Finding happiness in retirement

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Presented at the Actuarial Society of South Africa’s 2014 Convention
22–23 October 2014, Cape Town International Convention Centre

ABSTRACT
The objective of this paper is to consider the complexities of evaluating whether someone has retired successfully. We argue that, while various financial measures can be used to capture an aspect of retirement success, the adequacy of financial resources is not a goal in itself, but rather a contributing factor to overall quality of life. Financial measures also do not lead to useful recommendations in situations where financial resources are fundamentally inadequate. This is because they do not capture the full range of resources that retirees can utilise in order to optimise their retirement experience.

We introduce the concept of happiness, explain how happiness can be measured, and review current findings on factors which contribute to happiness in retirement. Our goal is to inform actuaries about the advantages of using happiness as a holistic measure of retirement success, and suggest how this measure may be used to optimise retirement through plan design, policy interventions, retirement planning and product design.

KEYWORDS
Retirement; happiness; subjective well-being; replacement ratios

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1. INTRODUCTION

Actuaries and other financial professionals involved in the retirement industry generally focus on financial retirement adequacy measures when evaluating whether someone is able to retire successfully. Such financial measures can be used to capture an aspect of retirement success; however, the adequacy of financial resources is not a goal in itself, but rather a contributing factor to overall quality of life. Financial measures also do not lead to useful recommendations in situations where financial resources are fundamentally inadequate, since they give no guidance on how a retiree without sufficient financial means can optimise their retirement to make their life as comfortable as possible.

So how can we measure and improve overall quality of life? Over the last few decades, economists have explored the concept of happiness as a measurable, valid and meaningful indicator of a successful life. Happiness has the advantage of being a goal in itself. This differentiates it from wealth, which is a means to obtain goods and services which then lead to improved quality of life, or happiness. Happiness is affected by many personal and environmental characteristics, of which finances are just one aspect. We therefore propose that happiness can be used as a holistic measure of retirement success, and that this measure may be used to optimise retirement through plan design, policy interventions, retirement planning and product design. This paper therefore serves to provide an overview of current happiness studies by introducing the concept of happiness in economic literature, explaining how happiness can be measured, and reviewing current findings on factors which contribute to happiness in retirement. We then consider some broad ideas for how the concept of happiness may be applied in the retirement industry.

Before we consider happiness, however, we need to begin by reviewing the concept of retirement itself, and the measures currently used to evaluate it.

2. THE CONCEPT OF RETIREMENT

Retirement is a relatively new concept. Towards the end of the 19th century, workers generally remained in employment for as long as they were able (Costa, 1998). The percentage of men over age 64 who participated in the workforce in 1880 was 78 per cent in the US, and similarly high in Great Britain, Germany, and France (Costa, 1998). With the onset of the industrial revolution, older workers were seen to be physically and mentally less productive, and found it more difficult to retain their positions. At the same time, governments around the world began to introduce Social Security benefits, generally payable from age 60 or 65 (Costa, 1998). Such social old age pensions were either accompanied by mandatory retirement or simply encouraged retirement as they were only paid to individuals who had stopped working (Costa, 1998). By 1990, the proportion of men over age 64 still participating in the workforce had fallen to less than 20 per cent in the US and less than 10 per cent in the UK, Germany and France (Costa, 1998).

Retirement was however initially viewed as a crisis event, and researchers...
perceived it as traumatic for individuals due to the loss of the job role (van Solinge & Henkens, 1982). Over the course of the 20th century, higher overall retirement incomes led to the development of the idea of retirement as a time of leisure (Costa, 1998). Social pensions, combined with a “job for life” and defined benefit (DB) retirement funds underwritten by employers, offered individuals a secure and predictable retirement income.

Recent trends in retirement have undermined this security, particularly in South Africa. Increases in longevity and the volatility of investment markets, as well as a more mobile workforce and individual expectations of autonomy and choice, have led to defined contribution (DC) pension funds largely replacing defined benefit arrangements (van den Heever, 2007; Groyer & Holtzhausen, 2006). Investment and mortality risks are now borne by individuals rather than employers, and retirement funds are viewed as an incentivised savings vehicle. The issues in modern retirement debates in SA are “Are we saving enough?”, “Are we investing correctly?” and “How much do you need to retire?”.

Individuals, however, have well-documented difficulties with planning for their long-term financial future (Benartzi & Thaler, 2007). It is difficult to give up present consumption in return for a pension that will only be paid 30 or 40 years later. The result is a mounting body of evidence that individuals generally do not have sufficient financial resources with which to retire (see section 3 for a review of the literature relating to retirement adequacy).

Increases in longevity have also led to retirement becoming an ever longer period for which to prepare. Life expectancy at birth has increased by 30 to 40 years since the late 19th century\(^1\) (Sanderson & Scherbov, 2008), while the duration of retirement has increased from 1.2 years at the turn of the 19th century (Gee, 1999) to as much as 25 years\(^2\) today (Sanderson & Scherbov, 2008). This is because while lifespans have increased dramatically, normal retirement ages have remained largely fixed at 60–65 until very recently. Even more surprisingly, early retirement has been on the rise (Friedberg, 2007), and some European countries even reduced retirement ages towards the end of the 20th century (Guillemand, 1993). Mandatory retirement ages are now generally on the rise around the world, and the trend towards early retirement seems to be beginning to abate (Friedberg, 2007); however, the net result is still that retirement is a very long period of time, which is viewed as a period of well-earned leisure (Wang & Shultz, 2009).

In one hundred years, retirement therefore changed from being a short period at the end of life where the incapacity to work was recognised as a reason for financial support from the State, to a long period of leisure for which every worker is expected to save during their working life time. This makes the transition into retirement a major life event characterised by fundamental financial and lifestyle changes.

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\(^1\) Life expectancy of women aged 65 in various north-European countries.

\(^2\) For women in Japan, Western Germany, Italy and Australia.
As a life event, retirement is seen to be on par with divorce, bereavement, or becoming unemployed (Luhmann et al., 2012). Unlike those events, however, retirement is expected and therefore can be planned for. Retirement is therefore generally characterised by a long period of preparation, where one works and accumulates funds, followed by a period of not working and decumulation.

The accumulation stage, in a defined contribution environment, usually requires an individual to contribute to a retirement fund, possibly select effective investment vehicles, ensure fees are minimised, preserve their benefit when changing employment, and purchase an appropriate annuity product at retirement. If these actions are executed “correctly” throughout the working life, the accumulation should be sufficient to afford a pension which will see the individual through retirement. Implied in this approach is that retirement is the passive result of pre-retirement and at-retirement actions and decisions; beyond the possibility of managing investment returns and withdrawal rates in a living annuity type vehicle, retirees are effectively at the mercy of their pre-retirement preparations. The resources of retirement are generally seen as the personal savings combined with any pensions and grants payable to the retiree, and a successful retirement is defined as one where financial resources are adequate in relation to consumption needs.

3. FINANCIAL ADEQUACY

While it is our intention to expand actuarial thinking beyond purely financial measures, we begin by examining the concept of retirement adequacy and the retirement adequacy outcomes observed around the world.

3.1 Determining Financial Adequacy

Adequacy is determined by the ability to meet a specific goal, generally defined as a level of consumption (e.g. Butler & van Zyl, 2012b). This required consumption can be used to calculate either the income required to meet this level of consumption, or the accumulated wealth necessary to fund consumption until death, or a combination of both. This is then either compared to the actual financial position of the retiree to determine retirement adequacy, or used to calculate a savings rate which will result in sufficient funds for retirement for a working person (Mitchell & Moore, 1998).

Estimated retirement consumption can be defined in absolute terms, as a minimum level of consumption that is required for some sort of level of comfort. The derivation of absolute targets is often based on nutritional needs or societal views (see Deeming (2005) or Mirowsky & Ross (1999) for a review of some of the approaches used). Such absolute consumption approaches are often utilised to set a base level of income to meet basic needs, for example a minimum income grant, and so minimum income grants are sometimes used as a proxy for a minimum adequate level of consumption – for example, Butler and van Zyl (2012a) build in a base level of consumption into their model by using the level of the Social Old Age Grant in South Africa as a proxy for the minimum adequate consumption.
However, absolute targets are rarely utilised, and the majority of retirement adequacy work is based on targets set in relation to pre-retirement consumption. The key to setting such targets is in understanding how consumption changes as a result of retirement.

3.1.1 Estimating Changes in Expenditure after Retirement

Lifecycle theory states that the utility of consumption is smoothed over the lifetime of an individual, and thus rational individuals will ensure that their post-retirement consumption utility equals pre-retirement consumption utility by saving enough during their working lives to ensure that their pre-retirement consumption utility is maintained in retirement (Banks et al., 1998). However, changes in the circumstances of the individual (for example family size or age) may lead to them deriving a different utility from consumption; therefore, it is possible that consumption itself changes over the life course (Banks et al., 1998). Gourinchas & Parker (2002) substantiate this by showing that consumption rises with age to around 45, and then reduces. Banks et al. (1998) also demonstrate that consumption patterns exhibit a hump over the lifetime of an individual, i.e. consumption drops off after a certain age. However, Butler & van Zyl (2012a) find no decline in consumption rates after retirement, although it should be noted that they calculate consumption rates as a ratio of consumption to income, and income itself is likely to reduce in retirement.

