Producers' and Consumers' Expectations towards Geographical Indications - Empirical Evidence for Hessian Apple Wine

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Abstract. The number of products bearing a Geographical Indication (GI) has increased steadily in recent years. The EU Commission considers GIs as a useful tool in fostering simultaneously the production of high-quality food products as well as rural development in less-favoured regions. However, GIs are by no means a self runner. In order to be successful consumers have to value GIs. So far empirical evidence with respect to consumers' knowledge, expectations and WTP towards GI products is rather mixed and mainly focused on Mediterranean countries. The present paper addresses both sides of the market, i.e. producers' motivations to establish a GI and consumers' expectations towards GI products by representing results from a German case study, i.e. Hessian apple wine. In November 2008, an online-survey with 741 Hessian consumers was carried out. In the same month, an in-depth interview with one of the leading producers of Hessian apple wine, who was directly involved in the PGI application process, was conducted. The results indicate that the most important motivation to apply for a PGI is to secure the established reputation against misuse by competing producers in order to ensure the quality level of Hessian apple wine. Hessian consumers' awareness and knowledge about GIs is very limited. Moreover, it is found that the quality-dimension is not as important as the local-economy support dimension and perceived authenticity of the product.

Keywords: Geographical indications, German case study, cider, online survey

1. Introduction

Since the introduction of EEC regulation No. 2081/92 in 1992, European and Non-European producer organizations have got the possibility to register their products either as a *protected designation of origin* (PDO) or as a *protected geographical indication* (PGI), which leads to an EU-wide protection of the registered terms[1]. This regulation, which was replaced by regulation EC No. 510/2006 in 2006, pursues several objectives. The first objective is to protect consumers and producers against fraud. Since only products produced according to the registered code of practice can be labelled with the protected name, consumers can be sure that they buy the original product and producers are protected against free-riding by imitators. Secondly, the regulation is part of the “second pillar” of the Common Agricultural Policy (CAP) with the aim to foster rural development, particularly in less-favoured areas, by encouraging production of high-quality products[1]. Hence, PDOs and PGIs are seen as an integral part of the EU’s Food Quality Policy.

Looking from the demand side, the surge of local and regional foods is considered a countertrend against the globalization of trade in foods with international brands and converging demand patterns[2]. Consumers being increasingly concerned about food safety and food quality issues value the origin as a useful quality cue. These ongoing developments are reflected in the growing number of products registered under regulation EC No. 510/2006 and the efforts at national and international level to foster the registration of products either as PGI or PDO. This is also true for Germany, where this certification scheme is not widespread until now. However, several attempts have been made to promote this scheme and encourage German producers to apply for the EU-wide protection. Prominent examples of German PDO/PGI products are Schwarzwälder Schinken (PGI since 1997), Spreewälder Gurken (PGI since 1999) and Nürnberger Lebkuchen (PGI since 1996).

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[1] The main difference between these two instruments is the extent of the quality-origin link. In the case of a PDO all stages of production must take place in the defined region. In the case of a PGI the products’ characteristics need only to be attributable to the defined area and it is sufficient that at least one production stage takes place in the defined area.

These developments have resulted in a growing body of scientific literature investigating questions which are related to geographical indications for food products. Most of these studies have been carried out in a Mediterranean context, since origin labelling has got a long tradition in countries such as France, Italy and Greece. Studies investigating the establishment of geographical indications in other parts of Europe are rare. Detailed knowledge about consumers' knowledge and producers' expectations and motivations with respect to this certification scheme is still limited, particularly for German consumers and producers. Hence, the present paper wants to fill this research gap by presenting empirical results for a German case study, i.e. Hessian apple wine. Additionally, the paper contributes to the existing literature by analyzing simultaneously the supply and demand side of Hessian apple wine.

Three main objectives are pursued. First, the paper addresses the awareness and perceptions of, and attitudes towards the PDO and PGI labels among Hessian consumers. This is of considerable importance, if producers want to use these labels as a successful marketing tool. Second, the paper investigates consumers' attitudes towards the product Hessian apple wine and the evaluation of a regional certification label for this specific product. Third, the supply side is explored. The main objective hereby is to understand the motivation of the group of Hessian apple wine producers to apply for registration of the term "Hessischer Apfelwein" as a PGI. The expectations driving the decision to apply for a registration under regulation EC No. 510/2006 as well possible obstacles the producer group faced during the application process shall be identified. Possible obstacles can be endogenous such as conflicts finding a consensus on the product specification or exogenous such as administrative burdens.

The paper is structured as follows. The next section will highlight the main features of the cider and apple wine industry. Section 3 provides a brief overview about previous empirical studies in the context of PDO and PGI products. Section 4 presents the empirical results with respect to Hessian apple wine. The discussion of the obtained results is provided in section 5 and the last section concludes.

