

Can the discrimination in risk underwriting in the life insurance industry be ethically justified?*

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ABSTRACT

Although discrimination based on factors such as age, sex, socio-economic class and health status is normally prohibited by law, it is an accepted practice in the risk assessment of life insurance underwriting. Social insurance schemes can survive with no risk assessment because participation is compulsory and universal. Voluntary private insurance, however, can only function if cross-subsidies between participants are reduced to a minimum, by stratifying the risk pool into homogeneous risk groups. The normal justification for risk underwriting is actuarial equity and economic necessity. The purpose of this study is to consider the ethical justification of the risk discrimination in underwriting.

Scanlon's theory of moral contractualism is used as the basis for ethical justification. At the core of the theory is his definition of moral wrongness, based on the concepts of reasons and justifiability. The study defines contractualist principles for premium discrimination which can be justified on grounds that no one can reasonably reject. The *Insurance Solidarity Principle* provides justification for the lack of risk discrimination in social insurance. The *Fair Lottery Principle* provides justification for the need for risk discrimination in private insurance and for the fairness of actuarial equity. The *Fair Discrimination Principle* provides justification for each underwriting factor used to improve actuarial equity.

The study finds that the underwriting factors of age, sex and smoking status can be justified as fair discrimination. Socio-economic underwriting, however, does not meet the principal criterion of unambiguity, even though it contributes significantly to actuarial equity.

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No change in underwriting practice can be expected without legislative pressure. The study concludes with a plea to government to create a compulsory social funeral insurance scheme for everybody, with no underwriting requirement and no discrimination.

KEYWORDS

Life insurance; underwriting; discrimination; solidarity; mutuality; actuarial equity; moral contractualism; principles; justifiability; socio-economic underwriting.

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1. PREMIUM RATE DISCRIMINATION IN LIFE INSURANCE

1.1 Purpose of the study

Discrimination in premium rates charged by life insurers for different clients on the same life insurance product is an accepted practice in life insurance. Underwriting is the process of assessing the risk of each individual applicant to ensure that the premium rate charged for the life cover is proportionate to his expected mortality risks. Actuarial equity dictates that people with similar mortality risk should pay similar premium rates.

The actuarial rationale of rate discrimination is likely to appear reasonable to most rational observers. However, when considering the extent of discrimination, the criteria used for discrimination, and the characteristics of the people most negatively affected by the discrimination, many may judge aspects of the practice as unfair discrimination.

1.2 The problem: extreme differences in premium rates

The following is a comparison between the cover provided by a major life insurance company in South Africa¹ to three different applicants on the same individual life insurance product.

For a premium of R100 per month, the insurer provides fully underwritten life cover of

- R22 000 to an old, uneducated, low income male smoker
- R150 000 to a middle-aged, mid-income male smoker with tertiary education
- R1 000 000 to a young, professional, high income female non-smoker.

For the same premium, the privileged young woman effectively gets almost seven times more life cover than the average middle-aged man, who in turn gets seven times more

¹ Most figures in this study are based on quotations obtained from leading life insurance companies. Premiums for life insurance products may differ between companies.

cover than the underprivileged old man. The rich young woman gets almost 50 times more life cover than the poor old man. This extreme difference in benefits of different clients for the same price is likely to seem unfair to many reasonable observers.

The potential unacceptability of the discrimination is exacerbated by the fact that the privileged (the rich, young and healthy) seem to benefit from it at the expense of the underprivileged (the poor, old and sick). This runs counter to the accepted approach of discrimination in favour of the needy, for example: the rich pay tax at higher rates; and the old and the sick receive more subsidies and grants.

For life insurance, however, the underprivileged generally represent a much higher mortality risk than the privileged, and the ability to differentiate between different risks is argued to be essential for the industry to function effectively in a free, competitive market.

1.3 The racial context of premium discrimination

In South Africa, with its many race groups and very divergent levels of income, rate discrimination in the life insurance market is more extensive than in countries with more homogeneous populations. A substantial aspect of discrimination by life insurance companies, namely that of socio-economic classes (based on income and education levels), is highly correlated with racial grouping. This apparent race-related discrimination has not yet created any public protest, but the situation may well change.

Public opinion on what is considered fair can differ significantly between societies and may also change over time. Many established traditions and practices have lately come under public scrutiny (sometimes violent attack) in the volatile socio-political environment in the country.

1.4 Actuarial, economic and ethical justification

The actuarial rationale for the discrimination in premium rates is that it is required to reflect differences in the underlying mortality risk of the insured lives. Insurance underwriting involves discrimination between groups of people and between individuals, based on a risk assessment. Insurers use sound statistical analysis of relevant risk factors to support sensible underwriting decisions. This allows insurers to charge the actuarially 'correct' rate for each life insured, i.e. higher rates for higher risk participants and vice versa.

In *The Right to Underwrite* (2012), the CRO Forum² states that “a failure to recognize the differences in risk presented by individuals and to control them through underwriting measures or price variation can lead to adverse selection (riskier individuals purchasing more insurance, and less risky individuals purchasing less insurance)” and such a development “could affect the underlying pool of risks such that average claim levels increase”. The purpose of sound discrimination in premium

2 The CRO Forum is a high-level discussion group of the Chief Risk Officers of major European insurance companies.

rates is to ensure that the pricing of the life cover products is financially sound, which is a requirement of the regulatory authorities.

The economic justification for premium discrimination is that it is essential for profitability and for the financial survival of insurers in a competitive marketplace. While this is true for an underwriting factor such as age, it is not true for all aspects of premium discrimination. The industry survived for decades with age as the only underwriting factor. The survival argument could also not serve as justification for unethical practice.

The actuarial justification for premium discrimination is based on statistical evidence. While statistical justification is certainly a necessary condition for ethical justification, it may not be a sufficient condition. Statistical evidence should also not be accepted without qualification, since the answer provided will often depend on the question investigated.

The hypothesis of this study is that the general concept of premium discrimination, as well as most of the specific aspects of the process, can be ethically justified. The ethical framework used is the theory of moral contractualism, developed by Harvard philosopher TM Scanlon in his book, *What We Owe to Each Other* (1998).

The study shows that premium discrimination based on the underwriting factor of socio-economic class differences is the most difficult aspect to justify ethically.

1.5 Section layout

In Section 2, the unique nature and features of the life insurance industry are described, as background to a better understanding of the underwriting process.

In Section 3, Scanlon's theory of contractualism is investigated and its appeal as an alternative to utilitarianism and deontology is discussed.

In Section 4, the justification for discrimination in life insurance underwriting is considered. Contractualist principles are defined for the justification of the general process of discrimination, and for the testing of the fairness of specific underwriting factors. Specific attention is given to the discrimination based on socio-economic classes. Section 5 provides closing comments and suggests some alternatives.

2. LIFE INSURANCE CONCEPTS AND UNDERWRITING FACTORS

2.1 The nature of life insurance

Insurance in general can be described as protection against the negative financial consequences of a detrimental occurrence. For life insurance, the detrimental event is the death of the insured which can have negative financial consequences for the dependants and creditors of the insured person. Private life insurance is a contractual arrangement whereby an insurance company undertakes to pay the sum assured upon the death of the insured person in exchange for a regular small premium paid during the term of the contract.

Life insurance typically provides for two broad purposes, namely (a) to cover the outstanding debt of the insured, and (b) to provide financial security to the family

members dependent on the insured. In the lower income end of the market, the most basic need is to provide for a decent funeral.

Private life insurance has some unique features that differentiates it from other consumer products, which should be considered for a better understanding of the issues.

2.2 Mutuality versus solidarity

In most developed countries, life insurance is provided commercially by private life insurance companies on a basis of *mutuality*. To better understand the concept of mutuality, it must be contrasted with the alternative approach to risk pooling used in most social insurance schemes, namely *solidarity*.

Mutuality is described by Wilkie (1997:1042) as the normal form of commercial *private insurance*, where participants “contribute to the [risk] pool through a premium that relates to their particular risk at the time of the application”, i.e. the higher the risk that they bring to the pool, the higher the premium required. Through effective underwriting “the risk is evaluated by the insurer as thoroughly as possible, based on all the facts that are relevant and available”. Participation in mutual insurance schemes is *voluntary* and the amount of cover that the individual purchases is *discretionary*. An essential feature of mutual insurance is discrimination in underwriting, leading to significant differences in premium rates for the same amount of life cover for different participants.

Solidarity is the basis of most *national* or *social insurance* schemes. Participation in such state-run schemes is generally *compulsory* and individuals have *no discretion* over their level of cover. All participants normally have the same level of cover. In solidarity schemes the contributions are not based on the expected risk of each participant. Contributions are often just equal for all, or it can be according to the individual ability to pay (e.g. as percentage of income). Since everybody pays the same contribution rate, the low-risk participants are effectively subsidising the high-risk participants.

2.3 Cross-subsidies

Common to both mutuality and solidarity is the sharing of loss, which is effectively a subsidy from those who do not claim, to those who claim because they suffered the insured event. The major difference between the two approaches is that with solidarity there is a *cross-subsidy* of high-risk participants by low-risk participants, regardless of who claims, since there is no assessment of individual risk.

A simple example may help to clarify: consider 100 participants who buy lottery tickets for R10, where one winning ticket is randomly drawn from the 100 tickets. The winner who receives R1 000 is effectively ‘subsidised’ by the 99 other participants who receive nothing – but there is no cross-subsidy, for all participants have an equal chance of winning. Consider the situation, however, if 50 men in the group each still get one ticket for R10 while 50 women each get three tickets for R10. If one winning ticket is randomly drawn from the 200 tickets now in the pool, a woman has a three times higher probability of winning the lottery than a man. It is still possible that a man could win, but the men as a group are cross-subsidising the women.

With solidarity, such cross-subsidies are an integral part of the process since all participants pay the same contribution. The young and healthy low-risk members are paying much more than what is actuarially required to cover their risk and they are effectively subsidising the old and sick high-risk members.

In commercial insurance based on mutuality, cross-subsidies are kept to a minimum through effective underwriting, so that each participant contributes according to the level of risk that he brings to the pool. Participation is voluntary and the amount of cover is at the discretion of the insured life. Accurate individual risk assessment and premium rating is critical for financial soundness.

2.4 Adverse selection

The term ‘adverse selection’ is used to describe situations where there are factors undermining the selection process of the insurer (other than blatant fraudulent non-disclosure).

