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December 1, 2005

Risk, Reward and Responsibility in the Land of Make Believe
(Montego Bay, Jamaica)*

The main theme of your conference refers to risk and reward, but I thought I would add responsibility to form a trio which I know will be familiar to you, although in a context slightly different from the one in which I will use it. It is possible that any mention of these three to your profession immediately evokes thoughts of corporate culture and practice. You perhaps think of limited liability companies which I have only relatively recently come to understand. I always accepted that this form of corporate organization was good for our economic growth and wellbeing, and I confess that it came as a bit of a shock to me when I learnt that in this kind of business there could be persons who would reap rewards, share few of the risks but in moments of crisis or loss take no responsibility at all. This must surely border on the immoral, but such I suppose is the nature of some corporate business.

I was tempted to address you as Chancellor of the University of the West Indies and to relate risk, reward and responsibility to the functions of a modern university. I am sure that you are aware of our offerings in your field, so I also thought of expanding on the University's program in actuarial science and perhaps obtain some feed-back from you on how your Association could be more involved.

But instead, I will relate risk, reward and responsibility to health and show that in this field we accept that there are risks which lead to rewards and we accept that there has to be responsibility for the outcome and more importantly for eliminating or diminishing the risk. In general terms, the greater the risk the greater will be the reward as I learnt from a tender age when I had to struggle to interpret the biblical parable of the talents. The adventurous slave who risked his master's money was rewarded, while the cautious fellow who buried the single talent and therefore took no risk with money that was not his was cast into outer darkness. In Sunday school I thought that the lesson to be learnt from the parable is that you can afford to take risks if you have a lot of money.

I must make it clear from the outset that not all rewards are positive, although the usual approach is to regard all such as positive and to dub the negative consequences of having adopted one or other risk as simply a bad or unfortunate outcome. A reward can be a requital for good or evil and may be in the form of retribution. It is also usual to

* Keynote address at the Caribbean Actuarial Association's 15th Annual Conference, Montego Bay, Jamaica, December 1, 2005

think of risk, reward and responsibility as related uniquely to individuals, but as I hope to show, they apply to populations as well.

I also thought of beginning this address with some stories of William Petty, if for nothing else than to point out that he was a physician and thus our discipline lays claim to being the originator of econometrics. He was certainly present when the foundations of your profession were established with the publication of his friend John Graunt's bills of mortality. I intended to remind you that what you know and study as demography had its beginning in Petty's political arithmetic and he would claim that "*the happiness and greatness of the people are by the ordinary rules of Arithmetic, brought into a sort of demonstration*". I would have traced your development and your interest in the happiness and greatness of the Caribbean people as if they had emerged from a demonstration of the usefulness of Petty's ordinary rules.

But my preparation was interrupted by a visit to Grenada and thoughts of Petty and Graunt left me as I walked in the early morning on the beautiful Grand Anse Beach where the infiniteness, power and beauty of nature make mankind seem so puny and notions of compound interest seemed very irrelevant. The relentlessness of the lapping of the waves on the shore brought up notions of timelessness and as I fell almost into a reverie, I heard one of my favorite songs as played by Chuck Mangione—"The Land of Make Believe".

When you are feeling down and out
Wondering what this world's about
I know a place that has the answer'
It's a place where no one dies
It's a land where no one cries
And good vibrations always greet you.

I could imagine two actuaries arguing with me whether such a situation was good for their profession and their livelihoods. One would say that it would be heavenly if no one died, as long as they went on paying their insurance premiums. And the other saw it as sheer hell; it meant that there would be no need for actuaries as there would be no probability of death, there would be no life tables, so that part of your practice would disappear altogether. Your wise elders would say that the pillars of the actuarial profession that had flourished on the basis of its expertise on risk and uncertainty in insurance opportunities had been eroded and you would become no more than mere soothsayers.

