needed to cover the shortfall, and determining the annual savings between now and retirement. Refer to worksheet 2.2 for Mr Finance's (now aged 60) for the calculation of the annual shortfall when taking all of the related assumptions into account. This equates to the additional retirement capital that Mr Finance has to make provision for before he retires (age 65) and should he not come up with this additional money he would be forced to reduce his standard of living. These amounts have been adjusted to compensate for the impact of inflation. As assumptions are made about the inflation rate, the extent of these amounts could be influenced over time.

Mr Finance has indicated that he would be financing his annual shortfall as he is now in a financial position where it is possible to do so. These additional amounts of retirement savings could enable him to maintain the standard of living he requires on condition that his retirement funding is monitored closely and to take cognisance of the fact that the estimates are made based on assumptions that could change over time.

Mr Finance would therefore have to make use of this own additional retirement program to generate the required capital amounts, to be able to fulfil the financial needs that he would have at retirement.

Step 5: Putting the retirement plan in action and saving towards retirement. The annual savings amount has been determined for Mr Finance and he indicated that he is financially in the position to make additional retirement savings. He now has to make a decision were to invest his additional retirement savings as well as the type of investment that he would be using for this purpose. The investment should be of such a nature that it would adequately address his annual shortfall. If he has the

required investment knowledge he could select the most appropriate investment option but if not he should seek advice from experts in the investment field.

SCENARIO 3: POST-RETIREMENT PHASE

Worksheet 2.3 will be used to illustrate the practical steps of the retirement planning process for individuals in the post-retirement phase.

Worksheet 2.3 – Scenario 3 – Retirement planning based on the post-retirement phase

Mr Finance is now 66 years old, married and has three children. His wife never entered the working environment. Their children are now aged 34, 31 and 28. All the children are now working and stay on their own. Since the age of 60, Mr Finance was really committed to do planning for his retirement. He monitored his retirement funding very carefully and provided the additionally annual capital that were required from him to enable him to achieve his pre-retirement goals. Once a year, since he turned 60, he did a detailed analysis to determine whether he was still on track to meet his retirement needs and made the necessary adjustments when required. After he retired, he continued with the practice to re-assess his retirement needs on an annual basis. By the time he retired all his debts, except for his bond have been settled, which he then settled by using some of the funds that were withdrawn from his provident fund.

He also prepared a proper financial plan for his retirement which he update on a regular basis to incorporate the financial effect of any decisions or actions thereof into his budget for the next 20 years to ensure that he would be able to maintain his standard of living for the remainder of his life. This enables him to adjust his retirement goals to ensure that that the goals are achievable without having a major impact on their standard of living.

Mr Finance retired at the age of 65. Mr Finance made the following decisions with the retirement funding that became available to him the day the retired:

- he requested that the full value of his provident fund be paid out to him to enable him to settle his outstanding bond, purchase his new car ,go on his

- overseas trip and he also used it to fund his first year's retirement income;
- he did not commute any of his preservation pension fund and retirement annuity funds, as he utilised the money from the provident fund for the cash he needed at retirement;
- he therefore consumed the remainder of his retirement capital preservation pension, retirement annuity and endowment policy money) to purchase annuities as indicated previously to provide him with the required retirement income;
- he purchased a new motor vehicle to the value of R300 000 (after taking the trade value for his previous motor vehicle into account); and
- in the year after retirement he and his wife went on their planned overseas trip and the cost thereof amounted to R100 000. They decided that they would like to do it again in the future.

The following additional assumptions are made for the remainder of his life (*at least until he is 85 years old*):

- the required retirement income is received annually in advance (Note 1);
- the level of his retirement income increases annually by the assumed average rate of inflation;
- the average inflation rate is 7% per annum throughout; and
- the net average return on all his investments will be 10% per year.

Note 1: This assumption is made to keep the example and the calculations simple.

Note 2: The financial software used in practice will probably work on a monthly income requirement, which will produce a much more accurate result. A manual calculation could also be done on that basis, but for the purpose of the example, it will complicate it so that the process may not be clear to understand.