2. The Cider Market[2]

2.1 The Global Cider Market

As in the case of wine, taste, appearance and alcohol content of cider varies across countries and regions. The French cidre is known for its relatively low alcohol content (3 % by volume), whereas the British or Irish cider normally has got an alcohol content of over 10 % by volume. The UK and Ireland are the main producing and consuming countries of cider. Other countries with a tradition of producing cider and possessing an established cider industry are Belgium, Finland, France, Germany and Spain. The per-capita consumption of cider across countries is presented in Figure 1.

The highest per-capita consumption of cider can be found in Ireland and Great Britain with 17 resp. 13.3 liter per annum, followed by Finland with over 11 liter per annum. In all other countries, the consumption is rather low, i.e. beneath 5 liter per year. Figure 1 does also present the per-capita consumption of beer and wine. With the exception of France, beer is the most important alcohol drink in terms of consumed quantity. According to the European Cider and Fruit Wine Association (AICV), in France, Spain and Belgium cider is predominantly consumed as a less alcoholic alternative to sparkling white wine, whereas in Ireland and the UK cider is usually considered as an alternative to beer most often available in pubs on draft[3]. The share of out-of-home consumption in total consumption is important with around half of consumption taking place out-of-home.

2 Cider is defined as an alcoholic beverage produced by the fermentation of the juices of apples without adding distilled alcohol. Synonyms are cidre, fermente de pomme, sidra, applecider, Apfelwein, äpplecider and siideri[3]. In the following cider is used to refer to the global market, whereas apple wine is used for the German resp. Hessian market.

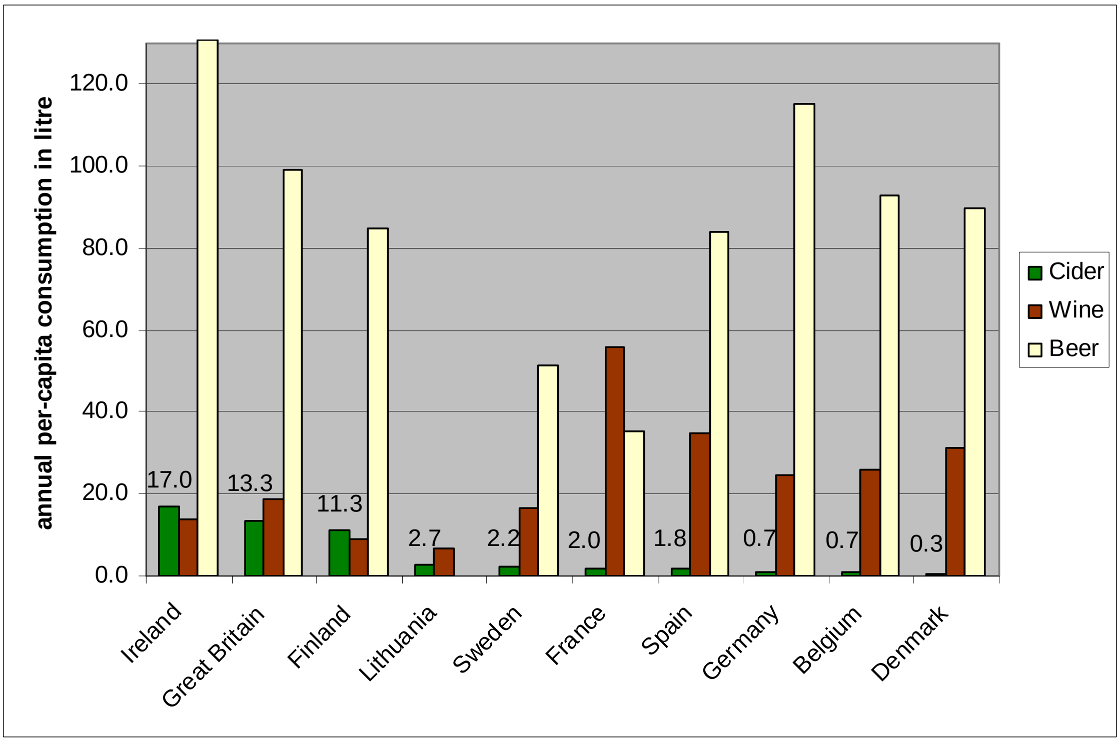

Figure 1: Per-capita consumption of cider, wine and beer in selected countries, 2004 and 2005

Source: Own presentation based on data from the VdFw, Deutsches Weininstitut and FAOStat.

