Appendix D

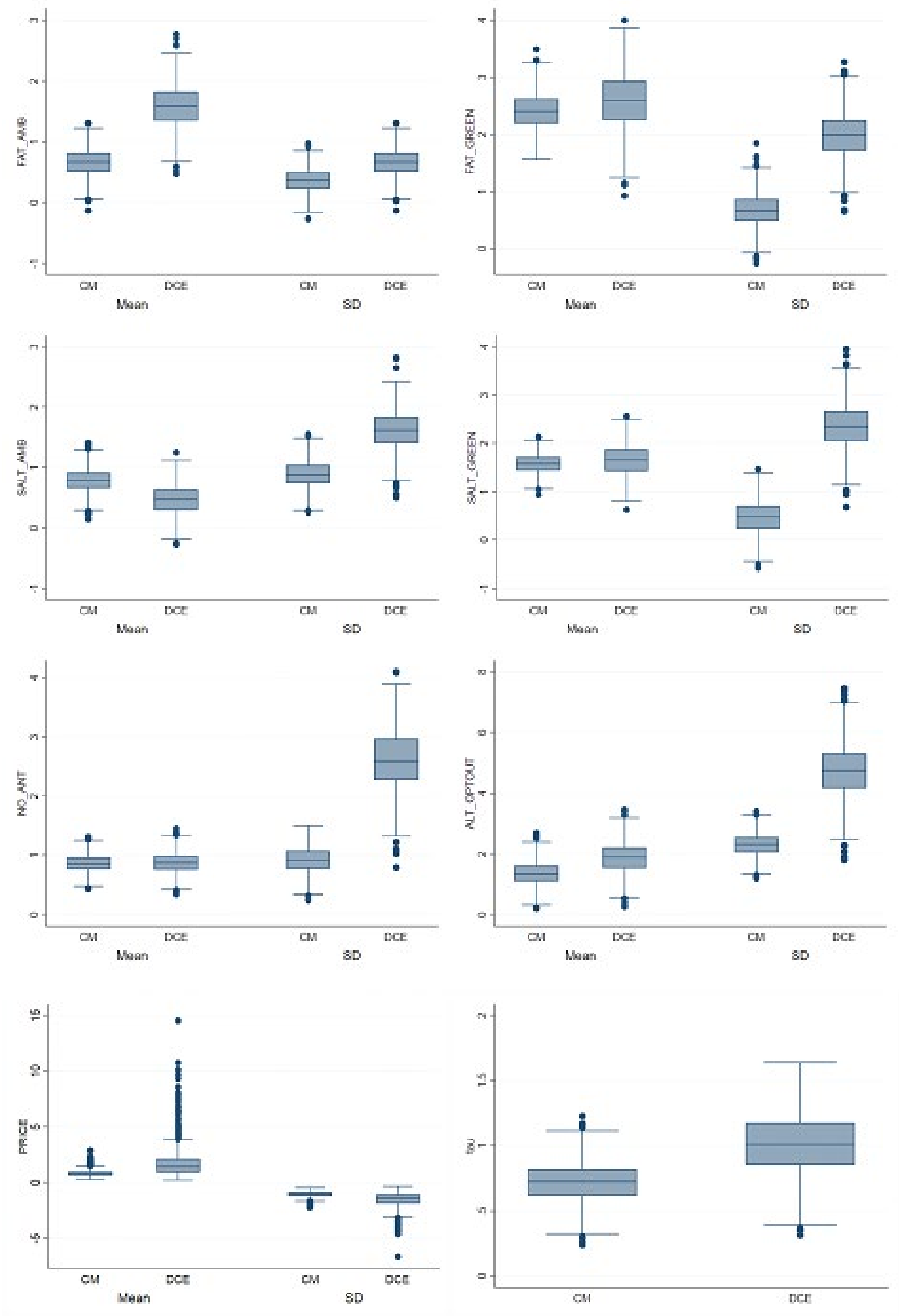

Figure D.1: A graphical comparison of distributional means and standard deviations of estimated coefficients between the CMa and DCE.