At retirement, Mr Finance did a re-assessment of his needs and wishes (*retirement goals*) and they are as follow:

- as he is very healthy, he would like his income after retirement to be provided to him until he reaches the age of 85;
- his retirement income must still increase annually by a rate of 7% per annum

(the assumed rate of inflation);

- he and his wife plan to go overseas again when he reaches the age of 70 and for that they require an additional R100 000. This would however be funded by the remainder of the funding that were initially provided prior to his retirement, for the motor vehicle and the overseas trip. An amount of R100 000 were invested in a fixed deposit account which earn interest at a rate of 9% per annum ; and
- one year after he retired he decided that a gross pre-tax income of R500 000 per annum in today's (real) money terms would be sufficient to meet his needs.

The values of his retirement funds were the following when he retired:

Type	Value at age 65
Preservation Pension Fund	R10 287 325
Provident Fund	R 1 736 162
Retirement Annuity Fund	R 550 000
Endowment Policy	R 250 000

Mr Finance wants his advisor to calculate the following:

- the financial impact to change the period for which retirement income should be provided from 15 years to 20 years;
- if sufficient retirement funding would be available to undertake another overseas trip; and
- the projected surplus or shortfall in respect of his retirement provision.

Calculation of retirement capital that will be available at retirement date

All calculations were done using a Sharp EL-735 financial calculator.

At the age of 65 (*after retirement*) the total capital that were available was:

	R
Provident fund (Note 3)	-
Preservation fund	10 287 325
Retirement annuity fund	550 000
Endowment policy	<u>250 000</u>
Total capital available	<u>11 087 325</u>

Note 3: The provident fund was converted into cash when Mr Finance retired.

The value of the annuities at age 66 (in one years' time)

Interest rate = 10% pa

Rate at which income must increase = 7%

∴ Resultant rate $(10-7) \div 1.07 = 2.804\%$

BGN Mode

1 P/YR

PV R11 087 325

N 1

I/YR 2.804%%

FV R11 398 214

Calculation of the value of the annuities from age 66 to age of 85 (excluding withdrawals)

Interest rate = 10% pa

Rate at which income must increase = 7%

∴ Resultant rate $(10-7) \div 1.07 = 2.804\%$

BGN Mode

1 P/YR

PV R11 398 214

I/YR 2.804%

N 19

FV R19 276 450

Calculation of retirement capital that will be needed from age 66 up to age 85 (to fund annual retirement income):

Interest rate = 10% pa

Rate at which income must increase = 7%

∴ Resultant rate $(10-7) \div 1.07 = 2.804\%$

BGN Mode

1 P/YR

PV R9 500 000 (R500 000 x 19)

I/YR 2.804%

N 19

FV R16 066 225

Calculation of retirement capital that will be needed from age 66 up to age 85:

The income that he would need from the age of 66 adjusted for inflation is as follow:

BGN Mode

1 P/YR

PV R500 000

I/YR 7%

N 1

FV R535 000

Interest rate = 10% pa

Rate at which income must increase = 7%

∴ Resultant rate $(10-7) \div 1.07 = 2.804\%$

1 P/YR

PMT R535 000

N 19

I/YR 2.804%

PV R8 016 554

The amount of capital that he will need, adjusted for inflation, to finance another overseas trip at the age of 70:

Interest rate = 10% pa

Rate at which income must increase = 7%

∴ Resultant rate $(10-7) \div 1.07 = 2.804\%$

BGN Mode

1 P/YR

PV R100 000

I/YR 2.804%

N 4

FV R111 697

The capital needed from age 66 to age 85 is:

R

Capital needed for annuity income 16 066 225

Capital needed for motor car 111 697

16 177 922

He thus had a surplus of R3 098 528 (R19 276 450 – R16 177 922) at the age of 66.

Application:

Step 1: Determining retirement goals. Mr Finance (now 66) re-assessed his retirement goals when he retired. He did retire at the age of 65. Refer to worksheet 3 for the changes that needs to be incorporated to address his retirement needs.

Mr Finance's personal circumstances also changed since he was 60 as indicated in worksheet 2.3.

Since the age of 60, Mr Finance was really committed in doing planning for his retirement and at that stage, he also had additional income that he used to fund his calculated annual shortfall that enabled him to achieve his pre-retirement goals. He also monitored his retirement funding very carefully. Once a year, since he turned 60, he did a detailed analysis to determine whether he was still on track to meet his retirement needs and made the necessary adjustments when required. After he retired, he continued with the practice to re-assess his retirement needs on an annual basis. By the time he retired all his debts, except for his bond have been settled, which he then settled by using some of the funds that were withdrawn from his provident fund.

