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## **Can local be the new organic? Food choice motives and willingness to pay**

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### **Abstract**

Due to growth and changing distribution channels for organic food in Germany, there is some concern that organic food will lose against local food in the competition for conscious consumers. In this paper we will present the results of a survey in Bavaria searching for consumer motives and label recognition. A choice experiment using different prices, brands and labels is conducted for bread, beer and milk. Results show the importance of local production to the surveyed consumers, similarly for conventional as for organic products.

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## **Introduction**

While Germany is the biggest organic food market in Europe, the share of organic products in total food sales remains relatively small (about 3.5 per cent). After periods of sustained growth over the last fifteen years, organic food products now face fierce competition from marketing initiatives for local products. Local food may be successful in the dedifferentiation of organic products as it addresses similar choice motives such as ‘environmentally sound’, ‘sustainable’ and work on the heuristic of ‘trust’ and ‘proximity’. Currently the German government is examining the potential for a local food label on the basis of a nationally agreed upon definition of what constitutes localness. While this label may help consumers to rely on the categorisation of local food products, it also threatens established brands that have established by communicating local sourcing and short supply chains. This is in particular the case for some of the traditional organic brands that used localness as an important attribute against the threat of the growth in globalized organic food supply chains.

Previous studies have shown that the typical organic food consumer is highly educated, female, with above average income and lives in urban areas. Shaw Hughner et al. (2007) identified the values altruism, ecology, universalism, benevolence, spirituality and self-direction as important motives of organic food choice. Promoters of organic food choice are health and nutritional concern, superior taste, concern for the environment, food safety, lack of confidence in the conventional food industry, concern over animal welfare, support of local economy, more wholesome, nostalgia and fashionable (Shaw Hughner et al., 2007). These promoters may also be important in explaining the consumption of local food.

In order to analyse why organic food has lost market share and differentiating power against local food products, we will present results of a survey of about 180 German consumers that has been conducted in February and March 2012. The survey instrument is built on results of two qualitative studies exploring consumers’ associations with organic food on the one hand

and local food on the other hand. The quantitative data collected in a large sample via face-to-face interviews allows analysing food choice motives based on Steptoe et al. (1995) and Lockie et al. (2002). Using a choice experiment willingness to pay is evaluated, where the two attributes 'organic' and 'local' are considered in addition to specific organic brands that are rooted in local origin. Results are obtained for bread, beer and milk.

The paper will proceed as follows. First the German market for organic food is described. Next, the survey instrument and data collection and analysis methods are explained. The paper presents the results and concludes on an outlook on future research.

### **Organic and local food**

The organic food market in Germany has been steadily growing over the past years. Average household expenditure for organic food has increased from 47.30 Euro per capita in 2005 to 72.40 Euro per capita in 2010. In a similar time period, agricultural land dedicated to organic production has been increasing from 807 406 ha (2005) to 947 115 ha (2009). Thus organic food expenditures have been growing by 9.1 %, while land dedicated to organic production has only been increasing by 4.3%. Even when correcting for the inflation in food prices over the period, household expenditures show a growth rate of 7.4% and hence exceed land use increases by 3.1% (AMI, 2011).

Observing these changes, there is political concern that organic food demand can no longer be met by domestic production, hence resulting in an increased share of imported food. There are many factors contributing to the explanation of these data. One is the increasing import of tropical fruits, secondly, there may be an increasing degree of processing, hence shifting the share of value added downstream in the supply chain. Finally, structural challenges in agriculture and the food processing industry may hinder an increase in domestic production of organic products. It is, e. g., interesting to note that the average farm size of conventional

farms has increased from 33.87 ha in 1994 to 45.10 ha in 2009, while the average size of organic farms has decreased from 46.39 ha to 45.00 ha (AMI, 2011).

