ACTUARIAL VALUES

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Summary

This paper seeks to identify the characteristic values implicit in contemporary actuarial thought and practice. `Values' is used here to mean fundamental concepts which we use, largely intuitively, to guide our patterns of thought and behaviour. We consider to what extent these values are characteristic simply because actuarial work attracts individuals who already subscribe to them, and to what extent these values may be inculcated by actuarial training. We then consider whether the characteristic values we have identified are congruent with the changing values of wider society, and whether they are likely to be conducive to the continuing success of the profession in the 21st century.

AKTUARIELLE WERTVORSTELLUNGEN

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Zusammenfassung

Diese Arbeit moechte die charakteristischen Werte identifizieren, die zeitgenoessischer aktuarieller Denkweise und Taetigkeit zu Grunde liegen. Der Begriff "Werte" steht hier fuer die grundlegenden Konzepte, die - grossenteils intuitiv - unsere Denk - und Verhaltensmuster leiten. Wir beleuchten, in welchem Ausmass diese Werte einfach deshalb charakteristisch sind, weil aktuarielle Arbeit Personen anzieht, die gerade solche Wertvorstellungen haben, und in welchem Ausmass sie moeglicherweise durch die aktuarielle Ausbildung gepraegt werden. Wir wenden uns dann der Frage zu, ob die von uns identifizierten Werte sich mit den wandelnden allgemeinen gesellschaftlichen Werten decken und ob sie wohl dem weiteren Erfolg des Berufstandes im 21. Jahrhundert dienlich sind.

1. **Introduction**

In this paper we seek to identify the characteristic values implicit in contemporary actuarial thought and practice. In this context, the idea of *values* is not easy to define, and has been considered at length elsewhere (Sharp, 1997). But for the purpose of this paper, *values* mean fundamental concepts which we use, largely intuitively, to determine our patterns of thought and behaviour. This definition may be clarified by comparing *values* with *attitudes* or *opinions*.

The essential difference between *values* as opposed to *attitudes* or *opinions* is that values tend to be more fundamental and less susceptible to change, at least in the short term. For example, we may arrive at this Congress with a negative *attitude* towards the city of Birmingham, but that might be changed by the delightful experience of our week here; we may hold the *opinion* that Birmingham has an unfavourable climate, but that opinion will (hopefully) be dispelled by the fine weather which greets this Congress; but our *values* may include a British patriotism which deters us from expressing our unflattering opinions and attitudes about Birmingham. Thus conservatism, radicalism, liberalism, authoritarianism, loyalty, honesty, prudence, theism and religiosity are all values.

It is of course questionable to what extent a profession can be said to have characteristic values. Some might wish to argue that actuarial science, if not practice, is a scientific discipline, and therefore value-free. One might also expect the diversity of individuals within the profession to frustrate any attempt to identify characteristic values. However, it would be surprising if the lengthy training required for professions in general, and ours in particular, did not have some effect on personal values. This commonsense view that lengthy professional training inculcates characteristic values is supported, at least for other disciplines, by carefully designed empirical studies, to which we shall refer later.

We stress that we are concerned only with values as they affect, and may be observed in, actuarial practice. We are not concerned in this paper with the values which guide individual actuaries' behaviour outside of their professional role. Of course, for many (but not all) individuals the values to which they subscribe in the professional and personal spheres may be similar; but our concern is with professional practice, not personal lives.

Those who question our premise that members of a profession will typically have some common characteristic values may also question whether identifying such values is a useful exercise. One justification is simply that self-knowledge is generally beneficial. A second, less existential justification is the observation that both historically and today, human values affect insurance practice and indeed whether insurance is permitted at all. For example, the principles of western insurance are largely incompatible with the Islamic principles of *Shariah*, and hence with the values of nearly half the world's population. The alternative form of insurance organised on *takaful* principles in sympathy with Islamic values may have very much better prospects in many countries than the western style of insurance. In this paper we are concerned primarily with values in the western world; but the example of Islamic insurance illustrates that values may have very direct commercial implications. A third justification for seeking to identify characteristic actuarial values is that it will put us in a position to consider whether those values remain congruent with the rest of (western) society. It is at least possible that values which have allowed a profession to flourish in the past could lead to its isolation and irrelevance in the future.