Adverse selection is to be expected in a competitive market. Liukko (2010:462) describes adverse selection as the “tendency of low-risk individuals to drop out of insurance pools if prices don’t correlate sufficiently with risk”. Adverse selection is likely to occur when some life insurers that are more lenient in their discrimination than other insurers in terms of any of the underwriting criteria like age, sex, smoking status and socio-economic class.³ For example, if insurer A does not charge smokers higher premium rates than non-smokers while other insurers do discriminate, insurer A will attract more smokers and fewer non-smokers and will experience a higher total mortality risk. The resulting increased claim incidence will reduce the profitability of the company which may threaten its financial survival.

2.5 Symmetry of information between buyer and seller

The generally accepted axiom in commerce has been *caveat emptor* or “let the buyer beware”. This principle is intended to avoid disputes arising from information asymmetry, which is the pervasive situation where the seller (of a second-hand car, for example) knows more about the quality of product than the buyer.

In life insurance, however, the information asymmetry favours the buyer, who knows more about his own level of risk than the insurer. As a result, a high-risk individual may be tempted to buy more insurance than needed at a price which is too low, if the insured is unaware of the high risk. The purpose of underwriting is to ensure a better symmetry of information for the insurer (the seller). Here the principle of *uberrima fides*, or “utmost good faith”, is important to protect the insurer. Most other commercial contracts require only a negative duty of non-misrepresentation to be legally binding, with no general requirement for parties to act in good faith. In the case of insurance contracts, however, parties do have “a positive duty of disclosure” (O’Neill, 2006:571). The most important duty of good faith for insurance applicants

3 See Section 2.9.

is to disclose all material facts relevant to the risk of which they are aware. Failure to disclose material information can result in a policy being cancelled, or a policy claim being refuted by the insurer.

2.6 Life insurance as a social good

The social significance of life insurance is an important aspect in an assessment of the ethical boundaries of its commercial availability. If reasonable access to life insurance is considered socially desirable or necessary, then discrimination in underwriting which may limit the access to life insurance of some people could be open to ethical questioning.

Sandberg (1995) provides a useful distinction between three different types of “social good” of products. He defines *primary social goods* as essential “goods that everybody needs for leading a life under decent physical conditions” (Sandberg, 1995:1554). These goods can be regarded as indispensable and civilised societies normally view access to such goods for all citizens as a moral necessity. On the other hand, *commodities* are goods that are sold on the open market and for which society has no moral obligation to ensure an egalitarian distribution. Between these types fall *non-primary social goods*, which do not serve basic human needs, but have a wider social merit than ordinary commodities.

Because of extensive social security systems in many European countries, Sandberg (1995) does not see European life insurance as a primary social good, because the dependants of a deceased in a welfare-type state will be provided with some reasonable minimum economic living standard. He argues that life insurance should be considered a non-primary social good, since it is more than just a commodity and serves valuable social functions (Sandberg, 1995:1554).

Sandberg (1995) acknowledges that “when welfare systems are less extensive”, life insurance can be considered more as a primary social good. Some basic level of life insurance for everybody (say, to pay for a decent funeral and to provide some minimum financial provision to dependants) could be considered a primary social good. If that is the view of society, then it would be the responsibility of government to provide such a minimum level of cover to the population.

2.7 The term ‘underwriting’

Life insurance products can broadly be classified into two categories, namely those with *limited underwriting* (where most of the risk factors are ignored), and those that are *fully underwritten* (where all the risk factors are carefully considered in determining the premium rate). In the fully underwritten category one can distinguish between *general underwriting* (i.e. the allocation of each insured life into a specific risk groups) and *individual underwriting* (i.e. the assessment of any additional individual risk). The general underwriting criteria used in South Africa are age, sex, smoking status and socio-economic class. The individual underwriting criteria are health status, occupation and leisure pursuits. This study focuses on the general underwriting criteria, while the individual underwriting adjustments are just briefly referred to.

2.8 General underwriting factors: the allocation into standard risk groups

The general underwriting criteria affect every single applicant and are used to allocate each person into a specific risk group, in which a *standard premium rate* for that risk group applies. For example, an applicant may be classified as a 45-year-old smoking male in the top socio-economic group, and the corresponding standard premium rate will be determined.

Standard mortality tables, differentiated according to the four general underwriting factors of age, sex, smoking status and socio-economic class, are published and regularly updated by the Actuarial Society of South Africa (ASSA), based on industry-wide insured life statistics. For the first three factors the parameters for categorisation can be determined uniquely and objectively for each person. There is, however, no standard, industry-wide definition of socio-economic class. Each life insurance company determines its own socio-economic classification and must adjust the standard ASSA mortality rates, based on its actuarial judgement of the applicability to its target market.

The effect on the cost of life insurance of each of the four general underwriting criteria is quantified below. In each case, the effect is considered *ceteris paribus*: if age is considered, for instance, then sex, smoking status and social economic class are kept constant.

(A) AGE

Age is the most important rating factor in life insurance. Mortality rates increase exponentially with age: the expected number of deaths for males insured in South Africa increases from less than two deaths per 1000 lives at age 20, to three deaths per 1000 at age 40, six deaths per 1000 at age 50 and 15 deaths per 1000 lives at age 60 (Nienaber & Reinecke, 2009:104). For many decades up to the 1960s, age was the only underwriting factor used in the insurance industry in South Africa.⁴

Table 1 shows how the amount of cover for a premium of R100 per month varies with age at inception (based on a non-smoker male in the top socio-economic rate group).

TABLE 1 Comparison of cover by age

Age at entry	20	40	60
Sum insured	R650 000	R400 000	R100 000

The age discrimination in the cost of life insurance is the most prominent of all the rating factors. Compared to the 60-year-old, for the same premium the 40-year-old gets four times as much cover and the 20-year-old gets about six-and-a-half times as

4 The history of the introduction of the different underwriting factors in the insurance industry in South Africa is based on information obtained from old rate books in the archives of a leading insurance company.

much cover. Although the discrimination between a 20-year-old and a 60-year-old is considerable, the age-to-age discrimination is gradual. Typically, the increase from age to age is on average less than 5% per year.

(B) SEX

The effect of sex as a rating factor is not nearly as prominent as age. At any age the expected mortality rate for males insured is roughly double that of females, e.g. about six deaths per 1000 lives at age 50 for males, compared to three deaths per 1000 lives for females (Nienaber & Reinecke, 2009:104). As a result, the amount of cover provided to a female can be considerably more than for a (similar) male. The positive discrimination in favour of females was introduced in the 1960s, by using male premium rates with a three-year age deduction (roughly the same as a 15% premium discount). By 1980, the age deduction was five years (about a 25% premium discount), and by 2000 it was seven years (about a 35% premium discount). Currently most insurers use separate premium rates for females. For a premium of R100 per month, the amount of cover available for a female applicant compares as follows to that of her male counterpart (based on non-smokers in the top socio-economic rate group):

TABLE 2 Comparison of cover by sex

Age at entry	20	40	60
Sum insured: Male	R650 000	R400 000	R100 000
Sum insured: Female	R1 000 000	R600 000	R150 000

This table shows that for the same premium, females now get about 50% more cover than males. Unlike the graded age discrimination, the sex discrimination is binary – either male or female. The sex discrimination discount is now roughly equal to an age deduction of ten years relative to males.

(C) SMOKING STATUS

The detrimental effect of smoking on health is well known, and the mortality risk of a smoker is roughly double that of a non-smoker. At higher ages this increased mortality can be directly attributed to smoking-related diseases such as cancer (particularly lung cancer) and ischaemic heart disease. At young ages, most deaths are due to non-natural causes such as motor car accidents, which is strongly related to alcohol abuse. Heavy drinkers are often also smokers, so that the smoking habit can be an indication of a generally more hazardous lifestyle, and the expected mortality of smokers at young ages is roughly double that of non-smokers. (Nienaber & Reinecke, 2009:104). In South Africa, the discrimination⁵ in premium rates between smokers and non-

5 In the early 1980s, non-smoking was one of the criteria, in addition to education and income levels, that qualified an applicant for 'preferential rates', as described in Section 2.10(c).

smokers was introduced in the early 1990s, with a modest distinction of about 20% more cover for non-smokers. Currently the distinction is much more significant: for a premium of R100 per month, the amount of cover for male smokers now compares as follows with that of non-smokers (based on the top socio-economic rate group):

TABLE 3 Comparison of cover by smoking status

Age at entry	20	40	60
Sum insured: non-smoker	R650 000	R400 000	R100 000
Sum insured: smoker	R350 000	R200 000	R40 000

Table 3 shows that non-smokers get about 100% more cover (twice as much) than smokers. The premium discrimination based on smoking is also binary (either smoking or non-smoking) but the effect of smoking is about twice as significant as for sex discrimination.

(D) SOCIO-ECONOMIC CLASS

Socio-economic rating is effectively based on levels of income and education. The expected mortality of an uneducated manual labourer is as much as four times that of a graduated office worker of the same age. The life insurance industry in South Africa has developed a sophisticated system of socio-economic underwriting, to cope with the heterogeneous composition of the population. Insurers typically have four to five rate groups, based on a combination of education and income levels (Nienaber & Reinecke, 2009:104).

The first basic form of socio-economic rating was introduced in the early 1980s. Preferential rates were offered to applicants who were professionally qualified, or had a four-year tertiary education, or had a three-year tertiary education plus an income R2 300 pm, or who were non-smokers. Preferential rates initially provided about 25% more cover for the same premium than normal rates.

In time, the socio-economic discrimination became more sophisticated and more significant. By the 1990s, a three-tier distinction between normal, preferential and super rates was typical, with super rates providing about 40% more cover than normal rates.

A typical⁶ current socio-economic classification, which allocates applicants to four rate groups, is shown in Table 4. The lowest risks are in Class 4 and the highest risks (most expensive premium rates) in Class 1. The education and income criteria shown are considerably simplified.

Table 5 shows how the amount of cover available for a premium of R100 per month varies according to socio-economic class (for male non-smokers).

6 Used by one of the large insurers in South Africa and available on request.

TABLE 4 Socio-economic classification by education and income

Class 4	Four-year degree	or	matric and R30 000 p.m. income
Class 3	Three-year degree	or	matric and R16 000 p.m. income
Class 2	Matric	or	no matric and R16 000 p.m. income
Class 1	No matric and any income level		

TABLE 5 Comparison of cover by socio-economic class

Age at entry	20	40	60
Sum assured: Class 4	R650 000	R400 000	R100 000
Sum assured: Class 3	R400 000	R300 000	R70 000
Sum assured: Class 2	R250 000	R200 000	R50 000
Sum assured: Class 1	R150 000	R100 000	R30 000

The table shows that, relative to the person in Class 1 (the lowest level), Class 2 provides about 100% more cover, Class 3 provides about 200% more cover and Class 4 (the top socio-economic level), provides about 300% more cover for the same premium.

