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Consumer willingness to pay for traditional food products

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ABSTRACT

Reflecting the growing interest from both consumers and policymakers, and building on recent developments in Willingness to Pay (WTP) methodologies, we evaluate consumer preferences for an archetypal traditional food product. Specifically we draw on stated preference data from a discrete choice experiment, considering the traditional Hungarian mangalitza salami. A WTP space specification of the generalized multinomial logit model is employed, which accounts for not only heterogeneity in preferences but also differences in the scale of the idiosyncratic error term. Results indicate that traditional food products can command a substantial premium, albeit contingent on effective quality certification, authentic product composition and effective choice of retail outlet. Promising consumer segments and policy implications are identified.

Introduction

EU farmers confront worsening terms of trade and declining real incomes, and generally remain dependent on direct payments and other subsidies for survival (European Commission, 2014). In 2012, subsidies accounted for over 50 per cent of EU farmers' net income, and farm incomes are lower in absolute and relative terms in the New Member States (NMS) from Central and Eastern Europe (European Commission, 2014). Rural areas in the NMS are more dependent on agriculture as a source of income and employment, with opportunities for gainful employment in the non-farm rural economy relatively scarce (Davidova et al., 2013).

To boost competitiveness and profitability, the EU seeks to stimulate enhanced value-added production, drawing on its reputation for quality goods (European Parliament and the Council of the European Union, 2012). One potential type of quality goods are Traditional Food Products (TFPs). A traditional food may be classified as: 'a product [...] made accurately in a specific way according to the gastronomic heritage, [...] and known because of its sensory proprieties and associated with a certain local area, region or country' (Guerrero et al., 2009, p. 348). These goods generally possess positive images due to superior taste, nostalgia and/or ethnocentrism (Almli et al., 2011; Vanhonacker et al., 2010). However, the ability of TFPs to contribute to improved farm incomes, without recourse to subsidies, depends on whether consumers are willing to pay a premium for them compared to cheaper alternatives. In other words, with TFPs not receiving any direct, supplementary subsidies, additional value added has to come on the demand side but the willingness of consumers to pay for such goods, and specific attributes that may be attached to them, remains unclear.

The paper addresses this central question, building on recent advances in Willingness to Pay (WTP) methodologies, which are applied to an exemplary case of a Traditional Food Product (TFP) – that of Hungarian mangalitza salami. Mangalitza salami is an ideal product for exploring WTP for a TFP as the main motivation for its purchase in Hungary, as discussed below, is its indigenous origin and heritage. Data collection occurred in the Northern Great Plain of Hungary, a lagging region, which is characterized by a relatively high dependence on agriculture and real farm incomes below the EU average (MARD, 2011). The study seeks to understand consumer perceptions of value and identify promising segments for targeting. Specifically, using a Discrete Choice Experiment (DCE), explicitly accounting for unobserved heterogeneity in correlated WTP coefficients and observable demographic/socio-economic characteristics, our model is estimated in WTP space. Train and Weeks (2005) advocate this approach and reparametrize the random parameter (mixed) logit model (RPL) by defining the distribution of WTP directly. Nevertheless, despite the clear advantages of the WTP space framework, it has been used, notwithstanding some notable exceptions (e.g. Balcombe et al., 2010), infrequently in the food policy literature. As a result most previous food-related WTP studies assume that the price coefficient is fixed across consumers, so that

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the moments of WTP are equal to the moments of the non-monetary attribute coefficient scaled by the price coefficient. However, this is an unnecessarily strong assumption of homogeneous price sensitivities. Moreover, as Train and Weeks (2005) note, a fixed cost coefficient implies that the scale parameter, and consequently the variance of unobserved utility or the degree of certainty in decisions, is the same for all respondents. Hence, in such models, potential scale heterogeneity across decision-makers may be falsely attributed to variations in WTP.

Greene and Hensher (2010) demonstrate that the WTP space model is nested within the recently developed Generalized Multinomial Logit Model (GMNL) of Fiebig et al. (2010). This framework considers not only random preferences, but is also able to decouple preference heterogeneity from scale heterogeneity, which is related to differences in the variance of the error term (i.e. differences in the degree of randomness in the decision-making process). This is particularly relevant for studies that use stated preference data, as consumers may interpret and process choice tasks differently, so that the level of certainty regarding their choices may vary. Hence, applying the GMNL model, we demonstrate how best to account for preference and scale heterogeneity and also take the demographic characteristics of respondents into consideration. There are some notable works that follow a similar path, for instance Balcombe et al. (2009) estimate consumers' WTP for pesticide reductions. Dealing with baskets of goods rather than a specific product, Balcombe et al. (2010) examine WTP for reductions in various nutrients (fat, sugar salt). Zanoli et al. (2013) investigate Italian consumers' WTP for beef attributes while Campbell and Doherty (2013) consider opportunities for adding value to chicken meat. However, demographic variables are not incorporated into the analysis of Balcombe et al. (2010) and Campbell and Doherty (2013), so that the authors do not account for observable preference heterogeneity. Zanoli et al. (2013) attempt to trace such effects by comparing conditional parameter estimates of WTP between different demographic groups. Instead of that, following Train (2009), we apply a GMNL specification that includes interaction terms for WTP measures and demographic variables. Consequently, significant differences in monetary valuations of product traits can also be explained on the basis of observable respondent-specific attributes, making recommendations regarding market segmentation, targeting and positioning easier to define.