The rest of this paper is organised as follows. In the next section we identify what we regard as characteristic values of the actuarial profession. We then briefly consider to what extent these values are characteristic simply because actuarial work attracts individuals who already subscribe to them, and to what extent these values may be inculcated by actuarial training: that is, in loose terms, the question of "nature or nurture?". Finally, we consider whether the characteristic values we have identified are congruent with the changing values of wider society, and whether they are likely to be conducive to the continuing success of the profession as it enters the 21st century.

2. Identifying actuarial values

2.1 *How?*

One way of establishing people's values would be simply to ask that they describe them in their own words. The problem with this is the inescapable desire to represent oneself in a favourable light, and so one therefore needs to consider not just what people say when asked about their values, but also what they say or write in other contexts, and what they do. For this paper, our main approach has been to distil values from actuarial literature in general, illustrating the values we identify by citing examples of actuarial works in which they are evident. In the following paragraphs, we outline the values thus identified.

2.2 *Prudence*

Possibly the most characteristic value of actuaries is prudence. It manifests itself in many forms, most obviously a preoccupation with insurers' solvency (the original raison d'etre of the profession), and a bias towards funding as opposed to pay-as-you-go in pensions and social security. In the UK, these concerns arguably have their roots in the failures of life offices in the nineteenth century, and the role which actuaries subsequently developed in monitoring and safeguarding the solvency of insurance institutions. They have been periodically reinforced by the ignominy associated with occasional failures of this system to ensure continuing solvency.

2.3 *Conservatism*

Closely related to prudence is conservatism.

Actuaries are, on the whole, socially conservative rather than unconventional. A survey of prospective entrants to the profession (reported in *The Actuary*, July 1997) suggests that, in the UK at least, aspiring actuaries are Conservative as well as conservative. Of course, these characteristics are probably shared by the professions in general.

2.4 *The pecuniary perspective*

Prospective new students attending for interview in the university department of one of the authors are routinely asked why they have chosen to study Actuarial Science. The answers are varied, and commonly include ability and interest in Mathematics, desire to achieve a respected professional qualification, and sometimes parental pressure. However, one consideration receives more mentions than any other: money. The actuarial profession in the United Kingdom has, for good or ill, the reputation of being exceptionally well rewarded, and the salience they attach to this may well be the characteristic which best distinguishes applicants for the course in Actuarial Science from applicants for courses in related disciplines such as Mathematics or Statistics.

So what? Making money may not be a particularly heroic aim, but it is a relatively innocent one; and insofar as it is a spur to effort and achievement, it may be societally beneficial. But the desire for personal financial security is actually only an adjunct to a more subtle and pervasive value which is nurtured by actuarial training, namely a *pecuniary perspective* on the world.

As actuarial students progress through their academic studies and their subsequent professional training, they deal day in, day out with a world in which all human experience is monetised: accident, injury, sickness, disability, and even (or rather, especially) death all submit to actuarial monetisation. The possibility that there might be other valid perspectives on human experience has no place in the actuary's professional universe. After such a training, it is hardly surprising if actuaries tend to see the world largely through a financial prism.

Again, so what? The actuary's financial prism may well be a particularly clear means of viewing the world, and a useful way of dealing with all its problems.

However, the danger is that rather than using their view through a financial prism as just a useful way of looking at the world, actuaries come to regard it as uniquely representing reality, and *assume that others must see the world in the same way*. The assumption that others share, or even respect, *our* values may cause considerable difficulties for a profession, and this is a point we shall return to later.

Whilst contemporary western society is broadly accepting of the principle that human life and death may be monetised through insurance contracts, we have already noted that there is much less acceptance of the principles of insurance in Islamic societies. Interestingly, western society has by no means always adopted its contemporary attitude of acceptance towards life insurance. For example, Zelizer (1983) describes the hostility of the Church (and wider public opinion) to life insurance in nineteenth century America.

