The Regrettable Necessity of Contingent Valuation

by

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The topic of this Conference is contingent valuation. That subject is generally defined as the effort to establish the value of some project or asset by the use of survey data. The term was apparently first introduced in 1947 by one S.V. Ciriacy-Wantrup, who thought that the appropriate procedures employed interviews in which subjects are "asked how much money they are willing to pay for successive additional quantities of a collective extra-market good." One implicit assumption of this definition is that contingent value is not needed for ordinary market goods. But with respect to those goods that are not bought and sold, some device as to replace the set of prices that markets happily make explicit. Toward that end the tester prepares an array of questions about some particular subject matter in order to elicit how much they would be prepared to pay—the so-called WTP—in order to secure the provision of some public good. Alternatively, they are asked how much money someone would have to pay them—the so-called WTA—to discontinue some public project that they hold dear. Everyone agrees that poor surveys will lead to poor estimations of value. But there is sharp disagreement as to how useful the best of these studies are in making value determinations for widespread studies on the valuation of a full set of public goods—the creation of a national park, the preservation of wildlife in an estuary, the control of epidemics, the pursuit of national security, or whatever.

The source of this controversy is easy to isolate. There are so many public situations in which alternative tools of evaluation seems to fail, so that contingent valuation techniques are adopted by default. But the purported necessity of using this technique does not in and of itself explain away its shortcomings. In this paper, I offer no magic bullet the resolves the tension those who insist that contingent valuation must be done and those who insist, with equal fervor, that it cannot be done. My own belief is that contingent valuation will continue to be used until someone comes up with an alternative method powerful enough to displace it. After over 50 years of trying, I doubt that this will ever be done. That said, all that is left is to refine the techniques in question. Much of that work is done by experts in survey research, a topic to which I can add little.

What I hope to do instead is to place the technique of contingent valuation in a large context that deals with the question of valuation more broadly. These questions are ubiquitous, but the techniques for dealing with them are always imperfect. The problem may become most acute in dealing with those areas in which the use of contingent valuation seem to be appropriate, that is in dealing with the question of valuation for various types of environmental and cultural amenities that are not traded in any market. But it would be a mistake to assume that the need for resort to contingent valuation is confined to these areas. Indeed, as I hope to make clear in this paper, the question of contingent valuation is pervasive throughout all areas of law, even those which deal with classic private goods. The point here is not that we should spurn the use of market valuations when those are available in particular contexts. It is that we have to face the problems that contingent valuation seeks to address even in mundane legal contexts far removed from the grand disputes which turn on the soundness of contingent valuation. My hope is that once we have some sense of the difficulty inherent in all systems of valuation we might get some better purchase on contingent valuation, and avoid some difficulties associated with the practice. So what then are the forms of valuation and what do they include and omit?

Valuation is of course an essential element in making any decision in any kind of social setting, so that intelligent decisions are a must under any kind of a moral or legal theory. Individuals are constantly faced with choices in their individual and their collective lives. They could make these decisions at random or they could try to achieve some particular goal or end. Most people choose the latter. The common way to express their behavior ambition is to assume people compute some expected value for their choices. How then these values are determined and by what techniques? And what does knowledge of the legal system add to the equation. How is it done? Part I of this essay talks about the use of contingent valuation in connection with private goods. Part III

then extends this lesson to the extra-market goods for which it was first designed.

Market Valuation *Exchange Values* The most common form of valuation relies on the market. Indeed contingent valuation is often defined in opposition to market valuation, as an effort to pick up for public goods the question of valuation when no organized markets are available. But just what does this precisely mean? One common definition of market valuation is exchange valuation, which in turn equals the value that a willing buyer and a willing seller attach to some good that is bought and sold between them. The great virtue of a market valuation for the operation of the legal system is that it spares both courts and juries the obligation to set value themselves. The appeal of market valuation dates back to Hobbes, who in his justification for contract arrangements observed that the value attached to any thing to any individual is that which he is contented to give. Valuation itself rests on the appetite of the individuals to the transaction, whose own set of preferences, once revealed, cannot be reviewed or challenged, and perhaps even understood, so it is said, by anyone else. There is in a sense no element of just value outside the desires and preferences of parties to some social system. The system of prices thus communicates to the rest of the world how many resources one is prepared to surrender in order to get the goods and services he wants. The decisive Hayekian insight was that no system of centralized planning could provide this level of information, even if it used the techniques of contingent valuation.