Deriving the shape of consumption over the life cycle can be difficult due to the difficulty of distinguishing between voluntary changes in consumption, and involuntary changes brought about by a reduction in income (Butler & van Zyl, 2012a). This can be managed by considering only individuals who have a positive wealth, which could be taken to indicate that they are not forced to reduce consumption, as done by Hurd & Rohwedder (2011) who found that consumption did decline with age.

Banks et al. (1998) as well as Bernheim, Skinner & Weinberg (2001) find that consumption drops discontinuously at retirement, which contravenes the lifecycle theory and creates a “retirement-consumption puzzle”. This puzzle has been interpreted by Banks et al. (1998) as being caused by unanticipated shocks at retirement, but Bernheim et al. (2001) simply suggest that the underlying assumption of the lifecycle theory, that individuals are rational and forward looking, does not apply, and individuals save haphazardly without being aware of whether their savings are adequate. Other explanations of the puzzle include unexpected retirement timing, voluntary changes to consumption as a result of a change in lifestyle on retirement, and substitution of home production for expenditure (Hurd & Rohwedder, 2005).

Banerjee (2012) also finds a reduction in expenditure in Americans aged over 50. The reduction is driven mainly by lower transport and entertainment expenses, and is offset by increasing healthcare costs. Banerjee (2012) concludes that retirees’ consumption is about 80 per cent of non-retired households, but stresses that due to differences in taxation and saving needs, this does not imply an 80 per cent income replacement ratio.
Some additional insight can be gained by considering the components of consumption. There is universal agreement that healthcare costs rise with age (Butler & van Zyl, 2012a; Banerjee, 2012; Petertil, 2005). Expenditure on food and household goods is generally not greatly affected by retirement. Banerjee (2012) finds that for American retirees, food and clothing expenditure are similar to before retirement. Hurd & Rohwedder (2005) review various studies relating to food consumption in retirement and conclude that while food expenditure does sometimes reduce in retirement, food consumption does not, suggesting that home production is taking place. Transport and work related expenses tend to fall in retirement (Banerjee, 2012; Banks et al., 1998).

It seems fairly certain that the consumption behaviour of retirees will differ from that of working individuals; and the change is most likely a reduction rather than an increase in consumption; however the magnitude of that change is not clear, and different models make different adjustments to estimate post-retirement expenditure. This estimated post-retirement expenditure is the key component of target replacement ratios which are used to evaluate retirement adequacy.

3.1.2 Defining Replacement Ratios

Replacement ratios can take the form of income or wealth replacement ratios. The fundamental approaches involve calculating a target ratio, based on anticipated post-retirement consumption calculated in relation to pre-retirement consumption. These target ratios are then used to evaluate whether the actual replacement ratio at retirement, or a projected replacement ratio for a person not yet retired, is sufficient to meet the target. This comparison reveals whether the individual has sufficient retirement income to meet their retirement consumption needs.

Each of these calculations involves a number of underlying assumptions.

**Target replacement ratios**

The target income replacement ratio is generally defined as

\[
\frac{C_{RA}}{S_{RA-1}}
\]

Where \(C_{RA}\) is the expected consumption in the year after retirement, and \(S_{RA-1}\) is the salary, in the year before retirement, either actual or projected for individuals who are not yet retired.

\(C_{RA}\) is estimated by adjusting \(C_{RA-1}\), the consumption in the year before retirement.

The adjustments employed may include:
- Removing pre-retirement savings;
- Adjusting for differential taxation in retirement;
- Adjusting for changes in consumption as a result of retirement. These changes, discussed in the previous section, may include reductions in work-related
expenses, increases in travel and leisure expenses, increases in medical expenses, and reductions resulting from an increase in free time which can be translated into an increase in cost-saving activities such as home production of foodstuffs.

— Further adjustments may need to be made to account for different household composition after retirement (Hurd & Rohwedder, 2003). The number of people in a household affects the economies of scale which can be achieved.

— Mortgages and home ownership can also be accounted for by making assumptions about when a mortgage is paid off, and calculating imputed rent for home owners as an income source or a reduction in expenses (Munnell & Soto, 2005).

— Gifting, in the sense that individuals may desire to give goods or money to family members, may also be allowed for.

Simple “tax and savings” models only adjust income and consumption to account for lower savings rates and different taxation rates. Anticipated changes in expenditure are explicitly accounted for by “tax, savings and expenditure” models (Cole & Liebenberg, 2008; Butler & van Zyl, 2012a).

Income replacement ratio targets are very commonly used in financial literature and practice. 75 per cent is the income replacement ratio generally targeted by financial advisors according to Groyer & Holtzhausen (2006). Tonkin (2006), as cited by Groyer & Holtzhausen (2006), arrives at recommended replacement ratios of 80 per cent and an absolute minimum monthly disposable income of R5 000 to R8 000 (in 2006 Rands) depending on the economic circumstances of the individual. Greninger et al. (2000) survey financial planners and educators in the US and find that nine tenths of them recommend a replacement ratio of 85–90 per cent for individuals retiring at age 60.

Income replacement ratios, however, have come under criticism, partly because they often do not correctly account for the impact of tax, savings rates and work-related expenses (Butler & van Zyl, 2012a), and partly because they can ignore some of the longevity and investment risks as well as the risks of catastrophic healthcare costs (VanDerhei, 2006).

In our view, the weaknesses of target income replacement ratios include:

— Using the consumption in the year after retirement does not account for changing consumption over the retirement period; consumption is likely to change over the course of the retirement period, for example due to increasing medical costs and need for care, as well as reduced ability to participate in leisure activities.

— Using salaries in the year before retirement may also be misleading. There is a possibility that the salary has reduced in the final year, possibly as a result of transitioning out of work. However, we are of the view that the salary immediately before retirement may be uncharacteristically high compared to consumption: this is likely the highest salary that the individual has experienced in their working time. At the same time, there are likely to be no child-related expenses and mortgages may be paid off. Consumption adjusts to income levels,
which means that the standard of living immediately before retirement may be at the highest level in the life cycle. Using the financial position of individuals just before retirement to set retirement targets may therefore result in a bias towards high target replacement ratios.

— A further problem with pre-retirement salaries is that in many cases it is the pensionable salary, rather than the full salary, that is used for retirement calculations. Pensionable salaries are defined as a percentage of the full salary based on which pension fund contributions are calculated. Any target based on pensionable salary will be too low compared to actual salary. (See the Alexander Forbes Benefits Barometer (2014) for a more detailed discussion of this issue).

— There is uncertainty in the literature in how expenditure should be adjusted after retirement, and this means that targets may not be accurate. Skinner (2007) points out that one weakness of replacement ratio approaches is the number of assumptions that need to be made to estimate these ratios, and the sensitivity of the results to those assumptions.

— Different approaches for dealing with mortgages and savings may also lead to unrealistic results.

— It is difficult to account for household composition and the circumstances and needs of the spouse and other dependants when working with income replacement targets.

— Income replacement ratio targets are often generalised into a single number; however different individuals are likely to have different target ratios depending on their circumstances (Skinner, 2007).

The alternative is to set the target as a wealth replacement ratio goal. Wealth replacement ratio targets are defined as

\[
\frac{PV(C)}{S_{R4-1}}
\]

Where \( PV(C) \) is the present value of all post retirement consumption, sometimes calculated by taking into account mortality through the use of appropriate annuity factors (e.g. Butler & van Zyl, 2012a), and sometimes by simply assuming a certain fixed lifetime (e.g. Skinner, 2007). Projections allow for inflationary increases, and in addition more sophisticated approaches allow for changes in expenses with age. For example, Butler & van Zyl (2012a) allow for higher inflationary increases in medical costs than in other expenses, but cap medical costs at 10 per cent of total expenditure (Butler & van Zyl, 2012a). Butler & van Zyl (2012b) calculate target wealth recommendations of between 10.5 and 18.2 times pre-retirement salary, depending on household circumstances. A survey of press articles and commercial studies in the US presents a range of target wealth ratios from 8 to 25 times salary (Lawton, 2014).

The advantage of using the present value of total consumption is that it is possible to account for consumption needs changing over time. In our view, targeting a wealth
level is more effective than targeting an income level, mainly due to this ability to allow for future changes. However, the extent to which these changes are accommodated is generally limited to applying varying inflation rates to different expenditure items. Life stages throughout retirement where there may be different needs have not been explored in the literature we examined, and this is an area where future research could be directed.

Once a target has been set, it is possible to evaluate whether an individual has (in the case of retirees) or will be able to (in the case of working individuals) achieve such a target.

**Actual replacement ratios**

The actual income replacement ratio achieved by an individual is defined as:

\[
\frac{\text{Pension}_{RA}}{\text{Salary}_{RA-1}}
\]

\(\text{Pension}_{RA}\) may simply be the pension paid by an employer fund, but may also be adjusted to include:

- Pensions from other private funds
- Government pensions and grants
- Income from investments and other personal savings
- An adjustment for implied rent if owning a property
- Some allowance for accessing home equity in retirement

The above components are generally adjusted for tax. Usually the value of insurance policies is not included, although this is a limitation and could be considered to be included in future. Similarly, any income, in the form of salary or pension from a spouse or other household members is usually not included in the calculation. In fact, most income replacement ratios only include pensions or pensions and grants, ignoring other wealth. We discuss this limitation further in the next section.

Wealth, such as investments, savings and home equity, needs to be annualised using an annuity rate or some assumption about lifespan in order to be included in the income replacement ratio.