2.5 *Equity and mutuality*

All actuarial students soon encounter the actuarial attachment to the idea of equity, particularly in life insurance. The concept of equity is seldom well defined, but it is one to which actuaries refer in justifying their decisions and actions in two broad areas: risk selection, and the distribution of surplus.

As regards risk classification, one version of the actuarial view of equity has been provided by Wilkie (1997). He uses the term *mutuality*, which he defines as a risk pooling system in which each individual "pays the price appropriate to the risk which he or she brings to the insurance pool". We would prefer to say that each individual pays the price set by the insurer, if indeed it is prepared to offer any insurance coverage.

Another nomenclature for mutuality or equity in risk classification is provided by the phrases *actuarially fair* or *actuarially neutral*. The pervasiveness of the values underlying these terms is well illustrated by the observation that many actuaries do not distinguish between actuarial fairness and any other concepts of fairness in underwriting practice.

At this point, we may note that the various actuarial values we describe are not necessarily congruent, and in some circumstances may conflict with one another. The quintessentially actuarial issue of the distribution of surplus in a with-profits fund provides an example of such a conflict between competing values, namely equity and prudence. Broadly speaking, equity is often perceived to demand that members of each generation of maturing policyholders receive a full share of surplus funds arising from the investment of the premiums they have paid. Prudence, on the other hand, demands that something be held back from each generation as a safety margin.

2.6 *Collective before individual*

The actuarial profession is characteristically concerned with, and applies its expertise to, the collective welfare rather than individual welfare. The actuary is concerned with policyholders as a group, not with the welfare of individuals.
In our view, this `collective before individual' value is a particularly important one, for two reasons. First, we believe it contributes to the two further values discussed below. Second, it is in marked contrast to the characteristic values of two other prominent professions, medicine and the law. The medical paradigm places the welfare of the *individual* patient above all other considerations. Similarly, the lawyer will more often than not find himself prosecuting or defending the *individual* rights of his client. Of course, on many occasions lawyers act for corporate bodies or governments, but nevertheless a significant proportion of lawyers and legal activity are concerned with prosecuting, defending or adjudicating upon the rights *of individuals*. The actuary, in contrast, is almost never concerned with the welfare of the individual, but only with the group; and quite often, appears concerned with protecting and advancing the interests of a corporate body *against* the interests of individuals.

The previous paragraph paints the actuarial profession in a slightly unflattering light, which is not entirely fair (for reasons we will discuss below). However, whether or not actuaries think it is a fair picture, we think there is a strong possibility that the picture painted above may be that which the rest of the world sees. This may be accentuated by the further values we discuss in 2.7 and 2.8 below.

It may be argued that the primary reason for actuaries' preoccupation with collective rather than individual welfare is the nature of the underlying science. Actuarial science, like all statistical disciplines, is meaningful and useful only in the context of groups: it has nothing to contribute to the welfare of the individual in isolation. Thus actuaries' lack of professional concern for individual welfare may stem largely from the very nature of their expertise, which pertains to collective rather than individual welfare.

Some time after this section of the paper was originally written, we were interested to discover that this `collective before individual' value had been identified by a very distinguished earlier author, the late Frank Redington. In the context of the distribution of surplus, the "actuarial fable" in *The flock and the sheep and other essays* (Redington, 1981) gently chided the actuarial profession with the criticism that "We take care of the flock but we forget the sheep". Redington reinforced the point by remarking that "The actuarial shepherd is deeply conditioned to think in terms of the flock, for that is where his professional skill lies".

However, nothing in the scientific underpinnings of actuarial work dictates that actuaries must favour the interests of business or industry above those of a *collective* of individuals - for example, the customers of industry - considered as a group. In fact, however, actuaries generally do seem to concern themselves with the interests of business rather than consumers, a phenomenon which is sufficiently pervasive to be identified as the next characteristic value we discuss.