The key institutional implication of these insights is the presumption of noninterference by legislatures and courts in private market transactions. Once the two parties to a transaction have settled on a price, the state should never intervene and to say that the parties have set this price incorrectly unless it can show some defect (force, fraud or incompetence) in how the price was set. The job of the public sector is to enforce the contract as written and not to propose any set of terms on the parties that they would not choose for themselves. Subjectivity of value in exchange is said to explain why legislatures should not seek to set minimum wage or maximum hour provisions in contracts of employment. It also points us toward a unregulated markets in land (no rent control) and corporate instruments (no maximum interest rates) on which so much of our prosperity rests.

One false inference from this analysis is that all philosophical and operational problems of valuation are resolved by resort to market values even in routine private transactions. But a moment's reflection should indicate that the use of market valuations solves only a tiny corner of the overall problem of valuation, even for goods that are regularly and efficiently brought and sold. Assume that market valuations limits the role of courts and legislatures in valuing goods. This institutional response does not supply a theory of value. It only puts back the question of valuation one degree further, for now we must ask how the parties themselves make their private valuations for their own benefit. At this point it does little good to celebrate the importance of rational behavior and individual autonomy. It becomes necessary to figure out how people make these valuations for themselves.

One possible theory of valuation assumes that the value of a given thing is determined by the value of its inputs in labor and capital. In one sense, the suggestion contains an important insight, because we do think that the value of a thing has to exceed the cost of its production. But it is a mistake to assume that the values in question are determined in any sense by its costs, as under a Marxist labor theory of value. Quite the contrary the value of the item in question is not determined by reference to its costs. Rather first the value is determined, and once that is done, then an individual has to ask whether the costs of its production are below the valuations attached to the goods, whether held for personal use or for sale for others. Let there be two goods, one that is cheaper and better than the other, and the first will drive the second from the market because of the utter absence of any quality/price trade off. The goods and services that are sold all will have the feature that the better product will cost more, leaving it to the purchaser to decide which option to take. A relentless selection process thus determines which venture get undertaken and which goods get produced. Any goods that cost more than they are worth (in expectation) are not produced. Those which are worth more than they cost are produced, and those are the only ones we see, from which it is easy to infer that valuable goods always cost more to make. But making this proposition does not give any clue as to how the valuations in question are made.

So where does one look next? With financial assets, the answer seems tolerably clear. These goods in question are not valued for themselves, but as means to obtain other goods whose value lies in consumption or use: in

these markets more is better. Think of a share of stock as a statement that entitles the holder of that stock to some fraction of the future income of a corporation. At this point the question is how to determine the present value to the shareholder of his interest. This calculation requires some estimate of the expected earnings performance of the firm over its life, an issue on which informed minds could easily differ. Once the estimated cash flows for future periods are determined, then each person has to select a discount rate by which a stream of future flows is reduced to its present value. In one sense we could hope that all people looking at the same data will come up with identical valuations of the firm. But in valuations, as in horse races, that will just not prove to be the case, for people will use different techniques or heuristics to estimate the future course of events. The value of shares therefore will be determined at least in part by the intersection of supply and demand, which represents some kind of a consensus estimate of the worth of the firm. But even here it must be remembered that most people do not buy or sell at the market price. Some will think that the shares are worth more than the current price, and they will hold; other will think that they are worth less, and they will never buy, or sell if they have bought. The market value thus falls somewhere toward the middle of the range of the set of subjective estimations of these future cash flows, so that a single number conceals the heterogeneous expectations of the future course of events. It is an illusion to think that market valuation are uniform even for financial assets. All that can be inferred is that those who buy or hold value the asset at more than its current price; those who do not buy or hold value it otherwise. These markets are efficient in the sense that they allow trade to take place. But it is highly doubtful that they ever produce a unique statement of the value of the asset. Their genius is that they allow for the creation of gains in the absence of collective knowledge of the sources and extent of individual value.

Use Value The problems of valuation become only more acute when we move on to deal with the question of those goods purchased or used for consumption. At this point we no longer have the financial models to guide us in valuation, but only the observed behavior of individuals, some of whom purchase a commodity at a stated price and others of whom do not. At this point it is quite fruitless to argue that one party does the valuation correctly and the other one does not. The better hypothesis is that some people like asparagus and others do not. We must learn to make peace with the irreducible uncertainty associated with private valuations of ordinary goods and services. We must also make accommodations for those people who have decided to purchase or services at the current market price, but who will not sell when that price moves up by some determinate amount. The singular fact that we do not see for sale signs on every home in Chicago suggests clearly that market value supplies only a minimum bound of the subjective valuations that people attach to their own homes. The low frequency of sales is powerful evidence that most market goods have a use (or consumption) value that is greater than the market value. This is just another way of saying that most of the time particular goods are in the hands of individuals who value them most.