Wealth replacement ratios get around this issue since all wealth at retirement can be added to the numerator. Any pensions or income, however, needs to be converted into a present value. Wealth ratios can therefore be defined as:

\[
\frac{\text{PV(Pensions)} + \text{Assets}}{\text{Salary}_{RA-1}}
\]

Where the \(\text{PV(Pensions)}\) is the discounted present value of all income, allowing for interest, increases and mortality. \(\text{Assets}\) could include savings or investments, and some or all home equity. However, generally only pensions and savings/investments
are accounted for, effectively assuming that retirees are set to transfer housing wealth to their heirs. The implications of excluding such potential sources of funds are briefly considered below.

3.1.3 Financial Resources Generally Excluded from Replacement Ratio Calculations

Home equity, insurance policies and support from family members are realistic sources of retirement funds, but frequently not accounted for in replacement ratio calculations.

Home equity is a resource which can be accessed by retirees who have purchased their homes. When it is not explicitly considered in retirement planning, the implicit assumption is that retirees will want to remain in their pre-retirement home until death, and would furthermore want to pass their home on to their heirs. While this may be the case if the retiree’s other funds provide an adequate standard of living, gifting and living in a large home are luxuries when resources are scarce. Hurd & Rohwedder (2011) recognise this by defining housing wealth as a component of economic resources, and considering an individual adequately prepared for retirement as long as the remaining economic resources after their death are non-negative.

Home equity can be released in different ways – the retiree could sell their property outright and either rent or buy a smaller home; they might be able to sublet a part of their residence; they might have access to equity release schemes which grant a lifetime right to a property which reverts to a provider when the retiree dies. Munnell, Soto & Aubry (2007) and Mitchell & Moore (1998), among others, find that US retirees currently do not frequently access their home equity. However, Munnell et al. (2007) find that more and more retirees are planning to do so in the future. The likelihood of accessing home equity is highest for individuals who expect that their income will be insufficient, who are covered by DC rather than DB plans, and who have an outstanding mortgage (Munnell et al., 2007). Dolan, McLean & Roland (2005) find a similar situation in Australia, where pensioners are also becoming increasingly inclined to access home equity, either by moving to a smaller house or by using home equity conversion loans. Skinner (2007) argues that housing wealth is a good hedge for catastrophic health events, since these usually coincide with having to move into a care facility and thus having no further use for the residence. This is supported by Hurd & Rohwedder (2011) who find that housing wealth is generally not utilised until advanced old age, when other sources of wealth are exhausted.

Family support is another source of financial resources. This can take the form of support from a spouse, in the form of a salary or a pension, or other wealth, but can also extend to wider family such as children. Spousal support, especially when one spouse works while the other is retired, has a real effect on the finances of a couple and should be accounted for in a realistic measure of financial position. As to support from other family members, while much retirement planning in developed countries is concerned with making the retiree independent of their family, in developing countries
households are larger and mutual support between generations is an accepted practice. In South Africa, in particular, the Social Old Age Grant allows pensioners to extend financial support to their grandchildren which enables working age adults to move away to seek employment (Ardington, Case & Hosegood, 2007; Duflo, 2003; Eyal & Woolard, 2013; Posel, Fairburn & Lund, 2006), which in turns may allow for household transfers back to the retirees. Another example of this type of transfer is the idea that funding children’s education is a form of retirement saving (Holzman et al., 2013).

Insurance policies, usually on the life of a spouse, can constitute an additional source of funds which replaces spousal support after the death of a spouse. While a detailed analysis of the insurance coverage of older people is outside the scope of this paper, we note that it appears that many retirees continue to hold insurance policies, whether there is a financial need for them or not, and that such policies do constitute a financial asset which may however not be well matched to the actual financial needs of the elderly (Bernheim et al., 2003).

A failure to accurately account for the full range of financial assets outside of retirement funding arrangements when assessing the financial position of retirees leads to a bias in the assessment of retirement adequacy. The implied assumption is then that retirees would be unwilling to use the financial assets at their disposal to improve their standard of living, even in the face of severely inadequate pensions. Studies such as that of Munnell et al. (2007) suggest that when faced with financial shortages, retirees are willing to consider using their assets to assist them in retirement, and so considering such assets explicitly in retirement planning makes for a more realistic assessment of the resources that a retiree has at their disposal.

3.2 Actual Retirement Adequacy Findings
Bearing the above limitations of replacement ratio based approaches in mind, it is still interesting to consider what replacement ratios have been found to be achieved by retirees around the world. International studies of retirement adequacy present a range of findings depending on approach.

Banerjee (2012) finds that the income of retirees is around 57 per cent that of working age households, and that the bottom half of retired households overspend their income – it is however unclear whether the difference is funded from savings or debt.

Hurd & Rohwedder (2011) stochastically test whether retirees are adequately prepared for retirement based on their individual characteristics. They conclude that while 71 per cent of Americans are adequately prepared for retirement, this percentage varies with observable characteristics such as marital status – for example, 80 per cent of married couples are prepared compared to 55 per cent of single persons.

Cole & Liebenberg (2008) find that US retirees experience income replacement ratios (IRRs) of 66 per cent (for 1994 retirees) to 55 per cent (for 2004 retirees). The downward trend in replacement ratios over time is accompanied by increased reliance on state benefits. Delaying retirement and owning a substantial stock portfolio are the most significant determinants of having an IRR above median (Cole & Liebenberg, 2008).
Cole & Liebenberg (2008) review a number of earlier studies which examined both actual and projected income and consumption replacement ratios in the US. IRRs in those studies ranged from 60 per cent to more than 80 percent. Munnell & Soto (2005) find that households in the US are achieving adequate retirement income, but warn that the current generation of retirees receives defined benefit pensions which makes them much more secure and well-off than future generations will be.

In South Africa, the Alexander Forbes Benefits Barometer (2014) indicates that after correcting for pensionable salary definitions and allowing for lack of preservation, the expected income replacement ratio for the members of the funds in their study is no more than 37.5 per cent.

The above results suggest that most individuals may not find that they are adequately financially prepared for retirement. If this is identified early in life, this may be remedied by increasing savings efforts. Later in life, the only option is to delay retirement (e.g. Butler & van Zyl 2012b). This strategy is reasonable, since delaying retirement increases the period of accumulation while simultaneously reducing the period of deccumulation. However, delaying retirement may not be possible for some individuals due to medical reasons, external obstacles such as mandatory retirement ages and employment contracts with a fixed retirement date, and the state of the job market which may make it difficult for older individuals to obtain or retain jobs. So what happens to individuals who do not or cannot implement such corrections? How does one cope with a financially inadequate retirement?

If an individual is still unable to achieve a target replacement ratio by maximising their contributions and retirement age, financial measures offer little advice on how to make retirement as successful as possible given limited resources. It is here that it becomes particularly important to account for the other, non-financial, resources that the retiree may have.

3.3 Non-financial Resources

Beyond increasing financial resources, the quality of the retirement experience could be significantly affected by whether the retiree is healthy, the types of activities they are involved in, their attitude towards being retired, the relationships they have with family and friends, their involvement and support from their community, their ability, willingness and opportunity to work, their ability to use their time productively to reduce expenses, and so forth. We consider all of the above as the resources available to a retiree in retirement (Leung & Earl, 2012). Crucially, many of these are still in the control of the retiree after retirement, which makes retirement less passive and more an active process of accommodating to a new lifestyle and finding a new way to live. But even in the pre-retirement stage, it should be possible to consider how to maximise the above resources with the goal to make retirement as satisfying as possible.

The ability of individuals to actively manage their retirement can be seen in the trends that are emerging in the retirement space. Part-time work, phased retirement and “bridge employment” (work force participation which follows an individual’s main
career job and precedes complete workforce withdrawal) (Kim & DeVane, 2005), retirement entrepreneurship (Small, 2011), and “second careers” have all become increasingly common (Wang & Shultz, 2009), indicating that retirees are willing and able to continue to be gainfully employed. This may be due to financial hardship due to not having enough funds, but could also be related to the usefulness and meaning that can be gained from work.

Leisure time can also be utilised for “home production”, which can include any activities from shopping around for better prices, to growing and making one’s own food (Hurd & Rohwedder, 2003). Hurd & Rohwedder (2003) demonstrate that home production does take place, and therefore that retirees utilise one of their main resources – time – to reduce their expenditure without affecting consumption.

One of the key resources which enables the above activities is health. Sanderson & Scherbov (2008) argue that with improvements in mortality, “40 is the new 30”; but more importantly, 65 is no longer the onset of old age if old age is defined as a period where one has only a few years of life left, or one is frail. The period where an individual is retired but still healthy and active presents very different opportunities and resources to the retiree than the later period, where one is infirm and requires care.

Therefore, the retirement experience is determined by many factors, many of which remain in the control of the individual even after they retire, and many of which may make retirement more comfortable and worthwhile without requiring financial expenditure. Financial measures such as replacement ratios only quantify the adequacy of financial resources. A different measure is needed to evaluate the effect of all of the resources at the retiree’s disposal.

We propose that an individual’s happiness is a measure which can be used to evaluate the various aspects of retirement success more holistically than financial measures, and accounts for the effect of the various resources utilised by retirees to manage their retirement experience.

4. HAPPINESS

Intuitively, happiness is a fundamental goal of life. It has been enshrined in the US constitution as an “unalienable right”: “the pursuit of happiness”, on par with life and liberty (Frey & Stutzer, 2002b).