He also prepared a proper financial plan for his retirement which he update on a regular basis to incorporate the financial effect of any decisions or actions thereof into his budget for the next 20 years to ensure that he would be able to maintain his standard of living for the remainder of his life. This enables him to adjust his retirement goals to ensure that that the goals are achievable without having a major impact on their standard of living.

Step 2: Determining future retirement needs. Refer to worksheet 2.3 for the retirement capital needed by Mr Finance (now aged 66) to address his retirement needs.

Mr Finance had to consider the effect of taxes on the lump sum amount for the funds that he has withdrawn from his provident fund as well as the retirement income that would be paid to him in the future.

In terms of Mr Finance's investment strategy, he also has to consider the level of risk that he is willing to take as the different investments has different levels of risk attached to it.

Mr Finance made decisions as reflected in worksheet 2.3 regarding the retirement capital that became available at retirement.

Step 3: Estimating the income at retirement. Refer to worksheet 2.3 for the estimation of the retirement capital that were available at age 66 for Mr Finance to address his re-assessed retirement goals taking into account his sources of retirement income.

Step 4: Calculating the annual inflation adjusted shortfall, how much is needed to cover the shortfall, and determining the annual savings between now and retirement. By comparing the retirement capital that would be available to Mr Finance at the age of 66 and the retirement capital that he requires (R16 177 922) to meet his retirement goals. It is evident that he would have a capital surplus.

These amounts have been adjusted to compensate for the impact of inflation. This also reflects that Mr Finance would be able to maintain his standard of living.

In the case of Mr Finance, no additional savings are required as he currently has a

surplus in terms of his retirement fund. This is all based on the assumptions and the estimates that were made at this point in time.

Step 5: Putting the retirement plan in action and saving towards retirement.

During the post-retirement phase, additional savings are not necessarily an option and should there be changes in individuals' financial positions that require additional funding they would most probably have to reduce their standard of living to accommodate these changes. At the age of 66, Mr Finance can still maintain his standard of living and are not required to adjust his financial position at this stage.

Mr Finance consumed his retirement capital to purchase annuities as indicated previously to provide him with the required retirement income, together with the income from the endowment policy, making his savings decisions not that complex. He however still has to monitor the performance of these annuities that he still stay on track to meet his retirement goals.

It therefore seems that Mr Finance considered the rate of return that he receives versus the level of the risk that he is willing to take when he invested his retirement savings in the annuities and the endowment policy. Mr Finance should however evaluate on a regular basis the investment of his retirement savings to measure if the performance of his investment is in line with what he needs to meet his retirement needs. If he has the required investment knowledge he could select the most appropriate investment option to address his retirement needs based on the level of risk that he is willing to take, but if it is not the case he should seek advice from experts in the investment field.

ANNEXURE B

DETAIL OF QUESTIONS SELECTED FOR THE STUDY, TOGETHER WITH THEIR CROSS-TABULATION RESULTS ACROSS THE THREE RETIREMENT PHASES

Table B.1: Demographic characteristics

DEMOGRAPHIC CHARACTERISTICS					
Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
142. How many children under the age of 18 live with you?	0	35.5	48.0	48.0	37.6
	1	24.3	19.2	12.3	22.9
	2	17.9	11.8	23.5	17.8
	3	11.9	10.7	11.2	11.7
	4	5.9	7.8	2.7	5.8
	5	2.2	0.9	1.9	2.0
	6	1.0	0.2	0.3	0.8
	7	0.7	1.0	0.0	0.7
	8	0.3	0.0	0.0	0.3
	9	0.3	0.5	0.0	0.3
	10	0.1	0.0	0.0	0.0
	12	0.0	0.0	0.0	0.0
147. What is your current marital status?	Married - customary only	10.6	17.4	16.4	11.7
	Married -civil only	11.2	22.4	16.7	12.7
	Married -both customary and civil	8.6	15.7	18.9	10.0
147. What is your current marital status?	Widower or widow	2.9	22.2	30.8	6.8
	Divorced	2.5	5.1	3.0	2.8
	Separated	0.8	1.5	1.7	0.9
	Never married	63.5	15.6	12.5	55.1
150. What is the highest level of education that you have ever completed?	No schooling	2.2	14.3	17.0	4.4
	Grade 0 or Grade R	0.0	0.0	0.5	0.0
	Sub A or Grade 1	0.4	0.6	1.3	0.5
	Sub B or Grade 2	0.6	2.5	1.5	0.9
	Grade 3 or Standard 1	0.8	2.2	4.9	1.2
	Grade 4 or Standard 2	1.5	6.8	2.8	2.1
	Grade 5 or Standard 3	1.4	6.2	3.2	2.0

