

**A Meta-analysis of Response Rates to
Contingent-Valuation Studies
Conducted by Mail**

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The Issue

- NOAA Panel (1993) implicitly contested mail implementation → “... *CV study should be conducted with personal interviews*” (p. 4607).
- OMB (2006) asserts that (ICRs) “... *with expected response rates lower than 80 percent need ...*” (p. 61)
 - *description of expected response rate*
 - *steps to be taken to maximize response*
 - *plans to evaluate nonresponse bias*”



Heberlein and Baumgartner (1978) *meta analysis of 98 surveys*

- market research background (-),
- government sponsor (+),
- general population (-)
- employee population (+),
- school/army population (+),
- salient topic (+),
- length (pages) (-),
- follow-up mailings (+),
- \$\$ incentive 1st contact (+), and
- special 3rd contact (+).



Bruvold and Comer (1988)

20 categories, 50 features

- **expanded survey sponsorship categories (-)**
- **subject matter relationship to self, family (+)**
- **data requested (attitudinal (-) own behav. (+))**
- **nature of data (embarrassing/confidential (-))**
- **year survey was conducted (+)**



SALIENCE

- **TAILORING – (Groves and Couper, 1998)**
- **LEVERAGE-SALIENCECY (Groves, Singer and Corning, 2000)**
- **Saliency made relevant to different respondents by the interviewer**
- **Mail surveys require careful pretesting to tailor (Dillman, 2000), but one-size-fits-all**
- **Decomposed saliency into elements of the CV exercise**



Current Study

Sample Frame – Carson et. al. 1994

- **1672 citations**
- **124 unique, original studies**
- **Mail survey of PI's – 74% response rate**
- **146 studies, 188 unique observations**
- **Logit model corrected for heter.**



SURVEY VARIABLES**STATISTICS**

RESPONSE RATE $\mu = 0.62, 0.14 - 1.0$ **GOVERNMENT**

14%

UNIVERSITY

69%

GENERAL PUBLIC

42%

USER

45%

LENGTH $\mu = 13, 2 - 30$ **CONTACTS** $\mu = 4, 1 - 6$ **CERTIFIED 3RD MAILING**

14%

MONETARY INCENTIVE

24%

NON-MONETARY

78%

PRETEST

94%

PRENOTIFICATION

43%

PERSONALIZATION

33%

YEAR CONDUCTED $\mu = 1988, 1975 - 1995$ **BULK POSTAGE**

7%



CV VARIABLES	STATISTICS
WATER QUAL.	12%
AIR QUALITY	2%
HUNTING	16%
FISHING	15%
TOTAL	36%
NONUSE	2%
INCREASED PROV.	59%
CURRENT PROV.	30%
QUANTITY Δ	74%
WTP	94%
DICHOTOMOUS	41%
OPEN ENDED	20%



CV VARIABLES STATISTICS
CONT.

ACCESS FEE	4%
TAX	9%
INCOME	11%
COST OF LIVING	5%
TRIP EXPENSES	21%
INDIVIDUAL	69%
CERTAINTY	80%
SUBSTITUTES	16%
CV QUESTIONS	$\mu = 3.5, 1-36$
INVEST. #1	28%
INVEST. #2	3%
INVEST. #3	5%
INVEST. #4	6%



VARIABLES	MHB	SR	CV	SW
GENERAL PUB.	-0.78	-0.40	-0.36	-0.54
USER		0.52	0.28	
CONTACTS	0.37	0.39	0.29	0.24
MONETARY INC.	0.32	0.38	0.28	
BULK POSTAGE		-0.67	-0.92	-0.85
WATER QUAL.			0.75	0.64
HUNTING			0.72	0.79
FISHING			0.18	0.30
OPEN ENDED			-0.18	-0.31
INVEST. #1			0.71	0.56
INVEST. #2			1.44	
INVEST. #3			0.42	0.48



DISCUSSION

- Investigator Control/Influence.

LIMITED
CONTROL

CONTROL

GENERAL PUB.

CONTACTS

USER

MONETARY INC

WATER QUAL.

BULK POSTAGE

HUNTING

OPEN ENDED

FISHING

INVESTIGATOR



DISCUSSION – cont.

- **Very few survey features influence response rates**
- **Investigator experience**
- **Falling response rates make OMB 80% threshold more of a challenge**
- **Insights apply to other modes of implementing CV (stated preference) surveys**



DISCUSSION – cont.

Daubert guidelines for rules of evidence:

- response rates to CV surveys conducted by mail have been *tested*;
- addresses issue of the *error rate* through identifying design features that enhanced response rates;
- development and refinement of *standards* for design and implementation; and
- CV surveys conducted by mail do *enjoy widespread acceptance (or use)*.



