Will providing a real economic incentive make respondents behave differently? An empirical choice experiment investigation

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Outline of Presentation

- Motivation and objective
- The survey – Data
- Results
- Conclusion

Motivation

- Credibility of SP surveys
  - Hypothetical bias - Over/underestimated WTP
    - Cheap talk
    - Budget reminders
    - Limit interviewer effects
    - Real incentives
      - Increased number of studies

Objective

- To investigate potential differences between a choice experiment with real incentives and a hypothetical choice experiment with respect to:
  - general preferences structure
  - error variance
  - willingness-to-pay,
  - attribute non-attendance

The Survey – Data I

- Choice Experiment
  - Apples
  - Face-to-Face group interviews
  - Split sample
    - Hypothetical CE
    - CE with real payment

The Survey – Data II

- After everyone completes all 12 shopping scenarios, we will ask for a volunteer to draw a number (1 to 12) from a hat to determine which shopping scenario will be binding. In the hat are numbers 1 through 12. If the number 1 is drawn then the first shopping scenario will be binding. If the number 2 is drawn the second shopping scenario will be binding, and so on. For the binding scenario, we will look at the product you have chosen, give you your chosen product, and you will pay the listed price in that scenario. You will be given a value ticket of DKK 45, which you should use for the purchase. The most expensive alternatives cost DKK 45. If you choose a cheaper alternative you will be given the remaining money. Although only one of the 12 shopping scenarios will be binding there is an equal chance of any shopping scenario being selected as binding, so think about each answer carefully.

The Survey – Data III

Characteristics	Levels
Origin	Locally produce (Danish), Danish produce, European produce (not Danish), Produced outside Europe
Type of Production	Conventional, Organic
Colour of apples	Red, Green, Yellow, Mix of colours
Taste and texture of apples	Sweet and crunchy, Sweet and mealy, Sour and crunchy, Sour and mealy
Price of 1 kg. apples (DKK)	7, 15, 25, 45

Note: DKK 10 ~ EUR 1.34

The Survey – Data IV

	Bag 1	Bag 2	Bag 3
Origin	Produced outside Europe	European produce (not Danish)	Produced outside Europe
Type of production	Organic	Conventionel	Conventionel
Colour	Mix of colours	Red	Mix of colours
Taste and texture	Sweet and mealy	Sweet and crunchy	Sour and mealy
Price DKK	45	25	7
I choose			

The Survey – Data V

- 36 respondents in the hypothetical survey
- 70 respondents in survey with real incentives/payment

Results I

- Protesters
  - Hypo. 11.1% vs. Real 1.4%
- Opt-outers
  - Hypo. 12.5% vs. Real 5.7%
- Response time
  - Scenario description: Real > Hypo
  - Choice sets: Real < Hypo
- Non-attenders

Results II

	Split 1 - Hypothetical		Split 2 – Real	
"Have you ignored any attributes?"	Number	Share	Number	Share
- Yes	18	60%	52	75%
- No	12	40%	17	25%
- Total	30		69	
Number of attributes ignored[a]				
- 0	12	40%	18	26%
- 1	10	33%	14	20%
- 2	5	17%	14	20%
- 3	1	3%	6	9%
- 4	2	7%	17	25%
Attributes ignored[a]				
- Method	6	20%	26	38%
- Origin	6	20%	24	35%
- Color	9	30%	45	65%
- Taste and texture	6	20%	8	12%
- Price	4	13%	25	36%