IN SUMMARY

The extent of the premium discrimination based on sex, socio-economic class and smoking were initially quite modest, when started in the 1960s, 1980s and 1990s respectively. Over time, the discrimination has become more sophisticated and the difference in premiums more significant.

The discrimination in premium rates is least significant for the distinction in sex, with females getting 50% more cover than males. The discrimination for smoking status has a larger effect, with non-smokers getting about 100% more cover than smokers. The discrimination of socio-economic class is significantly more pronounced, with the top socio-economic class getting about 300% more cover than the lowest class. The year-by-year distinction between different ages has the largest effect over big age differences, with a 20-year-old getting 500% more cover than a 60-year-old.

If the effect of all four underwriting criteria are combined, the discrimination between a very low-risk applicant and a very high-risk applicant is extreme, as quantified in paragraph 1.2.

2.9 Individual underwriting adjustments

Most applicants (more than 90%) are accepted at the standard rate for each category, based on the four general underwriting criteria (age, sex, smoking status and socio-economic class). The individual underwriting adjustments (health, occupation and part-time activities) affect few applicants. An applicant who is exposed to an additional individual risk would normally get a premium loading on top of the standard premium rate.

The presence of additional individual risk factors may result in a loading of the standard premium, or exclusion of cover for certain causes of death. The statistical evidence for quantifying the different risks is scarce and there is much less certainty of the actuarial ‘correctness’ of the loadings charged by life insurers for these high-risk activities. Due to the limited number of people affected, this form of rate discrimination was not considered for this study.

2.10 The use of generic information in underwriting

The topic of the potential use of predictive genetic information in life insurance underwriting, which has caused considerable debate overseas, did not get much attention in South Africa. Liukko (2010:458) comments that genetic information seems to have a special moral status in the debate, unlike risk factors such as age, sex and health. The use of genetic test results is deemed to be unfair discrimination, while any other kind of health information is considered as fair. This view that genetic information is unique and needs special treatment has led to the introduction of genetic non-discrimination legislation for life and health insurance in many European countries and in the United States (Liukko, 2010:458).

The potential problem of genetic testing has been highly exaggerated in much of the academic debate on the matter. Many of these rather extreme views largely ignore the impracticality and improbability of rate discrimination by the life insurance industry based on genetic information. Reynolds (2013:37) points out that implementing genetic testing is unlikely to provide a significant and sustainable competitive advantage to insurers. Furthermore, there is no empirical evidence of adverse selection from people with information about their own high-risk genetic make-up, to justify the high cost of implementing genetic testing into underwriting (Reynolds, 2013:25).

2.11 Legislation against unfair discrimination

The stated purpose of the Promotion of Equality and Prevention of Unfair Discrimination Act 2000 is to eradicate “social and economic inequalities” (RSA, 2000). The Act defines prohibited grounds for discrimination as “race, gender, sex, pregnancy, marital status, ethnic or social origin, colour, sexual orientation, age, disability, religion, conscience, belief, culture, language and birth”. The Act also refers to the overwhelming evidence of the impact of discrimination on the grounds of socio-economic class.

A schedule to the Act provides a list of unfair practices in certain sectors. The list includes “imposing terms and conditions that perpetuate the consequences of past unfair discrimination regarding access to financial resources”. For the insurance services, the list includes “unfairly refusing on one ... of the prohibited grounds ... to make available an insurance policy to any person” and “the unfair discrimination in the provision of benefits ... related to insurance”.

The insurance industry is one of the very few industries that is directly mentioned in the illustrative list of unfair practices. The general underwriting criteria in the insurance industry of age and sex are directly included in the definition of prohibited

grounds for unfair discrimination, and socio-economic class and HIV/AIDS status are specifically mentioned in the Act.

Liukko (2010:462) refers to a 2008 directive of the European Commission on discrimination which allowed differentiation based on age or disability in insurance, provided “the assessment of risk [is] based on relevant and accurate actuarial or statistical data”. In the South African law, there is no such specific concession for the life insurance industry from any of the prohibited grounds of discrimination. If challenged, the industry will have to be able to prove that any existing discrimination in underwriting is justifiable and fair.

3. MORAL CONTRACTUALISM

3.1 Background

Moral contractualism, the ethical framework used in this study, is the view that morality – our judgement about whether an action is right or wrong – can be understood in terms of an actual or hypothetical agreement or contract between those in the moral domain.

Over the last 20 years, moral contractualism has become an influential position within normative ethics. Its development can largely be attributed to the significant work of Thomas Scanlon, which he introduced in an article ‘Contractualism and Utilitarianism’ (Scanlon, 1982). He presents contractualism as a more acceptable alternative to utilitarianism, which he views as “widely at variance with moral convictions” (Scanlon, 1982:103). Scanlon views the source of moral motivation as “the desire to be able to justify one’s action to others on grounds that they could not reasonably reject” (Scanlon, 1982:116).

In his book, *What We Owe To Each Other*, Scanlon (1998) develops the concept into a comprehensive contractualist moral theory. Brad Hooker (2002:54), professor in moral philosophy at the University of Reading, rates the hugely ambitious book as “one of the most important books on moral philosophy written in the twentieth century”. Matravers (2002:1), Head of the York School of Law, describes Scanlon’s theory as “the most sustained and comprehensive defence of contractualism since John Rawls’s *A Theory of Justice*, and considers it to be rivalling other theories such as utilitarianism and deontology. Wallace (2002:429), professor of philosophy at the University of California, expects that Scanlon’s “magisterial” book “will have a decisive influence on the shape and direction of moral philosophy in the years to come”.

In the next sections, the structure of Scanlon’s theory of contractualism, built around his account of moral wrongness and the notion of justifiability to others, is discussed. This is followed by a consideration of some critical issues concerning contractualism.

3.2 The subject matter and motivation of morality

In his 1982 article, Scanlon presents his theory of contractualism as an attractive alternative to the influential theory of utilitarianism. Scanlon believes that contractualism provides a superior account of the subject matter of morality and argues that “the im-

plications of utilitarianism are widely at variance with firmly held moral convictions” (Scanlon, 1982:103). He believes that his version of contractualism provides “an account of moral belief, moral arguments and moral motivation that is compatible with our general beliefs about the world” (Scanlon, 1982:109).

Scanlon (1982) attributes the widespread influence of utilitarianism to its clear subject matter of morality, namely that morality is fundamentally about *individual well-being* (Scanlon, 1982:108). For utilitarianism, whether an act is morally right or wrong is determined by its positive or negative consequence on the well-being in the world (Darwall, 2006:203). For contractualism, the fundamental subject matter of morality is *the nature of moral wrongness*: “an act is wrong if ... it could not be justified to others on grounds that they could reasonably reject” (Scanlon, 1998:4).

For contractualists, the source of moral motivation is “the desire to be able to justify oneself to others on grounds they could not reasonably reject”. For utilitarians, “the fundamental moral motive is universal benevolence, a desire for greatest overall well-being”. Scanlon questions the moral motivational value of utilitarianism, since the motivation to improve aggregate well-being implies that we should be moved similarly by “an aggregate gain ... obtained by relieving the acute suffering of a few people ... or by bringing tiny benefits to a vast number” (Scanlon, 1982:116). He argues that the contractualist “desire to be able to justify oneself to others on grounds that they cannot reasonably reject” is “an extremely plausible account of moral motivation” (Scanlon, 1982:116).

3.3 The structure of Scanlon’s contractualism

AN ACCOUNT OF MORAL WRONGNESS

At the core of Scanlon’s moral theory is his definition of moral wrongness, based on the concepts of reasons and justifiability. He views “judgements of right and wrong to be claims about ... the adequacy of reasons for accepting or rejecting principles” (Scanlon, 1998:3) and states that such principles “should be justifiable to others on grounds that they cannot reasonably reject” (Scanlon, 1998:5).

In *What We Owe to Each Other* Scanlon provides the crux of his theory, in his formulation of the **nature of moral wrongness**:

An act is wrong if its performance under the circumstances would be disallowed by any set of principles for the general regulation of behaviour which no one could reasonably reject as a basis for informed, unforced general agreement (Scanlon, 1998:153).

Richard Miller (2002:194), professor in Ethics and Public Life at Cornell University, calls this formulation “the most famous sentence in late twentieth-century Anglophone moral philosophy”. In a condensed version of the formulation, Scanlon later captures its essence as follows:

An act is wrong if it would be disallowed by any principle that no one could reasonably reject (Scanlon, 2011:116).

Scanlon (1982) explains the qualification of ‘reasonable’ by the example that “it would be unreasonable ... to reject a principle because it imposes a burden on you, when every other alternative principle would impose much greater burdens on others”. The qualification that the wrongness of an act depends on “the circumstances”, allows for “a degree of cultural relativity into contractualist morality” (Scanlon, 1982:111).

For an understanding of Scanlon’s contractualism, it is necessary to consider the notions involved in his theory, namely justifiability, reasons, reasonableness and principles. The relationships between these notions is important in the explanation of the concept of the reasonable rejection, which is used to define the moral wrongness of an act.

JUSTIFIABILITY

The notion of **justifiability to others** is central to Scanlon’s theory of contractualism (Southwood, 2009:926). For Scanlon, the most important reason for not doing an act that is wrong, is that it could not be reasonably justified to others: “Thinking about right and wrong is, at the most basic level, thinking about what could be justified to others on grounds that they, if appropriately motivated, could not reasonably reject” (Scanlon, 1998:5). Wallace (2002:450) argues that this “idea of justifiability to others on grounds that they could not reasonably reject”, imparts “the unity of a single normative domain” to the “plurality of moral considerations”.

REASONS (VERSUS DESIRES)

Scanlon’s theory of **reasons** is foundational to his theory of contractualism and he views the concept of a reason as one that does not stand in need of explanation in terms of any more basic notion.

Scanlon’s concern is only with *normative* reasons and then only with those that can be considered as *good* reasons. Normative reasons are those reasons that provide justification for the beliefs and attitudes of rational agents, which include intentions, hopes, fears, and attitudes such as admiration, respect, contempt, and indignation.

