

# Globalization Issues and Consumers' Purchase Decisions: Evidence from a Lab Experiment

Anne-Celia Disdier      Stephan Marette  
(INRA – UMR Economie Publique)



ALIMENTATION  
AGRICULTURE  
ENVIRONNEMENT



# Introduction

## Globalization:

- May enhance production and export capacities of developing countries
- Citizens of developed countries often do not perceive globalization as an opportunity for their own country

43% of EU citizens think that globalization represents a threat to employment and companies in the EU (Eurobarometer, 2008).

## Consumers' attitude:

- Anti-globalization feeling is not obvious when consumers' decisions are observed

44% of EU citizens say that they personally benefit from international trade (wider choice of products and cheaper products) (Eurobarometer, 2010)

# Debate for the French presidential election

- Les candidats se disputent le "made in France"
- Face à la crise de l'industrie, la promotion de la production en France devient un thème de campagne pour 2012.
  - *Le Monde*, Mardi 13 Décembre 2012

# Debate for the French presidential election

Arnaud Montebourg

« Dé-mondialisation »



François Bayrou

« Achetez Français »



# Introduction

## *Our paper: globalization and consumers' attitude*

- Do consumers pay attention to the origin of the products because of concerns about globalization?
- Do these globalization issues affect developed countries consumers' purchase decisions (in particular goods produced in developing countries?)

# This paper

## Lab experiment

- Effect of info. linked to globalization on consumers' WTP for pickles/gherkins
- Food particularly tailored to lab experiment & easy **to identify pickles' origin**
- Maille (main French producer) was taken over by **Unilever** in 2000
- Origin changed in 2004: **initially from Burgundy France**
- **NOW INDIA and MADAGASCAR**

## Info. on recent changes in the strategy applied by Maille/Unilever:

- 'negative' info.: foreign sourcing, closure of French processing facilities
- 'positive' info.: dvlpmnt of new products/services, new investments in France

# This paper

## Results

- Significant effect of info, higher for 'negative' one
- **but WTP decrease is reversible**
  - Globalization seems more accepted by consumers than suggested by classical opinion surveys

## 2 labels (fair trade & geographic indication label)

- Introduction of these labels increases the average participants' surplus

# **Experiment**

## **Sample:**

- 102 people. Paris, May 2010. €20 participation fee
- 10 “non-interested” bidders (unengaged bidders) dropped  
→ 92 engaged participants [21-72 years]

## **Product:**

- Pickles jar of 380g (net drained). Brand: Maille (Unilever)
- Participants may purchase the jar at the end of the experiment (depending on the price they are ready to pay for it)



# Pickles jar



Hand-picked  
(but origin not mentioned)

# BDM Becker–DeGroot– Marschak

- Please indicate the maximum price you are ready to pay for this good?  
\$ ---
- Randomly drawn price at which the good will be sold