Veenhoven (1993) arrives at happiness by considering how one might evaluate whether a society is “livable”, i.e. as a measurement of the quality and conditions of life in a society. He defines “livability” as “the degree to which [the society’s] provisions and requirements fit with the needs and capacities of its members”, where such needs can include food, shelter, security, identity and meaning, but individual needs and the balance between such needs can differ from society to society depending on a variety of factors. Veenhoven (1993) considers a number of measurable criteria which could serve to evaluate how livable a society is. Various health-related measures (physical health, life expectancy, mental health) could be used as a measure of a society’s success; however, health measures are limited to bio-physiological functioning. In order to assess
the psychological impact of a society on its members, Veenhoven (1993) argues that satisfaction should also be measured. He argues that “satisfaction with life as a whole”, or “happiness”, defined by Veenhoven (1993) as “the degree to which an individual judges the overall quality of his own life as-a-whole favourably”, is therefore one of the measures of whether a society provides for its members. Here various researchers (Veenhoven, 1993; Diener, 1994) distinguish between “affective” and “cognitive” happiness (also termed “hedonic level” and “life satisfaction” respectively): affect refers to the current sensations experienced by individuals, and cognitive happiness is related to the general state of an individual’s life, assessed consciously. Diener (2000) provides a definition of cognitive happiness from Campbell, Converse & Rodgers (1976) as “the perceived discrepancy between aspiration and achievement, ranging from the perception of fulfilment to that of deprivation”. The cognitive aspect of happiness is of most interest as a measure of livability, since it is not influenced by what is happening in the moment but is an indicator of the quality of life in general (Veenhoven, 1993).

Happiness (in the cognitive sense) is therefore a broad measure which accounts for a variety of conditions and is not limited to a certain aspect of life (unlike health, or the number of suicides in a society, which have been used by some researchers (Veenhoven, 1993)). Diener (2000) posits that happy people are in general more productive, more sociable, and have a number of other desirable characteristics. While it is not entirely certain if these findings are causative or correlative, it still appears that happiness reliably captures positive characteristics of individuals. Frey & Stutzer (2002a) convincingly argue that happiness is a reasonable alternative to observed choices when measuring utility, and that because happiness is a goal in itself, rather than a step along the path to a greater goal, it provides a more holistic measure of utility than other approaches. Therefore, if happiness can be reliably measured, it is an effective indicator of the success of a society or an individual.

Hence, happiness has also been used to measure the success of retirement: Bender (2004) argues that while retirement income adequacy has been the focus of retirement research in the past, this emphasis on economic well-being means that other factors which contribute towards overall well-being may be missed.

4.1 Measuring Happiness

The challenge in happiness studies has been to develop a measure of happiness that accurately reflects actual happiness while being relatively easy to obtain.

While a number of measures of happiness, such as coding of voice and facial expressions, and reports from family and friends, have been developed over time (Diener, 1994), subjective measures which involve self-assessment are more suitable for surveys and have been shown to correlate well with other, more objective measures.

Such subjective measures are known as subjective well-being (SWB) (Diener,
The main characteristics of SWB are that it is subjective; that it evaluates positive factors, not just the absence of negative factors; and that it pertains to life as a whole as opposed to a particular aspect of life such as work or family (Diener, 1994). The approaches employed to capture SWB range from a single question, to a series of questions, to combined methodologies which include an interview as well as other measures (Diener, 1994).

The single questions most commonly used take the format of “How do you feel about your life as a whole?”, or “In general, how happy would you say you are?” (Veenhoven, 1993; Diener, 1994; Frey & Stutzer, 2002b), although many variations are used and some wording can lead to a change in responses (for example, using “at the moment” instead of “in general” or “as a whole” can lead to a response that is biased towards immediate events and therefore not a good measure of cognitive happiness (Veenhoven 1993)). The responses are either a numerical scale or a series of descriptions such as “not at all happy” to “very happy” which are then translated into a numerical scale. The granularity of the scale differs from simple 2 point scales (“happy” or “unhappy”) to scales of up to 10 levels.

When multiple questions are utilised, they can be questions about positive and negative effect, questions about different types of satisfaction (examining how close an individual’s life is to ideal, for example, combined with whether they think they have achieved what they want out of life) (Diener, 2000).

Combined methodologies use questionnaires and surveys but also employ other methods, such as polling individuals at random times of the day over a prolonged period, or soliciting reports from friends and relatives, to round out the assessment of SWB (Diener, 2000).

Since SWB scores are generally used to discover the determinants of happiness, the cardinal value of reported happiness is not relevant and reported happiness does not need to be consistent between different respondents; happiness scores can be treated as ordinal data and analysed accordingly (Frey & Stutzer, 2002b).

The key question is then whether SWB obtained from surveys and other measures is a valid and robust measure of happiness.

### 4.2 Validity of SWB

Subjective ratings are unpopular in economics due to the possible bias and inaccuracy of the responses (Frey & Stutzer, 2002b). Objections to subjective evaluation of happiness can be grouped as follows (Veenhoven, 1993; Diener, 2000):

1) Individuals do not think about their happiness and therefore cannot reliably rate it when asked. Therefore responses regarding happiness are more likely to reflect social norms (such as the response to the casual question “How are you?” which is ritually met with “Fine!” regardless of an individual’s actual state of mind).

This objection has been countered by studies which measure how frequently individuals reflect on their happiness and how important their happiness is to them.
Diener (2000) finds that while happiness is slightly less important to individuals in developing countries than in developed countries, happiness is still a very important factor in most people's lives and they think about and self-evaluate their happiness frequently. Inglehart (1990), cited by Diener (2000), argues that as societies meet their basic needs, self-fulfilment and happiness become more important goals for individuals.

2. Individuals are likely to over-report happiness, due to ego-defence (a mechanism which protects the self against social sanctions and anxiety) and social desirability bias, which would influence individuals to give an answer which is seen favourably by others.

Veenhoven (1993) argues that this type of overstatement has not been discovered in clinical studies of SWB. Furthermore, Pavot, Diener & Colvin (1991), quoted by Diener (1994), found a 0.54 correlation between reports by friends and family members and self-reported happiness, suggesting that individual over-reporting is unlikely to be significantly distorting observed SWB levels.

3. Reports of well-being are coloured by the current circumstances of the individual reporting their state, such as mood, environment and interview site.

Veenhoven (1993) states that such variations are to be expected, but should be seen as spurious error terms which should not have an effect on the average happiness.

4. Reports of well-being can be influenced by interview design, such as the order of the questions and the exact phrasing of the questions.

While this can lead to a bias in responses (Veenhoven, 1993), this is not a problem if the study is performed using a single dataset where all individuals were asked the same questions in the same order. Diener (1994) also observes that various different life satisfaction scales and indices tend to correlate highly with each other, implying that methodology does not create significant bias in SWB measurement; and similarly, subjective measures are found to be reasonably well-correlated with non-subjective measures such as reports from family and friends, and coding of voice and facial expressions. Diener (1994) does however argue that while there is sufficient evidence that subjective measures are a reasonable reflection of happiness, the use of a single measure may result in some bias since different measures are not perfectly correlated.

Veenhoven (1993) tests the validity of SWB scores by considering whether they correlate with other indicators of “livability”, of which happiness is in his view a component. He finds that measures of mental distress negatively correlate with SWB, which is as expected. He finds no correlation between suicide rates and SWB, which could be due to relatively low rates of suicide and a lack of correlation of
suicidal individuals to generally higher depression in a country. However, Koivumaa-Honkanen et al. (2001) do find a negative correlation between happiness and suicide rates. Veenhoven (1993) further shows that there is a positive correlation between longevity and happiness in developing countries, but little or no correlation in higher income countries, suggesting that once basic needs are met, improvements in longevity no longer increase happiness. The correlation between various measures of living conditions, such as economic prosperity, access to education and freedom of the press, is also positive and significant (Veenhoven, 1993).

Bender (2004) examines the literature concerning job satisfaction, which is another subjective measure similar to SWB, and reports that it has been found to correlate well with objective measures such as absenteeism, resignation rates, performance and customer satisfaction.

4.3 Robustness of SWB

In order to be a useful measure, SWB needs to be robust over time. An individual’s response to a SWB assessment at one time must correlate to their SWB at a previous time, when external changes to their life are accounted for. If this is not the case, SWB scores would not be a useful measure of the effect of policy interventions, life events and other changes on individual and national happiness.

Diener (1994) argues that SWB has components which are stable over time and components which change frequently. He holds that while emotions (i.e. the hedonic level) change in response to the events of daily life, the cognitive happiness level is stable over time and determined by one’s temperament and general life circumstances and thus only changes when there is a drastic change in such circumstances. Brickman, Coates & Janoff-Bulman (1978) go further in their study of lottery winners and road accident victims, and find that even such drastic life events only cause a change to happiness in the short term, and after an adjustment period, happiness levels tend to revert to the same level as before the dramatic event.

A number of researchers have analysed how SWB changes over time and have concluded that SWB is stable over time, both at the cognitive and also at the hedonic level (see Diener (1994) for a review). This means that SWB can be used as an indicator of happiness, or quality of life in general, and that it is possible to measure what factors influence happiness in general, and in retirement in particular.

5. WHAT MAKES FOR A HAPPY RETIREMENT?

SWB, or happiness (we use the two terms interchangeably from here on), has been recognised by researchers as a valid and meaningful measure of quality of life in general, and in retirement in particular. Barrett & Kecmanovic (2013) argue that happiness is a more relevant measure of retirement success than financial models, which rely strongly on a multitude of assumptions. Bender (2004) argues that while income and wealth measures have long been utilised by researchers to evaluate retirement outcomes, such measures evaluate economic well-being only. The
underlying assumption therefore is that economic well-being leads to overall well-being, but it is only one dimension of overall well-being (Bender, 2004).

