

BOISSO Σ ASSOCIATES
Dale E. Boisso, Ph.D.
Consulting Economist
Dale@BoissoAndAssociates.com
(214) 394-3165

Should the Value of a Statistical Life Be Part of a Wrongful Death Damages Award?

An attorney recently brought to my attention an article in *The New York Times* that discussed a concept known as the value of a statistical life (“VSL”).¹ Although I will explain this notion in greater detail below, the article cited sources placing this value in the range of \$5 to \$9 million. The attorney was interested in knowing whether such dollar amounts and, more to the point, the notion of the value of a statistical life could be used in wrongful death lawsuits as an element of compensation to the survivors of the decedent. Given that courts must make dollar decisions on various components of compensation in death cases, it is reasonable to wonder whether VSL affords a more “scientific” basis for such assessments.

The value of a statistical life is applied in a wide range of disciplines – to name a few, economics, health care, public policy, insurance, worker safety, and environmental impact assessment. VSL provides an estimate of the value of a life saved through some action – for instance, an employer who reduces the risk of fatal on-the-job accidents, or a government that forces polluters to decrease emissions known to cause potentially fatal health effects. Knowing such a value helps decision-makers determine how best to utilize limited economic resources. If a certain activity saves a life and the cost of doing so is less than the value of a statistical life, the activity should be undertaken.

Generally, VSL is an economic value derived using information from a market. One approach to assigning such a value is to “observe the ‘price’ people are willing to pay (or accept) to decrease (increase) the risk of a fatality in markets that embody this risk.”² For example, suppose I pay \$15 for a smoke alarm that will alert me to fire in my home. If the chance of

¹ “As U.S. Agencies Put More Value on a Life, Businesses Fret,” Binyamin Appelbaum, *The New York Times*, February 16, 2011.

² *Cost-Benefit Analysis: Concepts and Practice*, 4th edition, Boardman, Anthony E., Greenberg, David H., Vining, Aidan R., and Weimer, David L., New Jersey: Prentice Hall, 2011, p. 408.

dying in a house fire is 1 in 100,000, then – statistically speaking – the value I have placed on saving my life equals \$1,500,000.

A second and more widely accepted approach is to “examine how much of a wage premium people working in risky jobs must be given to compensate them for the additional fatality risk.”³ The worker who is willing to accept an additional \$500 annually to balance the 1 in 10,000 chance he/she will suffer a fatal accident during the year has effectively placed a (statistical) value on his/her life equal to \$5,000,000.

To be sure, another consumer may be willing to pay \$20 for the same smoke alarm and another worker might insist on a \$1,000 wage premium. Clearly, both such persons have placed a higher statistical value on their respective lives. But therein lays one of the problems of attempting to use VSL in the courtroom: there is not just one number that defines the value of a life in general. It is also possible that a particular person could value his/her life differently depending on the method used to estimate that value. That is, VSL could be \$1,500,000 based on the smoke detector approach or \$5,000,000 using the wage risk premium approach. Additionally, suppose the reason the worker who accepts the \$500 wage premium versus \$1,000 does so because he/she does not comprehend the true probability of the fatal risk.

A third, non-market based technique has been used to determine VSL – hypothetical survey questions. Although carefully written (and delivered) survey questions should elicit valid responses, the line of questions at issue here would be fraught with potential for a wide range of possibly unreliable answers. This stems, in large part, from an inability for anyone to state with a reasonable degree of probability that any dollar value proposed is the correct one.

From a purely economic perspective, the purpose of determining the value of a statistical life is due to efficiency considerations, that is, an answer to the question: What dollar amount is sufficiently large enough to provide an incentive to, for instance, employers to optimally allocate resources in such a way as to prevent more accidents? A simple example can illustrate this

³ *Id.*

principle. Suppose an employer has 100 workers who demand a \$1,000 annual wage premium to balance the 1 in 10,000 chance of a fatal accident. On an annual basis this equates to \$100,000 in total additional wages. Suppose the employer could spend \$85,000 in such a way that the risk of a fatal accident is reduced to, say, 1 in 100,000. These same workers would now require only a \$100 wage premium, which would cost the employer \$10,000 in additional total annual wages. The employer would save \$5,000 in the first year alone.⁴ Thus, some might argue that improving economic efficiency, and thereby possibly reducing the number of accidental fatalities, should be the basis for awarding compensation to survivors in wrongful death cases. That is to say, jury awards to survivors would act as an incentive to anyone creating (or not mitigating) a potential fatality risk to take steps to minimize exposure to such risks. However, laws addressing compensation to survivors do not appear to be written with that intent.