2.7 *Anti-consumerism*

The growth of the consumer rights movement has been one of the most significant social changes in developed economies in the past 30 years, and over this period consumerism has blossomed into a broad social and legislative trend. Actuarial comment on this trend has generally tended to be disparaging. Two convenient examples amongst many are Corley (1989), and Gupta & Westall (1993). Actuaries such as these authors make their views on consumerism very plain. Corley, for example, in his presidential address to the Institute of Actuaries, suggested that

"... it is tempting to float the idea that the various consumer lobbies in this country seldom reflect the long-term interests of the real consumers. Indeed, it is possible to suggest that, with their short time horizon, the various consumer lobbies have done as much damage to the manufacture of British domestic goods as the actions of any trade union, government or management".
Gupta & Westall, in a paper to the Institute of Actuaries on *Distribution of financial services*, present their critical view of consumerism in the following terms:

"... Generally consumerism encompasses:

- the consumer movement's belief that there must always be someone (other than the consumer) who is to blame, who should meet any losses by the consumer;

- regulation rather than existing law is preferable;

- the consumer always wants the maximum information; and

- if all else fails, there must be a compensation scheme."

They go on to list various alleged adverse consequences of consumerism; and then re-emphasise their view in reply to the discussion, stating that "Consumerism means to us the consumer movement. We believe it has some things fundamentally wrong."

It might be expected that actuaries expressing hostility towards consumerism would be concerned only with its effects on the insurance industry; but in fact the actuarial authors referred to above seem to have gone out of their way to disparage consumerism on a much broader canvas. Actuarial authors who seek to advance the cause of consumerism, on the other hand, seem to be thin on the ground (to be honest, we were unable to find any).

In the specific context of life assurance, actuarial hostility to consumerism has taken the form of general opposition to disclosure of commissions and expenses at the point of sale. In the UK, this debate was played out in the early 1990s, with the principal protagonists being the Office of Fair Trading (OFT), the National Consumer Council and the Consumers' Association on the one hand, and the insurance industry and the actuarial profession on the other. British readers will know that the opposition of the insurance industry and the actuarial profession to these developments was ultimately futile, in that most of what they opposed was enacted anyway.

Just after we had written this section of the paper (in October 1997) the views in it were confirmed by the appearance of headlines in the British press along the lines of "Consumer watchdogs slam actuaries' proposals [on the future of financial regulation (Fishman et al, 1997)]". Once again it seemed that actuaries were at loggerheads with those concerned for consumers' interests. Given that the authors of Fishman et al included one of the authors quoted earlier in this section, the concern of consumer groups is understandable.

2.8 *Anti-human rights*

This value is directly derived from actuaries' concern with collective rather than individual welfare. It is similar to actuarial disapproval of consumerism in that it represents the opposition of actuaries to an international legislative and social trend. In recent years many countries have enacted legislation which inhibits discrimination on the basis of individual characteristics, such as gender, racial origin, disability or sexual orientation. Examples include Sex Discrimination Acts (UK, 1975 and 1986; Australia, 1984; Civil Rights Act, US, 1964); Disability Discrimination Acts (US, 1990; Australia, 1992; UK, 1995); and all-encompassing legislation such as the New Zealand Human Rights Act (1993).

The principal reason why these Acts potentially impinge on insurance is that they are generally directed at outlawing not only *irrational discrimination* but also *statistical discrimination*. It may be helpful to offer a definition of these two terms. Irrational discrimination is just what it says: in an employment context, Nobel prizewinner Kenneth Arrow defined it as "the valuation in the marketplace of personal characteristics of the worker which are unrelated to productivity". An example might be the payment of female employees at lower rates than men, for work of the same standard, simply because they *are* female. Statistical discrimination, on the other hand, may be defined as the valuation of personal characteristics which are statistically correlated with productivity (or whatever else the discriminator wishes to select for). An example might be an employer's policy not to promote young women to managerial posts because of evidence that promoted females are on average less productive than males, because maternity causes them to take more time off work. This statistical discrimination is (a) *not* irrational but nevertheless (b) is perceived as unfair, and therefore outlawed, in many contexts in an increasing number of jurisdictions. The statistical justification for the discriminatory practice is not regarded as adequate grounds for permitting it.