He states that “a reason for doing something is almost always a reason for doing it intentionally” (Scanlon, 1998:21) and there is little distinction between “reason for action” and “reason for intending”. We are “responsible not only for ... [our] actions, but also for intentions, beliefs and other attitudes” (Scanlon, 1998:22).

REASONABLENESS (VERSUS RATIONALITY)

Scanlon (1998) bases the motivational claim of his theory on the notion of **reasonable-ness** rather than ‘rationality’. The principle of rationality is used by other prominent ethical philosophers, such as Kant, who defines an action as morally right “if allowed by a principle that one could rationally will to hold as ‘a universal law’” (Scanlon, 1998:190).

Scanlon argues that what is a rational action to reach one’s aims in a situation will depend on what others can be expected to do. It may thus be totally rational to accept

an extremely unreasonable offer made by an opponent because he is in a position of superior strength – but such a decision carries little moral weight (Scanlon, 1998:193). Of greater use is the notion of *reasonableness* in relation to the information available. It would, for instance, be reasonable for “a layman to believe the results of a flawed scientific study, if she is unaware that it is flawed” (Marshall, 2002:16).

The difference between what would be reasonable to do and what would be rational to do is not a technical one, but a familiar one in ordinary language. Scanlon (1998) argues that deciding whether an action is right or wrong “requires substantive judgement about whether certain objections to moral principles would be reasonable”.

PRINCIPLES

Scanlon (2011) defines that “an act is wrong if it would be disallowed by any **principle** that no one could reasonably reject” (Scanlon, 2011:116). He states that “to justify an action is to offer *reasons* supporting it” and a *principle* claims that these reasons “are sufficient to defeat any reasonable objections” (Scanlon, 1998:197). Principles should be considered as “general conclusions about the status of various kinds of reasons for actions” (Scanlon, 1998:199). In using principles there must be wide room for interpretation. Even the most familiar moral principles cannot be applied as rules without reason and judgement. Scanlon argues that we can see the wrongness of an action if we can see that the principles allowing such an action would be ones that people would reasonably reject (Scanlon, 1998:202).

Although contractualism provides a single unified definition of moral wrongness, Scanlon states that there can be an “indefinite number” of valid moral principles. The challenge for the contractualist is to be able to define principles for unfamiliar situations. In the process we must use the same thinking underlying “the content of familiar principles like fidelity to promises and freedom of speech” (Scanlon, 1998:201).

REASONABLE REJECTION

The main concepts of Scanlon’s contractualism (justifiability, reasons, reasonableness and principles) are synthesised in his definition of moral wrongness, namely that “an act is wrong if it would be disallowed by any principle that no one could reasonably reject” (Scanlon, 2011:116).

To say that “somebody could **reasonably reject** a principle ... means that he has a reasonable complaint to the principle”, which will only be the case if the complaint “is based on good reasons to object to the principle in question” (Southwood, 2009:926). Southwood (2009:927) explains that the strength of each person’s reasons for or against the principle must be weighed up – if someone else has stronger reasons to accept a principle than we have reasons to reject the principle, then it would be unreasonable to reject the principle.

Scanlon (1998:229) is adamant that the only valid reasons for or against a principle are the reasons of **individual persons**. Individuals must be objecting on their own

behalf – the claims of groups do not matter. This is a central feature of contractualism, clearly distinguishable from utilitarianism, which allows the aggregation of complaints of various individuals.

For Scanlon (1998:216), it is an important strength of contractualism that “it can account for the significance of different moral notions within a unified moral framework, without reducing all of them to a single idea”. In contrast, utilitarianism considers well-being “as the only fundamental moral notion”.

Ashford summarises Scanlon’s concept of reasonable rejection: “What counts as reasonable is determined solely by the goal of finding principles that no one can reasonably reject (Ashford, 2003:280).

3.4 The scope of contractualism

Social contract theories normally require a set of contracting parties and this presents a problem in the case of entities such as animals, the environment, future people and mentally impaired people.

Contractualism does not cover the full range of morality, but only the domain of morality having to do with our duties to other people. Scanlon (1998:6) refers to this as “the morality of right and wrong”, or “what we owe to each other”. Only beings that have the capacity for moral reasoning and to whom we can justify our actions are the subject matter of our contractualist moral obligations, and entities such as animals and the environment fall outside the scope of morality defined by contractualism.

The question of the fairness of discrimination in life insurance underwriting practices falls squarely within what Scanlon calls the “narrower domain of morality having to do with our duties to other people” (Scanlon, 1998:6). The issue of the narrower scope of Scanlon’s contractualism therefore presents no problem for the question considered in this study.

3.5 The problem of aggregation

Aggregation is an essential element of utilitarianism, since the ‘Greatest Happiness Principle’ states that the correct action in any situation is that which brings the most happiness to the most people. Individual goods are aggregated in a single measure of overall good, to find a balance between different people’s conflicting pleasures and pains.

Scanlon objects to aggregation since the severe burdens placed on a few could be outweighed by the sum of a large number of very small benefits, each with little justificatory weight. He insists that “the justifiability of a moral principle depends only on the reasons that the *individuals* have for objecting to that principle”.

Contractualism does not allow you to prevent minor harm to many people, at the cost of serious harm to one or to a few people. For Scanlon, this conclusion conforms better with intuitive moral appeal than the converse result of utilitarianism via aggregation. He admits that contractualism may appear to err in the opposite direction, by disallowing any appeal to aggregation of benefits. This can be problematic when the correct action does seem to depend on the number of people affected – it can be very

difficult “to explain how the number of people affected by an action can ever make a moral difference” (Scanlon, 1998:230).

The problems that contractualism can have because of its rejection of aggregation, do not present an obstacle in the consideration of the fairness of premium discrimination in life insurance. In life insurance underwriting, the individual risk characteristics of each applicant are considered. The justifiability of a moral principle that depends only on the reasons that individuals may have for objecting to that principle, is therefore a suitable approach for the consideration of any complaint against unfairness in premium discrimination.

3.6 The objection of circularity

The objection of circularity states that the contractualist definition of moral wrongness does not really explain what makes wrong acts wrong, but instead presupposes their wrongness. If we do not already know which actions are wrong, then we cannot really use the contractualist definition. But if we do already know which actions are wrong, then we do not need to use it.

For example, if contractualism allows the reason ‘because it treats me unfairly’ to count as a reason for rejecting a principle, it would effectively claim that the act is wrong because it is unfair. This is open to the objection of circularity, since it seems that our moral view of fairness is doing the real moral work.

Scanlon admits that if contractualism appeals to any prior notion of rightness to decide what considerations are morally relevant for reasonable rejection, then the whole framework may be considered redundant, since the prior notion would do all the work (Scanlon, 1998: 213). He argues that the charge of circularity stems mainly from the unfounded view that “the claims of well-being are unique among moral claims in needing no further justification” (Scanlon, 1998:215). Contractualism does not support the utilitarian notion that only well-being provides a fundamental level of justification, but instead it gives independent weight to other moral concepts. Considerations of responsibility, fairness and arbitrariness can provide a perfectly understandable reason for the rejection of a principle, where the reason does not depend on the prior idea that practices permitted by such a principle are wrong. (Scanlon, 1998:216). The contractualist moral argument would therefore not be circular.

For the consideration of the fairness of discrimination in life insurance premium rates, this strength of contractualism, namely that it can appeal to reasons beyond well-being, provides the opportunity to consider different principles for the evaluation of the different underwriting criteria.

3.7 The question of pluralism

Contractualism (like utilitarianism and Kantian deontology) aims to provide one universally acceptable system of morality. It provides a unified moral framework based on “the desire to be able to justify one’s action to others on grounds that they could not reasonably reject” (Scanlon, 1982:116).

Southwood (2009:926), however, views contractualism as “explicitly pluralist” since it allows for many “considerations that constitute good reasons to accept or reject principles”. Scanlon (1998:216) views the fact that contractualism “can account for the significance of different moral notions, within a unified moral framework, without reducing them to a single idea” as an important strength of his theory. Ashford and Mulgan (2012:7) argue that this pluralistic ability of contractualism is an advantage and that the theory is *unified* by the single normative domain of unjustifiability.

For utilitarianism, the promotion of overall well-being is the only central moral value. Contractualism, on the other hand, can accommodate considerations of well-being but it is not limited to this single notion. It can account for moral notions such as rights, responsibility, procedural fairness, freedom, autonomy, the value of choice, trust and assurance, etc. Within a framework of ethical monism, contractualism can therefore account for many different moral notions.

The pluralistic strength of contractualism makes it very suitable for the consideration of the fairness of the different criteria of premium discrimination in life insurance underwriting. It helps to escape the narrow bounds of well-being and thereby allows for a fuller picture of moral considerations.

3.8 The choice of contractualism

Scanlon provides an appealing new non-consequentialist moral theory, grounded on the rational moral agency of people. Contractualism is not limited to one central moral notion: it can accommodate the utilitarian moral principle of well-being and the deontological intuition of respect for the individual, together with a wide range of other moral notions.

Contractualism is based on the concepts of reasons and justifiability. The consideration of the fairness of differentiation in life insurance underwriting will be a search for principles of underwriting “that can be justifiable to others on grounds that they cannot reasonably reject” (Scanlon, 1998:5).

4. JUSTIFICATION OF UNDERWRITING PRACTICES

4.1 The problem of discrimination

Section 1.2 quantifies the severe extent of discrimination between the cover provided in South Africa to different individuals on the same life insurance product. In the extreme, the rich young woman gets almost 50 times more life cover than the poor old man, for the same premium on the same product. This extreme difference in benefits provided to different people may be considered unfair and discriminatory (in the negative sense of the word) by many observers.

The aim of this study is to consider the fairness of the discrimination in life insurance premium rates and the justification of the underwriting practices resulting in this discrimination, through the moral lens of Scanlon’s contractualism, based on reasons and justifiability. This constitutes a search for principles of underwriting that can be justifiable to others on grounds that they cannot reasonably reject.

4.2 A framework of justification modes

Liukko (2010:4590) states that there are many conflicting methods that may be used for justifying fair principles for discrimination in life insurance underwriting. To address this dilemma, he suggests the use of a framework developed by Boltanski and Thevenot (1999) that searches for common acceptability and generality for modes of justification, by referring to the concept of a *common good*. The four justification modes relevant for this analysis are derived from the “industrial”, “civic” “market” and “opinion” worlds, each with its own common good. In *industrial logic* the common principle is *efficiency* (where judgement rests on professional competency and technical criteria); in *market logic* the common principle is *competition* (where judgement is based on price, monetary value, fair deals); in *civic logic* the common principle is *collective interest* (with judgement taking the form of voting and agreements based on equality); and lastly, in *opinion logic* the common principle is *public opinion* (with judgement resting on popularity, influence, renown) (Liukko, 2010:460).