Bender (2012) finds that retirees take action to increase their happiness, such as changing their marital status or returning to work; this suggests that retirees aim to maximise their happiness.

Studies of happiness generally identify which factors contribute to happiness, and to what extent they affect happiness. This is usually done by using regression techniques with happiness as the dependent variable and a large number of explanatory variables.

SWB has been found to be influenced by various demographic factors, as well as personal circumstances and attitudes of individuals. Frey & Stutzer (2002a) list three major groups of factors which influence happiness: demographic, economic and political. Dolan, Peasgood & White (2008), in their review of the major studies of SWB which use large datasets, identify seven main contributors to happiness: income, personal characteristics, socially developed characteristics (including health, education and type of work), how we spend our time (including hours spent working, volunteering and caring for others), attitudes and beliefs, relationships, and the wider political, economic and social environment. This highlights that while financial factors do contribute to happiness, they are just one component of observed SWB. Frey and Stutzer (2002a) note that while financial variables do correlate with happiness, a large proportion of SWB is not explained by financial factors.

While the above findings relate to happiness in general, the relationship between retirement and happiness has also become an area of interest to researchers (e.g. Palmore et al., 1984; Bender, 2004, 2012; Calvo et al., 2009; Horner, 2012). Unlike other life events (for example, marriage, employment, or bereavement) retirement is not uniformly related to a change in happiness. Heybroek (2011) and Wang & Shultz (2009) both find that the retirement transition is a multi-pathway process, where the majority of retirees experience little change in well-being, but a minority of retirees find retirement improves or decreases well-being. One of the main findings about the satisfaction with retirement is however that voluntary retirement leads to much greater happiness than forced retirement (Bender, 2004, 2012; Calvo et al., 2009; Barrett & Kecmanovic, 2013).

Barrett & Kecmanovic (2013) also find that SWB increases the longer an individual has been retired, but cannot confirm whether this is due to adaptation or an absolute increase in happiness.

From various literature, we identify the key factors found to influence happiness in retirement as financial factors (income as well as wealth in general), health, the activities of the retiree, the social and community relationships of the retiree, the attitude to retirement, the extent to which the retirement decision was in control of the retiree, demographic factors (i.e. personal characteristics), and the state of the general economy. These are discussed further below.
5.1 Financial Factors

One of the most commonly examined relationships is that between income and happiness. It is intuitively clear, and borne out by many studies (for reviews, see Frey & Stutzer (2002b); Dolan et al. (2008); Wang & Shultz (2009)), that wealthier individuals have greater access to goods and services, and higher status in society; as a result they are more happy than poorer people. Dolan et al. (2008) question whether some of the effect may be reverse causation, i.e. that people who are happy are more likely to earn higher incomes, but find that this effect is secondary.

The relationship between income and happiness is however not linear; the higher the income, the less is the effect of the same proportional increase in income on happiness (Frey & Stutzer, 2002b; Dolan et al., 2008). This may be due to the effect of relativity – i.e. that it is income relative to others as opposed to absolute income that has an effect on happiness, and therefore that if the incomes of a comparison group increase at the same time as individual income, the effect of the increase on happiness is eroded (Frey & Stutzer, 2002b; Dolan et al., 2008). This has led to the complementary study of relative income, the ranking of a person’s income within a comparison group, which has been found to be a significant contributor to happiness (see Dolan et al. (2008) for a review). The significance of relative income lies in the observation that if it is relative income rather than absolute income that determines happiness, then raising the income of all equally will not increase happiness (Easterlin, 2006).

The study of relative income is further supplemented by surveying perceived relative income, i.e. the perceived level of income people assess they have relative to others in a comparison group, as a contributor to happiness. Johnson & Krueger (2006) (cited by Dolan et al., 2008)) found that perceived financial circumstances fully mediated actual financial situation as an explanatory factor of SWB. Dolan et al. (2008) do however suggest that the study of perceptions of relative income is still young, and while some researchers have begun to explore this area (for example, Ferrer-i-Carbonell (2005) has shown that income comparisons are upward looking, and Blanchflower & Oswald (2008) suggest that it is, in particular, the income of the top income group which is of relevance in comparisons), there is need for more research and clarification of how such subjective comparisons work. For a review of relative income research, see Senik (2005).

Easterlin (2001) finds the correlation of income with happiness to be 0.20 in a study based in the US. As Frey and Stutzer (2002a) point out, this does not mean that the explanatory power of income is low, but instead it is more likely to indicate that there are many other factors which also have an effect on happiness.

In order to distinguish causation from correlation, Frey & Stutzer (2002b) refer to various studies (inter alia, Brickman et al., 1978) of situations where individuals received a windfall of cash from a lottery. These types of events tended to increase happiness by 0.1–0.3 standard deviations in the short term, showing that it is money that causes the increase in happiness, and not that individuals who are happy are likely to get better jobs and more income, as was hypothesised.
While the above relationship between income and happiness holds cross-sectionally within countries and also between countries (in that happiness levels in wealthier countries are higher than in poor countries) (Easterlin 1974; 1995; 2001), it does not seem to hold for an individual or for a country over time. This has been termed “the Easterlin Paradox”, and it has been confirmed by a number of authors (for a review, see Frey & Stutzer (2002b)). The Easterlin Paradox relates to the finding that as an individual’s income increases (in real terms) over time, happiness levels remain the same (some authors report a small change in happiness over time, but these are very minor and have been observed to include increases as well as reductions in happiness – Frey & Stutzer (2002b) review various studies). The most common explanation of this paradox is that as income increases over time, happiness increases, but individuals also increase their aspirations. Increased aspirations lead to increased dissatisfaction with the current position, which cancels out the increase in happiness that the original increase in income brought about. This process is known as hedonic adaptation (Frey & Stutzer 2002b). Studies of aspiration levels have established that the higher the aspirations, the lower the happiness of an individual in general, and thus reinforce the use of subjective, perceived income levels which take into account aspirations as a factor in measuring happiness (reviewed in Dolan et al., 2008).

The Easterlin Paradox and its explanations have been challenged by a number of authors. Headey et al. (2007) claim that income is simply a poor measure of economic well-being, and find that if wealth or consumption are used instead, there is a much more significant relationship with happiness. Fischer (2007) notes that using GDP as a measure of a country’s income is inappropriate, and shows that using other financial measures such as average wages demonstrates that the financial position of Americans has in fact not improved over time. Drakopoulos (2007), on the other hand, focuses on the hierarchical structure of needs and argues that the satisfaction of basic needs has the most drastic effect on happiness, with further increases in wealth being less effective. While these objections may be valid, most researchers acknowledge that hedonic adaptation is a reality, and that it undermines the positive effect that increased income has on an individual’s happiness. What is of interest in the study of the effect of financial resources on retirement happiness is to what extent these findings would be valid in a situation where income reduces, rather than increases:

— Does hedonic adaptation work in reverse, i.e. as incomes reduce, how well do individuals adapt to lower living standards?
— Is income as important to retirees as it is to employed individuals?
— Since perceptions of wealth and comparison groups are important in happiness studies, who do retirees compare themselves to and how does this affect happiness?
— What are the aspirations of retirees?

Bender (2004) finds that in absolute terms, income generally increases the retirement satisfaction of retirees. However, consistent with findings in general happiness...
literature, Bender (2004) finds that the effect of income is marginal, with additional income of $1000 increasing the probability of being “very satisfied” with retirement by less than 1 per cent. Bender (2012) finds that absolute income levels have a small positive effect on happiness, but relative income plays a much more significant role. In particular, retirees seem to compare themselves to other pension recipients in their evaluation of their happiness.

Bonsang & Klein (2012) break down satisfaction into components, two of which are satisfaction with income and satisfaction with free time (the third component is satisfaction with health). According to life-cycle theory, retirement allows individuals to substitute leisure for consumption, and therefore satisfaction with leisure should increase on retirement while satisfaction with income reduces, which is the case in Bonsang & Klein (2012) who find that the combined effect of the two changes in satisfaction is a small increase in happiness.

Surprisingly, the type of pension retirees receive seems to affect their happiness levels even after income is controlled for. Retirees with a defined benefit pension are much more satisfied than those with a defined contribution pension or no pension (Bender, 2012). Barrett & Kecmanovic (2013) also find that retirees who are home owners are happier than others. Both of these findings suggest a link between perceived financial security and happiness. This is further evidenced by findings that the act of planning for retirement has a positive effect on retirement well-being, both by improving the actual financial resources of the retirees, but also by adjusting expectations about retirement to make them more realistic (for a review, see Wang & Shultz (2009)). In fact, Barrett & Kecmanovic (2013) show that one of the main reasons for low SWB in retirement was when retirement income was much lower than expected prior to retirement.

5.2 Health

Health has been consistently found to have a high positive correlation with happiness (van Solinge & Henkens, 1982; see Dolan et al. (2008) for a review). Mental health is by definition related to measures of well-being, and thus expected to be correlated, but physical health is also a strong influence on happiness levels (Dolan et al., 2008). There may be some reverse causality where happier people are healthier, but even if this is the case, there is still a powerful effect of health on well-being which can be observed in particular when certain conditions (such as heart attacks or strokes) occur and have an immediate deteriorating effect on happiness measures (Shields & Price (2005) as cited by Dolan et al. (2008)).