This creates a problem for insurance, inasmuch that underwriting is nothing if not statistical discrimination. However, for the purposes of insurance the statistical justification for discrimination is often (although not always) regarded as sufficient grounds to permit it. As a result, the Acts referred to above invariably make special provisions for insurance, for example to permit underwriting provided if it is based on "actuarial or statistical data or other information on which it is reasonable to rely" (to quote the United Kingdom's Disability Discrimination Act). One might have thought that this would satisfy actuarial concerns, and that bearing in mind the substantial political support for anti-discrimination measures, the profession might refrain from further comment. But in fact, actuaries have consistently expressed their opposition to such legislation; apart from papers specifically on underwriting, presidents of actuarial associations worldwide have used their presidential addresses to express disapproval of human rights legislation. For example, presidents of actuarial societies in South Africa (Keir, 1994), Australia (Burgess, 1995) and Scotland (Grace, 1997) have used their presidential addresses to make such remarks.

In some cases, these authors appear to suggest that the actuarial profession should campaign actively against groups concerned with the rights of (for example) disabled persons, or homosexuals, or other minority groups: to quote Burgess (1995), "...I believe we need to do more than just draw attention to the implications of ignoring significant rating factors and instead *go on the offensive* [our italics] and seek to educate policymakers and influencers of policy who advocate further restrictions on the right to underwrite". Similarly, Grace (1997) writing about the UK's Disability Discrimination Act, suggests that "the actuarial profession...must be prepared to make its voice heard", by implication for the purpose of defending the insurance industry against disabled litigants. As far as we are aware, no other professions have expressed similar views or intentions: they appear to be distinctively actuarial.

We tried, but were unable, to find any examples of actuaries expressing support for human rights legislation, or actuaries who were concerned with the interests of the individuals whom such legislation seeks to protect. The overwhelming impression from actuarial literature, press releases and public statements is that actuaries are opposed to the international trend to introduce anti-discrimination legislation, and hostile to those whose rights it seeks to protect.

Many actuaries would protest that their opposition to human rights legislation is based on a belief that restrictions on underwriting may impede the (actuarial) fairness of underwriting. Although it is not central to this paper, we would remark that such an appeal to fairness is a weak argument. Statistical discrimination in underwriting is not obviously more or less fair than statistical discrimination in employment or in any other area; if the latter type of discrimination is perceived as so unfair that it should be outlawed, then fairness provides little justification for special provisions for underwriting. A better argument in support of such special provisions would be that they are *to some extent* necessary for private insurance - although the phrase *to some extent* is an important qualification, which is sometimes overlooked by actuaries.

2.9 *Non-values*

As a final item on our list of actuarial values, it is worth mentioning one value which we might have expected to identify, but in fact did not observe. In view of the mathematical basis of actuarial science, it might be expected that actuaries would have a certain respect or reverence for mathematics, and strong convictions about the usefulness of a mathematical approach to the problems with which they deal. But in reality, actuaries (at least in the United Kingdom) are more often disparaging about those who use more advanced mathematics than they do themselves, deploying what they see as a healthy disregard for "technical" or "theoretical" matters. Views in this area do vary considerably amongst actuaries, and some regret the rather lukewarm attitude of the profession in general towards mathematical refinement; as one speaker, (Wilkie, 1993) at the Institute of Actuaries put it, "it is all too easy in this Hall to get a sympathetic laugh by ridiculing those who introduce an integral sign or a correlation coefficient into the discussion".

2.10 *Summary*

In this section we have identified a range of values which we think are characteristic of the actuarial profession; some are flattering, others perhaps less so. In the next section, we will consider when and how actuaries come to acquire these values.

3. Selection or inculcation?

3.1 *Two possibilities*

When we consider the means by which actuaries acquire the characteristic values outlined above, we see two principal possibilities. The first is that actuarial work attracts individuals who already hold, or are at least predisposed towards, some or all of these values. The second is that the values are `caught' (and perhaps partly `taught') as part of actuarial training. We may conveniently (albeit inelegantly) label these two possibilities as `self-selection' and `inculcation'.

