

Workshop: Economic Experiments for EU Agricultural Policy Evaluation

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Online versus face-to-face: Quantifying interviewer bias in Discrete Choice Experiments

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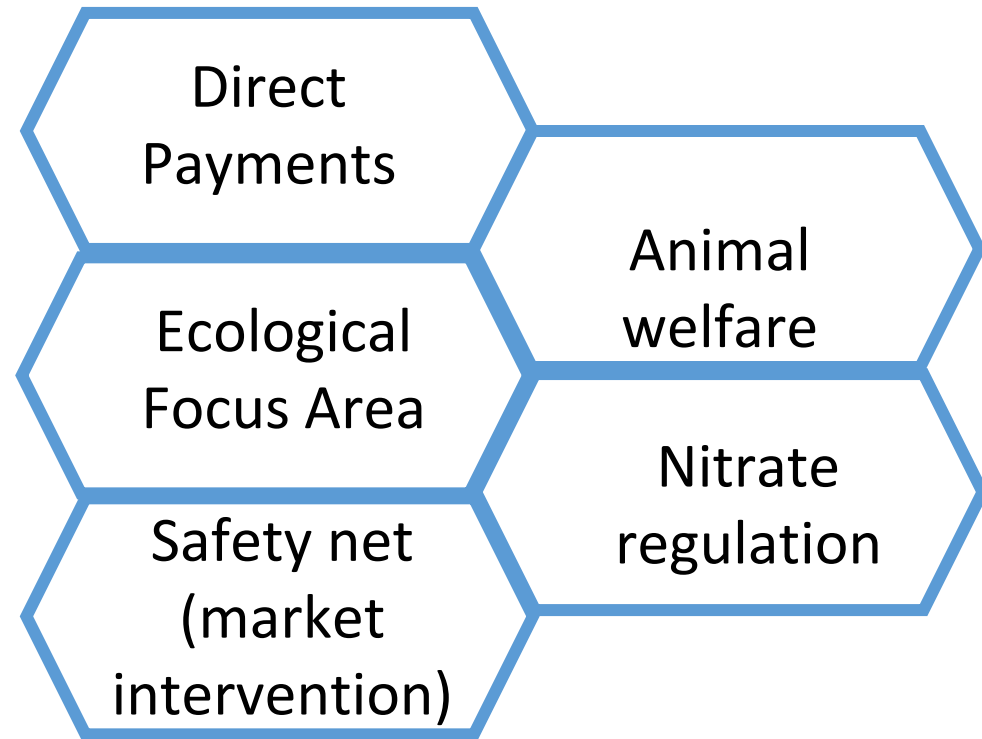


The case study DCE

- Assessing farmers' preferences for the Common Agricultural Policy after 2020
- **Online survey** (announced in the agricultural press): 240 respondents
- **Face-to-face interviews** at the *Eurotier* (agricultural fair): 193 respondents
- Identical questionnaires

Policy fields

Attributes of the Choice Experiment





Attributes and attribute levels

Attributes				Opt-out
Direct payments	150 €/ha	200 €/ha	250 €/ha	0 €/ha
Ecological Focus Area				
Animal welfare				
Max. nitrogen surplus				
Safety net				



Attributes and attribute levels

Attributes				Opt-out
Direct payments	150 €/ha	200 €/ha	250 €/ha	0 €/ha
Ecological Focus Area	5%	8%	8% with green cover + €500/ha	No EFA
Animal welfare				
Max. nitrogen surplus				
Safety net				



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Direct payments	150 €/ha	200 €/ha	250 €/ha	0 €/ha
Ecological Focus Area	5%	8%	8% with green cover + €500/ha	No EFA
Animal welfare	Legal minimum standard	<i>Initiative Tierwohl Standards</i>	<i>Initiative Tierwohl Standards</i> + €3/pig + €100/cow*year	Legal minimum standard
Max. nitrogen surplus				
Safety net				



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Ecological Focus Area	5%	8%	8% with green cover + €500/ha	No EFA
Animal welfare	Legal minimum standard	<i>Initiative Tierwohl</i> Standards	<i>Initiative Tierwohl</i> Standards + €3/pig + €100/cow*year	Legal minimum standard
Max. nitrogen surplus	60 kg N/ha	50 kg N/ha	50 kg N/ha + tax on > 50 kg N/ha	60 kg N/ha (present standard)
Safety net				



Attributes and attribute levels

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Animal welfare	Legal minimum standard	<i>Initiative Tierwohl</i> Standards	<i>Initiative Tierwohl</i> Standards + €3/pig + €100/cow*year	Legal minimum standard
Max. nitrogen surplus	60 kg N/ha	50 kg N/ha	50 kg N/ha + tax on > 50 kg N/ha	60 kg N/ha (present standard)
Safety net	22 ct/kg milk €120/t wheat	24 ct/kg milk €140/t wheat	26 ct/kg milk €160/t wheat	No safety net



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Reduced orthogonal design with D efficiency of 96.7%



Choice set example

	Policy 1	Policy 2	Policy 3	No policy
Direct payments	150 €/ha	250 €/ha	150 €/ha	0 €/ha
Ecological Focus Area	5%	5%	8%	None
Animal welfare	<i>Initiative Tierwohl</i> + 3€/pig + 100€/cow	<i>Initiative Tierwohl</i> + 3€/pig + 100€/cow	Legal minimum standards	Legal minimum standards
Max. nitrogen surplus	60 kg/ha	50 kg/ha + tax	50 kg/ha	60 kg/ha
Safety net	22 ct/kg milk 120 €/t wheat	22 ct/kg milk 120 €/t wheat	24 ct/kg milk 140 €/t wheat	No safety net
I would choose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