But unfortunately we live in a land where the tragedy of the human condition is that everyone dies and we have to come to terms with the age old struggle that man wages against the environment in order to avoid premature death. The essence of that struggle has not changed. What has indeed changed is the nature of the environmental threat, the risk we take wittingly or unwittingly as we face those threats and the spectrum of the diseases which have followed the changing environmental challenges we have to confront.

I was once a practicing personal care physician and was very much attuned to the notion of risk in patient management. I appreciated that the first rule of medicine is to do no harm and the physician is always at pains to advocate an intervention that is not likely to do harm. But there is no intervention that is risk free and there are no two individuals who have the same tolerance for, or appreciation of risk, which has been described as “*a complex, socially determined concept usually understood as the probability and magnitude of some future harm, including potential injury, damage or loss.*” The critical issue is the capacity of the physician to communicate the probability of there being harm, injury, damage and loss and weigh that against the effect of one or other intervention or even non-intervention. The resulting decision is, or at least should be a joint one, although in many cases, given that there is no equality of information, the patient is at a considerable disadvantage. Of course there is informed consent, but this is often a sham and there are very few who understand the legal jargon in which it is presented. This has led to the unfortunate belief that most interactions between physician and patient are based on the principle of “*emptor caveat*”-let the buyer beware and the communication of risk to the patient is done mainly with the intention of absolving the physician from blame.

Actuaries are certainly concerned with this aspect of health from a personal point of view, and I would expect that you more than most would be more discerning in attempting to establish the risk inherent in any suggested intervention. I hope that you engage in discussion as to the nature of the benefit to be derived from accepting one or other level of risk. I would expect you to be among the growing number of the informed who can understand that the final decision is one based on shared responsibility. Of course the notion of risk extends not only to intervention for treatment, but it is very much related to the risky lifestyles which must be altered in order to preserve health and prevent disease and not only to effect cure or rehabilitation.

Although the notion of risk, reward and responsibility is important at the individual level, I wish to engage you more on the application of these concepts at the population level and more specifically with relation to the health of the Caribbean. Who takes the risks? What are the rewards or consequences and who should assume the responsibility for the minimization of the risks and the optimization of the rewards in Caribbean health?

The CARICOM Heads of Government Heads have declared that the “Health of the region is the Wealth of the region” and in order to give substance to this declaration nominated a Commission on Health and Development which I had the honor of chairing. We examined the past achievements and the current situation, produced evidence as to the impact of the health problems on the region’s economies and made several recommendations. The Caribbean has done well over the past decades in terms of population health. The standard indicators of infant mortality, life expectancy and female fertility have all moved in the right direction. I am sure that you actuaries are very well aware of the increase in life expectancy for both men and women. Indeed the data compare favorably with any country at our level of development. Thus one of our key

recommendations was that we should be sure to maintain the gains we have made as we address the new problems.

The Commission identified four major sets of health problems which the Caribbean has to face. These are obesity and its co-morbidities such as hypertension and diabetes, HIV/AIDS, violence and injuries and weakness in our health infrastructure. The region is well into a demographic transition and the non-communicable diseases are assuming ever greater importance. Although the physical evidence is all around us, it still comes as a bit of a shock to many to appreciate the extent of obesity in our populations, both male and female. The rates of overweight and obesity as measured by the Body Mass Index (which is your weight in kilograms divided by your height in meters squared) range from seventy percent in St.Kitts/Nevis to just over fifty percent in Trinidad and Tobago for females. Although the actual rates are lower in males in all countries, we still have fifty percent of Belizean men overweight or obese. The tragedy is that these rates are increasing and there is as yet no evidence that the Caribbean has woken up to the magnitude of the problem and the risks it entails.

What are the risks from obesity here? Data from the University of the West Indies which examined the level of obesity across the diaspora, from West Africa through the Caribbean to North America show quite clearly that as populations got fatter there was increased risk of diabetes and heart disease. As Body Mass Index went from 25 which is the upper limit of normal to 30, there was a doubling of the prevalence of high blood pressure in the populations. Data from a ten year follow up of middle aged women in Harvard showed the alarming result that men and women with a Body Mass Index over 35 were about 20 times more likely to develop diabetes than their same sex peers who were not overweight. You may quite correctly ask the question why do individuals who know the risk still become obese. Are there rewards that can be given to induce healthy eating or exercise which are obviously the two effective interventions?