Although the cider market is much smaller than the beer and wine market, it has experienced the highest growth rates among alcoholic beverages in some European countries in recent years. One example is the UK, where sales of cider grew by 23 % in 2006. According to the National Association of Cider Makers (NACM), cider is abandoning its "cheap alcohol" image and a growing share of consumers perceive cider as a quality drink[4]. A renewed interest in cider can also be observed in other European countries with a long history of cider production and consumption such as Brittany and Normandy in France and northern Spain[5]. In these areas, cider is a central element in the local culture and most often touristic concepts are based on the local cider industry.

Moreover, the growing consumer interest in product attributes such as origin, sustainability, traceability and authenticity has fuelled the demand for regional foods and regional specialties[3]. The product cider seems to be well-suited for such a setting due to its long history and the large variety of different ciders reflecting regional differences in climate, apple varieties and local production techniques. This association between provenance and quality is sometimes referred to with the French term *terroir*. *Terroir* means that there is a certain link between the context of production, i.e. climate, soil, culture, tradition, local knowledge, and the quality of the produced product[2]. Such a quality-origin link is a necessary condition for a product to become protected under regulation EC No. 510/2006. The increasing interest in protecting cultural heritage and promoting authentic products is possibly the underlying reason for the growing number of ciders registered either as PGI or PDO. Table 1 presents an overview of all currently protected ciders in Europe.

[3] There is no clear definition of regional foods or regional specialties. In this paper regional specialties are defined as products that are protected under regulation EC No. 510/2006 and products protected under regulation EC No. 509/2006 as traditional speciality guarantees (TSG).

Table 1: Protected terms in the cider market, July 2009

Country	Protected Product	PDO/PGI	Registered since
France	Cidre de Bretagne	PGI	2000
France	Cidre de Normandie	PGI	2000
Germany	Hessischer Apfelwein	PGI	Under consideration
Spain	Sidra de Asturias	PDO	2005
UK	Gloucestershire cider	PGI	1996
UK	Herefordshire cider	PGI	1996
UK	Worcestershire cider	PGI	1996

Source: Own compilation based on the EU database on PDOs and PGIs.

It is interesting to note that only one registered cider is a protected denomination of origin, whereas all other ciders are registered as a protected geographical indication. This implies that only in the case of Sidra de Asturias all stages of production must take place in the defined region.

2.2 Hessian Apple Wine Industry

In Germany, the production and consumption of apple wine is concentrated in a few regions, namely Hesse, Bavaria, Rhineland-Palatinate and Baden-Wuerttemberg. Hesse, particularly the region around Frankfurt, is the leading producing and consuming region. In the year 2008, the production was 37 Mio. liter, which represent around 85 % of total apple wine production in Germany[6]. Around 50 companies produce cider in Hesse, with the major share being small-scale producers selling their cider only locally[4]. However, a structural change can be observed in recent years towards larger-scale companies. The sales structure of Hessian producers in 2006 and 2008 is presented in figure 2, reflecting the dominance of small-scale producers as well as the ongoing structural change.

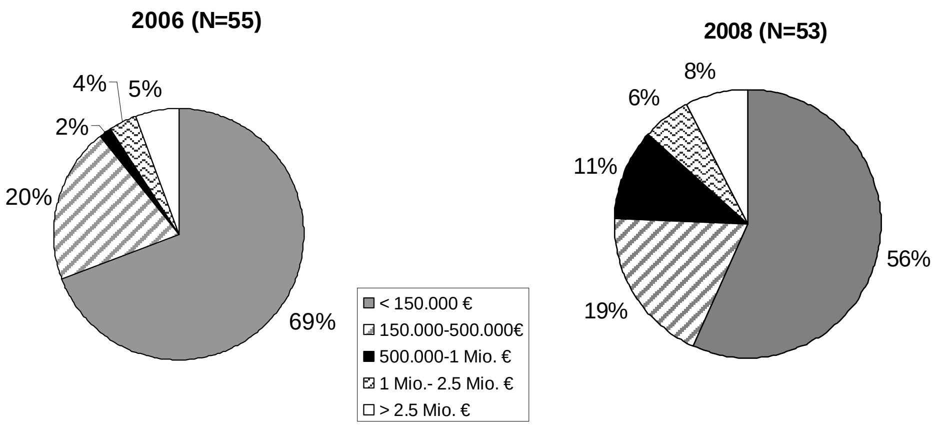

Figure 2: Sales structure of Hessian apple wine producers in 2006 and 2008

Source: Own presentation based on data from the Verband der Hessischen Apfelwein- und Fruchtsaft-Keltereien[6].

The per-capita consumption in Hesse was six liter in 2008, ten times the average German per-capita consumption of 0.6 liter[6]. Of great importance is the out-of-home consumption, with only one fourth of total consumption taking place at home[7].

[4] In Hesse, apple wine is also produced by home-brewers for personal consumption and by small companies that are not members of the Hessian apple wine producer association. These quantities are not included in the official statistics.