The question then arises, how do we take respond to this known difference between use and exchange value? For the most part the right device is to let things alone, and to follow the injunction that revealed preferences are the best social responses to values that are by nature determined privately. There is nothing about the theory of revealed preferences that says that people always know what they want. But there is a good deal to be said for not second-guessing them even when they don't. We all make mistakes and enter into transactions that we soon regret.

Unfortunately, market valuations do not always provide a safe refuge from our collective ignorance of subjective value, for in many situations we cannot make do with a system that protects use value by allowing individual owners to steer clear of exchanges for less than the property is worth to them. Thus suppose that some property has been destroyed by another individual. The question then arises as to what valuation should be attached to the goods in question: market or subjective. In some cases, the right answer is market value, even if the owner had subjective value for the thing. I attach a value of $100 to my recording of *Rubber Soul*, which is taken from me. but so long as I can purchase a duplicate for $20 in the market, then my ability to cover in a market transaction eliminates the need for the trier of fact to determine my subjective valuation.

The problem, however, gets only worse as we move to assets that do not have perfect, or even close, substitutes for them. Thus the value that I attach to my home is a function of its location relative to the work myself and other members of the family; it takes into account the features of the house that we customized on construction or by

modification thereafter. It is influenced in part by subjective associations that could not be replicated in some other area. Covering in the market can no longer be taken for granted. Even if we could cover in theory, the transactions costs of finding and acquiring the substitute are likely to be quite high.

Once we note these determinants of value, then setting value on ordinary goods is important for a wide range of routine social functions: determining real estate taxes, or for setting the level of compensation for the destruction or the condemnation of a home requires. To approach this question, we have to address a tradeoff that is easy to state but difficult to resolve. One possibility is to take the market value of the goods and treat them as sufficient for the purpose at hand. That enterprise is by no means easy to undertake, for even if we consciously ignore subjective value, some unique assets do not have easily determined market values: appraisers can do a pretty good job, but even in stable markets, it is hard to get within 5 or 10 percent of the expected market price. After all, what does an appraiser do if not to estimate the maximum amount that some other person will pay for the property in question? It matters not that most people have no interest in buying a particular home at any price. What is at stake is not how the ordinary person would value the asset. Rather, the action takes place on a tiny margin of interested purchasers. It is easy to hypothesize a market that does not have the one person who absolutely, positively loves this house. In making this valuation, the appraiser that looks to other properties sell for, and then to guess whether this one is better or worse than those in any number of dimensions: location, layout, condition etc. It is close to a contingent valuation in that it relies on nonmarket data, but it seeks to evaluate only private goods for which it is assumed that market values exist.

The question then arises, how good is this use of evidence in setting the value of property. In some measure it depends on the purposes for which the valuations are put. Thus consider a case where real estate must be appraised for the purpose of computing the local real estate taxes. In this case the inquiry is (relatively) easy. The ultimate inquiry in these cases often asks what is the fractional share that any given homeowner should bear of the total expenses of maintaining the community. In this setting we can easily live with error so long as it is proportionate across all the properties subject to tax, for those errors will produce at most small changes in ultimate burdens borne by individual members of the community. It seems clear therefore that systems of taxation opt for those rules that favor simplicity rather than precision, so long as they do not distort relative valuations. Thus if we knew that all market values were in the same ratio to each other as subjective values were to each other, then we should get the same fractional share for each house under either measure. At that point, praise simplicity and choose market values. But of course this assumption is wrong, for subjective values could easily vary. But we ignore them anyhow for a number of good second-order reasons. We worry that any effort to measure the ineffable will increase the discretion of appraisers and therefore the possibility of political abuse. We also know that finding subjective values is expensive. We also know that subjective values will tend to move up and down over time, hope, without quite knowing, that there will be some averaging out over time. So long as the values remain hidden from view, then the more robust base does a better work in sorting out relative burdens. We rely on the idea of compensating errors to ease the burdens of valuation.