The problem of HIV/AIDS has been gripping the Caribbean for two decades and I am sure everyone here has heard that the wider Caribbean has about 400,000 persons living with HIV and about 20% of these are in the CARICOM countries. When the epidemic started in the early eighties it was very much a disease of homosexual males, but the predominant mode of transmission is now heterosexual and the ratio of men to women is less than 2:1. The major factors that drive the epidemic are essentially socio-cultural. There is a persistent pattern of early sexual exposure in both boys and girls although it is earlier in the former. The increase in the prevalence among young girls is a manifestation of their social vulnerability and also of the gender discrimination and the unequal distribution of power in the Caribbean societies. The practice of having multiple sexual partners is frequent. There is pervasive stigma and discrimination not only against persons who are HIV positive, but also against those whose life styles are thought to be conducive to contracting the infection. There is rampant and flagrant homophobia in our countries and this plus stigma and discrimination are among the factors that serve to impede the public health practice needed to bring the epidemic under control. Persons are afraid to be tested, less they find that they are HIV positive and have to suffer the stigma

and discrimination that are attached to the infection. Our history and geography which have made inter-country travel easy also facilitate the spread of the disease.

In some ways there is better news about HIV/AIDS than there is about obesity and the non-communicable diseases, as in several countries there is growing public awareness of the disease, political commitment to its control and increasing numbers of persons receiving appropriate anti-retroviral therapy. We can now detect a significant decrease in deaths from AIDS and the transmission of the virus from mother to child is fast disappearing. Today is World AIDS Day and the latest report from UNAIDS says the following.

“ Several recent developments in the Caribbean region (in Bahamas, Barbados, Bermuda, Dominican Republic and Haiti) give cause for guarded optimism—with some HIV prevalence declines evident among pregnant women, signs of increased condom use among sex workers and expansion of voluntary HIV testing and counseling”.

Sexual intercourse is by far the major form of transmission of HIV and as with the other sexually transmitted infections, they are unusual in that they are in most cases the result of volition. There is usually a positive act by the individual and by now there must be universal acceptance of the fact that unprotected sex poses a risk of contracting the disease. But I am sure that actuaries will ask for data on the probability of being infected. What is the likelihood of a male contracting HIV from a female who is not a commercial sex worker and whose HIV status is unknown? First, the infectivity of the virus is very low as opposed to the other sexually transmitted infections and female to male transmission is much less effective than the reverse. There are differing estimates of the probability of being infected, but data from the early days of the epidemic suggested that if a male has intercourse without a condom once with a female whose HIV status is unknown and it is in a country with a low prevalence rate, then the chance of becoming infected is 1 in 5 million. It is 1 in 5 billion if the partner is HIV negative and a condom is used.

Let me point out however, that prevalence rates vary among and between countries and groups. While the prevalence rate of HIV infection in Jamaica as a whole is below 2%, in Montego Bay it is about 20% among female commercial sex workers. Are these low probabilities any source of comfort? The answer is no, as obviously low probability does not translate into zero risk and given the incurability of the infection, the negative reward is very high. Not to accept this is tantamount to flirting with fate and dicing with death. I am sure everyone here knows the basis of prevention is the well known trinity of ABC-abstinence, be faithful and use a condom.