It is important to understand that VSL is an *ex ante* concept that attempts to identify an economic loss that could take place. As such, the willingness to pay to avoid a fatal accident is estimated under conditions where the victim is unknown. On the other hand, jury awards to survivors in wrongful death cases are determined based on *ex post* considerations in that they involve a measure of a loss that has already occurred. This difference is important because economic studies that quantify the dollar value of a statistical life “do not tell us how any one individual ... might need to be compensated to accept [a given] level of risk”⁵ Instead, such values are derived from *average* wage premiums and the probability of a *typical worker* in a given industry suffering a fatal accident. The (potential) victim is unknown. Conversely, in a wrongful death lawsuit, the decedent is clearly known; he/she is not a “statistical person.”

If the potential victim were known prior to the fatal accident, that person’s VSL might be determined by his/her answer to the *ex ante* question: “What is the minimum increase in income you would be willing to accept in order to voluntarily subject yourself to this injury ... with certainty that it will occur...?”⁶ Arguably, the typical answer to such a question would be substantially higher than that based on *average* wage premiums for a *typical worker* who is

⁴ $\$5,000 = \$100,000 - \$85,000 - \$10,000$.

⁵ “The Relevance of Willingness-to-Pay Estimates of the Value of a Statistical Life in Determining Wrongful Death Awards,” Lauraine G. Chestnut and Daniel M. Violette, *Journal of Forensic Economics*, Vol. 3, No. 3, 1990, p. 79.

⁶ Chestnut and Violette, *op. cit.*, p. 82.

facing only a small probability of a fatal accident, not certain death. Further, the respondent's stated VSL would more likely than not comport with a dollar value range his/her survivors might offer in answer to the *ex post* question: "What is the minimum increase in income that would make you feel as well-off as you felt before your loved one died?"⁷ Therein lay two large disconnects between the *ex ante* value of a statistical person's life and the *ex post* value of an identifiable person's life. First, VSL is based on a very small probability of an (as yet, unidentified) individual being fatally injured, whereas a jury award in a wrongful death lawsuit is based on an absolute certainty. Second, answers to the questions posed in this paragraph would yield dollar values substantially (perhaps infinitely) in excess of VSL figures determined through empirical analysis.

Additionally, studies designed to derive estimates of average wage premiums generally focus on male workers and include a large number of persons, each having differing characteristics. An individual within that sample (or more to the point, from the general population) may very well have levels of risk aversion, income, and other factors that influence his/her required wage premium that differ from those of the "typical" worker. Consequently, to then extrapolate a VSL figure derived from this average wage premium for the typical worker to a specific person may mislead jurors as they attempt to arrive at an appropriate damages award based on the decedent's (individual) characteristics. In other words, average VSL numbers are neither directly nor indirectly linked to the individual circumstances and facts particular to a wrongful death lawsuit.

Finally, it is reasonable to expect that a VSL figure includes an estimate of anticipated lost financial support to survivors plus other elements of support such as household and childcare services, love and companionship, parental guidance, and so on. But there are difficult challenges to distinguishing the dollar value of these elements, not the least of which is that an individual may not, and perhaps cannot, know *a priori* the true value of such losses having never experienced a fatal accident. (Another way to look at this is to question whether a potential victim can correctly assess the risk component of his/her "calculations," or whether he/she – or

⁷ *Id.*

anyone – can accurately determine the wage premium that corresponds to a given level of risk.) Further, to the extent that an individual's VSL includes his/her own potential losses (financial, pain and suffering, loss of enjoyment of life and love, etc.), it will overstate the losses of the survivors.

In conclusion, although some legal experts have advocated for VSL information to be provided to a jury,⁸ other experts argue against it being made available.⁹ My analysis of the issue convinces me that VSL should not be allowed in the courtroom. The theoretical and practical differences between the concept and methods of estimating the value of a statistical life in comparison with a value a jury might place on a specific person's life are too numerous and pronounced; introduction of VSL into the courtroom would more likely than not only confuse and mislead the jury.

⁸ See "Dollars and Death," Eric A. Posner and Cass R. Sunstein, *The University of Chicago Law Review*, Vol. 72, No. 2, pp. 537-598.

⁹ See, for instance, "The Flawed Hedonic Damages Measures of Compensation for Wrongful Death and Personal Injury," W. Kip Viscusi, *Journal of Forensic Economics*, Vol. 20, No. 2, 2007, pp. 113-135.