An important strength of contractualism is that “it can account for the significance of different moral notions, within a unified moral framework, without reducing all of them to a single idea” (Scanlon, 1998:216). The different modes of justification in the framework can thus be accounted for and evaluated using Scanlon’s theory. To count as a reasonable objection against a principle in contractualism, the comparative strength of other reasons in favour of the principle must be weighed. If there are stronger reasons to accept a principle than reasons to reject that principle, then the principle could not reasonably be rejected. Thus, for example, the strength of justification based on industrial logic may in some instances be outweighed by that of civic logic.

Before considering the fairness of the discrimination based on various specific underwriting factors in private insurance, it is necessary to consider the fairness of discrimination in the pricing of life cover *per se*. This is essentially an evaluation of the fairness of the solidarity insurance model used for social insurance versus the fairness of the mutuality insurance model used for private insurance (see Section 2.3).

Social insurance and private insurance share the common objective of providing security through the pooling of risk. In social insurance no difference is made in price to reflect the difference in risk, while in private insurance all participants are charged according to their level of risk. Underlying the question of fairness in this comparison is the basic tension between the two related fairness concepts of *equity* and *equality*, and the Boltanski/Thevenot (1999) framework proves a useful tool to illuminate the competition and compromises between the reasoning and the logic of the different justifications.

4.3 Justification of zero discrimination in social insurance

In a social insurance scheme, the aim is the satisfaction of a basic need for insurance. Social insurance typically provides some basic minimum level of life cover to everybody in society, without any attempt of risk classification and discrimination. Liukko (2010:463) states that solidarity is “the norm in statutory social insurance ...

where the whole insured population forms one unified risk pool, each member having an equal-rated chance of solidarity”.

The prevailing justice principle in the case of social insurance is equality. In the solidarity model of insurance there is no discrimination in underwriting and all members pay the same contribution rate for the same amount of life cover, regardless of their level of risk. In terms of the Boltanski/Thevenot framework, the prevalent justification mode for social insurance is that of civic logic, with its common principle of collective interest. Judgement, as stated, takes the form of voting and agreements, based on equality. In the case of social insurance, the issue to be considered is not an evaluation of the justification of discrimination in risk underwriting, but rather the justification for the *lack* of discrimination between different population groups.

In terms of Scanlon’s contractualism, the Insurance Solidarity Principle which I define below, can be used to justify the provision of social insurance on a basis which does not discriminate between participants on their individual level of risk:

THE INSURANCE SOLIDARITY PRINCIPLE

If a society can afford to, it has a duty to provide a basic minimum amount of life cover for all its citizens on an equal basis. The life cover should cover at least the cost of a basic funeral for the deceased, and possibly also part of the immediate living cost of dependants of the deceased.

This principle would be difficult to reject on any reasonable basis. The affordability proviso ensures that very poor societies lacking even more basic needs would not be burdened. Stating that “society... has a duty to provide” effectively means that it should be done by government. “All citizens” implies universal (compulsory) participation, which may for practical reasons be limited to adults (and possibly to prevent the risk of infanticide). “On an equal basis” would mean a complete lack of discrimination and classification. The scheme would provide the same amount of life cover for everybody and require the same level of contributions by everybody (which includes the option of funding from taxation, with no individual contribution).

Such social insurance would meet a basic need in society and the level of life cover provided would be a matter of social and political decision-making. It can be argued that the most basic need of life cover is to provide for a decent burial, which is a serious financial burden for families in poor communities. Such funeral cover may rightly be viewed as a primary social good⁷ to which everybody should have access.

In a compulsory scheme with equal contributions, financially destitute people with no income could reasonably object to a compulsory contribution towards the “luxury” of life cover. Funding those unable to contribute from taxation would address this objection. This would create a burden on the fiscus, but it would be difficult for any individual to raise a reasonable objection against such a cost on his own behalf.

⁷ See Section 2.7.

In a scheme with equal contributions, the lack of any underwriting discrimination means a cross-subsidy of the higher risk participants by the lower risk participants (i.e. old by young, male by female, impaired by healthy, etc.). It would, however, be difficult to raise a reasonable objection against the civil logic of communality and equality implicit in this cross-subsidy in a social scheme, with its compulsory participation and equal benefits meeting a basic social need. (In a non-contributory scheme, there is no effective cross-subsidy between members, since all members are being subsidised by the state).

With compulsory life-long participation, the age-related cross-subsidy (of the old by the young) can also be justified in terms of industrial logic, namely that the young now doing the subsidising will, in time, become the old and will then in turn be subsidised.

The conclusion is therefore that in the social security environment (with compulsory population-wide participation, the same limited amount of life cover for all to address a basic need, and no individual choice involved) the approach of equality, based primarily on civic logic, can be justified.

Even though South Africa has a substantial social welfare system, with more than 17 million social grants being paid monthly, it does not have any comprehensive social insurance scheme. It has been the stated intention of the South African government from as far back as 2007 to provide basic life cover and other benefits through a compulsory National Social Security Fund (NSSF). However, a lack of consensus between government, labour and business on issues mainly related to retirement provision, has thwarted any real progress towards the implementation of the proposed NSSF.⁸

The conditions of social insurance described in this section do not hold for private insurance as a voluntary mechanism of individual responsibility, with its freedom of choice regarding participation and no limit on the amount of cover selected. Under these conditions *equality* is difficult to justify, and the search should be for the justification of *equity*.

4.4 The argument for the market necessity for discrimination

The primary justification by the insurance industry for discrimination in underwriting is *actuarial equity* or *fairness*, aimed at the fair treatment of the individual participants, which is considered in detail in Section 4.5. The other strong justification provided for discrimination is the argument of its *necessity* to ensure the financial soundness of the insurance company, because it avoids the risk of adverse selection by insurance applicants.⁹ In the open market of private insurance this is an example of justification based on market logic, which includes the basic economic principles of profitability, competitive pricing and freedom of contract (Liukko, 2010:460). While the economic

8 Discussions effectively stalled at NEDLAC (the National Economic Development and Labour Council). The latest input from government is a discussion paper in November 2016 by the Inter-Departmental Task Team on Social Security and Retirement Reform.

9 As described in Section 2.5.

health and survival of the insurance industry is also in the interest of the individual and may necessitate premium discrimination by insurers, it is not an argument that can be used to prove the fairness of premium discrimination.

This financial soundness argument holds true on the individual company level, where failure to recognise the differences in mortality risk of individuals can lead to adverse selection against that company, but it does not hold true on an industry level. If all companies, for instance, were to be prohibited by law to discriminate between smokers and non-smokers, then there could be no adverse selection against any one company. The only effect would be that there would be an industry-wide cross-subsidy from the low-risk non-smokers now paying more, to the high-risk smokers now paying less. At most this could lead to some increase in premiums for all, which would negatively affect the insured population rather than the insurer. The industry existed profitably for many decades using only age as underwriting factor. Ample evidence of the resilience of the insurance industry was provided when the European Union legally forced the retro-active introduction of unisex premium rates in 2012,¹⁰ and the industry handled the transition with little upheaval.

4.5 Justification of the principle of discrimination in private insurance

INSURANCE AS A SOCIAL GOOD IN SOUTH AFRICA

In the absence of a social insurance scheme in South Africa, it would be possible to view some basic level of private insurance, such as funeral insurance,¹¹ as a primary social good. On the other hand, it would not be reasonable to regard life cover to the value of say R1 million as a primary social good, since it cannot be “considered so important that access to [that] must be guaranteed to all members of society” (Sandberg, 1995:1554).

This study has accepted that some basic form of social insurance should and will be introduced, and that private life insurance in South Africa should be regarded as a non-primary social good, with the implication that “mutuality based commercial providers can claim a legitimate right to use risk assessment as an underwriting tool” (Mittra, 2007:352).

THE FAIRNESS OF ACTUARIAL EQUITY

Private life insurance, based on the mutuality approach, clearly subscribes to the equity principle of justice rather than the equality principle, since all members pay contributions in proportion to their own level of risk.

Liukko (2010:458) states that “traditionally it has been widely accepted that private insurers are legitimately allowed to ... discriminate between applicants according to specifically statistically relevant factors, particularly age, sex and health”. Mutuality is based on the two basic principles of *risk pooling* and *equity*: firstly, the pooling of risk in

¹⁰ See also the discussion in Section 5.1.

¹¹ See Section 2.9 for a description and Section 5.3 for an appeal for national funeral insurance scheme.

broad population groups to share the responsibility of providing benefits, and secondly, the equitable sharing of the costs, so that the contribution of each individual reflects his known level of risk. Mutuality is therefore fully compatible with concept of equity based on *actuarial equity* or *actuarial fairness*. This justification for discrimination reflects strong industrial logic, where the actuarially equitable risk classification is seen as “the most efficient and fairest way to promote the common good of the insurance pool” (Liukko, 2010:461).

Liukko (2010:463) concludes that “risk classification is deemed such a vital requirement for the sustainable working of private insurance that it is an acceptable reason for discrimination, even ... where [it] ... may be prohibited in other spheres of economic life.” He argues that “the explicit industrial justification (actuarial relevance, theory of adverse selection, solvency) and ... implicit market justification (freedom of contract, symmetry of information, competition)” overrides the civic logic that promotes non-discrimination.

To ground the justification in terms of a contractualist principle that no one can reasonably object to, I define the following principle, which can be called the Fair Lottery Principle:

THE FAIR LOTTERY PRINCIPLE

In a lottery where each ticket sold has an equal chance to be drawn to win the prize, it would be wrong to charge different participants a different price for the tickets – all tickets should cost the same.

There can be no reasonable ground for objection to this principle, particularly if participation in the lottery is voluntary, if participants have a free choice of how many tickets they want to buy, and if the price of a ticket and the prize of the lottery is not insignificant. This principle can be used to explain the industrial logic of actuarial equity in simple lottery terms: If the statistical expectation of death of insured A is twice that of insured B, then A effectively holds the equivalent of two lottery tickets versus the one lottery ticket of B. The Fair Lottery Principle requires that person A should therefore pay for two tickets, i.e. double the amount paid by B for his one ticket, since he stands double the chance to win the prize (claim the death benefit). In life insurance terms this is equivalent to stating that it would be wrong in principle not to discriminate in premium rates based on different risk levels of participants. This is the industrial logic essence of the principle of *actuarial equity* or *fairness*.

