

# Differentiation strategies to improve marketing of saffron. A real choice experiment

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## Introduction

Spain has played a key role in international saffron markets, although in recent times Spanish saffron production has struggled to compete with the flood of cheaper imports from Iran.



High unit labour costs coupled with rural depopulation have led to a progressive abandonment of saffron cultivation.

Currently, output is restricted to Castilla la Mancha, and to a lesser extent, the province of Teruel (2%) in the region of Aragón.

Despite such unfavourable economic factors, Spanish saffron still enjoys a reputation of high quality

## Objectives

To investigate the potential consumer appeal toward product innovations through the identification of:

Origin, a Quality Certification such as a PDO, and the Organic Production

under the hypothesis that improvements in marketing might trigger production, and therefore contribute to arrest the long term decline in this sector.

## Survey

- N = 208 consumers
- Aragonese main city (Zaragoza), June-July 2009
- A random sample of regular purchasers of food, older than 18 years old
- Proportional to gender and age

## Methods

### The choice experiment

- Efficient fractional factorial design (NGENE)
- 15 choice sets in two blocks
- Labeled experiment: thread and ground
- Attributes (levels):  
ORIGIN (Teruel, Castilla la Mancha, Iran)  
CERTIFICATION: PDO or none  
PRODUCTION METHOD: organic, conventional  
PRICE (€ per 0.5g): Thread (1.5,2.25,3.00)  
Ground (1.0, 1.75,2.5)
- Consumers disposed of 5€ to make a purchase
- The real product was displayed
- Random selection of binding scenario

## The econometric model

Error Component mixed logit:

Heterogeneity in taste parameters and in the non-observed utility Suitable for repeated choice situations where there might be correlation between choices made by the same individual

$$U_i^n = \alpha_i^n + \beta_{i,j}^n X_{i,j}^n + \theta_i E_i$$

n = individual; i = alternative; j = explanatory variable

$X_{i,j}^n$  = Teruel, Iran, Certification, Price, Organic

$E_i$  = the Error Component specific to alternative i

$\alpha_i$  = an alternative specific constant

$\beta$  and  $\theta$  = parameters

Price is continuous, and the remaining variables are effect codes

Maximum simulated likelihood is then used to estimate the probability of choice



## Results

The final model is restricted to heterogeneity in taste parameters on the Origin, PDO and Organic levels, assuming a Normal distribution. More general specifications did not provide additional taste heterogeneity or a significant Error Component. WTP based on individual conditional parameters estimates (Hensher et al., 2005)

Preferences move toward lower prices, regional origin, the presence of a quality certification and the use of organic production techniques.

The results favour the marketing of:

Threads over ground: 64% of choices and marginal willingness to pay = € 1.02 /0.5g (WTP based on individual estimates)

Identification of Teruel origin: marginal willingness to pay = € 0.982/0.5g

The Quality Certification adds € 0.726 and the Organic production method, though preferred, generates an inferior marginal willingness to pay = € 0.208

In the short-run, differentiation through organic methods of production seems more feasible:

It can be carried out individually, while the pursuit of a PDO requires a joint effort by the producers

The production can target specific segments and international markets more inclined to the organic attribute

The current production process complies with most of the organic specifications