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
150. What is the highest level of education that you have ever completed?	Grade 6 or Standard 4	2.1	5.8	8.4	2.9
	Grade 7 or Standard 5	4.3	7.7	4.3	4.6
	Grade 8 or Standard 6 or Form 1	5.0	13.1	13.5	6.4
	Grade 9 or Standard 7 or Form 2	6.1	6.1	4.0	5.9
	Grade 10 or Standard 8 or Form 3	10.8	8.3	10.5	10.5
	Grade 11 or Standard 9 or Form 4	12.2	3.4	2.7	10.6
	Grade 12 or Standard 10 or Form 5 or Matric	35.1	13.7	12.8	31.4
	NTC I	0.3	0.0	0.0	0.2
	NTC II	0.4	0.1	0.2	0.4
	NTC III	1.1	0.8	2.1	1.2
	Diploma or certificate with less than Grade 12 or Std 10	1.7	0.1	3.4	1.7
	Diploma or certificate with Grade 12 or Std 10	6.7	5.3	2.3	6.2
	Degree	4.7	2.5	3.5	4.4
	Postgraduate degree or diploma	2.8	0.8	1.0	2.3
Other	0.1	0.0	0.0	0.1	

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
152. And which of these best describes your current work situation?	Self-employed for 30 hours or more per week	10.6	8.5	2.2	9.8
	Self-employed for less than 30 hours per week	3.8	2.4	0.4	3.4
	In paid employment for 30 hours or more per week	24.9	11.4	1.8	21.9
	In paid employment for less than 30 hours per week	5.7	9.1	1.8	5.7
	Looking for work	29.8	6.3	1.3	25.5
	Looking after the home	2.9	8.3	1.3	3.3
	Unable to work due to sickness or ill-health	2.0	10.7	5.9	3.1
	Retired	0.6	23.6	58.7	7.1
	Student or learner	10.9	0.2	3.1	9.4
	Not working and not looking for work	7.1	18.3	16.5	8.8
	Apprentice	0.2	0.0	0.0	0.2
	Other	1.5	1.4	6.9	1.9
203. Considering all the sources of income coming into your household each month, which of these categories does your household income fall into?	Low income	49.2	56.8	55.0	50.4
	Average income	45.3	38.3	41.0	44.3
	High income	5.5	4.9	4.0	5.3
204. Which of the following describe how regular or reliable your household income is?	My income varies from week to week, month to month, or season to season	42.0	39.5	32.4	41.0
	Sometimes I do not receive my income on time	7.1	6.1	3.9	6.7
	Sometimes I [we] do not receive any money at all	7.4	3.1	2.8	6.6
	My income is regular and predictable	43.5	51.2	60.9	45.7

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
205. What is the main source of income in your household?	Salaries and or wages	67.7	39.8	18.0	61.3
	Remittances	4.4	4.2	3.3	4.3
	Pensions and or grants	21.1	52.0	77.9	28.2
	Sale of farm products and services	1.9	0.6	0.4	1.7
	Other non-farm income	1.9	1.1	0.2	1.7
	No income	3.0	2.4	0.3	2.8

Table B.2: General questions

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
GENERAL QUESTIONS					
15. How accurately do you know how much money you have available to spend. Do you....?	have no idea at all	26.6	28.8	25.8	26.7
	know roughly, but not within R500	19.6	12.9	14.1	18.6
	know within R500	15.9	20.6	17.3	16.4
	know within R100	14.3	14.8	14.7	14.4
	know within R50	8.4	9.2	12.6	8.8
	know within R10	6.2	5.0	6.9	6.1
	know within a rand or two	9.0	8.8	8.6	8.9
27. Sometimes people find that their income does not quite cover their living costs. In the last 12 months, has this happened to you?	Yes	46.2	48.0	37.9	45.8
	No	53.8	52.0	62.1	54.2
29. Of the things you mentioned, which does your household rely on the most?	Draw money out of savings or transfer savings into current account	5.9	4.6	5.4	5.8
	Cut back on spending, spend less, do without	16.9	16.7	20.8	17.1
	Sell something that I own	3.3	2.7	2.1	3.2
	Work overtime, earn extra money	10.9	3.5	1.9	9.5
	Borrow food or money from family or friends	42.3	45.1	56.3	43.5
	Borrow from employer or salary advance	2.0	1.3	0.9	1.8
	Pawn something that I own	1.1	0.5	0.0	0.9
	Take a loan from my savings and loans clubs	1.6	4.8	0.2	1.9