The current discussion suggests that organic food products lose authenticity when not being produced locally. In a greater overview, Shaw Hugher et al (2007) analyse the literature regarding organic food consumers. They find that organic food is associated with 'chemical free', 'cage-free' and 'natural'. Regarding the demographic profile, a typical organic food consumer is female, has children living in the household and is of older age. While the positive attitude towards organic food is more common among young consumers, older consumers are more likely to spent money on organics. This coincides with findings by Jonas and Roosen (2005). Regarding a psychographic profile, values of altruism, ecology, universalism and benevolence, spirituality and self-direction are associated with the consumption of organic food. Shaw Hughner et al. (2007) hence identify nine motives for organic food consumption Organic food is healthier, tastes better, addresses environmental concern and concern over food safety and animal welfare, it supports the local economy, is wholesome, reminiscent of the past and fashionable.

Also for the German organic food market, Kriwy and Mecking (2011) found that many studies have shown that organic consumers are better educated than the average food consumer. Using data collected in 2006, they have analysed the impact of the motive healthy eating and environmental consciousness on the likelihood of organic food consumption. Their results support a dominance of the healthy-eating motive.

In recent years several studies have analysed the importance of local and organic food production in purchasing decision. In an internet-survey of Pennsylvania residents, Wirth et al. (2011) conducted a conjoint analysis regarding organic and locally grown apples. The most important attributes were quality, texture and price. Origin was the fourth ranked attribute, but production method (organic) was almost not important at all. Using a choice experiment for

apple sauce, James et al. (2009) surveyed 3 000 residents of Pennsylvania in 2005 with a response rate of 56%. As a result they also find a much stronger preference for local production compared to organic production. For Germany and four other European countries Zander and Hamm (2010) find that regional production is important and ranked second after animal welfare, when ranking different criteria for the purchase decision for organic food. Further evidence regarding Germany can be found in the 2012 Oekobarometer, a regular opinion poll of the German general population aged 14 and above on organic food consumption, surveying 1 006 consumers using CATI, it shows that the main food choice motives for organic food are animal welfare (94%), local origin (89%) and a low charge with contaminants/residues (89%).

## **Data and methods**

Data was collected from 180 consumers in face-to-face interviews in a university town in Bavaria in February and March 2012. The objective is to extend the sample to 720 consumers in four regions of Bavaria (180 per region). Grocery shoppers were intercepted near the shopping outlet and prompted using the questionnaire that is available upon request. To include a diversity of consumers in the sample, we used a stratification strategy interviewing at different food outlets (supermarkets, discounters, organic food shops and organic bakeries). The questionnaire included questions on label recall and recognition, shopping frequency, importance of localness of organic food production, the definition of a localness for different food types (beer, bread and milk), the food choice motives health, natural content, price, animal welfare and sensory appeal. These five food motives have been chosen from the list of thirteen food motives by Lockie et al. (2002), a food motive questionnaire containing twelve motives developed from the Food Choice Questionnaire by Steptoe et al (1995) and Lindeman

and Väänänen (2000). The five selected food choice motives have been chosen according to the 2012 Oekobarometer.

The questionnaire also inquired about reasons for not purchasing organic food related to price, shopping location or uncertainty about quality.

Finally a choice experiment is included in a 2/3 split design of the questionnaire on the choice of bread, beer, and milk. Those products have been selected, because they are among the most important products in the German organic food market and of particular interest for the Bavarian organic food producers. Also, the three products have a very different processing degree, distribution networks, and definition of localness (see results).

According to our research objective we include organic and local as two attributes in the choice experiment. In addition, brand and price are attributes of the experiments. Price levels have been fixed in a small research at different outlets (discounter, whole food stores and supermarkets), using the mean price and a standard deviation above and below mean price as three price levels. The attributes and levels of the choice experiment are presented in table 1. The questionnaire uses a fractional factorial design maximizing D-efficiency for 16 choice sets that are split across four questionnaire versions for each product.

We will test the hypothesis in how far the importance of localness of a product depends on the degree of buying organic and estimate willingness to pay for localness and organic using different types of labeling schemes.

## **Results**

Table 2 shows some descriptive statistics of the sample regarding socio-demographics.

About two thirds of the sample are female and the average household size is 2.72. The average age of the interviewed person is 48.3 years. Finally the distribution across income

classes is indicated in table 2. Overall the sample consists of a relatively wealthy proportion of the population. As indicated in the literature review, this corresponds to the profile of German organic food consumers that were the target group of this survey.

Figure 1 shows the share of consumers who buy organic in each of the product category. For bread it is about 52.5%, for beer it is 10.8 % and for milk it is 34.2 %.

