



Preferences for lamb meat: A choice experiment for Spanish consumers[☆]



Azucena Gracia^{*}, Tiziana de-Magistris

Unidad de Economía Agroalimentaria y de los Recursos Naturales, Centro de Investigación y Tecnología Agroalimentaria de Aragón (CITA), Gobierno de Aragón, Avda Montañana 930, 50059 Zaragoza, Spain

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ABSTRACT

This paper analyzes consumers' preferences for different lamb meat attributes using a choice experiment. In particular, preferences for the type of commercial lamb meat ("Ternasco" and "Suckling") and the origin of production (locally produced "Ojinegra from Teruel") were evaluated. Moreover, we endogenously identify consumers' segments based on consumers' preferences for the analyzed attributes. Data come from a survey administrated in Spain during 2009. A latent class model was used to estimate the effect of the attributes on consumer utility, derive the willingness to pay and determine consumers' segments. Results suggest that consumers' preferences for both attributes are heterogeneous and two homogenous consumers' segments were detected. The largest segment (79%) did not value any of the analyzed attributes while the smaller one (21%) valued both of them positively. In particular, consumers in this second segment are willing to pay an extra premium for the "Ternasco" lamb meat, around double the premium they are willing to pay for the locally produced lamb meat "Ojinegra from Teruel".

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1. Introduction

Meat markets in European Union countries, in particular in Spain, show an important substitution effect not only between meats from different species but also between different breeds from the same species (Bernabéu & Tendero, 2005). Therefore, the meat market is highly competitive especially for those meat products with a relatively higher price and a very limited consumption compared to other types of meat products as it is the case for lamb meat. One of the ways to compete in those markets is by the differentiation of the meat using different quality attributes that are highly appreciated by consumers. However, consumers' attitudes, purchase intention or preferences are not usually homogeneous and consumers do not attach the same importance to the different quality attributes (Verbeke & Viaene, 1999). Therefore, it is of interest to find the most appreciated quality attributes and to detect the segments of consumers with similar preferences especially if segments can be characterized in terms of personal characteristics (Font i Furnols et al., 2011). This information will allow lamb producers to choose

the most appropriate marketing strategies to be able to compete in the meat market.

However, few studies have focused on the analysis of consumer importance for quality attributes and market segmentation of lamb meat in comparison with other meat products (Bernués, Ripoll, & Panea, 2012). Sánchez et al. (2001a) and Sánchez et al. (2001b) analyzed consumer preferences for beef and lamb meat in two northern Spanish regions and found that the most preferred attribute for lamb meat is the origin of production followed by the presence of a quality label but some differences on the valuation for these attributes were found between consumers of lamb meat with the quality label and consumers of unlabelled lamb meat. Bernués, Olaizola, and Corcoran (2003) found that animal feeding and the origin of the meat were the lamb attributes most appreciated by consumers in France and Spain and, to a lower extent, in England. However, these authors found differences in the preferences between groups. The largest group gave higher importance to the origin of production of lamb, the second and third largest groups conferred higher importance to animal feeding and the smaller group showed preferences to environmentally friendly and animal welfare attributes. Bernabéu and Tendero (2005) studied consumers from one region (Castilla-La Mancha) of one country (Spain) and revealed that origin of production is the second most important attribute for consumers, next to type of lamb meat. In particular, they preferred national lamb to the imported one, and within the local meat, they preferred the

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^{*} Corresponding author. Tel.: +34 976 716350; fax: +34 976 716335.
E-mail address: agracia@aragon.es (A. Gracia).

lamb from their own region. However, they found some differences between regular and occasional lamb meat consumers and while both segments of consumers valued the type of lamb meat the most, the second preferred attribute is the origin of production for regular consumers and certification for occasional consumers. Font i Furnols et al. (2011) concluded from a conjoint study in Spain, France and United Kingdom that the origin of production was the most important factor in determining consumers' purchasing decisions for lamb meat, the local one being the most preferred. Moreover, when consumers were segmented using an agglomerative hierarchical cluster analysis based on the conjoint ratings, different results could be observed. For Spanish consumers, three completely different clusters were obtained. Consumers from cluster 1 considered the most important factor the origin of the meat, from cluster 2 the feeding system and finally, consumers in the 3rd cluster considered the price as the most important factor. Finally, the results from the conjoint analysis conducted by Hersleth, Hæs, Rødbotten, Lind, and Monteleone (2012) in Norway, Italy and New Zealand revealed that country of origin is important for consumers' buying probability of lamb meat in Norway and Italy. Then, two important findings emerge from these previous studies. The first one is that one of the most preferred attributes for the majority of consumers is the origin of production of the lamb meat, the local one being the most preferred. The second interesting finding is that consumers' preferences for the most important lamb meat attributes differed by segments of consumers.