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
29. Of the things you mentioned, which does your household rely on the most?	Take money out of a flexible home loan account	0.1	0.0	0.0	0.1
	Apply for loan or withdrawal on pension fund	0.2	2.3	0.0	0.4
	Use authorised, arranged overdraft or line of credit	0.3	2.3	0.0	0.5
	Use credit card for cash advance, to pay bills, buy food	2.0	1.7	0.0	1.8
	Take out personal loan from formal financial service provider	1.4	1.4	0.2	1.3
	Take out a payday loan	1.1	0.6	0.0	1.0
	Take out a loan from an informal provider or moneylender	4.4	5.1	8.3	4.7
	Pay my bills late; miss payments	1.5	3.3	0.0	1.6
	Other	5.2	4.1	3.8	5.0
31. In the next two years, do you think your household's financial situation will get better, stay the same, or get worse	Get better	53.1	37.6	28.6	49.8
	Stay the same	29.1	32.8	44.8	30.6
	Get worse	17.8	29.6	26.5	19.6
125. To what extent you agree: The earlier you start saving for retirement, the better	Strongly agree	52.8	49.5	48.0	52.1
	Agree	36.3	40.6	38.4	36.8
	Neither nor	7.3	6.4	9.1	7.4
	Disagree	3.2	3.6	4.1	3.3
	Strongly disagree	0.4	0.0	0.4	0.4

Table B.3: Core area 1 – Setting retirement goals

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
CORE AREA 1: GOAL SETTING (step 1)					
19. How often you do these things or not: I set long- term financial goals and work hard to achieve them	Always	24.9	22.6	21.0	24.4
	Often	21.7	20.8	23.6	21.8
	Some of the time	20.5	26.4	16.4	20.7
	Seldom	10.9	11.4	13.1	11.1
	Never	22.0	18.9	26.0	22.0
41. Taking all sources of retirement income into account, how confident are you that your income will give standard of living throughout retirement	Very confident	14.2	12.1	11.2	13.7
	Fairly confident	36.1	38.2	33.7	36.1
	Not very confident	26.6	26.5	28.8	26.8
	Not at all confident	23.1	23.2	26.3	23.4
133. How well does the following statement applies to you: I put money aside on a regular basis for the future	Always	14.7	13.8	13.7	14.5
	Very often	13.3	15.5	10.4	13.3
	Fairly often	8.7	9.5	7.1	8.6
	Sometimes	15.6	13.3	20.0	15.7
	A few times	7.7	10.2	5.8	7.8
	Hardly ever	12.4	13.5	12.8	12.5
	Never	27.6	24.0	30.3	27.5
134. How well does the following statement applies to you: I do financial planning for the future	Always	15.4	13.6	14.4	15.2
	Very often	13.7	12.1	13.5	13.5
	Fairly often	8.7	11.7	9.1	9.0
	Sometimes	12.7	13.9	15.1	13.0
	A few times	8.4	7.6	7.6	8.2
	Hardly ever	13.6	16.4	10.9	13.6
	Never	27.6	24.7	29.4	27.5
160. How satisfied are you with your standard of living?	Completely dissatisfied	2.7	4.4	1.8	2.8
	1	2.8	1.9	1.2	2.6
	2	5.0	2.3	5.6	4.8
	3	9.0	9.2	8.9	9.0
	4	9.8	10.6	11.1	10.0
	5	18.1	21.0	14.8	18.2
	6	14.3	15.4	13.0	14.3
	7	15.6	12.5	15.1	15.3
	8	11.6	13.7	14.0	11.9
	9	4.9	4.3	7.1	5.0
Completely satisfied	6.3	4.7	7.4	6.2	