# BDM Becker–DeGroot– Marschak

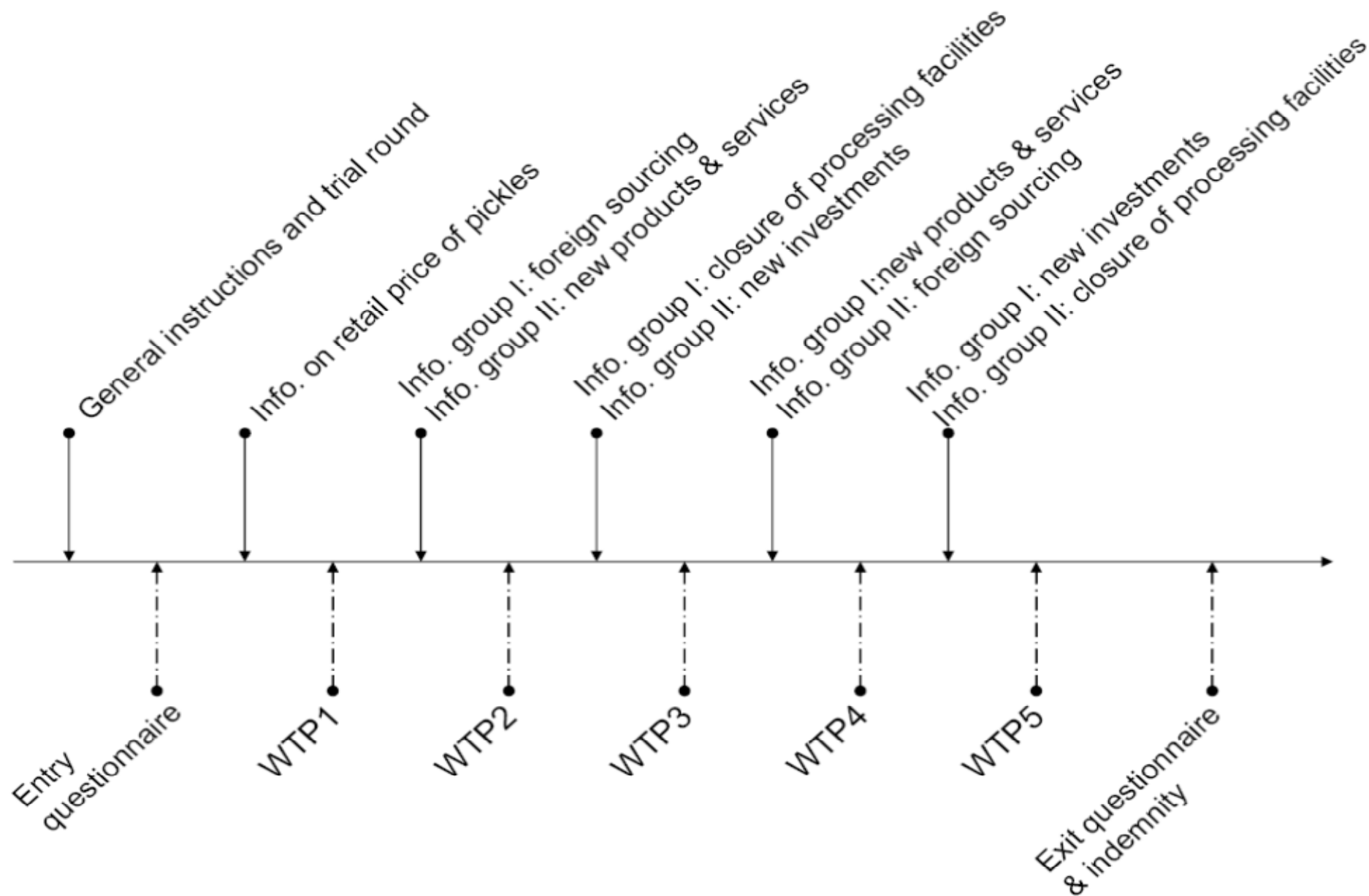
- If your maximum price is greater than the randomly drawn price, you will get the goods
- Otherwise, you will have nothing
- The best strategy is to reveal the truth
- You are not playing against the other participants

# Experiment

## *BDM procedure (Becker, DeGroot and Marschak, 1964):*

- Participants have to indicate the maximum price they are willing to pay
- Successive information is revealed to participants
- WTP is elicited after each message
- Participants are randomly divided into 2 groups (different order of info.)