The Fair Lottery Principle effectively justifies the principle of actuarial equity as fair. An actuarially equitable risk classification, which will ensure that the contribution of every participant in the pool reflects their expected level of risk, is the fairest and most effective method to achieve the common good of the insurance pool to the benefit of both the insured and the insurer.

The Fair Lottery Principle can also demonstrate the market logic of the necessity of discrimination (as considered in Section 4.4), in simple lottery terms. If a small

number of people (group A) could get two tickets for the same price as what all the other people (group B) pay for one ticket, and every person can buy as many tickets as they want, then people in group A will be more inclined to buy tickets and people in group B would be less willing to participate. People in group A would be adversely selecting against the lottery and the resultant withdrawal of those in group B would threaten the sustainability of the lottery.

THE PROBLEM OF THE EXPECTED MORTALITY RISK OF EACH PARTICIPANT

In risk discrimination in life insurance, the risk level of each participant cannot be determined so accurately. Actuarial risk assessment is not an exact science and the risk that each person brings to the insurance pool cannot be quantified with accuracy. In a report to ASSA,¹² Kruger et al. (2004) consider the fairness of the general underwriting factors of age, sex, smoker status and socio-economic class. They state that there is sufficient statistical evidence to prove mortality differences related to each factor to make rate discrimination appropriate. However, since it is often not possible to quantify the differences accurately, it would be “difficult to justify current rate differentials based on the currently available statistical evidence” (Kruger, et al., 2004:5).

In the actuarial approach of stratified risk pooling, the insured population is grouped into reasonably homogeneous risk groups which are defined in terms of a number of underwriting factors, to minimise the level of cross-subsidising.¹³ The mortality risk of each group is then calculated from the statistical evidence. In terms of the Fair Lottery analogy, it is not possible to count exactly how many tickets each participant holds, and a statistical analysis could at best group the lottery participants into broad categories, each with approximately the same number of tickets.

Questioning the grounds on which discrimination between applicants for private insurance would be acceptable, and how certain types of discrimination can be justified as fair or unfair, has become more common. In the public debate round the issue of restricting genetic underwriting, the freedom of insurance companies to underwrite and the traditional justification for the necessity of risk classification, are now being questioned more readily than before (Liukko, 2010:463). It is, however, not the general *principle* of discrimination in underwriting that is being questioned, but rather the justification and application of the specific *underwriting factors*.

4.6 Stratification of the insured population into homogeneous risk groups

If the general principle of risk discrimination is accepted as fair and justifiable, then it is a logical necessity that at least one of the underwriting factors must also be justifiable. The obvious candidate for this position is the original and most significant underwriting factor of *age*. National constitutions and international conventions on

¹² The Fair Discrimination Subcommittee of ASSA drafted this report on the potential reputational risks for the actuarial profession in South Africa relating to underwriting practices.

¹³ This stratifying is discussed in detail in Section 4.5.

human rights typically prohibit unequal treatment of people based on factors such as age, gender, race, ethnic origin, religion, sexual orientation and disability. Despite these prohibitions, the strong statistical evidence of risk differences related to age has been generally accepted worldwide as sufficient justification for premium discrimination in life insurance. Age is the most significant underwriting factor and commercial private insurance could not exist without age discrimination.

STRATIFICATION BY UNDERWRITING FACTORS

Age discrimination is the primary step towards actuarial equity in underwriting. However, within each age group there are still substantial differences in expected mortality related to features other than age. For instance, in the age group consisting of all 40-year-old people, the risk of the female participants is on average similar to the risk of a group of 30-year-old males. A further subdivision of each age group, based on other significant risk factors, brings life underwriting closer to the ideal implicit in the Fair Lottery Principle, namely that of an accurate assessment of the risk related to each individual participant. Underwriting discrimination based on additional factors therefore improves the level of actuarial equity and thereby the fairness of the underwriting, provided that the application of each of the additional underwriting factors can be justified as fair.

For practical reasons, insurers do not discriminate according to all risk underwriting factors (in addition to age) that can be correlated with mortality, so they tend to select those that are most significant. Liukko (2010) states that in terms of actuarial equity, “any risk factor is unambiguously considered a fair classification criterion ... if it is sufficiently statistically predictive” (Liukko, 2010:461).

The initial stratification in underwriting was only in terms of age at inception, subdividing the population into 60 age groups (from 15 to 75) and this remained unchanged for many years. The general underwriting factors currently used in South Africa are age, sex, smoking status and socio-economic class.¹⁴ In terms of these four factors the insured population is typically stratified into 960 standard rate groups, when the 60 age groups are subdivided by sex (two categories), smoking status (two categories) and socio-economic class (typically four¹⁵ categories).

HISTORICAL DEVELOPMENT OF STRATIFICATION

Up to the 1950s, age was the only underwriting factor used in South Africa, before additional rating factors were slowly introduced in the second half of the last century. Wilkie (1997:1040) succinctly explains the arduous process of introducing a new rating factor: “first, suspicion of the relevance of a rating factor is raised, preliminary investigations are carried out, social changes allow insurance companies to introduce

¹⁴ Discussed in more detail in Section 2.10.

¹⁵ Some companies use five socio-economic categories, which would stratify the population into 1200 rate groups.

relevant questions, commercial pressure leads insurance companies to discriminate and, finally, substantive evidence, which justifies the discrimination is produced". The consequence of the substantive evidence is typically that the conservative extent of the initial discrimination, which was only based on preliminary investigations, can be increased substantially, to reflect the statistically proven difference in mortality of the relevant factor more accurately – thus improving actuarial equity.

By the 1960s, a very conservative age deduction of three years for female applicants¹⁶ was in use. This was subsequently increased to five years by 1980 and later to seven years by 2000. Each step was an improvement towards better actuarial equity, but even the five-year age deduction could still be considered unfair since it did not reflect the full extent that female mortality was lower than male mortality. The first separate assured life mortality table for females in the UK was only produced in 1980, based on the 1975–1978 mortality experience (Wilkie, 1997:1040).

In the late 1970s, the first tentative step was taken towards a combination of socio-economic and smoking-status underwriting, by introducing "preferential rates" in addition to "normal rates". Preferential rates¹⁷ were about 25% lower than normal premium rates and required the applicant to have a four-year tertiary qualification, or a three-year qualification plus an income of R2 300 per month, or to be a non-smoker. By 1990 this stratification was extended to a four-tier system of "basic rates", "normal rates", "preferential rates" and "super rates". Basic rates applied only to low income applicants with matric or a lower education, who qualified only for a limited range of funeral and endowment policies. Super rates required a minimum premium of at least R100 per month, in addition to the existing education and income requirements of preferential rates. Super rates were about 50% lower than normal rates and preferential rates were about 30% lower.

The insurance industry in South Africa was one of the first to introduce socio-economic discrimination. Commenting on UK developments, Wilkie (1997:1041) describes what he calls "the recently seen ... introduction of 'preferred lives' premiums", in which insurance companies use "a number of rating factors, besides age and sex, to assess the premium; they may include occupation, social class, locality and some medical factors". He states that such companies "may be basing their premiums more on judgement and small-scale statistical surveys than on comprehensive and reliable statistics". He considers that as natural, since insurance companies "cannot carry out a mortality investigation unless they have the data; they won't get the data unless they ask for it; and there is no point in asking for it unless it is being used to assess the premium in the first place".

It was only after 1990 that separate rates for smokers and non-smokers were introduced across all the socio-economic classes described above, with non-smoker rates initially about 30% lower than smoker rates. According to Wilkie (1997:1040),

16 Initially only white females qualified for this deduction!

17 This is a typical example, as used by one leading SA insurer.

life insurers in the UK did not start discriminating between smokers and non-smokers until about 1980.

LIMIT TO STRATIFICATION

The greater the number of risk factors considered in the underwriting process, the greater would be the number of standard risk groups and the greater should be the homogeneity within each risk group, and the smaller would be the cross-subsidising between participants. There is obviously a practical limit to the extent that it would be meaningful and cost-effective to reduce the level of cross-subsidising, but there is also a conceptual limit. If it were possible to increase risk classification infinitely by defining finer and finer subgroups of risk, then ultimately there will be little pooling of risk, which would defeat the original purpose of insurance.

4.7 Justification of specific discrimination factors

Accepting the justification of age as the primary underwriting factor, the task at hand is to consider the justification of each additional underwriting factor, namely sex, smoking status and socio-economic class.

Where significant statistical differences in risk based on an additional risk factor are found, actuarial equity would indicate that it should be accounted for in underwriting. This does not, however, ensure that such stratification is fair. Consider a hypothetical case of a specific race group in which heavy smoking is a dominant cultural feature. Differentiation based on race would show a higher mortality experience for this race group, unrelated to any genetic differences. It would, however, be unfair to the non-smokers in this race to be rated as higher risks, while the smokers in another race group, with a lower mortality experience since smoking is not prevalent in that race group, are treated as lower risk. It is therefore necessary to find justifiable fairness criteria with which each additional risk factor can be evaluated.

SOME SUGGESTED FAIRNESS CRITERIA

In their “Fair Discrimination” report to ASSA, Kruger et al. (2004:5) suggest a number of criteria for “assessing the appropriateness and necessity for using a particular underwriting factor”. Their concern was more related to the reputational risk for the actuarial profession than to the fairness of the underwriting, but since their arguments can be regarded as representing the views of the actuarial profession, they do merit some attention.

- **Responsibility and influence:** Kruger et al. (2004:6) suggest that an underwriting factor is more likely to be considered fair if people are partly responsible for and have influence over the factor (like smoking). However, people cannot be held responsible and have no influence over the most prominent underwriting factor, namely age, which is generally accepted by all as a fair underwriting factor. Responsibility by an applicant for a factor is therefore not a useful criterion by which to judge its fairness.

