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“Summary of Editor of the Harvard Law Review’s Comment: Ask a Silly Question..: Contingent Valuation of Natural Resource Damages”

The rise of environmental consciousness over the past several decades has led to legislation which makes despoilers of natural resources liable for both market and nonmarket losses incurred by the public. This creates the need for measurement of those losses. Contingent valuation (CV), a technique that uses surveys to value nonmarket goods, has gained prominence as a tool for assessing damages to publicly owned natural resources. It is the only method currently used in the controversial measurement of nonuse values, such as the preservation of some remote wilderness for potential use, posterity or for mere knowledge of its existence. This article suggests that CV estimates are biased and unreliable in general, and argues that CV measurements of nonuse values are so speculative that the costs of using them in legal proceedings almost always outweigh the benefits.

THE UNRELIABILITY OF CV FOR NONUSE VALUES

CV is an approach to valuation of a commodity which relies upon individual responses to contingent circumstances, posed in a hypothetical market. A typical CV survey introduces a commodity and describes the method by which the respondent is to "purchase" it, be it a one time tax or a price increase. The respondent is then asked to report his willingness to pay (WTP); the sum of such WTP's are averaged and multiplied by the relevant population to produce a total value. In the debriefing, further information is gathered about demographics and the reasons respondents valued goods as they did. As a relatively new method of valuation, CV is still in a rudimentary stage of development.

There are numerous sources of bias and unreliability that are inherent to CV. A fundamental problem is the hypothetical nature of the questions and answers. Unlike the more common marketplace transactions, where consumers must consider income constraints and potential expenditures on other goods, there is no cost to being wrong when answering a CV survey. Therefore, there is no incentive to undertake the mental effort to be accurate. CV surveys are also susceptible to "strategic bias", whereby respondents purposefully misrepresent their WTP in an effort to increase or decrease the amount of money devoted to a resource. For these reasons, a distrust of hypothetical answers and reliance on observed behavior has long been a basic principle of economics.

CV was originally developed for measurement of use values, such as the opportunity to visit national parks or wilderness areas. The extension of the technique to measurement of nonuse

values is especially worrisome. The hypothetical nature of the survey is intensified when applied to goods with which the respondent may be entirely unfamiliar. It is not difficult to imagine resource damages to which most people have given little or no thought. Therefore, responses often do not reflect preexisting preferences; rather, they are numbers constructed for the first time while answering the survey. The result is a level of arbitrariness in responses which makes it impossible to obtain legitimate results. In the worst scenario, "if a respondent is unaware of the existence of the resource, a CV survey may create the very nonuse value it purports to measure." [1986]

Because CV is the only method available for measuring nonuse values, its reliability cannot be tested through comparison with other techniques. However, it can be tested against economic theory, which assumes that preferences should be continuous and additive. To the contrary, CV estimates for vastly different sizes and types of resources tend to fall within a similar range, while the summation of WTP's for a variety of resources often produces an aggregate WTP which would exhaust the budget of the average individual. An example of the former problem is seen in an experiment which asked three different groups about their WTP to save 2000, 20,000, or 200,000 birds and found that, despite the huge variation in numbers, the average WTP's were virtually identical.

CV estimates purport to measure preferences, but they fail miserably in this task. Determining what they actually do measure requires consideration of the psyche of the respondent. The near-constancy of WTP values across widely different quantities of a resource and across vastly disparate resources suggests that people are showing general support for preserving the environment, or whatever good cause a survey covers. "People view the hypothetical bid as an imaginary gift to charity, and that gift creates the 'warm glow' associated with altruism." [1989] This helps to explain the small number of very low nonzero responses, which is similar to the results found in charity drives. People decide whether a cause is worthy and then pick a nice round number to donate to that cause. This problem is inherent to the methodology, and renders the results inaccurate, no matter what improvements are made in survey technique.

ECONOMIC EFFECTS OF USING CV

It has been argued by advocates of the CV method that far from being unreliable, it should rather be considered the most reliable method because it is the only method available. "It is economic folly, however, to assume that 'some number is better than no number' when assessing damages." [1990] With billion-dollar nonuse values common for virtually any nationwide impact (e.g., a WTP of \$10 per household multiplied by roughly 100 million households), there can be very large social costs to using the wrong number. "In all but perhaps a few limited cases, the costs to society of imposing such uncertain damages are greater than the costs of ignoring the nonuse values measured by CV." [1990]

If awards are consistently inflated, excessive precautions will be taken to avoid environmental harm and excessive funds will be allocated to restoration of resources beyond economically appropriate levels. These will in turn translate into higher prices, lower dividends to investors, and lost consumer surplus. Even if CV estimates were correct on average, the uncertainty of the

results on a case-to-case basis would lead to similar results due to the risk-averse nature of industry.

As the stakes get higher in damage suits due to these inflated values, the marginal benefit of spending a dollar in court also grows. The still questionable admissibility of CV estimates will encourage more defendants to go to court. The widening gap between plaintiffs' and defendants' estimates of expected damages will discourage out-of-court settlements. All of these trends will lead to a significant rise in administrative costs, which are social losses indirectly borne by the public.

The costs of excluding CV studies would lead to an opposite scenario wherein too little precautions are taken against environmental harm, too little is spent on restoration, and prices are too low, encouraging the public to overinvest in polluting industries. Hence, these costs must be weighed against the costs of using CV. In cases where the nonuse values are small, excluding them will be a safer path, with small potential deviations from optimality. This eliminates the possibility of incurring the costs associated with highly inaccurate and often grossly magnified estimates of the CV method.

The Department of the Interior has considered some of these problems in establishing its new rules, the preamble to which states that CV should be used for nonuse values only in cases involving long term damages to resources that are both unique and well-known. While this is a positive step, it has been shown that CV results vary widely from one study to another, even when measuring the value of a resource as unique and well-known as the Grand Canyon.

CONCLUSION

A thorough look at the evidence warrants a complete rejection of the CV method. Meanwhile, defendants should have ample grounds for the dismissal of CV estimates from court due to its proven unreliability.

Society's growing concern for the environment and its recognition of natural resources' nonmarket values have elevated the need for accurate methods of measuring those values. CV is a novel and ambitious attempt to do so, but unfortunately, it is a fatally flawed one. Because new data and analyses suggest that CV does not provide even a rough estimate of people's true preferences for nonuse values, CV estimates of nonuse values should be excluded from federal damage assessment regulations and from the courtroom. [2000]