Regarding localness, figure 2 indicates the share of consumers who buy local products in each of the product categories. The importance of local production is particularly high for bread (87.4 %), but also significant for beer (82.6 %) and milk (70.4%). Considering the market structure in Germany for bread (many local bakery outlets) and the importance of Bavarian beer in the market, the result is not surprising. Interesting is also that the share of consumers responding ‘don’t know’ is relatively high for milk (13.0%) compared to bread (4.2%) and beer (2.2%).

Table 3 shows the parameters of the multinomial logit model for each of the three products. Because of the split sample design prompting every consumer to respond only to two products in the choice experiment, the sample size decreases to 120 for each product. Each consumer responds to four choice sets for each product. All parameter estimates are significant at the 5% level, but the parameter for the Bavaria quality seal for milk. Overall the claim “local” carries a higher utility value compared to the ‘Quality certified Bavaria’. In contrast, the seal ‘Organic certified Bavaria’ carries a much higher value compared to the organic seal. At the same time ‘organic certified Bavaria’ seems to be of higher value than ‘organic’ and ‘quality certified Bavaria’ together.

Table 4 shows the resulting willingness to pay estimates. In general the relative parameter values are reflected. We observe very high brand values across all products (less so for beer). It remains to be shown that these results also hold for the larger sample.



## **Conclusion**

The results of this research help understand the differentiation potential between organic and local food products. The usefulness of a local organic food label in addition to the organic and a possible local label as currently discussed in Germany is analysed against this background. The results help to understand the threat posed by the local marketing trend to organic food companies that have integrated local and traditional heritage into their brand value.

The results show that German consumers highly value local production. Also the local organic food label results in a higher willingness to pay than a general organic declaration according to EU norms. Localness carries the highest value in the market for bread, whereas production in Bavaria has a relatively high value for beer. Further analyses using the extended sample will carefully consider the stratification in the sample and possible interaction between organic and local food.

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**Table 1. Attributes and Levels of the Choice Experiment**

	Bread	Beer	Milk
<b>Price</b>	2.40, 3.60, 4.80	0.79, 1.09, 1.39	0.49, 0.99, 1.49
<b>Local label</b>	Local, Quality certified Bavaria	Local, Quality certified Bavaria	Local, Quality certified Bavaria
<b>Organic</b>	Organic, Organic certified Bavaria	Organic, Organic certified Bavaria	Organic, Organic certified Bavaria
<b>Brand</b>	Conceived brand, National Brand	Conceived brand, National Brand	Conceived brand, National Brand

**Table 2. Descriptive Statistics of the Sample (N=180)**

	Mean	Std. Dev.
Age	48,322	15,088
Household size	2.720	1.282
Gender (female %)	66.1	
<i>Net monthly income (%)</i>		
<500 Euro	1.1	
500 – 899 Euros	4.4	
900 – 1299 Euros	5.0	
1300 – 1499 Euros	9.4	
1500 – 1999 Euros	10.1	
2000 – 2599 Euros	12.8	
2600 – 3599 Euros	14.4	
3600 – 4999 Euros	11.7	
more than 5000 Euros	14.4	

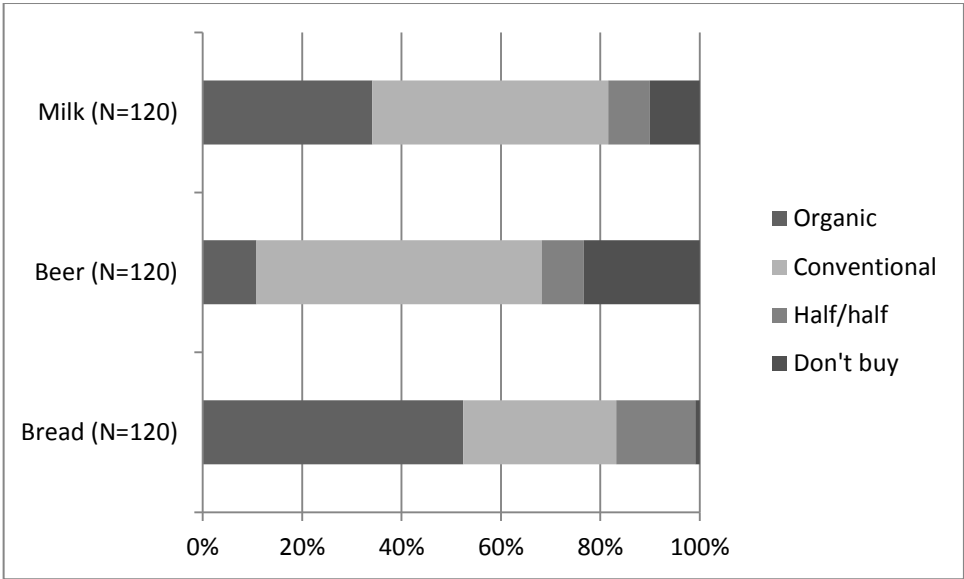
**Table 3. Multinomial Logit Parameter Estimates**