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
161. How satisfied are you with your health?	Completely dissatisfied	0.9	2.1	1.4	1.0
	1	0.6	4.9	1.3	1.1
	2	1.0	3.5	5.3	1.6
	3	2.3	9.5	5.7	3.3
	4	7.3	8.1	13.2	7.8
	5	11.9	16.0	15.8	12.6
	6	10.7	16.3	13.2	11.4
	7	16.8	15.3	17.6	16.7
	8	19.3	14.0	14.8	18.5
	9	14.1	4.9	5.8	12.6
	Completely satisfied	15.1	5.3	6.0	13.5
162. How satisfied are you with what you are achieving in life?	Completely dissatisfied	2.6	3.6	1.8	2.6
	1	2.8	2.5	0.9	2.6
	2	5.3	4.3	5.4	5.2
	3	8.6	10.1	10.0	8.9
	4	11.4	13.3	19.6	12.2
	5	18.0	18.5	9.4	17.4
	6	14.6	11.4	10.7	14.0
	7	13.7	16.8	15.6	14.1
	8	12.7	11.1	13.6	12.6
	9	5.1	4.2	6.2	5.1
	Completely satisfied	5.1	4.2	6.9	5.2
166. How satisfied are you with your future financial security?	Completely dissatisfied	5.9	8.0	2.4	5.9
	1	6.3	2.5	3.5	5.8
	2	6.9	11.1	11.3	7.6
	3	10.2	11.7	9.6	10.3
	4	12.3	14.0	16.9	12.8
	5	17.9	14.6	18.8	17.7
	6	11.7	9.7	8.4	11.3
	7	11.7	10.4	7.7	11.3
	8	8.3	10.1	9.8	8.6
	9	5.0	5.1	5.3	5.0
	Completely satisfied	3.7	2.9	6.2	3.8

Table B.4: Core area 2 – Identifying the financial gap that respondents have in terms of their retirement planning

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
CORE AREA 2: GAP ANALYSIS (step 2 to 4)					
4. Which ONE of the following best describes the extent to which you personally monitor your regular expenses?	I don't keep an eye on expenses at all	32.9	26.7	31.9	32.3
	I keep my eye on expenses a bit	38.3	40.3	40.3	38.6
	Without keeping written records, I keep a fairly close eye on expenses	16.0	18.6	13.7	16.0
	I use written records to keep a close eye on expenses	12.9	14.4	14.1	13.1
5. Do you have a household budget?	Yes	46.9	44.0	46.4	46.6
	No	53.1	56.0	53.6	53.4
25. Overall, thinking of your assets, debts and savings, how satisfied are you with current personal financial condition	Extremely dissatisfied	8.7	11.6	11.4	9.2
	Dissatisfied	30.2	29.4	31.5	30.3
	Neither satisfied nor dissatisfied	21.1	23.8	16.9	21.0
	Satisfied	35.4	27.8	34.5	34.6
	Extremely satisfied	4.6	7.3	5.6	4.9
30. In a typical month, how difficult is it for you to cover your expenses and pay all your bills?	Extremely easy	1.5	3.1	2.0	1.7
	Easy	19.0	14.5	19.9	18.6
	Neither easy nor difficult	28.5	26.4	30.5	28.4
	Difficult	34.5	38.4	31.6	34.7
	Extremely difficult	16.5	17.5	16.1	16.6

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
32. Emergency/rainy day funds to cover expenses for 3 months: sickness, job loss, emergencies	Yes	30.5	33.8	29.2	30.7
	No	69.5	66.2	70.8	69.3
65. And now can you tell me whether you currently hold any of these types of investment or savings products?	Unit trusts	1.5	3.3	2.8	1.8
	Education policy or plan	5.1	3.2	2.2	4.7
	Investment or savings policy	6.8	9.4	6.7	7.0
	Shares on the stock exchange	1.8	3.1	2.3	1.9
	Retirement annuity	7.0	6.1	7.9	7.0
	Provident fund	5.0	3.7	1.5	4.6
	Pension fund	8.9	11.9	14.8	9.6
	Stokvel or umgalelo or savings club	9.7	14.0	9.3	10.1
	Giving money to someone who will guard it for you, to keep it safe	2.4	1.2	0.9	2.2
	Keep cash or savings at home	7.9	7.9	9.9	8.0
65. And now can you tell me whether you currently hold any of these types of investment or savings products?	Other savings club	0.6	0.3	0.4	0.5
	None of above	43.5	35.8	41.3	42.6
114. Do you think the following statement is true or false: High inflation means that the cost of living is increasing rapidly	True	88.6	90.0	83.9	88.4
	False	11.4	10.0	16.1	11.6