Poor health has a powerful effect on retirement satisfaction: (Bender, 2004) finds that not being in very good health reduced the chance of being “very satisfied” with retirement by 20.6 per cent. Bender (2012), Barrett & Kecmanovic (2013) and Heybroek (2011) all find that health is one of the most powerful influences on retirement happiness. For a review of findings related to health and retirement satisfaction, see Wang & Shultz (2009).
5.3 Attitudes

In general, a person’s attitude towards their circumstances has been found to have an effect on their SWB (Dolan et al., 2008). These attitudes can include perceptions of financial well-being, stability, trust in the community, religious inclinations and political views. Therefore, Dolan et al. (2008) suggest that an individual’s perception of their circumstances can be a more important determinant of their happiness than the objective evaluation of those circumstances.

Another component of attitudes is measured by emotional intelligence (EI); Leung & Earl (2012) identify a number of studies which suggest that individuals with higher EI (i.e. those better able to perceive, generate, understand and manage emotions) are better able to cope with retirement. Leung & Earl (2012) also highlight a number of cognitive resources such as optimism, self-esteem and self-efficacy as predictors of retirement satisfaction.

The attitude towards retirement can make a great difference to how retirement is experienced (Gee, 1999). Gee (1999) identifies four modes of experiencing retirement: transition into old age/rest; new beginning; continuity (where retirement is not a major transition); and imposed disruption to work. Which of these modes is experienced depends on a number of factors such as employment attitudes (people attached to their jobs experience retirement as an imposed disruption) and leisure attitudes (those with access/appreciation of leisure are more likely to see retirement as a new beginning) (Gee, 1999).

Various studies report that “retirement anxiety” is frequently experienced in the run up to retirement; this refers to a sense of unease and fear about what the retirement experience will be like. Taylor-Carter et al. (1997) report that this anxiety is reduced by having positive roles outside of the work settings, and by a sense of control over the retirement changes. This sense of control is significantly improved by retirement planning (Taylor-Carter et al., 1997).

5.4 Activities

The activities in retirement encompass work-like activities (whether remunerated or not) and various types of leisure activities.

Bender (2004) finds that working (even after controlling for income) increases retirement satisfaction. Wang & Shultz (2009) review literature related to the decision to work after retirement, and find evidence that retirees may be choosing to work because of their engagement with and enjoyment of work, rather than for financial reasons. This is supported by Lim (2003), who surveys individuals in their 40s and 50s and concludes that most would want to have the opportunity to work on a part-time basis in retirement. Tadic et al. (2012) examine the effect of work in retirement on the affect (i.e. happiness in-the-moment) of retirees, and find that while there is no difference in happiness between working and non-working older individuals overall, non-working retirees experience more happiness when they engage in administrative tasks than in leisure activities, suggesting that a little work-type activity does create
happiness while full-time employment may not. Warr et al. (2004) find the effect of work on happiness to be strongly associated with the role-preference of an individual, i.e. that individuals who want to be in their current role, be it working or not, experience greater satisfaction than individuals who are forced into a role they do not desire. This suggests that individuals who have a preference for work would be happier if they continued to work in retirement.

Volunteering and community involvement have also been speculated to have a positive effect on happiness, by increasing positive affect and meaning in life. (Dolan et al., 2008) review existing literature (not limited to retirees) to find the evidence for non-religious community involvement having an effect on happiness inconclusive. Religious community participation is however more universally acknowledged to have a positive effect on happiness (Dolan et al., 2008), although there is a possibility that people who go to church often have a stronger belief in God, and therefore it is their beliefs rather than the effect of the community which is captured. For older people however, it seems that even non-religious volunteer involvement does increase happiness (Greenfield & Marks 2004). Butrica & Schaner (2005) find strong evidence that engagement, defined as work, volunteering, and care-giving activities, significantly increases satisfaction with life among older Americans. This may be due to the removal of work-related satisfaction from their life which leaves them open to receive this satisfaction from community involvement (Greenfield & Marks 2004). Sherman & Shavit (2011) argue that work generates both material rewards and immaterial rewards, such as social and psychological satisfaction; material rewards can be saved up and used in retirement, but immaterial rewards cease with the cessation of work. Thus retirees may strive to regain these rewards through volunteering.

Retirement is seen as a period of leisure, and the life-cycle model posits that leisure time may act as a substitute for consumption in retirement (Bonsang & Klein, 2012). A number of studies show that when well-being is separated into components of “satisfaction with income” and “satisfaction with leisure”, retirement is associated with lower income satisfaction which is balanced by a higher level of satisfaction with leisure (Bonsang & Klein, 2012; Gee, 1999).

One example of the effect of leisure activities is exercise, which has a high, positive impact on happiness, particularly for older people (Baker et al., (2005), cited by Dolan et al., (2008)). This may be partly due to its effect on health, but it seems that exercise in itself does increase well-being, even in simple forms such as gardening (Dolan et al., 2008).

5.5 Social Relationships

Social relationships can include those with a spouse, children, friends, and other members of a community.

Marriage, or being in a stable relationship, is generally found to have a positive correlation with SWB (Dolan et al., 2008; Barrett & Kecmanovic, 2013), but having a working spouse reduces it, suggesting that a couple values being mutually available
for leisure (Bender, 2004). The potential downside of relationships is that if a family member becomes ill or infirm and requires care, the carer’s happiness is negatively affected by this (Dolan et al., 2008). The loss of a partner, whether through death or divorce, is also associated with a significant drop in happiness which is often only fully restored once a new partner is found (Dolan et al., 2008; Heybroek, 2011).

Dolan et al. (2008) report that in their survey of studies based on large datasets, having children is generally associated with lower day-to-day emotions (affect) but a higher satisfaction with life as a whole. The studies they examine hold income as fixed; having children however is likely to be associated with a reduction in income which partially offsets the gain in happiness (Dolan et al., 2008). However, retirees are less likely to be living with their children, and the effects of retirement may be mixed with the effects of becoming ‘empty nesters’ (Heybroek, 2011). They may however get more involved with grand-children (Szinovacz (2003) cited by Heybroek (2011)).

Social relationships with family and friends have been found to positively affect happiness as well (Lu, 1999), and this effect continues into old age (Ritchey & Dietz, (2001) and Baker et al. (2005) as cited by Dolan et al. (2008)). Heybroek (2011) summarises various studies mainly based in Australia which show a positive connection between social support networks and post-retirement well-being.

5.6 Control over Retirement

Retirement satisfaction has been found to be strongly linked to the voluntariness of retirement: individuals who chose when to retire tend to be much more satisfied with their retirement than those who were forced to retire (Bender, 2004, 2012; Calvo et al., 2009; Barrett & Kecmanovic, 2013). In Bender’s study, forced retirement reduced the probability of a retiree being satisfied with retirement by 29.7 per cent.

Voluntariness of retirement may affect retirement satisfaction for a number of reasons: retirement may be involuntary because of health reasons, economic reasons (where early retirement is implemented as an alternative to retrenchment), or due to a person being unemployed and unable to re-enter the job market. All of these factors are likely to increase the dissatisfaction of individuals (Bender, 2004). Bonsang & Klein (2012) draw a parallel between unemployment and involuntary retirement, in that in both cases individuals would rather be working but are not able to; there is a well-documented relationship between unemployment and low levels of happiness (for reviews of the unemployment/SWB relationship, see Frey & Stutzer (2002b) and Dolan et al. (2008)).

Bonsang & Klein (2012) also find that because of the greater drop in consumption experienced by early retirees, the net effect of involuntary early retirement on happiness is negative. Heybroek (2011), on the other hand, speculates that the transition from unemployed to retired may be a positive influence on happiness, due to leaving behind the stigma of unemployment.
5.7 Demographic Factors

Frey & Stutzer (2002a) identify age, gender, family structure, education and health as some of the main demographic factors which affect happiness.

Age is a contested field, where findings by different researchers contradict each other; for example, Easterlin (2006) finds that happiness increases until middle age (age 51) and decreases thereafter, while Blanchflower & Oswald (2008) find that happiness is U-shaped with age, i.e. that it is at its lowest in middle age. Frijters & Beatton (2012) review existing findings and conduct an empirical analysis to conclude that happiness is largely unaffected by age before retirement (ages 20 to 50), then rises around age 60 and gradually declines after age 75. Frijters & Beatton (2012) control for a variety of factors including health and wealth, and convincingly refute the various hypotheses of U-shaped and inverted U-shaped happiness/age relationships.

Women tend to report slightly higher happiness levels than men; however, many studies do not find a gender difference, suggesting that those that do may be identifying an effect of a variable correlated with gender which is modelled explicitly in other studies (Dolan et al., 2008). Heybroek (2011) suggests that due to differences in labour participation, financial security and post-retirement activities, women may have a different experience of retirement than men.

Education is generally found to have a positive effect on happiness (reviewed by Dolan et al. (2008)) although different studies find different patterns of the effect of education, from a continued increase in happiness for every additional level of education (Blanchflower & Oswald, 2004) to finding that middle education levels are associated with the highest happiness and that happiness reduces with higher education (Stutzer, 2004, as quoted by Dolan et al., 2008). The effect of education is complicated by an association with background factors such as family and motivational characteristics, but also the powerful correlation between education, income and health (Dolan et al., 2008). There may be some reverse causality where happier people are more motivated to complete higher levels of education, but this effect has not been found to be very strong according to Dolan et al. (2008).