This benign analysis does not hold, however, when valuation of property has to be done in cases of its destruction or condemnation for public use. In these cases, there are no offsetting errors. Short cuts that preserve parity at the expense of accuracy are no longer as good because the folks who have property taken are those who come out with net losses when use value is considered to be no higher than exchange value. Nor can be it said that this doesn't really matter either because one never knows who will be condemned and who not, so that from the ex ante perspective everyone is in the same boat. But that assumption of equal probabilities ignores two risks. First there is a risk of excessive condemnation because the value of state projects will not factor in any of the subjective losses that are kept out of the compensation system. Second, there is a moral hazard problem, where by low valuations may invite the state to pick out its condemnation targets precisely because it knows that they will be undercompensated. (Nor, ironically, can the converse risk be ignored. The compensation levels could be set so high (as was the case with Comisky Park) that eager homeowners lobbied to have their properties included in the compensation zone. The choice of valuation techniques matters more when everyone is not in the same boat.

What can we use? Unfortunately, we have backed into a contingent valuation problem of sorts in the effort to

isolate nonmarket values on the strength of various kinds of survey evidence. After all, how else should one characterize a homeowner's testimony as to the amount of money that it would have taken to get him to part with that property in a voluntary transaction? We have powerful reason that he would not be indifferent if he received only the market value: he did not put his property up for sale. Use value was key for him. To get at that evidence, we do have to use a form of contingent valuation, as a one-person survey on the WTA, which exposes the process the bias of the owner--the only individual whose valuation counts.

Unfortunately, we invite a bias of a different sort by making any broad based assumption that subjective values (use over exchange) should be set at zero, for now we have substituted a clearly erroneous valuation for one that was uncertain, but not necessarily further from the truth. One possible compromise to deal these biases is a rule of thumb that tacks on, say, 10 percent to market value to cover these subjective losses. We do a global contingent valuation confident that exchange values systematically underestimate use values by a significant extent. Contingent valuation is not just an elegant technique that is used with uneven success in environmental and cultural areas. The differences in that contingent valuation in environment and preservation cases is often used to establish the value of the asset from the ground up. In the condemnation cases, it is used as a second-order correction to top-off market values. The latter case allows one to use the fix percentage kicker. But there is no reference point for it in the second case. The problem is hard in one case, far more difficult in another..

The question then arises, how reliable is this hearsay evidence on the value of property? In some measure it depends on the purposes for which the valuations are put. Thus consider a case where all real estate that is not appraised has to be valued for the purposes of computing the local real estate taxes. The ultimate question in these cases is often what is the fractional share that any given homeowner should bear of the total expenses of maintaining the community. In this setting we can easily live with error so long as it is proportionate across all the relevant individuals, for those error produce small changes in ultimate burdens borne by individual members of the community. It seems clear therefore that systems of taxation opt for those rules that favor simplicity rather than precision, so long as they do not distort relative valuations. Market values here might work very well indeed on the ground that the ratio of market to subjective value is about the same for all individuals in the community, at least over the long run. We ignore the question of use value because it simplifies the inquiry without distorting the overall results.

But this is decidedly not the case with the destruction of property, and the question of compensation, or the condemnation of property, which raises under our just compensation regime much the same question. In these cases, all individuals are not brought into scrutiny at the same time, so the question is whether this one person receives this or that valuation. Short cuts that preserve parity at the expense of accuracy are no longer as good because the folks who have property taken are those who come out with net losses when use value is considered to be the equal of exchange value. Nor can be it said that this doesn’t really matter either because one never knows who will be condemned and who not, so that form the ex ante perspective everyone is in the same boat. But that ignores the moral hazard issue, by which the state may well pick its targets precisely because it thinks that they will be undercompensated (or in some cases overcompensated, at which point the eager plaintiff problem is a serious issue). And so we need some real form of valuation.

What can we use? In principle we are now back to a contingent valuation problem of sort because we are trying to isolate nonmarket values on the strength of various kinds of survey evidence. After all, what does happen when a homeowner testifies as to the amount of money that it would have taken to get him to part with that property in a voluntary transaction? Here we have a one-person survey, subject to cross-examination, where the respondent bias is evident. But the same is said of any bold assertion that the values in question (use over exchange) should be regarded as zero, for now we have substituted a clearly erroneous valuation for one that was uncertain, but not necessarily further from the truth. One possible way to avoid these biases is with some kind of rule of thumb. The landowner in question gets a 10 percent bonus over market value because that is designed to split the difference between undercompensation and self-serving testimony, while reducing the costs of judicial administration. The point is really quite simple. We do contingent valuation in any case where exchange values do not work. It is not just an elegant technique reserved for environmental and cultural disputes.