As a further important feature, unlike most other WTP space studies (with the notable exceptions of Balcombe et al., 2009, 2010), we allow for correlations between the random WTP coefficients of different attributes, which yield a more realistic picture of consumer preferences for particular food products (in this case mangalitza salami). However, unlike Balcombe et al. (2010), we focus on a specific product instead of an aggregated basket of goods. Particular attention is given to the effect of quality certification, retail channel, and the share of mangalitza in the salami, taking into account the relationships between consumer valuations of these product traits. This leads to set of practical recommendations for marketers and policy makers regarding promising consumer segments and strategies for improving the added value of TFPs.

The paper is structured as follows. It begins with an overview of the current literature on consumer attitude toward traditional foods and a description of the mangalitza case. Section 'Choice experimental design and data' documents the data and the design of the DCE. After that, the econometric models are specified. Section 'Results' presents the results prior to the discussion of conclusions.

Traditional Food Products (TFPs) and the mangalitza case

While there are few official definitions, the European Parliament and the Council of the European Union (2012) identifies TFPs as those with "proven usage on the domestic market for a period that allows transmission between generations; this period is to be at least 30 years". Consumers perceive that TFPs are: anchored in the past (Guerrero et al., 2009), tied to specific localities, regions or countries and typically evoke strong memories of childhood (Cerjak et al., 2014; Rudawska, 2014). Moreover, they regard knowledge as to how to produce and consume TFPs as being passed from one generation to the next, usually in a domestic setting or by artisans (Guerrero et al., 2009). TFPs possess also distinctive sensory merits (Molnár et al., 2011) which are generally evaluated positively (Almli et al., 2011). Importantly, consumers judge the merit of a particular TFP in terms of its authenticity (Tregear et al., 1998), with those perceived as genuine forming part of an area's gastronomic heritage (Guerrero et al., 2009).

Pieniak et al. (2009) model the relationships between food choice motivations, as defined by Steptoe et al. (1995), and attitude toward and consumption of TFPs. They found the importance placed on familiarity and the natural content of food to be positively associated with attitude to, and consumption of, TFPs. Conversely, the importance consumers placed on convenience and weight control were negatively related to attitude and consumption of TFPs. No significant relationships, however, were established between the degree to which consumers' valued sensory qualities, price sensitivity and attitude toward and consumption of TFPs. This may reflect the heterogeneity of TFPs as a category, which limits the degree to which general attitudes map on to purchases of specific goods.

TFPs typically, but not universally, have strong associations with a particular origin and locality (Verbeke et al., 2016). Some TFPs in the EU are thus suitable for and already are protected under one of three main designation schemes: Protected Designation of Origin (PDO), Protected Geographical Indication (PGI) and Traditional Speciality Guaranteed (TSG). These quality schemes seek to protect producers and consumers from inferior, copycat goods so that only members of an approved consortium can use a registered name. By 2015, there were approximately 1200 products, across the EU, which had confirmed PDO, PGI or TSG status and several high profile TFPs benefit from the legislation (De Roest and Menghi, 2000). However, the impact of the schemes in many countries is limited by poor consumer and producer awareness of the labels and a lack of understanding of the differences between the schemes (Gorton and Tregear, 2008; Tregear et al., 1998). In this environment, privately owned brand names are often more important quality signals to consumers than designation labels (Kizos and Vakoufaris, 2011; Tregear et al., 2007). In other cases, national schemes of certification or alternative quality labels may be of greater salience (De Pelsmacker et al., 2005). Moreover, not all TFPs are suitable for PDO, PGI or TSG designation – for instance where production is very diffuse or the good is now regarded as generic.

Studies modeling consumer preferences for geographical indications and other quality labels highlight their heterogeneity (Resano et al., 2012; van Ittersum et al., 2007). An important challenge is thus to understand the socio-economic and demographic determinants of such heterogeneity. This is best attempted in relation to a specific TFP; as given the heterogeneity of the traditional foods category, general assertions may be of limited value in understanding consumer choices related to specific products. As a result Molnár et al. (2011) calls for research that goes beyond 'general consumer perceptions and preferences relating to traditional foods as a food product category' (p. 237).

Mangalitza represents an ideal product for investigating consumer behavior relating to TFPs, as its appeal rests on its long, distinctive history and status as part of Hungary's gastronomic heritage. While it was the most common swine breed in Hungary until the latter half of the Nineteenth Century, by the late 1970s it had almost completely disappeared due to its inferior feed conversion,