The above demographic findings are from general happiness literature; research focusing on retirement happiness in particular generally takes the same factors into account. Demographic factors are however not generally found to be the most significant determinants of retirement happiness (Bender & Jivan, 2004).

5.8 General Economic Environment

The opportunities for studying the effect of the general economic environment on happiness are limited as they need to be performed across different countries, or at different times in the same country. Thus the effects may be confounded by other differences in the conditions of the study (Dolan et al., 2008). However, some economic influences on happiness which have been identified include unemployment levels, inflation, the political systems of the country, and the levels of inequality in the country.
General unemployment levels tend to increase unhappiness in the country (Di Tella et al. (2001) as quoted by Frey & Stutzer (2002b)), although the extent to which it is unemployment as opposed to other economic indicators correlated with unemployment that cause the drop is difficult to establish (Dolan et al., 2008). There are some offsetting effects between personal and general unemployment – being personally unemployed causes a significant reduction in happiness, but this reduction is less pronounced when general levels of unemployment are high, possibly because there is less stigma attached to unemployment in those cases (Frey & Stutzer, 2002b; Dolan et al., 2008). The effect of unemployment on happiness is also offset by the level of unemployment benefits offered by the state (Dolan et al., 2008).

Inflation has also been found to affect happiness, in that higher inflation, as well as volatile inflation, have been found to reduce happiness (Dolan et al., 2008). Since higher inflation leads to lower unemployment, the two effects tend to cancel out to some extent. (Di Tella et al. (2001) as cited by Frey & Stutzer (2002b)).

Veenhoven (2000) examines the effect of political systems, in particular the level of political, economic and personal freedom within a country on happiness, and finds a strong positive correlation between freedom and happiness. However, it is difficult to establish causality as it is possible that happy people are more likely to create the conditions for democracy, and thus increase freedom. Dorn & Fischer (2005), cited by Dolan et al. (2008) find that even when controlling for income and language group, life satisfaction is positively affected by higher levels of democracy. Subjective measures of trust in the political and legal systems in the country has also been found to lead to higher SWB (Dolan et al., 2008).

Inequality has been speculated to have a negative effect on happiness, but the findings across the world have been mixed, suggesting that the character of the country and how inequality is perceived have an effect. Dolan et al. (2008) speculate that if inequality is combined with social mobility, it is perceived as opportunity and leads to higher happiness (for example in the US), whereas if there is lower mobility, inequality has a negative effect on happiness.

5.9 Summary of Happiness Findings

We therefore find some clear determinants of happiness which may be useful in helping individuals prepare and cope with retirement: financial resources clearly have a positive bearing on happiness, but the effect of such resources is marginal except at very low income levels. Such an effect is also more dependent on financial position as compared to other retirees, as opposed to absolute financial position. Financial security and clear financial expectations (possibly created through retirement planning) have a strong effect on happiness in their own right, in addition to the wealth that may be associated with them. The main other contributors to happiness, however, are good health, a sense of value derived from working or giving back to community, a strong network of family and community relationships, and a sense of control over the retirement process.
6. POTENTIAL APPLICATIONS

By focusing on happiness measures and how those can be maximised, we have an opportunity to consider financial products and services associated with retirement in a new light. This section presents a collection of thoughts on possible interventions within the retirement sphere which could promote retiree happiness. We recognise that many of these ideas could not be implemented within the current regulatory or commercial framework, and that in many cases, counter-balancing effects may arise which negate some of the benefits of the interventions. The intention of this section is to spark ideas and encourage debate, rather than suggest fully fledged products or ideas ready for implementation.

The ideas below are intended for employers and employer funds, retirement advisors, insurers and the government; i.e. stakeholders we consider to have an interest and/or involvement in improving the retirement experience of retirees.

6.1 Employer Retirement Arrangements

In this section, we consider both the design and management of a retirement fund as well as other matters relating to retirement which are in the control of the employer, such as conditions of employment.

The key findings of happiness literature which may assist employers in ensuring a happy retirement for their employees are that control over retirement timing, the fulfilment derived from work, good health, planning for retirement as well as the security of income offered by defined benefit plans all positively affect retirement happiness.

6.1.1 Flexible or Late Retirement

Control over retirement timing is a key contributor to a happy retirement. Mandatory retirement ages, therefore, do not only have the detrimental effect of forcing retirement before one is financially ready for it, but also take away control from the worker, which leads to further reduction in happiness.

Currently, in most organisations the only way to exercise control over one’s retirement age is through early retirement. Even where late retirement is permitted, this is often on a discretionary basis, and therefore somewhat out of control of the individual. Early retirement, in contrast, is often completely up to the individual after a certain age (such as 50 or 55).

We expect that making retirement more flexible would encourage work to an older age, helping with both the financial and control aspects of post-retirement happiness. Working at older ages can also contribute to a sense of feeling valuable, which further promotes happiness.

Flexible working hours would make working at older ages even more accessible to those who want to transition into retirement but still either want to, or are financially pressed to, continue working part-time. It should be noted that while working part-time has not been reliably found to influence happiness positively, studies which
investigate part-time work generally control for income, which may have a positive effect in itself.

Flexible and/or late retirement does present risks to the employer, however. Organisations may find themselves with unproductive older staff who remain in positions that could be more effectively filled by younger workers, and the cost of older workers is generally higher than that of new, young recruits. If work performance peaks in middle age and deteriorates thereafter, and older workers are paid more than younger workers in general, then older workers are a less effective spend of the employer's wages (Lazear, 1979).

Additionally, Chiu et al. (2001), as cited by Streb et al. (2008), observes that older workers are viewed as less healthy, less flexible and unable to learn new skills, making them less valuable than young workers.

While there are no simple solutions to these dilemmas, the main points to note when considering the issue include:

- The current normal retirement age, be it 60 or 65, is not based on any medical reason associated with infirmity or lack of capability – the age at which an individual can no longer effectively perform their duties would vary depending on both the person and the occupation (Sanderson & Scherbov, 2008).

- Older workers carry the benefit of experience and organisational knowledge, which is invaluable and will not be possessed by their young replacements (Lim, 2003). Therefore involving older workers in roles which include the transfer of skills and knowledge, such as training and mentorship, is one way to take advantage of their strengths (Lim, 2003).

- While there is a general expectation of salaries increasing over time, creating opportunities for older workers could involve reduced hourly pay, combined with a reduction in responsibilities and a different role (such as training roles). While a reduction in pay is generally detrimental to SWB, if it is positioned as part of the retirement process and combined with a phasing out of work involvement, it may be taken as a “second career” rather than as a demotion. More research would be required to identify how such roles could be positioned.

6.1.2 Health and Wellness

Since health is a major asset for happiness, it would be desirable for employers to acknowledge the importance of old age health in the design of their retirement fund. Possibilities include incentivising healthy activities (such as exercise, healthy eating and health check-ups) through, for example, higher employer retirement contributions; or gaining access to preferential insurance rates for members who participate in health initiatives if insurers see the value of making such rates available. This would have the benefit of reducing risk benefit costs and increasing retirement savings.

Post-retirement medical aid benefits, which used to be popular in South Africa in the past, have largely been phased out by employers in the drive to de-risk retirement provisions. While this is understandable, providing medical aid in retirement would go
a long way to increasing retirement happiness by improving post-retirement health. If insurers offered products which include some element of medical inflation or medical benefits, (see the discussion under “Insurance Products” below), those could make ideal defaults for pension funds.

6.1.3 Communication and Access to Retirement Planning

The act of planning for retirement is in itself valuable in terms of reducing pre-retirement anxiety and increasing post-retirement happiness, and so access to financial advisors and retirement planning sessions through the fund or employer would help with improving happiness. Lim (2003) suggests that employers should accept some ownership over the retirement transition of their workers to help them adjust to the changes brought about by retirement. The key emphasis in these interactions is to create and manage reasonable retirement expectations, which helps avoid a shock and associated reduction in SWB on retirement.

One area where simply improving communication would have a powerful effect is around replacement ratios, which are currently generally communicated as a target level (such as 80 per cent of salary) together with an expected level which the individual can achieve given their current savings and contribution rate. In our view, this results in a message that the outcomes are either “success” or “failure”, thereby setting up anyone not reaching the target as not being able to have a “successful” retirement. A more positive way of communicating the same information could be to include a descriptive component with the replacement ratio number, such as “If you achieve the projected replacement ratio of 80 per cent, you are likely to be able to easily maintain your current lifestyle, since you will no longer be saving a part of your income”; or “If you achieve your projected replacement ratio of 55 per cent, you are likely to be able to afford retirement in reasonable comfort if you economise on expenses”. Such qualitative statements set up reasonable expectations, which will assist with adjustment to retirement.

6.1.4 Financial Security

Lastly, defined benefit funds are virtually phased out in South Africa. There are financial arguments for and against DC funds, however the experience seems to suggest that the financial outcomes of DC funds are likely to be less favourable than those of DB funds (Alexander Forbes Benefits Barometer, 2014). In addition, happiness findings show that members may derive additional security and therefore greater SWB from DB plans.

However, there may be ways to adjust the characteristics of DC funds to promote financial security without returning to a DB regime. Examples of this include “cash balance” plans where the post-retirement mortality risk is borne by the member, while pre-retirement risks are borne by the employer; adjustable DC plans where contributions change over time (Alexander Forbes Benefits Barometer, 2014); and “Defined Ambition” plans (e.g. Schouten & Robinson, 2012), which have some of the characteristics of DB funds. DA plans, in particular, have already been introduced in
the Netherlands and are now being contemplated in the UK; their structure is to make a promise of a certain level of pension which the employer undertakes to provide, but to make such a promise “soft” in that it may be broken if economic or demographic experience turns out worse than expected. These structures may remove some of the burden of pure DB from the employer, but still increase the feeling of financial security above that of DC funds – however, no studies of happiness and such funds have as yet been undertaken.