Relational Interests The difficulties with this rarefied form of contingent valuation in the context of torts or takings is not limited to trying to figure out the values gained or lost to the immediate parties to the transaction. Serious third party effects have to be discussed even if they are not registered within the legal system. One problem with respect to personal injuries is that any person who suffers serious injury or death has antecedent relationships with other persons that are necessarily compromised as well. The death of a husband leaves a grieving widow and fatherless children. Siblings and parents, friends and employers, customers and suppliers all lose the benefit of favorable relationships and it is a delicate question as to which of these (usually confined to spouses in the United States, but sometimes to children) should be allowed compensation for the loss in question. Here again there is no obvious market for these relationships so that testimony rather than real data has to dominate what takes place. Likewise the decision to condemn one piece of property may well create serious dislocations for neighbors who will typically under current law receive no compensation at all. Even if we are confident, as we are, that these disrupted relationships may well produce collateral benefits for others (who can now marry the widow or take the place of a trusted survivor), on net we are viscerally confident that the indirect dislocations outstrip the indirect benefits. Yet simultaneously, there is a peculiar unwillingness to use survey techniques to figure out just what these losses might be. The same problem often happens with defamation where the false statements about the plaintiff harm not only him but also third persons who would otherwise have the inclination to trade or socialize with him. The usual right of action is given to the individual who is a target of the defamation, not to the various persons to whom the false statements is directed. That approach involves a calculated acceptance at undercompensation because any one who refuses to deal with a defamed person bears additional costs in finding and using a substitute for the defamed party. Yet a direct action for fraud, even if available, is not brought because the public to whom the false statement is made is huge, and the loss to any individual or firm from mitigation tends to be small. These cases therefore fall outside the legal system because the effort to make good on them costs more than it can possibly be worth.

The problem with contingent valuation are every bit as insistent in dealing with nuisance actions of various sort where one component to the loss of a given landowner is the loss of aesthetic amenity associated with the site in question. In this context, we are using the aesthetic losses for damages above and beyond the costs of clean up and lost production, so that they are a fraction of the entire enterprise, rather than the enterprise itself. But the question of technique has to be the same as it in other contexts because the quantities in question are in some sense regarded as nontradable, and hence amenable only to testimonial or inferential evidence. Even though we do not use surveys, the evidence that is admitted in cases of this sort has the same function as the contingent valuation method with its own more explicit survey techniques.

We are now in a position to summarize the elusive role that contingent valuation has in ordinary legal disputes. Efforts to cap damages at market value often ignore key elements of subjective value that are held by participants to the dispute or by others who have interactions with them in some specific way. The usual explanation for ignoring these losses ties in with the traditional rules of standing: so long as there are other parties who have large pocket-book interests that have been compromised by action, then the legal system extends its relief only by degrees to persons who are not in the inner circle of harm. The marginal benefit from these additional actions is often rated as smaller than the marginal costs of assembling that data in some credible fashion. Hence we keep the information out, and use the simpler estimates based on market value in preference to the more complex ones that seek to take these interests into account.

Contingent Valuation of Public Goods Within this framework what should be done when we start to think about contingent valuation in the modern environmental and cultural disputes. The key feature about many of these cases is that the various forms of social loss do not come on top of some specific form of property loss subject to a lower-bound estimate of market cost. Rather the amenities in question are the kinds of things that government hopes to create or preserve, often with tax dollars, which valuation has to be done by nonmarket means if it is to be done at all. At this point the reluctance to engage in contingent valuation comes at far higher price. Yet the alternative of using it comes with far lower reliability because the embedded market values of specific property or relationships no longer supply a benchmark for deploying contingent valuation.

Contingent Valuation of Nontraded Private Goods The problems that take place with this form of valuation start with the simplest of cases. One of the insistent tropes of the contingent valuation literature is that we constantly ask individuals about the difference WTA and WTP. The central proposition in this literature, particularly with respect to those nonmarket goods, is that persistent disparities exist between WTA and WTP, with the former larger than the latter. What explains when these disparities arise and the large multiples?

Here is one possible explanation. The gap between WTA and WTP is context-specific in dealing with ordinary goods, even before we move into the heady realms of environment and preservation. In those contexts in which people are accustomed to trade, then they are able to make accurate assessments of the amount that they wish to pay—accurate in the sense of internally consistent with each other and bearing some relationship to their ordinary budget constraints. But the moment they leave this familiar terrain, then they no longer have any strong experiential background to anchor their survey responses.