# Experimental design



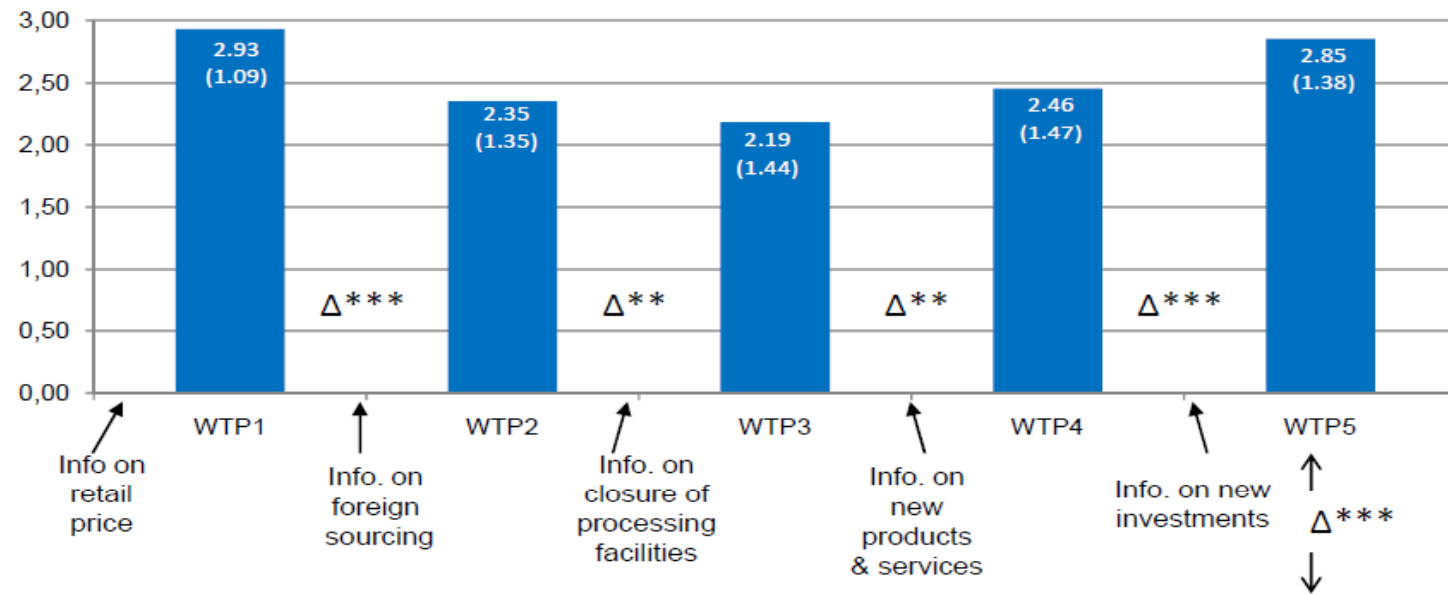
# RESULTS



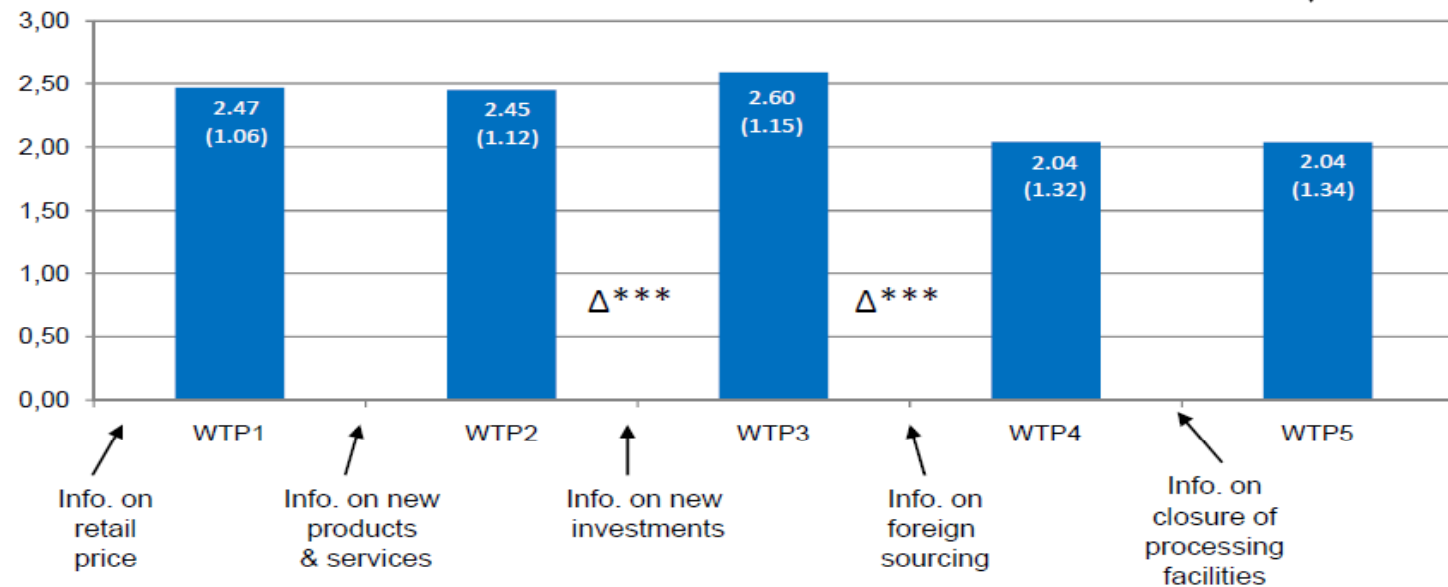
- Mean WTP (EUR)
- Test
- $\Delta^{***}$  and  $\Delta^{**}$  denote significant differences at the one and five percent level as tested by the Wilcoxon and the Mann-Whitney-U tests.