### 6.2 Retirement Planning

Retirement planners are beginning to see the value of holistic retirement planning which includes financial factors but extends further to psychological preparedness for retirement, social and leisure activities, and work beyond retirement age (Skinner, 2007). This is aligned with the results from happiness literature.

In particular, the value of retirement planning in managing expectations, making individuals feel in control of their financial affairs and giving them a sense of security by understanding their financial affairs are important contributors to retirement happiness. In addition, of course, retirement planning should result in higher levels of financial resources in retirement which also have a positive effect on retirement happiness.

As retirement evolves it is becoming more complex: it may include some part time work at the beginning, an active period of community and leisure participation, and a later period of frail old age where care is required. This leads to different financial needs at each stage. Combined with the possibility of utilising home equity as additional capital at some stage of the process, as well as allowing for the retirement plans of the spouse, cashflow planning is becoming more complex and will need to extend into retirement rather than just focusing on the pre-retirement period; this is an area of opportunity for retirement advisors to add value to the retirement process. It also highlights the weakness of income replacement ratios as a measure of retirement adequacy – since income needs change at older ages, the measure of income just after, to income just before retirement becomes very misleading as a retirement target.

While individuals are gradually changing their own expectations about what is appropriate for retirement, for example by considering downsizing their home and working after retirement, retirement planners are ideally placed to position such plans as rational and desirable, rather than as a last resort for the hopelessly underprepared – again helping to manage expectations. Retirement planners are also in the position to communicate replacement ratios in an informative way which moves away from ideas of “success” and “failure” and focuses on forming realistic expectations.

The increasing availability and variety of retirement communities also needs to be accounted for in the planning process. Retirement communities generally provide opportunities for social involvement; allow access to housing equity; and provide access to care when that becomes necessary. It is also possible that joining a retirement community would be effective at helping an individual find an appropriate peer
group to compare their situation to, which may lead to more favourable evaluation of SWB. Individuals could plan to transition to such communities during the active stage of their retirement or when they become frail. Further research into the effect of retirement communities on happiness is needed to develop these ideas further.

6.3 Insurance and Financial Products

Insurers participate in the retirement market by providing annuity-type products such as retirement, life and living annuities. We suggest that recognising the link between health and happiness, taking advantage of the synergies between different financial products, and seeing retirement as different stages during which the financial needs of retirees differ, may allow for innovation in the insurance and annuity space.

6.3.1 Accounting for Health

Insurers have a relationship with their policyholders which could be used to encourage behaviour which results in increased retirement happiness. This can be observed in the medical aid space in SA, where medical aid providers offer holistic programmes which promote and reward exercise, medical check-ups, healthy eating and other components of a healthy life. This is likely to reduce claims, which is in the interest of both the members as well as the medical aid provider.

Unfortunately, annuity products ultimately do not benefit from making an individual healthier or happier; in fact, health leads to longevity, which constitutes a risk to the insurer. It is difficult to envisage how annuity products could be reshaped to align the interests of the insurer and the retirees and incentivise insurers to promote SWB-maximising behaviour such as healthy lifestyles.

If annuity products which combine longevity risk with health risk could be designed, the resulting product could be more aligned with the interests of pensioners. Such an annuity would pay out benefits related to poor health, as well as regular pensions. This would incentivise the insurer to try and improve the health of policyholders to minimise claims. These policies would benefit from encouraging behaviours which extend the active part of retirement and reduce the need for frail care, which would be likely to be the most expensive part of the benefits.

This type of product could take various forms:

— A combined medical aid and annuity benefit, which is not presently possible under the current legislative regime.
— An annuity policy which pays a pension and contributions to a medical scheme, where the selection of the medical scheme option is made based on an assessment of the health status of the retiree. Healthy, younger retirees might be on a low cost option while frail retirees are on a high cost option with higher benefits.
— An annuity combined with long-term care insurance, where the need for frail care is assessed independently and results in an increased payout from the insurer.
6.3.2 Variable Income Products

We have suggested that retirement is not a uniform period, but that it can consist of various stages; for example an early stage characterised by active leisure activities such as travel, but potentially with some part-time income from work activities, or possibly some income from a working spouse; a later stage of more passive leisure; and a final stage of frailty during which care is needed. With this in mind, annuity products which offer varying levels of income would enable a more directed utilisation of retirement funds.

Living annuities provide such flexibility, but without the insurance element, and without much guidance on how to arrange cashflows throughout the individual’s retirement.

Living annuities which convert to life annuities at a certain age (or, possibly, at a certain state of health or fitness) could be effective too; however, there is still no certainty as to the amount that could be offered in a life annuity given the uncertain drawdown, investment performance and annuity rates. Some products convert to a life annuity when a certain minimum level is reached in the drawdown process; this would be more secure.

However, life annuities could be designed which have different stages with different income levels – and it should be possible to build in flexibility or various default plans to suit different retirement lifestyles. Retirees could select from various packages, or convert between packages as their needs change.

This approach speaks both to acknowledging that retirement is a long period with various needs at different times, and giving retirees a sense of control over their financial affairs.

6.3.3 Synergies between Financial Products

The various financial assets of individuals are often managed separately without taking advantage of synergies between them. The need for life insurance, for example, declines at older ages, while the need for pensions and long term care type benefits increases. A possibility for the insurance market would be to create a single product which manages the retirement savings and other investments of an individual, caters for their life insurance needs in a flexible way by taking into account their wealth, age and family situation (see the Alexander Forbes Benefits Barometer(2014) for a discussion of such flexible benefits), and perhaps even provides a housing loan as well as, potentially, a reverse mortgage to finance the final part of retirement. This product could be flexible and tailored to individuals (for example, by adjusting the level of risk benefits based on age and personal characteristics) and take maximum advantage of available assets to meet financial needs at each stage of life. Ideally, long-term care benefits could also be incorporated into such a product.

Additional benefits of such a combined product would be to provide more clarity over the individual’s financial position, which is often clouded if investment, retirement and insurance assets are held with many different funds and providers.
This would create clear expectations about the level of retirement income because the provider has a view of the client’s full financial situation, and also remove preservation issues because the product would be offered at the individual rather than employer level.

A further possibility would be to allow for spousal coordination in the provision of retirement products by explicitly linking the products of a couple together. Spouses often coordinate their retirement timing in order to be able to enjoy leisure together; by building this into products it may be possible to both encourage spousal coordination at the later, rather than the earlier, of the two retirement ages. This would improve the couple’s financial situation, and also encourage and facilitate spousal retirement coordination which will result in a happier retirement together.

6.4 Government Policy

The findings on income and happiness suggest that basic income grants such as the social old age grant (SOAG) are likely to have a powerful effect on happiness, since they alleviate poverty and poverty is a great contributor to unhappiness. Similarly, the proposed National Health Insurance has the potential of improving old age health and thus have a positive effect on retirement experience. Frey & Stutzer (2002b) suggest that the use of happiness as a measure of the effectiveness of economic policy interventions could improve the allocation of government funds to maximise the happiness in a nation. It can also help government focus their interventions more effectively – for example, by realising that providing the unemployed with work rather than with monetary grants has a more powerful effect on happiness. The same principle could be applied to measuring the effectiveness of the SOAG, or the NHI.

Beyond financial interventions, the main factors contributing to happiness which are of interest to government are health, social relationships, and participation in activities which make the retiree feel valuable. Government policy could take account of these factors in order to improve post-retirement SWB, for example by offering free or subsidised healthcare to the elderly or by encouraging old age fitness (for example through public awareness campaigns). Older citizens may also benefit from encouragement to continue work involvement, for example by offering an enhanced level of SOAG to individuals who postpone its receipt. Even making the SOAG universal (as is currently planned) will remove the negative incentive to stop working at age 60 in order to qualify for the SOAG.

It could also be useful for government to distinguish between the “active elderly” and the “frail elderly”. Since tests of health or physical disability are difficult to administer at a state-wide level and could create negative incentives, this would probably be most easily done by introducing a secondary age threshold such as 75 or 80 years old. This distinction already exists in some cases; for example, in South Africa the SOAG increases very slightly after age 70, and the tax threshold increases at age 75 giving older pensioners a slightly higher net income. This separation of the elderly into two groups allows funds and interventions to be more accurately tailored; for example,
the “frail elderly” may have greater financial needs since they are unable to provide for themselves in any other way, while the “active group” would be better served by giving them opportunities for part-time work, access to preventative health care and encouraging involvement in community activities.

7. CONCLUSION

Using happiness as a measure of retirement success brings to attention the effect that both financial and non-financial resources have on the ultimate quality of life of the retiree. Financial assets contribute positively to happiness, but retirement happiness is also higher if a retiree is healthy, actively involved with a community, family and friends, and has the option of choosing the time of their retirement as well as the opportunity to derive value in life from work or charitable involvement. Feeling financially secure, either by having a certain pension or even just by participating in retirement planning processes which establish reasonable expectations for retirement also exerts a positive effect on retiree well-being. With these findings in mind, we may be able to create better retirement solutions which focus on these additional factors in addition to providing financial resources.

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