- **Awareness:** Kruger et al. (2004) also suggest that it may be considered unfair to take cognisance in underwriting of a condition of which an applicant was unaware, because the person could then not wilfully select against the insurer. This, however, is not a convincing argument: if an insurer was imposing a medical loading on one applicant with an existing heart condition while the applicant was aware of the heart condition, it would be unfair to ignore the additional risk of another applicant, just because this applicant was unaware of a similar condition (until it was revealed in the underwriting process). The medical loading is for the medical condition, not for the awareness of the condition. Awareness of a condition cannot be justified in the consideration of its fairness as an underwriting factor.
- **Alternative risk rating factor:** Kruger et al. (2004) suggest that a factor “may be considered inappropriate when alternative risk rating factors exist that are more acceptable” (Kruger et al., 2004:6). Clearly it would be unwise of the insurance industry to use a questionable rating factor if a more acceptable one is available. The unavailability of an alternative risk rating factor may be used as justification for the market necessity of a significant risk factor, but that does not provide any reasonable argument for the fairness of that factor (as discussed in Section 4.4).
- **Acceptability and public opinion:** Kruger et al. (2004) refer to the use of risk factors that may be “considered inappropriate by society” (Kruger et al., 2004:7) and warn about the reputational danger if the actuarial profession cannot defend such factors with “both statistical evidence and moral justification”. Their comment correctly implies that there is no necessary link between what society may consider inappropriate and what is morally justifiable. They mention the historical use of race as an underwriting factor by some companies, which is now considered totally unacceptable by everybody. Similarly, the more recent banning of sex as underwriting factor in the European Union is an example of changing acceptability and public opinion – the result of civic logic with its common principle of collective interest leading to equality, rather than industrial logic with its principle of efficiency leading to actuarial equity (Liukko, 2010:460).

Most of the above criteria do not provide an acceptable measure for the fairness of the discrimination based on risk factors, but seem to be more concerned with appearances, opinion, acceptability and the reputation of the actuarial profession.

THE FAIR DISCRIMINATION PRINCIPLE

To ground the justification of the fairness of the discrimination of each specific underwriting factor on contractualist principles, one would need to find a principle of fairness to which no one can reasonably object. For this purpose, I define the following principle:

THE FAIR DISCRIMINATION PRINCIPLE

In terms of its contribution to actuarial equity, a specific underwriting factor for premium discrimination between insurance applicants is justifiable and fair, if it meets the following criteria:

- The statistical evidence to support the discrimination must be strong and reliable
- The allocation of each applicant to a risk group must be unambiguous
- The effect of the factor on mortality must have a reasonable causal explanation.

The formulation “in terms of its contribution to actuarial equity” builds on an acceptance of the fairness of the general principle of discrimination, as argued in terms of the Fair Lottery Principle.

This formulation of the principle implies that the stated criteria are *necessary and sufficient* conditions for fairness. It would be difficult to object to each of the three criteria on their own as *necessary* condition for actuarial fairness on any reasonable basis: if the statistical evidence to support the discrimination is weak or unreliable then the contribution of that underwriting factor towards actuarial equity would be questionable; if the allocation of applicants to a risk group is ambiguous then applicants negatively affected would have reason to object; if there is significant correlation but not a reasonable causal explanation for the effect of the underwriting factor on mortality then it may be a case of an indirect causation, where a spurious relationship is confused for causation. Not one of the criteria on its own is a *sufficient* condition for fairness but taken in conjunction they may well be considered as sufficient. It would be difficult to object to the contribution to actuarial fairness of an underwriting factor that meets all three criteria.

In the following section, the applicability of each of the three criteria of the Fair Discrimination Principle is first tested on the underwriting factor of age (already accepted as fair), and then the underwriting factors of sex, smoking and social-economic class are measured up against the criteria.

(a) Strength and reliability of statistical evidence

To be reliable, a statistical analysis must be based on sufficient data, and the statistical evidence is strong if it shows significant differences in the values investigated. Mortality investigations for insured lives in South Africa are carried out by the Continuous Statistical Investigation (CSI) Committee of ASSA about every ten years, based on annual statistics provided by all the large insurance companies. The latest investigation¹⁸ was done for the four-year period 1999 to 2002 and it was based on 15.3 million policy years and 86 000 deaths in total. Based on these continuous mortality investigations, ASSA produces a new set of Standard Mortality Tables for the life

18 The mortality comparisons in this Section 4.7 were obtained from the *CSI Assured Lives 1999–2002 Report* and are available at www.actuarialsociety.org.za.

insurance industry from time to time. Each subsequent investigation for a new four-year period builds on all previous investigations. Comparisons with previous results indicate the development of trends and strengthens the statistical reliability of the published mortality tables.

- **Age** as underwriting factor subdivides the total insurable population into 70 age groups, between the underwriting age limits of 15 and 85. While the bulk of the data is at the mid-range of ages, even the extreme age group of 85 included about 50 000 policy years for the period 1999 to 2002. The increase in mortality from age to age is significant and the evidence for this is strong. The extensive volume of data and the regular repetition of the statistical analysis ensure that the statistical evidence for the expected mortality risk for all ages is reliable.
- **Sex** subdivides the total population into only two groups. Of the total exposure 63% was male and 37% was female (which had increased from 34% from the investigation four years earlier). The analysis was therefore based on 9,6 million policy years for males and 5,7 million policy years for females, which is sufficient data to ensure reliability. Female mortality is between 30% and 40% lower than male mortality at most ages, which is strong evidence to support a significant premium discrimination in favour of females.
- **Smoking status** is similarly accounted for by a simple binary distinction between smokers and non-smokers. About 29% of males and 14% of females are classified as smokers, and smoker mortality is about 50% higher than that of non-smokers up to age 45, and about 80% higher after age 45. This is strong and reliable evidence for premium discrimination.
- **Socio-economic class** is accounted for in the CSI report by a subdivision into four rating groups (best, second best, third best, worst). Insurers use a variety of methods (mostly in terms of education and income levels) to define their own socio-economic classes, and the CSI committee has to use their judgement to allocate the data from the insurers' classification into the four CSI classes. Almost half of the total data were ignored in this analysis as 'unspecified' so that less data were used than for the analysis of sex and smoking mortality. The evidence of the differences in mortality between the socio-economic classes, however, is very strong – the mortality of the second best class is about 50% higher, the third best class is about 100% higher and the worst class is roughly 400% higher than the mortality of the best class. Kruger et al. (2004) comment that “there is statistical evidence of a significant correlation between socio-economic status and mortality.

(b) Unambiguity of allocation

For an underwriting factor to be considered statistically reliable, it is necessary that the allocation of individuals into the different groups indicated by the factor should be reliable and unambiguous – the discrimination should be “according to ... objectively determinable criteria” (Kruger et al., 2004:5).

- **Age** as an underwriting factor meets this criterion: the age of an applicant at inception of a policy, which determines the premium rate for the full term of the policy, can be determined with accuracy from an identity document.
- **Sex** as underwriting factor is uniquely determinable and subdivides the total population into the two groups of male and female. The complication of gender or sexual orientation (the Lesbian, Gay, Bisexual, Transgender or LGBT issue) is ignored – it involves a relatively small part of the population and there is no commercial incentive for the industry to consider underwriting discrimination based on sexual orientation.
- **Smoking status** is similarly accounted for in underwriting by a binary distinction between smokers and non-smokers, but the allocation is not so uniquely determinable as for age and sex. The discrimination is based on a declaration of smoking status by the applicant and insurers must therefore rely on the principle of *uberrima fides*¹⁹ for reliable underwriting. A cotinine test²⁰ may be required to test the integrity of purported non-smokers. No cognisance is taken of the extent of any history of smoking – a smoker who recently quitted smoking is treated as a non-smoker after passing a cotinine test. Most insurers allow an existing policyholder who was rated as a smoker to request a premium reduction after quitting smoking. While smoker status is less precisely determinable than age and sex, marketing pressure typically lets insurers err on the lenient side in their treatment of smokers.

Allocation to a risk group based on **socio-economic class** is more problematic, since there is no generally accepted, objectively determinable and value-free definition of socio-economic classes (unlike for age, sex and smoking status). The allocation to different socio-economic classes is typically based on a combination of increasing education and income levels, with rather arbitrary definition of the borders between classes. Kruger et al. (2004) comment that “the way socio-economic statuses are defined for rating purposes is necessarily, to a degree, subjective” (Kruger et al., 2004:11). The definitions used by different insurers are not the same and do not remain static: the nominal income levels in the definitions must be adjusted every few years, to counter the effect of inflation on the real values of income. The definition of four socio-economic classes used by a large insurance company in South Africa provided in Section 2.10 (c) is presented in a considerably simplified way. The full definition is much more extensive and requires a 6 × 7 matrix. For example, to qualify for Class 4, an applicant must have either an income of at least R40 000 per month; or matric plus an income of R30 000 per month; or a three-year diploma plus R22 500 per month; or a three-year degree plus R14 000 per month, or a four-year degree (with no income requirement).

¹⁹ See Section 2.6.

²⁰ Cotinine is the predominant metabolite of nicotine and remains detectable in urine for some weeks after smoking.

The arbitrariness of the income and education levels is most visible at each income cut-off level. The problem is accentuated by the substantial difference in premium rates between one class and the next. The premium for a young male applicant in Class 4 is about 50% less than in Class 3. This means that an applicant with a three-year diploma and an income of just over R22 500 who qualifies for Class 4, will get about 50% more life cover than a similar applicant with an income of just below R22 500, who falls into Class 3. Compared to age discrimination (with its unquestionable definition of age and its small incremental change in premiums from age to age), the more arbitrary definition of socio-economic classes, with a large effect on premiums, can reasonably be objected to by some as unfair discrimination.

(c) Necessity of a causal explanation

Scientific evidence is often based on statistical correlation of variables, but correlation cannot provide proof of a causal relationship. In science, correlation may often be useful for prediction, despite failing to prove evidence of causation. In insurance underwriting, however, if no reasonable causal explanation can be provided for the effect of a potential risk factor, it would be difficult to justifiably use the factor.

In practical terms, insurers would not stumble over a new underwriting factor with a significant impact on mortality, without some strong causal explanation to expect such an impact.

- **Age:** There can be little dispute about the correlation between aging and the risk of dying. A simple causal explanation is that as people age, they become more likely to succumb to diseases and there are more diseases common to older ages. According to the US Center for Disease Control,²¹ “about 88% of adults over age 65 have one chronic condition, and 50% have at least two”, of which hypertension, heart disease and diabetes are among the most common. As people age, the ability of their cells to fend off disease and to heal reduces.²² Older people therefore often die from injuries or diseases that younger people would normally survive.
- **Sex:** It is likely that the cause for the mortality difference is not only biological but also dependent on social factors. This is evident from the fact that female mortality worldwide is lower, but the extent of the advantage varies between societies. The genetic female mortality advantage is clear from birth:²³ during the first year of life male mortality is about 25% higher than female mortality, where external social factors are identical. Females display “a better resistance to biological aging” and some of the genetic advantage may be hormonal: “oestrogen, for example can facilitate the elimination of bad cholesterol” which reduces the risk of heart disease, while “testosterone, on the other hand, can be linked to violence and risk taking”.