But how does one prevent individuals, especially the young from taking these risks? I find it almost paradoxical that in other fields there is a glorification of risk. Ralph Waldo Emerson wrote: “Do what you are afraid to do” and also, “often a certain abdication of prudence and foresight is an element of success”. Surely these cannot apply to HIV! However, I am always aware that the basic reason why risk is taken in the case of sex and also in the case of eating is although they can be negative rewards in the

longer term, there are also very positive short term ones. Both activities give great pleasure and the pleasure factor is a powerful force in determining human behavior. In both cases the pleasure is immediate but the negative rewards or consequences are distant. The answer to how we counteract these powerful forces lies in the responsibility adopted at the individual and the societal level. We have the tools to promote safe sex and healthy eating. The discipline and practice of marketing is a powerful one and if properly applied, can indeed alter individual behavior. Individuals can be persuaded to adopt the ABC which some would say is in descending order of difficulty.

But it is not enough to lay the responsibility at the door of the individual and make him or her the victim. Society has a role to play. For example, society has levers to regulate the pricing, sale and marketing of foods. It can provide for parks and places of recreation to promote physical activity, it can make physical education in schools mandatory. Our society can address frontally the issue of homophobia and the stigma and discrimination that attend HIV. It can decriminalize homosexuality and prostitution and thus be able to deal with some of the factors that reduce the effectiveness of the public health approach to controlling HIV/AIDS. And let us not forget the rewards that can accrue to society if it accepts the responsibility to be more aggressive in addressing these issues. The cost to society of AIDS and the chronic diseases is enormous. I do not have accurate macro-data for the Caribbean, but we do have some evidence that AIDS has a significant negative economic effect at the household level. We estimated that the cost to Jamaica alone of treating diabetes and hypertension in 2002 was \$US fifty-eight million.

Thus I would reply to those who would glory risk, by acknowledging that this may be true in some fields, but I would be reluctant to follow Ralph Waldo Emerson in matters of health. I would prefer to cite Bertrand Russell who wrote; *“A life without adventure is likely to be unsatisfying, but a life in which adventure is allowed to take whatever form it will is sure to be short”*. I am sure you actuaries would exchange the adventurous short life for the unsatisfying longer one, or perhaps you would question Russell’s notion of what does constitute adventure.

I will not address the aspects of injury and violence or the weakness in our health infrastructure that was highlighted in the Commission’s report. Rather, I wish to end by commenting on the role of your profession in advancing development in the Caribbean. Of course you have your codes of conduct as a profession and I believe that your legitimate assumption of belonging to an honorable profession implies certain responsibilities. There are the responsibilities of achieving a certain level of technical competence and also observing certain ethical behavior. The first article of the code of professional conduct of the EU countries reads thus:

“An actuary shall perform professional services with integrity, skill and care. He shall fulfill his professional responsibility to his client or employer and shall not act against the public interest”

But as with every profession there is the implicit assumption that since society accords you this status and rewards you for it, there has to be some quid pro quo, and I

would be rash enough to suggest that the responsibility is not only not to act against the public interest, but in addition, to act positively in the public interest. I believe that every profession has some measure of social responsibility. Professionals may discharge this individually, but there is a need for their professional associations to recognize a social responsibility.

I would submit that this can be discharged in several ways. You might direct some of your energy towards strengthening some of our institutions and of course my preference would be the educational ones. But I also believe that a professional body cannot be distant from the mega problems of our time and given the thrust of my comments, I would encourage you to think of the mega problems in health. I mentioned HIV/AIDS. There is benefit to society when professional organizations are not silent on the issue of the human rights of persons with HIV/AIDS and begin with their own members, making it clear that they abhor the stigma or discrimination that is attached to the life styles that are thought to be conducive to contracting the disease. Professional organizations could be champions for the change in the social mores which have outlived their origins and usefulness and demean us as a caring society.

Madam Chair, you and I know that there is no land where no one dies or no one cries. But we know that good men and women such as are represented in the Caribbean Actuarial Association can move individually and collectively to ensure that fewer cry and fewer die prematurely in our land. I do not think that this is too heavy a responsibility to lay on you. The risks to you are really minimal, but if you do accept them the rewards are great and there will be good vibrations to greet you.

I wish you a successful Conference in this idyllic setting which could well be part of a land of make believe.