<b>Variable</b>	<b>Bread</b>	<b>Beer</b>	<b>Milk</b>
Price	-0.284*** (0.066)	-1.674*** (0.207)	-0.798*** (0.171)
Local	0.802*** (0.223)	0.437** (0.202)	0.469** (0.187)
Quality certified Bavaria	0.489** (0.214)	0.647*** (0.206)	0.335* (0.179)
Organic	0.553*** (0.186)	0.317* (0.169)	0.654*** (0.151)
Organic certified Bavaria	1.179*** (0.210)	1.172*** (0.204)	1.076*** (0.166)
National Brand	1.948*** (0.197)	1.131*** (0.161)	1.077*** (0.149)
R2	0.250	0.098	0.108
Log Likelihood	-346.472	-468.446	-453.476
N	120	120	120

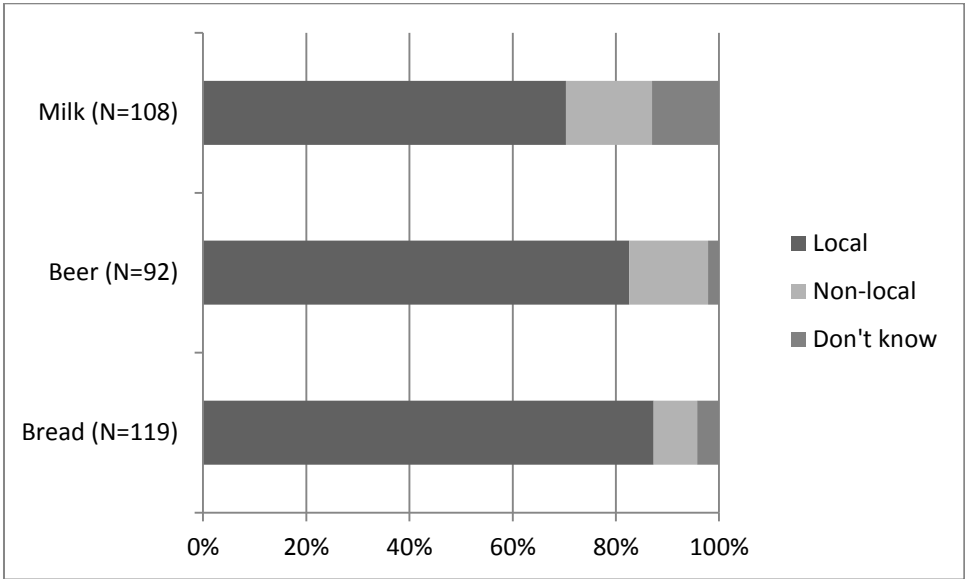
\*\*\*, \*\*, \* denotes significance at the 10%, 5% and 1 % level.

**Table 4. Willingness to Pay Estimates**

<b>Variable</b>	<b>Bread</b>	<b>Beer</b>	<b>Milk</b>
Local	2.822	0.261	0.588
Quality certified Bavaria	1.685	0.387	0.420
Organic	1.948	0.189	0.820
Organic certified Bavaria	6.313	0.700	1.348
National Brand	6.857	0.675	1.350



**Figure 1. Share of consumers of organic/conventional product**



**Figure 2. Share of consumers buying local/ nonlocal product**