21 <https://www.everydayhealth.com/senior-health/do-people-really-die-of-old-age.aspx>

22 <https://www.livescience.com/32241-do-people-really-die-of-old-age.html>

23 <https://www.scientificamerican.com/article/why-is-life-expectancy-lo/>

Much of excess male mortality is not genetic and can be explained by social factors in the industrial world, like more male exposure to the hazards and stress of the workplace, alcoholism, smoking and road accidents. Female emancipation over the last decades may have reduced this difference and women now participate more equally in the work force. However, the convergence is limited: female professional activities are probably still less harmful to their health, male smokers tend to smoke more than female smokers, and men tend to drive more recklessly than females.

- **Smoking:** While it is difficult to provide hard proof of the causal explanation for lower female mortality, this is not the case for the higher smoker mortality. Smoking has been proven to be the most important preventable cause of death by numerous scientific studies. The likelihood of smokers to suffer a heart attack is six times more than for non-smokers and ischaemic heart disease represent a large and common cause of death for smokers. Diseases²⁴ such as lung cancer, chronic lung disease, coronary artery disease and stroke have been clearly linked to smoking. Lung cancer is the most prominent of all cancer deaths and smoking is the cause of more than 80% of lung cancer deaths. Smoking increases the risk of many other types of cancer, including cancers of the throat, mouth, stomach, pancreas, kidney, bladder, and cervix.
- **Socio-economic class:** In the introduction to the study, the risk is mentioned that socio-economic underwriting may be viewed as a proxy for racial discrimination. Woolf et al. (2015:4) state that, although other ethnic groups experience a higher rate of disease than whites in the United States of America (USA), these are “dwarfed by the disparities identified between high- and low-income populations within each racial/ ethnic group.” This indicates that income differences can provide a strong causal explanation for racial differences in mortality. This, however, still begs the question of a reasonable causal explanation for the effect of income differences on mortality.

There are many research studies that show how *education levels* influence mortality. Zimmerman et al. (2015) argue that the benefit of education leads people to better health outcomes. This includes better choices about lifestyle and health behaviours, such as healthy diets, regular exercise, response to stress, reaction to illness and awareness of health care. Those with higher levels of education are less likely to engage in risky behaviours, such as smoking and drinking.

There is obviously also a strong correlation between education and *income levels* and many of the above benefits stem from better economic circumstances. Many research studies show a strong correlation between income and the likelihood of disease and premature death. The researchers argue that this is caused by the fact that wealthier people can afford better medical care and a healthy lifestyle. They tend to have stable

24 <https://www.medicalnewstoday.com/articles/261091.php>

jobs that provide good benefits, health insurance, and worksite wellness programmes, and have fewer occupational hazards. They can more easily afford nutritious meals and regular exercise.

On the other hand, Woolf et al. (2015:4) argue that “people with low incomes tend to have more restricted access to medical care” and are less likely to receive preventative health services. Their diets tend to be less nutritious, high-carbohydrate options and fast foods. Their difficult living circumstances often prevent them from exercising regularly, and they may “have difficulty to obtaining assistance with smoking cessation or with alcohol and drug dependence”.

It seems to be a credible causal explanation that a combination of income and wealth directly supports better health and thus lower mortality. Kruger et al. (2004) concur that there is “an understandable causal relationship between socio-economic status and mortality” (Kruger et al., 2004:11).

4.8 Evaluating the merits of socio-economic underwriting

Measured against the criteria of the Fair Discrimination Principle, the rating factors of age, sex and smoking can be considered justifiable and fair in terms of their contribution to actuarial equity. They meet the criteria of strong and reliable statistical evidence, unambiguous allocation and reasonable causal explanation.

In the case of socio-economic underwriting, the *statistical evidence* of significant differences in mortality experience is strong, compared to that of sex and smoking status. The mortality difference between the second best socio-economic class and the best class (about 50% higher mortality) is about the same as the male to female difference, while the mortality difference between the third best socio-economic class and the best class (about 100% higher mortality) is higher than the smoker to non-smoker difference. The mortality of the worst socio-economic class, however, is about 400% more than that of the best class, which is much more significant than any other underwriting factor. Ignoring such a significant difference in mortality between identifiable groups of participants in the insured life pool would undermine the process of stratification into more homogeneous groups and the resulting improvement in the actuarial equity (as discussed in Section 4.6).

It seems that there is also a credible *causal explanation* for the relationship between socio-economic class and mortality. The causal explanation is not as strong as the overwhelming medical evidence that exists for smoking as a risk factor, but it seems to be stronger than the case for sex as a risk factor, where the causal explanation is a mixture of possible genetic differences and social difference between sexes.

The shortcoming of socio-economic discrimination in underwriting is that it does not meet the second criterion of the Fair Discrimination Principle, namely that of an *unambiguous allocation* to different classes. The education and income cut-off levels differ from company to company and the income levels must be regularly adjusted by each company. The strong statistical evidence of mortality differences in the CSI reports can be compromised by the approximations required to combine disparate industry data.

The problem is not limited to the process of group borders – even for the applicant the defining properties are not fixed over time. Unlike for the features of age, sex and smoking status at inception, the income of the applicant is not necessarily stable over time, particularly for those not earning a fixed salary.

The ambiguity of the cut-off levels does not affect most applicants, who tend to fall sufficiently far away of the borders of each socio-economic class. It does, however, affect those applicants near the borders, and the effect can be substantial. In the example provided in Section 4.7, it is difficult to justify a 50% difference in cover for an applicant hitting or missing an arbitrary income target like R22 500, as required by one insurer.

In a utilitarian evaluation of fairness, the plight of those near the border of a socio-economic class would not present a problem, since it would be the aggregate benefit of all that is to be maximised. Amongst the relatively small group affected by the cut-off levels, the pleasure of those falling on the lighter mortality side of the fence could largely balance out the pain of those falling on the heavier mortality side. For most participants, the better actuarial equity resulting from socio-economic discrimination, would outweigh the objections that a small group may have about the personal negative effect of the ambiguous classification.

A central feature of contractualism, however, (strongly distinguishing it from the aggregation of complaints allowed by utilitarianism) is its insistence that the only reasons for or against a principle are “various individuals’ reasons for objecting to that principle” (Scanlon, 1998:229). Therefore, in this contractualist evaluation of the justification for discrimination in underwriting practices of the life insurance industry, the objection of the individual against an ambiguous classification affecting him or her personally, must be considered. Socio-economic discrimination therefore does not meet all the criteria required by the Fair Discrimination Principle to be considered fair in terms of its contribution to actuarial equity.

5. CONCLUDING REMARKS

5.1 Little chance for natural change

Without some dramatic external disruption, any change in the underwriting practice in South Africa is unlikely. The use of the four dominant underwriting factors of age, sex, smoking status and socio-economic class is thoroughly entrenched in the insurance industry. Relative to the situation before the 1960s, the improved actuarial equity derived from the increased homogeneity in the stratification of the insurance pool is unquestionable (i.e. strong justification based on industrial logic). With the severe competition within the insurance industry, no single insurer could survive the adverse selection that would result from less competitive rates based on blunter underwriting (i.e. strong justification based on market logic). The life insurance industry is highly respected as an important part of the South African economy²⁵ and the acceptability

25 See the reference by Munro and Snyman (1995) in Section 1.3.

of its underwriting practices has never been seriously questioned (i.e. currently there is little threat based on the civic logic of collective interest and equality). The concerns raised 14 years ago by Kruger et al. (2004) on the potential reputational risk for the actuarial profession related to discrimination in underwriting practices, has not yet materialised.

The only possible threat to the status quo would be a legally enforced change by the regulating authorities, such as occurred in the European Union in respect of sex discrimination in underwriting. Before 2011, sex-specific premium differentiation was the norm in the European Union, not only for life insurance, but also for motor, annuity and health insurance. However, in 2004, the EU Council issued the so-called ‘Gender Directive’ to ensure the principle of equal treatment between men and women. Ironically, since sex as an underwriting factor means lower premium rates for females, it cannot be considered as unfair sexual discrimination against women (which is the traditional nature of sexual discrimination). However, the Directive stated that sex-based differences in actuarial calculations of insurance premiums must be considered as sex discrimination, since “sex is not the dominant factor in determining life expectancy”. Despite this statement, the Directive allowed an exception for insurance companies “if they could provide actuarial and statistical data to verify sex as an objective risk underwriting factor” (Schmeister et al., 2012:3). Since it could be actuarially justified, sex discrimination in premiums continued, until the European Court of Justice ruled in 2011 that the exception in the Directive was “incompatible with the principle of non-discrimination”. From 2012, any sex-based discrimination in insurance premiums is prohibited in the European Union (Schmeister et al., 2012:3). So even though the industrial logic of actuarial equity provided strong justification for sexual discrimination in favour of females, the civic logic underlying the Gender Directive won the day and prescribed the principle of equal treatment between sexes.

5.2 A possible alternative to socio-economic underwriting

In the unlikely event that a regulatory prohibition against socio-economic underwriting should become a reality, it would be difficult for the insurance industry to find an alternative underwriting factor that would achieve a similar risk differentiation as the current socio-economic discrimination. The causal explanation for the lower mortality of higher socio-economic classes (or vice versa) is strongly based on the effect of education and income on lifestyle health. The correlation between socio-economic class and race was discussed in Section 1.3, but racial underwriting is socially and politically unthinkable. It would in any event lack any causal explanation other than the correlation with socio-economic class. A practical alternative risk measure with the same predictive strength as socio-economic class does not seem to be available.

A possible alternative approach for the industry to address the problem of the wide mortality range of our heterogeneous population, may be via product design rather than underwriting discrimination. It may, for example, be possible to use as higher expected mortality on the first tranche of life cover (say R50 000), with decreasing

mortality on subsequent increasing tranches of cover in the same policy. This would ensure that the applicant for only R50 000 life cover would pay at the high mortality rate on the full sum assured, while the applicant with R1 000 000 life cover would pay at the initial high mortality rate on only 5% of the sum assured, with decreasing mortality as the sum assured increases. Such an approach is unlikely to achieve the same level of actuarial equity as the current socio-economic underwriting but would help reduce the cross-subsidising between socio-economic classes, with an increased level of civic acceptance.

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