Let me start with a simple example and then move slowly outward to harder cases. Let us suppose that someone where to ask me how much would I pay for a tie. If the question is done in a department store, with the range of ties in view, I can usually figure out how much I am prepared to pay because that knowledge is relevant to the decision that I have to make. But I am far weaker in figuring out what my WTA is for that same tie. The blunt truth is that the pieces of clothing I own, the books on my shelves, the food in my refrigerator, and the house in which I live are not for sale. I have no idea what my reservation price for these goods is because I have no reason to figure out it out. The reason that they are not for sale is that I am confident that no one else values them more than I do, given the key role subjective value. So long as I am confident that these things are worth more to me than anyone else, what is gained by deciding by how much? It is a cost, without any apparent decisional gain. When forced to respond to questions that elicit WTA, I do not know how to proceed. Everyone is on this question in more or less the same boat. The responses to the questions are likely to be haphazard, and of limited reliability even on matters that fall within the ken of common understanding.

Think of this social experiment. Suppose that someone knocks on your door of your home and offers to buy your home for $1 million. How do you respond? First you note the oddness of the sequence, because usually homes are put up for bid, and hence one has to ask why anyone would knock on doors when there was no indication that the property was for sale. Why should anyone be willing to pay for an owner's subjective values when other homes in sufficient quantity are available for market prices? Now let the uninvited bidder explain that he just has to have a home right away and that money, to him, is of no object. My own sense is that most people in this setting will not know what their WTA is. But if the offerer persisted, then they might do some hard thinking to come up with a price that made sense. But they would be reluctant to accept an offer out of the blue precisely because they are asked to compute a quantity that usually do not bother to learn. So long as they are aware of their subjective value (and some aversion to the hassle of moving), they have no reason to quantify its worth.

Contrast this odd scenario for bids with a more conventional one in which the homeowner who has been reassigned from Chicago to Los Angeles now knows that his house is worth more to him in exchange than it is in use. So the house will go on the market, and at this point the valuations in question are not pure WTA or WTP. Once the decision has been made to sell the property, subjective value has already been discounted below zero: the house is an albatross. His decision on whether to accept an offer, to rebid, or to terminate negotiations reflect some estimation of which course of action is likely to yield the highest risk-adjusted expected cash return net of effort. That if this transaction goes by what are the odds of a better (or worse) sale in the next period or periods. In this context, it seems silly to postulate an endowment effect even if such exists in some other places. Surveys rarely can give us contextual information that relates value to familiar choices, and hence the numbers, even when given in good faith tend to run all over the lot.

That situation gets only worse with respect to certain kinds of goods which people are sometimes asked to value. How much do I value my arm? It is a question that has to be addressed all the in damage actions. In some sense the abstract ideal is to provide some value that leaves me indifferent between the loss of the arm and the wealth

that is used to replace it. The point is to treat the taking as though it were the first step in what becomes a voluntary transaction. But I have no idea what the WTA is because no one has ever offered to buy the arm in the first place. This is a "market" in which subjective value to the owner is so great, and the use value to others is so small, that the estimations are never made in an exchange context. When there is no decision in the offing, there is no precise valuation. Unfortunately, we have to calculate some damages in the tort action, and to do so we typically sidestep the WTA question: we figure out medical expenses, lost earnings, and something for pain and suffering and call it a day. It is a survey of sorts of twelve jurors who are vexed even when they try to do their best. In the really horrible cases (eg. quadriplegia) these numbers get very high, but they can never equal WTA: there is no sum of money that most people will take for these certain conditions, and whatever value might that they would demand is far in excess of what any one would care to pay. In the end no one knows the true answer. The best that we can hope for is some consistency across cases.

Matters could change: one could easily think of a voluntary exchange market for organ transplants, in which some set of market prices might well emerge if the current ban on exchange were eliminated, as I think that it ought to be. But this market will be very thin, to say the least, for most people will not be in the business of selling kidneys to strangers at any price. But if that market did emerge, the prices would be determined by the tiny set of (nonrepeat) players who chose to enter those uncharted workers. We should not expect to find much guidance about exchange prices from survey data, however, because so few people in the surveys would choose to participate in the market. But once that market did emerge, there is no doubt that it would supply some public information on value that might feed back into the damage evaluation context by setting a lower bound on damage awards. But even then the help is likely to be minimal owing to the overwhelming numbers who choose to stay out of the market.

The difficulty of answering these questions helps explain the difficulty in answering such questions as how do we value health care. In all the years that I have purchased medical services, I have never purchased a commodity with that level of abstraction. How then to answer a question that asks the amount that one is willing to pay for a two percent reduction in the risk of cancer? Hard to say. The more context that is added, the easier it becomes to make a decision, but until there is some experiential base, the entire enterprise looks like picking out values in an endless sea. What is missing are some familiar landmarks, and those can only be obtained by focusing the inquiries with sufficient sharpness to make the answers credible. It is an pen question as to whether any survey can achieve that goal.