Commonsense suggests that the balance between self-selection and inculcation will vary accordingly to the particular value being considered. For example, the pecuniary perspective may be partly attributable to self-selection (although we noted earlier that it is further developed by constant exposure to a professional world in which all things are monetised). The values of mutuality (equity), and anti-consumerism seems unlikely to be significantly attributable to self-selection, if only because they involve ideas with which most prospective entrants to the profession will not be familiar. The origins of the other values are more difficult to judge. It seems possible that the staid reputation of the profession attracts the socially conservative rather than the unconventional, and the prudent rather than the injudicious; but both these values, especially the latter, are also inculcated by actuarial training.

3.2 *The case of economics*

Evidence of the importance of both self-selection and professional inculcation of values has been provided in a paper by Frank et al (1993), which investigates the effects of graduate study of economics on individuals' cynicism and selfishness. In a series of controlled experiments involving prisoner's dilemma games and self-reports of honesty, they found that:

(a) students registering for economics courses were more cynical and more selfish than a control group of students registering for an astronomy course;

(b) the economics students became more cynical and more selfish as they progressed through the course.

In a separate study, Frank et al also found that after controlling for variations in income, academic economists were amongst the least generous of all academic disciplinary groupings in their charitable giving, and were more likely than any other grouping to be pure free riders (that is, to report giving no money whatsoever to charity). More recently, Frank has reported further evidence that charitable giving, after controlling for variations in income, declines in progression with number of years' study of economics (FT, 1996).

Frank et al conclude that whilst self-selection is part of the explanation of the more cynical and selfish behaviour of economists, the nature of the discipline itself inculcates cynicism and selfishness. In particular, they note that economics places very heavy emphasis on the role of self-interest as the motivation of human behaviour, and on related phenomena such as moral hazard and adverse selection. The discipline of economics, and perhaps some economists, may be uncomprehending of a world in which people rescue drowning men, or give their wealth to charity, or pursue other actions which are not motivated purely by self-interest.

The foibles of economists (incidentally, one of the authors is by training an economist!) would perhaps not matter except for the fact that economics and economists claim to provide explanations for human behaviour in general - and in doing so, may tend to assume their own degree of cynicism is shared by others. This may indeed be the case, but the experiments outlined above suggest it is at least questionable.

Readers may have noticed that some of the economic concepts mentioned above - adverse selection and moral hazard - have particular relevance in insurance. Actuaries tend, of course, to be concerned to emphasise strongly the importance of such behaviours when discussing insurance with legislators. In doing so, they may be in danger, like the economists, of assuming that their own degree of cynicism and selfishness is shared by others.

None of what we say here denies that self-interest is the primary motivation of most human endeavour, nor that adverse selection and moral hazard are inevitable consequences of such self-interest. That people are self-interested is not in dispute; the question is to what extent, and for whom, other motivations are important. Part of the answer appears to be that selfish motivations may be more important for those who say that they are; and also for those who work within disciplines or professional groupings which emphasise such motivations.

3.3 *Conclusion*

Our conclusion is that, as in other disciplines such as economics, both self-selection and inculcation play a part in the development of actuarial values. This is not very surprising. But even if we cannot be sure where values come from, we can ask whether they have served us well, and whether they will continue to do so in the future. It is to this question that we now turn.

4. **Actuarial values versus social values**

4.1 *A values audit*

In a broader context, one view of the evolution of human values (Sharp, 1997) is that in primitive societies values evolved so as to increase the chances of the survival of the society. In this Darwinist view, the societies which prospered were those with the most `successful' values. Typically, values have effect by restraining individual self-interested behaviour in ways which promote the long term success of the society as a whole. For example, in many western societies there are restrictions on, or obstacles to, divorce and remarriage. These may in many cases reduce individual happiness, but may also promote the long term stability and success of society as a whole.

