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Regarding The New Worklife Expectancy Tables

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As a user of Dr. Gamboa's worklife tables, I was most interested in Professor Corcione's review. There were a number of very important issues raised some of which must await the response of someone more knowledgeable than I. However, I do have a few observations.

Professor Corcione found fault with the following rationale for using "smoothed data". "By using a six-year average, future fluctuations that are likely to occur in the participation and employment rate will be minimized." (Gamboa, 1995). Of course, nothing that we can do with data will affect the future course of events, so a use of the hermeneutic principle of charity will force us to seek another interpretation. Fortunately, there is a rather simple one at hand and it has to do with recognizing the phenomenon of regression towards the mean and making a conscious effort not to rely on short term fluctuations. Regarding the smoothing's possible effect of eliminating both noise and a signal, the author of the worklife tables, to the best of my knowledge, was not proposing a scientific theory but only providing statistical data and some practical rules of thumb. For example if one were to assess the probability of a particular pregnant woman giving birth to a male, it is quite possible to construct models based on family history or other predictors. But in the absence of such a well tested model, I would opt for the long term relative frequency of .514 as the best estimate.

Perhaps Professor Corcione has a more specific theory or model which he would like to conjecture (in order to be tested) but, given the history of predictions in economics, I suspect that the most rational approach is to use long term frequencies as probabilities. It is also questionable whether one *should* employ a model for forensic purposes that has not been extensively tested. We can argue about forecasting and induction all day but the long term frequencies, calculated during periods of fairly recent history, have a plausibility which few other methods can match and plausibility means a lot in forensic work. Nevertheless, there is nothing in the tables that would prevent an expert from giving the opinion that certain short term data are a better predictor of the future.

Regarding severity of disability, it has been known for some time that most injured workers are not as impaired as those who identify themselves as disabled in the Current Population Survey. Therefore, we employ a continuum of disability which is an assessment by an experienced vocational rehabilitation professional regarding the individual's degree of occupational

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disability. This is a very important requirement without which the use of the worklife tables becomes problematic.

The suggestion by Professor Corcione that one should incorporate the overall probability of becoming disabled into the pre-injury worklife is somewhat puzzling because it can be interpreted in at least two different ways. If he means that one ought to calculate the anterior probability of employment by including both non-disabled and disabled people in the reference group, it is superficially attractive from a statistical standpoint since non-disabled people *do* stand a chance of becoming disabled. But under our present procedures, his proposal only *possibly* makes sense in cases of post-injury average disability or worse. In other cases one would also have to adjust the *post-injury* work life to reflect the probability of even greater degrees of disability in the future. This might involve abandoning the continuum and considering every injured person to be average disabled. It is likely that by including all people in the anterior reference group and only disabled people in the posterior reference group (not using a continuum of disability), the estimated loss of earnings would be greater than under our present procedure. Hence the practical import of his critique (that the losses are upwardly biased) is belied by taking his own proposal to its logical conclusion.

Apparently, Professor Corcione doesn't understand the continuum of disability because, if he did, he would realize that our method is actually conservative and he would not insist on the additional distinction between severely disabled and mildly disabled. We use a continuum of disability for disabled probability of employment which makes even finer distinctions than a dichotomous classification. It should also be noted that we do not employ a continuum for *non-disabled* probability of employment. That is essentially conservative for a majority of the cases that we see where the disabled worker usually has a very consistent pre-injury work history which could yield a much higher worklife than the statistical data themselves allow.

But if interpreted in another way, and taken to its logical conclusion in certain types of personal injury cases, Corcione's suggestion is very troubling indeed. If he means that one should attempt to calculate the actual objective probability of a given worker becoming disabled (by use of more specific empirical data), it flouts the legal principles of personal responsibility and equity and may obviate the intent of non-intentional tort law which is to internalize the cost of injuries caused by negligence (Posner & Landes, 1987). Let us imagine the following scenario.

A laborer is employed in a dangerous situation but he or she has no prior knowledge of the actual extent of the danger and, therefore, can not be accused of contributory negligence. The tortfeasor *does* have sufficient knowledge to be guilty of negligence in the disability of this worker, however. At the trial the defendant produces evidence that the danger to the worker was industry-wide and that the probability of injury within a few years of the actual accident was extremely high (perhaps .8). The effect of this knowledge (under Corcione's proposal) would seem to deprive the plaintiff of 80% of his or her economic damages! Hence, nobody (and no collectivity) would ever pay more than a small fraction of the results of the negligence! To complicate matters, somewhat, the plaintiff might then present specific evidence that these types of workers who are partially disabled have a very high probability of becoming *totally* disabled later on. Would this also be allowable?

tices. Perhaps in a perfect world workers would fully insure themselves against the actual danger of injury, but we know from numerous studies of decision making under risk and uncertainty that people consistently underestimate many kinds of risks and, therefore, fail to insure themselves against them. In fact those same studies show a tendency to be *risk seeking* as regards losses such as this. (Bell, Raiffa & Tversky, 1995). Perhaps under some alternative legal system, the other *potentially* guilty parties would be assessed a part of the loss. But there is presently no legal mechanism for forcing someone to pay for what *might* have occurred in alternative states of the universe, albeit ones which resemble our own in all discernible respects other than the one event with which we are concerned.

Admittedly, the above scenario raises many perplexing questions and perhaps points out the fact that there is no perfect way of estimating economic loss. It seems odd that the use of a more generally derived probability of employment should be superior to one especially tailored to an individual case. But as we all know there are many paradoxes in rational decision theory. We might argue forever about how to account for this anomaly using expected utility, subjective expected utility or prospect theory but, obviously, something has gone wrong from a legal and moral perspective, if a wrongfully injured worker were only to get compensated for 20% of his or her loss.

The present system that we use does mitigate damages by considering the prior probability of *extraneous* factors such as non-participation in the work force, normal unemployment and death. But it places the burden of the injury and resulting disability on the party that actually caused it in the real world. While this may seem unattractive and unfair from the vantage point of probabilistic thinking, it is in accordance with our legal concepts of responsibility and causality which far pre-date the modern notion of probability. That concept became widely disseminated around the year 1660 although the frequency theory of probability was discussed by Cardano in the 16th century (Hacking, 1993).

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