The Implicit Biases of Contingent Valuation So what does this tell us the use of survey information in order to deal with the larger issues of the environment and preservation? At one level these questions are easier because they ask us to value familiar conditions even if they are packaged in unfamiliar containers. But at the same time, new difficulties arise in the use of survey data, most of which tends to overestimate the value of certain public goods. In all the settings we have just considered, we have attached a positive subjective valuation to the goods in question, and used various technique to elicit that value as an upward correction for market value. I can figure out how much to pay to enter a national park for a day, without knowing how much I would pay to double the size of the national park system.

That cannot be done with contingent valuation of public goods. The usual technique of a contingent survey is to ask the question of how people would value certain kinds of assets. In some cases, the valuation might be easy because the individual in question wants to use the asset, so is prepared to pay some kind of a fee to do so. At this point, we just have the usual problem of figuring out the relationship between subjective and market value. The same argument can be made with respect to "option" value: the subject has no immediate use value today but knows that there is some positive chance that he will use the asset tomorrow, and thus treats the option as part of his portfolio.

Yet once again option value only constitutes a small part of contingent valuation. Often on the list is the question of nonuse or existence value, which asks about the tingly feeling that people know that they have just from the mere fact that certain buildings or natural resources will be preserved for themselves and for the next generation. At this point, it becomes possible I think to identify a very serious bias in contingent valuation. Why assume that

contingent values are always positive? Why can't they be negative as well? That assumption makes no sense when the task is to find the subjective value that an owner attaches to private goods: the mere fact that the good is retain is potent evidence of a positive subjective value; otherwise that good would be up for sale, at least if transaction costs are low. But there is no reason for that assumption to hold with public goods, where no market value places the lower bound on evaluation.

In order to see how the problem can arise, consider the following case. Suppose that there is a church that rings its bells loud every Sunday, and the question to be asked of folks is how to value this "amenity." Here the obvious response is that a lot depends on how close you live to the bell. It is common knowledge that church bells are great distractions to the individuals who live close beneath them. Yet as the distance increases, the loudness of the sound is reduced and for most people the value of the bell starts to turn positive, after which they become first faint, and then inaudible, at which point they move back toward zero. Wholly without regard to the actual values of the individuals involved, we can draw some inferences of valuation from distances alone.

Next, what about those people who do not hear the bells and are asked to attach some existence value to them? I see no reason to believe that they will only attach positive value to the bells in question: some people may identify with those close in, and wish for them to remain silent. Others may not. Any contingent valuation study that begins with the question, ‘how much would you pay to do or have X (some nonmarket good)?’ necessarily biases in the valuation upward by placing the zero floor to the inquiry. The point here is that in speaking of a public "good," we are correct to emphasis that the object is nonexcludable so that if it is provided to one, then it has to be provided to all. But there is nothing about the theory of public goods that assumes that once these non-divisible projects are undertaken that all the persons who receive them will attach only positive values to them. The conventional theory of public goods usually posits a uniform positive (or negative) value to the good (or bad) value in question. But the mixed cases cannot be ignored, for some publicly provided programs are bads for some people and goods for others, as with the bells.

The issue takes on real salience in the preservation context because public opinion is often sharply divided about the wisdom of preserving rickety old structures that stand in the path of industrial improvement that promises jobs for all. The landmark preservation movement enjoys immense support in some quarter, and is subject to genuine hostility in others. But no estimation of the value of certain kinds of projects makes any sense if the only question is what positive value goes in their place. Even if we bracket the question of what might go in its place, some people could regard preservation buildings as eyesores which are better demolished than preserved. It may well be that this Philistine approach counts only as a vocal minority but no system of aggregate valuation can ignored the minority any more than it ignores a majority. It therefore becomes tricky to decide to move forward with a project by majority vote, especially if the intensity of the minority is greater than that of the majority. And if we do move forward with activities over which sentiments are divided, then the nays should at least be made to reduce the ambition of the project to take into account those negative votes. In some ideal world, one would look to see how to compensate the losers so that no one is left worse off by the invocation of public force. This problem is, to say the least, acute on public lands, given the endless battle between those who want to make these lands used for ordinary activities of hunting and recreation and those who want to close these lands off to various kinds of ordinary activity. To the extent that contingent valuation is an effort to measure preferences, and not to reform them, it speaks with a divided tongue. It does not reflect any hidden bias in favor of the status quo ante in either the environmental or preservation setting.