433 respondents * 8 choice sets = 3464 decisions

The questionnaire



1. DCE: Choice of policy bundles
2. Farm and farmer characteristics
3. Attitudes towards the CAP, environment and animal welfare



Attitudes towards the CAP, environment and animal welfare

„Farmers are promoters of animal welfare and rank the welfare of their animals higher than financial success“

0 = fully agree; 5 = fully disagree

	Obs.	Mean
Online	240	2.34
Face-to-face	193	1.93***

„Agriculture contributes significantly to biodiversity conservation in rural areas“ “

0 = fully agree; 5 = fully disagree

	Obs.	Mean
Online	240	2.21
Face-to-face	193	1.64***



Attitudes towards the CAP, environment and animal welfare

**„The government should support milk prices
by controlling aggregate supply“
0 = fully agree; 5 = fully disagree**

	Obs.	Mean
Online	240	3.89
Face-to-face	193	3.85 (n.s.)

**„Agriculture should no longer be reliant on
government support“
0 = fully agree; 5 = fully disagree**

	Obs.	Mean
Online	240	2.23
Face-to-face	193	2.40 (n.s.)



Would face-to-face
versus online yield
different results and lead
to different conclusions?



Results of mixed logit model

All data pooled: N = 240 online + 193 face-to-face = 433 obs.

18. estimates table, star(.1 .05 .001)

Variable	active
Mean	
Constant	2.5178401***
Direct payment	.00725934***
D Face-to-face	-.706608**
Age	-.02167**
S Biodiversity	.10001374
S Reliance on support	.18656628**
S Milk price support	-.35378747***
D Full-time, part-time	-.99270172***
D arable farm	-.00046738**
D dairy farm	-.0019877**
D Initiative Tierwohl	-.61596083***
D Init. Tierwohl comp.	-.42070791***
D 8% EFA with comp.	-.26220923**
D 8% EFA	-.53193235***
D 50 kg N + tax	-.46825217***
D Safety net	-.95897692***



Two separate mixed logit models

Model 1: N = 240 online; Model 2: N = 193 face-to-face.

Variable	Online	Face-to-face
	active	active
Mean		
Constant	2.4622848*	3.1056347***
Direct payment	.00941854***	.0053353***
Age	-.00437569	-.053271***
D Sussessor	-.58013621*	-.18567599
S Animal welfare	-.12831998	-.13302348
S Biodiversity	-.08261715	.38680557**
S Reliance on support	.0442612	.18231879
S Milk price support	-.21135147	-.36588385***
D no farming qualification	.59431823	.36838981
D non-farming qualif.	.05179796	-1.0420081*
D University/college	.55321923	-.38750256
D Full-time, part-time	-.83607412*	-1.7850215***
D Problems with N std.	-.9385286	-.20658567
D Participant in AES	-.15191979	1.1220144***
D Participant in AWP	-.04877877	-.37313054
D arable farm	-.00121807***	-.00012978
D dairy farm	-.0023183	-.0010292
D pig farm	.00014308	-.00008482
D Initiative Tierwohl	-.89126081***	-.38793807**
D Init. Tierwohl comp.	-.87866676***	-.00853079
D 8% EFA with comp.	-.37229862**	-.27502774**
D 8% EFA	-.71998471***	-.48300934***
D 50 kg N + tax	-.61014018***	-.32396694**
C Safety net	-.94488558***	-.74717026***

Policy attribute variables have the same sign and similar levels of significance

But different signs for some of the control variables

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Important:
no cases
where a
variable is
**significantly
positive** in one
model and
**significantly
negative** in the
other model.

A closer look at the policy attributes

Policy attribute	Online	Face-to-face	Joint	Base
Direct payments	0,0094***	0.0053***	0,0072***	
<i>Initiative Tierwohl</i> AW standards	- 0,8912***	-0.3879**	- 0,597***	Legal min. standards
<i>Initiative Tierwohl</i> AW standards with compenss.	- 0,8786***	-0.0085	- 0,437***	Legal min. standards
8% EFA	- 0,7199***	-0.4830***	- 0,595***	5 % EFA
8% EFA + green cover with compensation €500/ha	- 0,3722**	-0.2750**	- 0,303**	5 % EFA
50 kg N surplus + tax	- 0,6101***	-0.3239**	- 0,390***	60 kg N/ha
Safety net	- 0,9448***	-0.7471***	- 0,824***	No safety net

WTA estimates from the three models

Policy attribute	Online	Face-to-face	Joint	Base
Direct payments				
<i>Initiative Tierwohl</i> animal welfare (AW) standards	€95/ha	€73/ha	€82/ha	Legal min. standards
<i>Initiative Tierwohl</i> AW standards + compensation	€93/ha	(€2/ha) ^{ns}	€60/ha	Legal min. standards
8% EFA	€76/ha	€91/ha	€82/ha	5 % EFA
8% EFA + green cover + compensation €500/ha	€40/ha	€52/ha	€42/ha	5 % EFA
50 kg N surplus + tax	€65/ha	€61/ha	€64/ha	60 kg N/ha
Safety net	€100/ha	€140/ha	€114/ha	No safety net



Conclusions

- The DCE robust to interviewer bias:
 - Policy attribute variables: same sign and similar levels of significance
 - Different signs for 1/3 of the control variables
 - No cases where a variable is significantly positive in one model and significantly negative in the other
 - Similar WTA estimates
 - But: evidence of socially desirable answers
 - No different conclusions or recommendations
- Face-to-face and online data can be pooled and estimated jointly



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