In preference space models (models 1 and 2), the indirect utility function of subject *i* for alternative *j* in choice situation *k* is:

$$V_{i,j,k} = \beta_{OPT_{OUT},i} + \beta_{FAT\_A,i}FAT\_A_{i,j,k} + \beta_{FAT\_G,i}FAT\_G_{i,j,k} + \beta_{SALT\_A,i}SALT\_A_{i,j,k} + \beta_{SALT\_G,i}SALT\_G_{i,j,k} + \beta_{ANT,i}ANT\_G_{i,j,k} + \beta_{PRICE,i}PRICE_{i,j,k} \quad \text{(D.1)}$$

In Equation D.1, $\beta_{OPT\_OUT,i}$ is a coefficient indicating subjects' preferences (not *mWTPs*) for the opt-out alternative with respect to the cottage pie alternatives. The coefficients $\beta_{FAT\_A,i}$ and $\beta_{FAT\_G,i}$ indicate subjects' preferences (not *mWTPs*) for pies that are amber and green in saturated fat (*FAT_A* and *FAT_G*, respectively) compared to pies that are red in saturated fat (*FAT_R*). The coefficients $\beta_{SALT\_A,i}$ and $\beta_{SALT\_G,i}$ indicates subjects' preferences (not *mWTPs*) for pies that are amber and green in salt (*SALT_A* and *SALT_G*, respectively) compared to pies that are red in salt (*SALT_R*). The coefficient $\beta_{ANT,i}$ refers to pies that are made of beef and dairy products produced from animals that were raised without antibiotics and indicate subjects preferences (not *mWTPs*) for this products (with respect to those without the label). The coefficients $\beta_{OPT\_OUT,i}$, $\beta_{SALT\_A,i}$, $\beta_{SALT\_G,i}$, $\beta_{FAT\_A,i}$, $\beta_{FAT\_G,i}$ and $\beta_{ANT,i}$ are all assumed to be normally distributed with means and standard deviations to be estimated. The coefficient $\beta_{PRICE,i}$ indicates subjects' preferences for the price of pies (*PRICE*) and is modelled as a random parameter following a log-normal distribution with mean and standard deviation to be estimated. Results from the estimation of model 1 and 2 are reported in Table D.1. We note that we did not control for differences in scales across treatments groups.

Table D.1. Random Parameter Logit models estimated in preference space[a]

	Model 1 (CMa)	**Model 2 (DCE)**
Dep.Var.:	***CHOICE***	***CHOICE***
Variable	**Coefficient**	**Coefficient**
$\beta_{OPT\_OUT,\ MEAN}$	0.852***	1.135**
	(0.229)	(0.507)
$\beta_{FAT\_A,\ MEAN}$	0.774***	0.679***
	(0.117)	(0.122)
$\beta_{FAT\_G,\ MEAN}$	1.611***	1.542***
	(0.163)	(0.182)
$\beta_{SALT\_A,\ MEAN}$	0.479***	0.408***
	(0.114)	(0.134)
$\beta_{SALT\_G,\ MEAN}$	0.978***	0.871***
	(0.144)	(0.154)
$\beta_{ANT,\ MEAN}$	0.556***	0.555***
	(0.117)	(0.161)
$\beta_{PRICE,\ MEAN}$	-0.777***	-0.669*
	(0.248)	(0.380)
$\beta_{OPT\_OUT,\ SD}$	1.909***	2.226***
	(0.282)	(0.390)
$\beta_{FAT\_A,\ SD}$	0.380**	0.311
	(0.160)	(0.219)
$\beta_{FAT\ G,\ SD}$	0.669***	0.950***
	(0.162)	(0.282)
$\beta_{SALT\_A,\ SD}$	0.393**	0.438*
	(0.160)	(0.231)
$\beta_{SALT\_G,\ SD}$	0.383**	0.605***
	(0.164)	(0.168)
$\beta_{ANT,\ SD}$	0.698***	1.132***
	(0.121)	(0.191)
$\beta_{PRICE,\ SD}$	1.388***	2.106***
	(0.184)	(0.450)
Subjects	66	64
Observations	2,376	2,304
Log Likelihood	-631.308	-618.363

Note: *p<0.10; **p<0.0; ***p<0.01
[a] Robust standard errors in brackets

We conducted Poe et al's (2005) tests based on the convolution approach to explore differences in preferences across treatment groups. Our results in Table D.2 suggest that distributional means of our coefficients are not statistically different across groups, meaning that there is no evidence that the CMa reduces HB with respect to the DCE. Interestingly, we found that the CMa provides less dispersed distribution for five (out of seven) attributes in our empirical application.