Results III

	Split 1 - hypothetical		Split 2 – real incentive		Pooled without scale correction		Pooled with scale correction	
	Coefficient (Std. Err.)	t-value	Coefficient (Std. Err.)	t-value	Coefficient (Std. Err.)	t-value	Coefficient (Std. Err.)	t-value
ASC SQ	-1.82 (0.957)	1.90	-2.41 (0.618)	3.90	-2.28 (0.524)	4.35	-0.797 (0.213)	3.74
Organic produce	0.599 (0.0898)	6.67	0.685 (0.0821)	8.34	0.656 (0.0618)	10.61	0.23 (0.0311)	7.40
Local produce within Denmark	1.19 (0.189)	6.30	1.37 (0.167)	8.20	1.31 (0.126)	10.40	0.459 (0.0603)	7.61
Danish produce	0.293 (0.237)	1.24	0.315 (0.161)	1.96	-0.126 (0.131)	0.96	-0.0472 (0.0463)	1.02
Green coloured apples	0.788 (0.159)	4.96	0.462 (0.155)	2.98	0.55 (0.122)	4.51	0.191 (0.0416)	4.59
Yellow coloured apples	1.84 (0.201)	9.15	1.66 (0.237)	7.00	1.7 (0.178)	9.55	0.594 (0.0762)	7.80
Red coloured apples	1.33 (0.233)	5.71	1.07 (0.233)	4.59	1.13 (0.181)	6.24	0.395 (0.0689)	5.73
Sweet and mealy apples	-0.0683 (0.293)	0.23	0.242 (0.189)	1.28	0.14 (0.159)	0.88	0.0504 (0.0549)	0.92
Price	-0.0532 (0.0117)	4.55	-0.0359 (0.00649)	5.53	-0.0412 (0.00569)	7.24	-0.0143 (0.0549)	0.26
Error Component	2.42 (0.585)	4.14	1.95 (0.295)	6.61	2.09 (0.313)	6.68	0.731 (0.126)	5.80
Scale (hypo. fixed to 1)							1.07 (0.159)	0.44
N	359		828		1187		1187	
LL	-249.1		-524.7		-783.6		-783.4	
Pseudo R^2	0.344		0.412		0.392		0.391	
LR-test statistics					-19.54		-19.17	

Results IV

	Split 1 – hypothetical		Split 2 – real		
	WTP	Std. Err.	WTP	Std. Err.	t-value
ASC SQ	-34.2	15.3	-67.1	21.7	1.24
Organic produce	11.3	3.7	19.1	5.2	1.22
Local produce within Denmark	22.4	7.0	38.2	7.4	1.54
Danish produce	5.5	4.3	8.8	5.7	0.46
Green coloured apples	14.8	4.8	12.9	4.7	0.29
Yellow coloured apples	34.6	10.0	46.2	9.2	0.86
Red coloured apples	25.0	8.8	29.8	8.1	0.40
Sweet and mealy apples	-1.3	6.4	6.7	6.2	0.90

Results V

	Split 1 - hypothetical				Split 2 – real incentive			
	Considered		Ignored		Considered		Ignored	
	Coefficient (Std. Err.)	t-value	Coefficient (Std. Err.)	t-value	Coefficient (Std. Err.)	t-value	Coefficient (Std. Err.)	t-value
ASC SQ	-2.26 1.00	-2.26			-2.45 0.642	-3.82		
Organic produce	0.553 0.0718	7.70	0.325 0.202	1.61	0.605 0.102	5.93	0.493 0.185	2.66
Local produce within Denmark	1.2 0.209	5.74	0.214 0.436	0.49	1.16 0.172	6.74	1.06 0.412	2.57
Danish produce	0.289 0.284	1.02	0.0642 0.517	0.12	-0.139 0.201	-0.69	-0.816 0.334	-2.44
Green coloured apples	0.63 0.211	2.99	0.75 0.329	2.28	0.497 0.269	1.85	0.0664 0.356	0.19
Yellow coloured apples	1.93 0.274	7.04	-0.001 0.368	< 0.001	1.5 0.249	6.02	0.502 0.315	1.59
Red coloured apples	1.23 0.284	4.33	0.639 0.472	1.35	0.99 0.228	4.34	0.36 0.354	1.02
Sweet and mealy apples	0.218 0.293	0.74	-1.69 0.383	-4.41	0.414 0.195	2.12	-2.11 0.654	-3.23
Price	-0.0565 0.0132	-4.28	-0.00019 0.025	-0.01	-0.0392 0.0082	-4.78	-0.00333 0.00784	-0.42
Error Component	2.55 0.635	4.02			1.95 0.312	6.25		
N	359				828			
LL	-240				-491			
Pseudo R^2	0.346				0.435			

Results VI

	Split 1 - Hypothetical		Split 2 – Real	
Attributes ignored	No.	Shares	No.	Shares
- Type of production	3 (6)	10% (20%)	7 (26)	10% (38%)
- Origin	3 (6)	10% (20%)	14 (24)	20% (35%)
- Color	2 (9)	7% (30%)	5 (45)	7% (65%)
- Taste and texture	0 (6)	0% (20%)	7 (8)	10% (12%)
- Price	2 (4)	7% (13%)	2 (25)	3% (36%)

Conclusion

By induce incentive compatibility we found:

- No effect on preferences
- But effect on the issues pertaining to decision making
  - Non-attendance:
    - Hypothetical setting: Those who state that they have ignored have ignored.
    - Real payment setting: Ignored attributes do indeed affect the choices of the respondents
    - Respondents may have exaggerated their non-attendance statements

Thank you