# Impact of information

GROUP I  
(47 participants)



GROUP II  
(45 participants)





# Reversibility

- For **group I**, the decrease in WTP due to both ‘negative’ messages about foreign sourcing of pickles and the closure of processing facilities in France is reversed by the ‘positive’ messages about new products/services and new investments.
- *WTP5* is not statistically different from *WTP1* ( $Z$ -value = -0.233,  $P$ -value = 0.816 with the Wilcoxon test), which confirms the reversibility of the WTP decrease linked to negative information by subsequent positive information.
  - Difference with food safety: No reversibility (Hayes et al., 1995)

# Positive messages influence WTP for offsetting the negative information

- Improving products quality and employment is important
- Multinationals are not the devil

# No boycott

- In group I, only five participants with positive  $WTP1$  subsequently select a  $WTP2$  bid equal to zero after the revelation of information on the new foreign source of pickle growing. Among them, only two participants maintain their final bid with  $WTP5=WTP2=0$ , whereas the three other participants show  $WTP5$  close or equal to  $WTP1$  after the complete revelation of information (including the positive messages)
  - Difference with GMOs or palm oil experiment (Disidier, Marette, Millet, 2011)

# Group II

- Negative information appears to have a more powerful impact than positive information. For group II, *WTP5* remains significantly different from *WTP1*. The attention given to the positive information therefore seems contingent on the negative information previously revealed.
  - This result differs from group I, for which the positive information counterbalances the negative information initially revealed.

**Table 2. Influence of information on WTP (Tobit random effects specification)****Dependent variable:****Difference in WTP between choices  $j+1$  and  $j$  expressed by participant  $i$** 

	Model 1	Model 2	Model 3
'Negative' information (0/1)	-0.33*** (0.05)		
'Positive' information (0/1)	0.20*** (0.05)		
'Negative' info received in the 2 <sup>nd</sup> and 3 <sup>rd</sup> rounds (0/1)		-0.37*** (0.07)	
'Negative' info received in the 4 <sup>th</sup> and 5 <sup>th</sup> rounds (0/1)		-0.28*** (0.07)	
'Positive' info received in the 2 <sup>nd</sup> and 3 <sup>rd</sup> rounds (0/1)		0.07 (0.07)	
'Positive' info received in the 4 <sup>th</sup> and 5 <sup>th</sup> rounds (0/1)		0.33*** (0.07)	
'Negative' info received in the 2 <sup>nd</sup> round (0/1)			-0.58*** (0.10)
'Negative' info received in the 3 <sup>rd</sup> round (0/1)			-0.17 (0.10)
'Negative' info received in the 4 <sup>th</sup> round (0/1)			-0.56*** (0.10)
'Negative' info received in the 5 <sup>th</sup> round (0/1)			-0.01 (0.10)
'Positive' info received in the 2 <sup>nd</sup> round (0/1)			-0.01 (0.10)
'Positive' info received in the 3 <sup>rd</sup> round (0/1)			0.14 (0.10)
'Positive' info received in the 4 <sup>th</sup> round (0/1)			0.27*** (0.10)
'Positive' info received in the 5 <sup>th</sup> round (0/1)			0.40*** (0.10)
Observations	368	368	368
Log likelihood	-385.68	-381.69	-368.43

