

Do Reminders of Substitutes and Budget Constraints Influence Contingent Valuation Estimates? Reply to Another Comment

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Kotchen and Reiling (hereafter KR) conduct a replication of the Loomis, Gonzalez-Caban, and Gregory (1994) test of the NOAA panel's (Arrow et al. 1993) recommendation that reminders of substitutes and budget constraints be included in contingent markets. In an earlier comment on Loomis et al. (Whitehead and Blomquist 1995) we find that information about related goods can lead to substitution and complementary effects on willingness to pay values for wetland resources. We argue that information about related environmental goods (substitutes or complements) is needed in contingent valuation research, especially for little known natural resources. KR find that the information about substitutes and budget constraints has no effect on mean willingness to pay, but the information improves the efficiency of willingness to pay estimation.¹

COMMENTS ABOUT KR REGRESSION ANALYSIS

The KR regression analysis contains two results, which lead us to question their conclusions. The model for the peregrine falcon with no reminder has an insignificant bid coefficient. It does not pass the simplest theoretical validity test and is therefore of limited use for any willingness to pay comparisons. KR suggest that there is omitted variable bias in this model. An alternative interpretation is that the environmental attitude variable is confounding the bid variable. Based on economic theory, the coefficient on the bid amount must be significant, with people responding to price, before useful willingness-to-pay comparisons across surveys can be made. Insignificance of the bid variable indicates that the yes/no answers are more indicative of a symbolic response to environmen-

talism than a contingent choice. If there is no theory to put the attitude variable in the model and it confounds theoretically important variables, then its inclusion in the final specification is questionable.

If the standard errors in the sturgeon reminder regression are correct, the prior knowledge coefficient is insignificant in both the sturgeon and peregrine regressions. If this is the case, prior knowledge matters for the group that does not get the reminder, but prior knowledge does not matter for the reminder group. For the peregrine falcon and sturgeon scenarios, those who had prior information are 2.6 and 3 times more likely to respond yes than those who had no information. This suggests that very few respondents who had no prior information responded yes. The budget and substitute reminder information may be acting as information about the quantity and quality of endangered species protection in the United States, not necessarily as information about related goods. In effect, respondents may interpret the reminder information as an indicator of the scope of the endangered species problem.

COMMENTS ABOUT SUBSTITUTE INFORMATION

This replication emphasizes the important point that future contingent valuation research should focus on the type of substitute information that should be included in CV

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¹ This is a result similar to Boyle (1989) who finds that more specific information about a public fishery program leads to tighter use value estimates.

scenarios. The NOAA Panel recommends that (emphasis added):

“Respondents must be reminded of substitute commodities, such as other *comparable natural resources* or the future state of the same resource. This reminder should be introduced forcefully and directly prior to the main valuation question to assure that respondents have the alternatives clearly in mind.” (pp. 4608–9)

The form of the information in Kotchen and Reiling (1998) and Loomis et al. (1994) is not necessarily information about comparable natural resources (or “related environmental resources,” see Blomquist and Whitehead 1998). Respondents are told that “about 1000 other endangered species in the U.S. need protection of their critical habitat.” More specific information about substitutes would be that “the Species X is a closely related species and is currently not endangered.”² These two types of information about commodities which are potential substitutes may be interpreted differently by respondents and lead to different contingent market behavior.

Contingent market respondents may need more precise information about related environmental goods. Theoretically, the different information sets represent the difference between an $n-k$ good model and an n good model. The n goods, 1,000 other endangered species, may be irrelevant to the contingent choice and would not be necessary to include in the CV scenario. Respondents may only be interested in the $n-k = 2$ good model: two closely related species. Again, the KR respondents may interpret the reminder information as an indicator of the scope of the endangered species problem.

KR provide a replication of the Loomis et al. results that strongly suggest that budget constraint and general information about related goods (or the scope of the problem) does not affect the point estimate willingness-to-pay values. Their results do suggest that information affects the precision of willingness-to-pay values. Future contingent valuation research should continue to investigate information effects. In particular, the appropriate form of substitute information

should be explored with focus groups, pretests, and additional sample surveys. Since the power of the tests in all three “substitute information” papers cited here is low, other future research should be (and is being) directed at improving the efficiency of discrete response contingent valuation questions. Future “substitute information” research should adopt these improved questioning techniques.

References

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² Note that this type of information for wetlands was interpreted as a complementary environmental good by survey respondents in Whitehead and Blomquist (1995).

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