

**ABARE review
of the
PricewaterhouseCoopers ‘Estimating consumers’ willingness to pay
for improvements to packaging and beverage container waste management’ Final Draft
Report**

[prepared for the Environment Protection and Heritage Council – June 2010]

ABARE agrees that this report provides indicative values that may inform further policy development. The use of confidence intervals in preference to point estimates and the further qualifications included in the report will promote the appropriate interpretation of the results. However, ABARE does not consider that this report represents good choice modelling practice. More attention to the design, implementation, estimation and aggregation phases could have provided significantly greater precision in the estimates of Australians’ willingness to pay (WTP) for increased recycling and litter reduction.

The key qualifications relate to the aggregation factor and specification of the litter effect. Regarding the aggregation factor it must be noted that surveys of this kind are subject to a selection bias because those with a lower WTP for increased recycling and litter reduction may be less likely to accept the invitation to participate in the survey. It can be further argued that the study used a fairly aggressive test for protest responses which were then excluded from the analysis. Thus the aggregation factor of 80%, which indicates the proportion of the Australian population to which the sample estimates may be extrapolated, needs to be viewed, as stated in the report, as an upper bound with the most appropriate aggregation factor unknown and lower than 80%. Further effort to elicit reasons for non-participation could have reduced this uncertainty.

The national model estimates a single litter parameter which relates to the *noticeable reduction* level. The model forces the *significant reduction* effect to be twice the *noticeable level* effect. Respondents may value these two levels with a different ratio and the survey design should accommodate this. However, the consultant reports that the specific experimental design used and the resulting data set do not allow any deviation from this assumption to be estimated with any precision. The use of these estimates is further complicated by the difficulty in determining how much litter needs to be reduced to achieve a *noticeable* or a *significant reduction*. On the other hand the report does indicate that Australians do have a significant WTP for litter reduction.

While ABARE does not consider that the best national model specification has been found, additional information provided to ABARE indicates that further refinements to the specification of the socioeconomic variables are unlikely to significantly improve the precision of the estimates. The most likely area for improvements would involve interacting the socio-economic or regional characteristics with the key effect variables. However this would necessitate a more sophisticated aggregation procedure that may raise other issues. Such models were not considered in the report.

The estimation methods and software used do not represent best practice for choice modelling. This factor has made the evaluation of the resulting models more difficult and is another area where some improvement in the precision of the estimates may be possible.

ABARE agrees that the modelling was not successful in quantifying the inconvenience costs associated with a container-deposit scheme (CDS). In order to quantify these costs and the level of participation in a particular CDS further analysis would be required. A more targeted analysis of a particular CDS may be able to make use of the data set collected in this study and as such ABARE recommends that a copy of the data be made available for this purpose.