A second bias in the world of contingent valuation is that we tend to ask about its exotic components, e.g. existence value, only with certain forms of goods and not with others. Thus it is easy to ask the question of whether we attach some existence value to redwood trees, to which the answer is yes. But that existence value is one among many existence values. Those of us who care about the cultural heritage think that classical furniture made of the finest woods are an appropriate object for present and future preservation. We also note that the collectibles of tomorrow include the furniture made today from redwoods. To ask whether people attach existence value to the redwood trees does not tip the scales in favor of their preservation. It is necessary to pose a second question: do they also attach existence value to redwood furniture. But one cannot have both. Ideally some netting is appropriate, if only we knew who to do it. But if we cannot do it, then why take the existence

values on one side, and ignore those on the other side. Presumably we should try to net them out, just as we would try to set off debts that run in both directions between A and B. Yet again the standard literature tends to play down this possibility as well. Lots of people will talk about the existence value of a redwood forest. How many people will address the possibility of the (positive) existence value of a ski resort? People often ask of the existence value of an endangered species. But do they ask about the existence value of the roads and highways, farms and family that whose activities may be halted in the name of preservation?

Third, I think that there is an upward bias to contingent valuation from the failure to distinguish between average and marginal value. It may well be that a person would pay a substantial sum of money for the preservation of the last bald eagle. But again that judgment has to be set into contexts. The first issue is how many eagles do we have to preserve and at what price. It is not the case that someone who would pay $10 to preserve one bald eagle would pay $1,000 to preserve 100. Or that he would hew to that valuation if asked about the preservation of other animals as well that compete for the same scarce resources. Indeed, I suspect that at least one rational response to these individual questions is to plead partial ignorance and a deference to experts. Thus a respondent could say that he is prepared to commit $500 per annum to the defense of endangered species, writ large but would prefer for government and private professionals to decide which species should receive the bulk of the funds. Others, especially those in t he west might be prepared to pay a lot more to stop tine entire initiative. But either way, the budget constraint becomes a way to supply needed social input, without having to inject one's own views into an area in which he feels fundamental ignorance as to the mix of activities in question.

This last observation shows the odd linkage between the individual and collective roles. In the ordinary case of subjective value, the individual subject is asked to measure the subjective value that he attaches to his own home. He does not have to think of the gains and losses that his valuation with respect to some large population. Now suppose one intends to ask the extent to which an individual values the preservation of the bald eagle. The usual way to put the question is for you to answer for your valuation, and then to sum the values over all individuals. Thus if I would pay $1 for the preservation of one bald eagle, that could easily transfer into a $10 million valuation for the state of Illinois or $290 million valuation for the nation. But I think that the aggregation is odd to say the least, for I doubt that any body would argue that we should pay $280 millions from the public treasury to protect one lone eagle, even if everyone announced his willingness to put the dollar into the pot. Most people would want to revise their estimate once they knew the size of the population to whom the question was put. It may well be that the valuations that one gets will be quite lower if the question were put, what amount of public resources do you think should be spent on given issues? A lot may turn on the way the question is framed, as was noted in the critique of contingent valuation offered by Diamond and Hausman.

There is with this last item a real irony. Everyone who does contingent valuation recognizes that the order in which questions are put may well frame the answers that are received. The litany of objections to contingent valuation are similar to those which are raised to the usual rational choice calculations that are said to undermine market economics. We have framing effects and anchoring effects (not to mention incomplete information) that can alter the answers that individuals give. But while these objections have often been used as a reason to override market behaviors, they should have if anything greater weight in the contingent valuation where the inquiries are ever so much more unbounded. The upshot is that if markets do not result in rational choices, then neither does central planning that depends on any form of contingent valuation. But that position is surely to harsh, for the only alternative to contingent valuation are expert decrees or seat of the pants intuitions, neither of which is perfect either. Clearly no one can live in a universe that routinely makes the best the enemy of the good. So no matter how potent these objections to contingent valuation, they do not result in a knock-down victory for its opponents. Instead they ought to inspire a somewhat more skeptical attitude toward study design in individual cases and a renewed determination to rid the practice of some of the hidden biases it now contains.. Incremental improvement is the order of the day. But at the end of the day the S.S. Contingent Valuation will continue to plow forward in choppy seas, but it will ride lower in the water than its proponents are prepared to acknowledge.