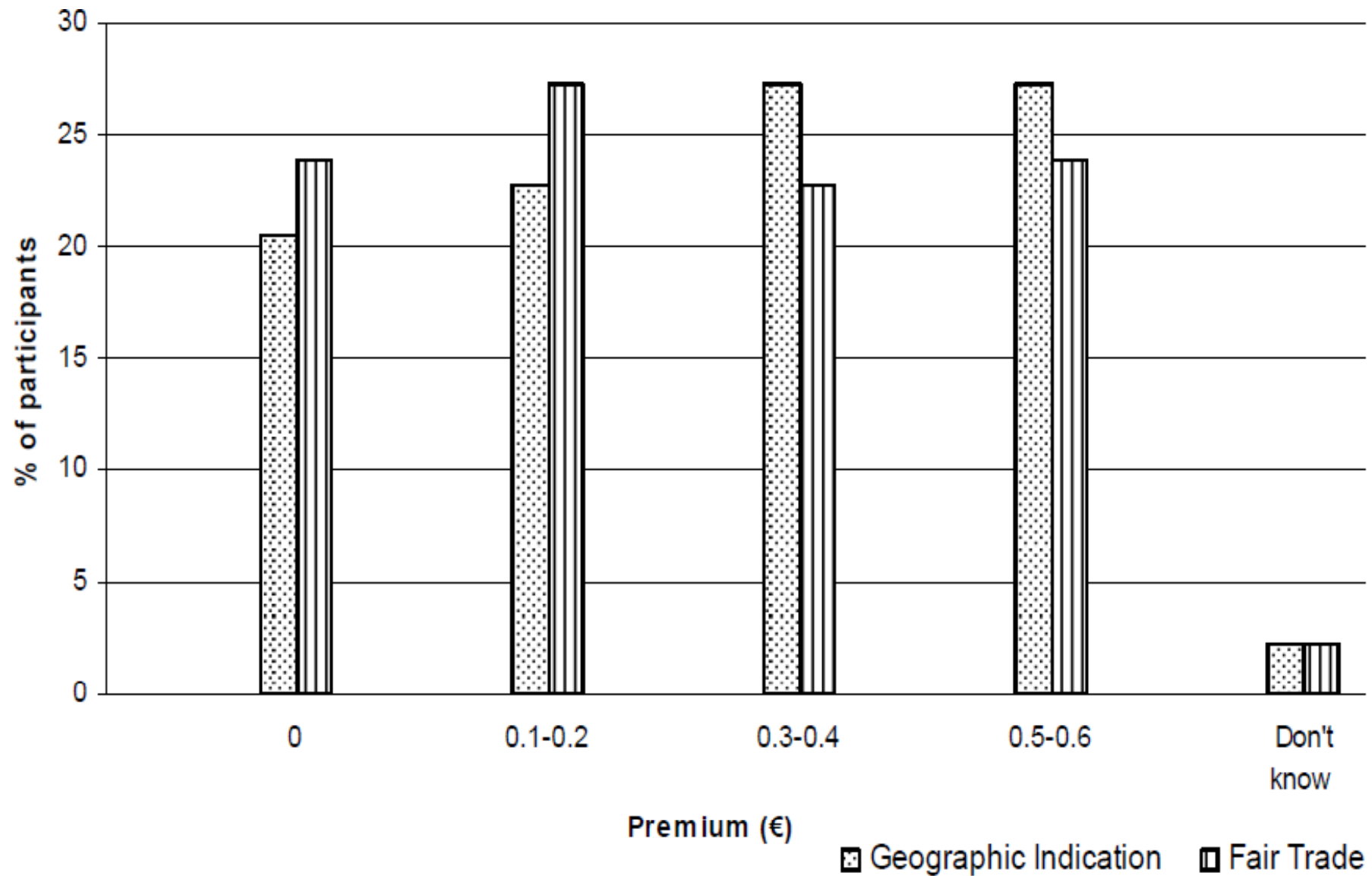
# Possibility of labels

- A label may be useful for consumers concerned by the origin of products
  - Product diversity
- The development of labels is compatible with the World Trade Organization (WTO) rules. In March 2005, the WTO released the panel report on the European Geographical Indication (GI) system.