We have a similar goal to these studies, to determine consumers' preferences for the most important lamb meat attributes, the origin of production and the type of commercial lamb meat. For the origin of production we analyze a locally produced lamb meat from a traditional breed in a rural area ("Ojinegra from Teruel") and for the type of commercial lamb we study the most important commercial types in Spain ("suckling" and "Ternasco"). However, we contribute to those previous papers in two ways. First, we endogenously identify consumers' segments based on consumers' preferences for the analyzed attributes instead of establishing them in an "ad hoc" way or using a previous cluster analysis. To do that, we used a latent class model where consumers are assumed to belong to different segments or classes, each of them characterized by different class-specific utility parameters. Then, within each segment, consumers' preferences are homogenous but preferences vary between segments (Greene & Hensher, 2003). This approach allows us to quantify the size of the consumers' segment actually willing to pay for each of the attributes, in particular, for the locally produced lamb meat ("Ojinegra from Teruel") we are interested in. Then, we will be able to tell lamb producers how big is the actual market share for their lamb meat coming from this local breed. Our second contribution is that we used a choice experiment instead of using a rating-based conjoint analysis.

To do that, data from a survey administered to a representative sample of consumers in Spain (city of Zaragoza) during 2009 was used.

The paper is structured as follows. Section 2 outlines the material and methods, particularly describing the choice experiment, the survey and the model specification and estimations. In the following section we present the results and the discussion of findings and finally Section 4 concludes with the main implications.

2. Material and methods

To achieve our objective, a choice experiment question was asked to a representative sample of consumers in a questionnaire containing also questions on socio-demographic consumers' characteristics (i.e. gender, family size and composition, age, educational level and income range), importance attached to the price and different intrinsic characteristics of the meat (freshness, color and fatness) when shopping lamb meat, and some food-related lifestyles (novelty, product information importance and health). We selected a choice

experiment to assess consumers' preferences for lamb meat attributes because of its ability to value multiple attributes simultaneously. Moreover, the choice experiment question asked consumers to choose between alternative products that contain a number of attributes with different levels, what it is the basics of the Lancaster (1966) maximization utility model and is consistent with the Random Utility Theory of Mcfadden (1974). Finally, the choice experiment poses the advantage over other valuation techniques that the choice task asked to participants is similar to the typical shopping decision that consumers face when buying products in the market. This similarity with the consumers' shopping decision can explain the high number of empirical papers on valuing food products using this technique.¹

2.1. Choice experiment

The first step to implement a choice experiment is to select the specific product to be analyzed and second to choose the attributes and levels to be used. A package of three lamb ribs was selected because lamb ribs are well-known and appreciated cuts in the Aragon market. The first selected attribute was the price, because it allows the calculation of the willingness to pay. We selected four levels based on the current price levels found in Spanish meat stores at the time of the survey. The lowest level correspond to the minimum price for a package of 3 ribs (around 250 g/package in the case of lamb and over 200 g/package in the case of suckling lamb) that could be found in the Spanish market at the time of the survey (2.5 €/package). The highest level corresponds to the maximum price for the package (4 €/package). The two middle levels were set adding half Euros between the minimum and maximum price levels (3 and 3.5 €/package, respectively).

The other two attributes were selected based on previous empirical papers mentioned in the Introduction which found that the most valuable attributes for Spanish consumers are the commercial type of meat and the origin of production. First, following, Bernabeu and Tenderso (2004) and Bernabéu and Tenderso (2005), we selected the commercial type but considering only two levels: "Ternasco" and "Suckling"² according to the lamb carcass classification system in the EU. This system comprises two different schemes typical of the Mediterranean area, carcasses weighing more than 13 kg and carcasses weighing less than 13 kg (light carcasses). Thus, in the light carcasses classification system, carcasses are divided into three categories according to weight: "A" carcass less or equal to 7.0 kg, "B" carcass between 7.1 and 10.0 kg and "C" carcass between 10.1 and 13.0 kg. Each weight category includes two quality classes: quality 1 where carcasses have pink meat and a fatness score 2 or 3; and quality 2 where carcasses have red meat and fatness score 1 or 4 (EEC 2137/92 and EEC 461/93 regulations). The lamb carcass analyzed in the present study belongs to the light carcass classification system (Mediterranean scheme) and in particular, corresponds to categories A (i.e., "Suckling" lamb) and B and C (named "Recental" in Spain but commonly known by consumers in Aragon as "Ternasco").

Second, following also previous empirical papers, we selected the origin of production as the third attribute but we changed the way to define the levels of this attribute. Instead of using different levels indicating the regional, national or imported origin, we focused on a locally produced lamb meat because Spanish consumers showed preferences for lighter and younger animals locally bred. In particular, Font i

¹ Burton, Rigby, Young, and James (2001), Burton and Pearse (2002), James and Burton (2003), Scarpa and Del Giudice (2004), Scarpa, Philippidis, and Spalatro (2005), Barreiro-Hurlé et al. (2008), Jaeger and Rose (2008), Gao and Schroeder (2009), Hu et al. (2009), James, Rickard, and Rossman (2009), Pouta et al. (2010), Balcombe and Fraser (2011), Menapace et al. (2011), and Tonsor (2011) to name a few.

² We did not include the feeder lamb category because it consists of animals weighing more than 13 kg, which represents only 12% of the slaughtered animals in Aragon and they are not consumed in the region.

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