Table D.2. Comparisons of distributional means and standard deviation of estimated coefficients across treatments using the Poe et al.'s test (2005)[a]

Coefficients	CMa	DCE	H_0 (Null Hypothesis)	P-value
$\beta_{OPT\_OUT,MEAN}$	0.842 (0.471; 1.203)	1.113 (0.296; 1.942)	$\beta_{OPT\_OUT,MEAN,DCE} \geq \beta_{OPT\_OUT,MEAN,CMa}$	0.692
$\beta_{FAT\_A,MEAN}$	0.768 (0.569;0.958)	0.679 (0.470; 0.846)	$\beta_{FAT\_A,MEAN,DCE} \leq \beta_{FAT\_A,MEAN,CMa}$	0.700
$\beta_{FAT\_G,MEAN}$	1.611 (1.335;1.864)	1.538 (1.222;1.829)	$\beta_{FAT\_G,MEAN,DCE} \leq \beta_{FAT\_G,MEAN,CMa}$	0.617
$\beta_{SALT\_A,MEAN}$	0.479 (0.291;0.655)	0.405 (0.195; 0.618)	$\beta_{SALT\_A,MEAN,DCE} \leq \beta_{SALT\_A,MEAN,CMa}$	0.668
$\beta_{SALTT\_A,MEAN}$	0.978 (0.745; 1.228)	0.873 (0.625;1.136)	$\beta_{SALTT\_A,MEAN,DCE} \leq \beta_{SALT\_A,MEAN,CMa}$	0.643
$\beta_{ANT,MEAN}$	0.561 (0.376; 0.751)	0.559 (0.285; 0.824)	$\beta_{ANT,MEAN,DCE} \leq \beta_{ANT,MEAN,CMa}$	0.499
$\beta_{PRICE,MEAN}$	-0.774 (-1.211;0.370)	-0.656 (-1.296; -0.028)	$\beta_{PRICE,MEAN,DCE} \leq \beta_{PRICE,MEAN,CMa}$	0.402
$\beta_{OPT\_OUT,SD}$	2.152 (1.682;2.613)	3.642 (2.689, 4.571)	$\beta_{OPT\_OUT,SD,DCE} \leq \beta_{OPT\_OUT,SD,CMa}$	0.100
$\beta_{FAT\_A,SD}$	0.380 (0.124;0.643)	0.314 (0.026; 0.634)	$\beta_{FAT\_A,SD,DCE} \leq \beta_{FAT\_A,SD,CMa}$	0.597
$\beta_{FAT\_G,SD}$	0.666 (0.420; 0.925)	0.939 (0.545; 1.373)	$\beta_{FAT\_G,SD,DCE} \leq \beta_{FAT\_G,SD,CMa}$	0.000
$\beta_{SALT\_A,SD}$	0.394 (0.138;0.550)	0.442 (0.060; 0.846)	$\beta_{SALT\_A,SD,DCE} \leq \beta_{SALT\_A,SD,CMa}$	0.000
$\beta_{SALT\_A,SD}$	0.378 (0.112; 0.665)	0.599 (0.342; 0.870)	$\beta_{SALT\_A,SD,DCE} \leq \beta_{SALT\_A,SD,CMa}$	0.000
$\beta_{ANT,SD}$	0.703 (0.504; 0.902)	1.135 (0.814; 1.435)	$\beta_{ANT,SD,DCE} \leq \beta_{ANT,SD,CMa}$	0.029
$\beta_{PRICE,SD}$	1.387 (1.073;1.708)	2.103 (1.359; 2.844)	$\beta_{PRICE,SD,DCE} \leq \beta_{PRICE,SD,CMa}$	0.073

Note: [a] The 5% and the 95% percentiles in brackets