# Fair trade and geographic indication labels

- We ask participants to choose a **premium  $\delta$**  for pickles with a fair trade/geographic indication label (values (€) [0; 0.60]; 10-cent interval)
- These premiums & WTP  $\rightarrow$  CS & economic value of labels
- **Surplus variation**: surplus in the baseline scenario vs. in the scenario with labeled good
- **2 simplifications**: 100% adoption of foreign pickles; Merge of both groups
- **Hyp.**: a participant purchases the regular product if  $WTP \geq \text{price}$  observed on average in supermarkets
- **2 cases in the baseline scenario**:
  - Case 1: participants are completely uniformed of the origin
  - Case 2: participants are fully informed of the origin

# Price premium for pickles with labels





# Baseline scenario (only regular product)

## Case 1: Consumers uninformed of the origin of the regular product

- Corresponds to  $WTP1$ . 2 outcomes: regular product vs. none

- CS: 
$$CS_{A,U}^i = \underbrace{\max\{WTP1_i - P_0, 0\}}_{\text{direct benefit}} - \underbrace{I_i(WTP1_i - WTP5_i)}_{\text{non-internalized premium (due to origin' ignorance)}}$$

With:  $I_i = 1$  if participant  $i$  has chosen the regular product at  $P_0$  with  $WTP1 > P_0$  in choice #1 (and 0 otherwise)

## Case 2: Consumers informed of the origin of the regular product

- Corresponds to  $WTP5$ . 2 outcomes: regular product vs. none

- CS: 
$$CS_{A,I}^i = \max\{WTP5_i - P_0, 0\}$$

With  $WTP5_i$ : bid linked to the regular product during round #5 for  $i$

# Introduction of labels & surplus variation

## Labeled product at price $P_1$

- New alternative for participants with a WTP equal to  $WTP5_i + \delta_i$
- **Surplus:**  $CS_B^i = \max\{WTP5_i - P_0, WTP5_i + \delta_i - P_1, 0\}$

## Surplus variation

- After label's introduction, surplus variation:  $CS_B^i - CS_{A,Z}^i$  (with  $Z=I, U$ )
- Average variation

$$\Delta CS_{NewLabel}^N = \frac{\sum_{i=1}^N [CS_B^i - CS_A^i]}{N} \quad \text{if participants:}$$

→ If  $\Delta CS > 0$  → participants benefit from the label (some of them purchase the labeled product)

## Prices used in simulations:

- $P_0 = \text{€}3.40$  for a jar of regular pickles
- $P_1 = (1 + 0.2 \cdot 0.35)P_0 = \text{€}3.63$  for a jar of labeled pickles

# Surplus variation linked to labels' introduction

	Geographical indication		Fair trade	
	Uninformed participants	Informed participants	Uninformed participants	Informed participants
Average premium $E(\delta)$ (EUR)	0.267	0.267	0.239	0.239
Variation in the number of participants <sup>1</sup>				
With conventional pickles	-17	-16	-15	-14
With labelled pickles	+16	+16	+14	+14
Average surplus variation (EUR per jar) <sup>2</sup>	0.09 (+66.6%)	0.045 (+25.8%)	0.082 (+60.3%)	0.036 (+20.9%)
Annual aggregate surplus variation (thousand EUR) <sup>3</sup>	5,921	2,931	5,368	2,377

# Labels

- The introduction of labelled products significantly increases consumers' surplus. The average surplus increases because participants initially purchasing conventional pickles are the ones that place a relatively high premium on the labelled products.
- With the geographical indication label, the average value of  $\delta$  given by the exit questionnaire is 0.36 for all participants purchasing conventional pickles (based on *WTP5*), versus only 0.24 for participants not purchasing conventional pickles. This difference is statistically significant at two percent with a comparison across the sample based on a Mann-Whitney-U test ( $Z$ -value = -2.349,  $P$ -value = 0.019). Similar results are obtained for the fair trade label.

# Labels

- Participants who did not purchase conventional pickles place a low premium on the label, and they do not buy the labelled pickles. Therefore, the increase in the number of participants purchasing labelled pickles is completely offset by the decrease in the number of participants purchasing the conventional pickles.
- No new consumers who did not purchase pickles without any labels

# Main results

- Lab experiment
- Trade issues matter but globalization seems more accepted by consumers than suggested by classical opinion surveys
  - ↔ *People are more supportive of the globalization when they are consumers than when they are citizens*
- Results are not definitive and should be replicated with other goods representing a larger share of the consumers' spending
- Fair trade and geographic indication labels
  - *The introduction of labeled products increases the average consumers' surplus*