Extending the principle from societies to professional groupings, we suggest that the professions which prosper will be those with the most successful values - that is, values which restrain individual self-interested behaviour in ways which maximise the chances of long-term success for the profession as a whole. In this sense, have the actuarial values outlined in section 2 above served us well?

Our prudence has arguably been a major factor in legislators entrusting us to ensure the financial solvency of the insurance industry: that is, these values are a large part of the reason for the long-term success of the profession. Our concern with mutuality and equity sets us apart from other numerate professions, and has probably contributed to an aura of propriety and responsibility (not to mention a little mystique) surrounding the profession. As regards conservatism, this is a feature of most professions; and probably a beneficial one, at least in moderation.

The pecuniary perspective, as we noted earlier, is a useful prism for viewing the world; but difficulties may arise if we assume that our perspective is shared by others. For example, attempts to justify decisions or actions on the basis of the costs (for example, in cost-benefit analysis) may encounter resistance which actuaries find difficult to accept or even to understand.

The value of `collective before individual concern' was uncontroversial when the rest of society shared this value, or at least was acquiescent towards it. But in the last 20 years or so, there has been a legislative impetus towards individual rights; the various anti-discrimination Acts mentioned earlier are one manifestation of this. In this area, the actuarial profession seems to be finding itself increasingly out of sympathy with public opinion. As we noted in section 2.8, the presidents of actuarial societies worldwide find it necessary to criticise human rights legislation; but there seems every likelihood that the social and legislative trends towards greater individual rights will continue. It is not obvious what long term advantages a profession can gain from appearing always and everywhere hostile to human rights legislation, and by implication towards the individuals whose rights it seeks to advance.

As regards anti-consumerism, it is difficult to see how this value has benefited the profession, at least in the UK context with which the authors are most familiar. Almost all the consumer protection legislation to which actuaries have been opposed has been enacted anyway. Scandals such as the misselling of personal pensions have erupted in our own backyard, and actuaries have been widely criticised for their complaisance or even complicity in such malpractice. If actuaries had been less dismissive of consumerism and its advocates, such embarrassing developments as this might possibly have been mitigated.

In summary, most of the values of actuaries appear to have been beneficial, except perhaps for anti-consumerism. Hostility towards human rights legislation has so far done the profession little harm, but it is increasingly at variance with wider political opinion; it is not obvious to us how this value can remain tenable in the long term.

4.2 *Values into the 21st century*

The rise of consumerism, and the pressure to circumscribe or outlaw statistical discrimination in the guise of human rights legislation, are both trends which seem likely to continue into the 21st century. They present challenges for any profession whose traditional values are inimical to these trends. In our view it would be politically ill-advised, and probably in the long run simply untenable, for actuaries to continue to be hostile to these trends in the ways which they have been in the past. The actuarial profession needs to find ways of accommodating and even embracing such trends, rather than fighting losing battles against the tide of social history.

5. **Conclusions and postscript**

5.1 *Conclusions*

Actuarial work is not a culture-free activity. Actuarial thought and practice is guided by a loosely shared set of values, which we defined as fundamental concepts which we use to guide our patterns of thought and behaviour and which are not very susceptible to change, at least in the short term.

We identified actuarial values as including prudence, conservatism, the pecuniary perspective, equity, collective over individual concern, anti-consumerism and hostility towards human rights legislation. We suggested that most of these values had served us well and would continue to do so. However, anti-consumerism has not been particularly beneficial to the profession. The general hostility of actuaries to certain causes which commend great political and legislative support, such as human rights legislation, seems politically untenable.

5.2 *Postscript*

We have argued above that certain actuarial values - anti-consumerism and general opposition to human rights legislation - will not be helpful to the profession's future, because they tend to place it in a position of conflict with wider society; and therefore that these values should be modified. This is a pragmatic argument which, if its premise is accepted, should appeal to the self-interest of actuaries. But our pragmatic use of an argument based on self-interest does not mean that we see no other justification. On the contrary, we see a much more important deontological justification for advocating that the actuarial profession should aim to be supportive of human rights legislation. Doing the right thing can be its own reward, even if (or perhaps especially when) there are commercial or personal costs involved.

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