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
116. How would you rate your level of financial knowledge on a scale of 1 to 5 where 1 is: Not at all knowledgeable, 5: Very knowledgeable	Not at all knowledgeable	14.1	17.3	18.5	14.7
	2	17.9	20.4	22.0	18.4
	3	27.5	25.5	25.0	27.1
	4	24.6	24.2	17.5	24.0
	Very knowledgeable	16.0	12.6	17.0	15.8
124. To what extent you agree :If you have savings, it is a good thing if interest rates goes up	Strongly agree	33.2	32.5	25.4	32.6
	Agree	41.5	45.0	48.7	42.3
	Neither nor	11.5	10.2	10.1	11.3
	Disagree	10.5	8.1	12.2	10.4
	Strongly disagree	3.2	4.3	3.7	3.3
129. To what extent you agree: The more money you earn, the more tax you pay	Strongly agree	43.7	42.2	38.7	43.2
	Agree	43.9	46.4	45.6	44.3
	Neither nor	8.3	9.1	10.5	8.6
	Disagree	2.6	1.6	4.2	2.7
	Strongly disagree	1.4	0.6	0.9	1.3

Table B.5: Core area 3 – Respondents ability to formulate a retirement plan

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
CORE AREA 3: FORMULATION OF RETIREMENT PLAN (step 5)					
37. Do you agree or disagree: I am prepared to risk some of my own money when saving or making an investment	Completely agree	9.6	6.3	2.8	8.8
	Agree	30.6	31.7	24.1	30.2
	Neither nor	20.8	20.9	25.0	21.1
	Disagree	26.5	27.1	27.6	26.6
	Completely disagree	12.5	14.0	20.6	13.3
40. Which of the following are included in your financial plan for retirement?	Government old age pension	27.7	32.8	38.5	28.9
	Work-place pension	20.6	15.2	16.5	19.8
	Personal retirement savings plan	13.9	10.7	12.1	13.5
	Moving to a cheaper property in the same area	2.1	2.1	1.2	2.1
	Moving to a cheaper area	2.2	3.1	0.9	2.2
	Sell your financial assets	0.8	0.8	1.5	0.9
	Sell your non-financial assets	1.2	0.3	0.2	1.1
	Use an inheritance	4.0	2.5	2.5	3.8
	Rely on your spouse or partner to support you	6.2	5.4	2.7	5.9
	Rely on your children to support you	4.6	12.0	12.9	5.9
	Rely on financial support from your wider family	5.0	4.7	4.0	4.9
	Drawing an income from your own business	2.1	1.7	1.1	2.0
	Continue to work after retirement age to earn money	8.2	6.9	4.3	7.8
	Other	1.3	1.6	1.5	1.4

Question	Options	Pre-retirement (%)	Close-to-retirement (%)	Post-retirement (%)	Total (%)
115. Do you think the following statement are true or false: It is less likely that you will lose all of your money if you save in more than one place	True	50.8	59.1	41.8	50.8
	False	49.2	40.9	58.2	49.2

ANNEXURE C



Ref #: 2014/CAS/SAS/0003

RESEARCH ETHICS REVIEW COMMITTEE: COLLEGE OF ACCOUNTING SCIENCES

Ms R van Beek (student number 30368634)
Supervisor: Prof B de Clerq (staff number 1128787)

This is to certify that the application for ethics clearance submitted by
R van Beek (30368634)
for the study

*Identifying the core competencies and attributes required for
retirement planning across three retirement phases in the fulfillment
of the Degree of MCompt has been **approved**.*

The application for ethics clearance for the above-mentioned research was reviewed by the CAS Research Ethics Review Committee on 4 March 2014 in compliance with the Unisa Policy on Research Ethics. **Ethical clearance has been granted.** Please be advised that the research ethics review committee needs to be informed should any part of the research methodology as outlined in the Ethics Application (Ref. Nr.:2014/CAS/SAS/0003), change in any way.

The Research Ethics Review Committee wishes you all the best with this research undertaking.

Kind regards,

Prof HC Wingard
Chair: CAS Research Ethics Review Committee
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Prof E Sadler
Executive Dean
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14 March 2014



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