Hessian apple wine has got a long history and has been in the market place for decades. However, due to the steadily declining consumption in the 1990s, new ways to stimulate demand had to be found. Given this background, Herrmann and Schulz (2006) analyzed the Hessian apple wine market with the main objective to identify the underlying reasons for the steadily declining consumption of apple wine in Hesse in order to provide strategies for the Hessian apple wine producer association to overcome this declining trend[8]. The results from an online-survey of 1000 Hessian consumers highlighted that the group of regular apple wine consumers is quite satisfied with the current product. For these consumers the attributes "authenticity" and "tradition" are of great importance. Thus, they prefer a dry apple wine that is produced traditionally without any additives using Hessian apples. The Hessian origin is an important attribute for these consumers. In contrast, non-consumers often cite the harsh and bitter taste as a reason for not drinking apple wine. Thus, this consumer group, comprising mainly younger and female consumers, should be attracted by sweeter apple wine and apple wine mixed with lemonade. Consequently, several apple wine companies launched such products in recent years.

The apples used for making Hessian apple wine typically originate from so-called *Streuobstwiesen*. This is a traditional type of extensive grassland-orchard management system present in middle Europe. This system is species-rich and offers a large biodiversity. However, it is nowadays endangered and the protection of this habitat is part of political and private initiatives in Germany[9]. The protection of *Streuobstwiesen* is covered under HELP, a Hessian agri-environmental program for protecting the landscape[10].

3. Previous empirical results

3.1 PDOs and PGIs – The producers' point of view

Geographical indications like trademarks are distinctive signs that enable producers to secure their established product and reputation against imitation and fraud. However, geographical indications differ from trademarks in some important points[11]. Trademarks are individually owned rights whilst geographical indications can be considered as club goods. The clubs owing these rights are typically producer groups or vertically integrated producer-processing associations. According to this club good nature of a PDO/PGI, Belletti et al. conclude that the protection of a PDO/PGI can reinforce the collective action among the participating producers[12]. This collective organisation in combination with appropriate supporting public policies can enable agro-food firms producing origin foods to enter international markets.

One of the earliest studies analyzing the adoption of PDO resp. PGIs in a non-Mediterranean country is the one by Ilbery and Kneafsey (2000) for the UK[13]. In order to find out who applied for a PDO/PGI and why, a brief postal questionnaire was sent to 22 registered producer groups in the UK. The results point out that there is no clear pattern in terms of business type and structure among the applicants. Moreover, the PDO/PGI producer groups exhibit a large heterogeneity. With respect to the reasons for application the answers suggest that the early adopters have sought PDO/PGI status primarily to protect their named products against usurpation. The motivation to use the PDO/PGI logo as a marketing tool was not important at all. Only two of the respondents used the logo at that time on their products. Among the respondents was also one apple cider producer group, the Cider and Perry Makers. This producer group producing Gloucestershire apple cider stated that there were rumours at that time that French cider makers wanted to enter the UK market with UK-style ciders. Consequently, cider producers in the UK applied for the protection as a PGI, because they were afraid to loose market shares if French cider makers were able to enter the expanding UK market with UK-style ciders. These findings are in line with the other investigated producer groups in the UK leading to the conclusion that in these cases the PDO/PGI certification scheme is primarily a mechanism to protect national producer interests rather than a marketing tool[13].

Dimara, Petrou and Skuras (2004) draw a similar conclusion[14]. They argue that regional denomination certification can be considered either as a promotion or as a protection strategy from the producers' point of view. In the latter case applying for registration pursues the objectives to protect an established reputation and raise barriers to entry, whereas in the former case certification is considered a useful marketing instrument to create niche markets. The empirical analysis focused on black currant producers in Greece, who had applied for PDO status at the time the survey was carried out. The results suggest that for most producers PDO certification is not evaluated as an important marketing indicator but as a protection strategy raising barriers to entry.

Moreover, a very recent study was carried out in order to evaluate regulation EC No. 510/2006 on PDOs and PGIs[15]. Within this evaluation report 88 producers from ten different supply chains were questioned with respect to the reasons for taking or not taking up the scheme. The cited reasons comprise economic as well as non-economic reasons. The most frequently cited reasons for taking up the scheme are the protection of names, keep business viable, differentiation of the product, affinity with the region and protection of tradition. On the other hand, reasons for not taking up the scheme include the uncertainty about market demand, missing regional roots, the existence of a trademark or an already strong market position.

3.2 Consumer Studies on PDO and PGI Products

Consumer studies dealing with PDO and PGI labels do typically investigate the awareness and knowledge of these labels as well as the perception of and/or the preference for products carrying one of the two labels.

Within the evaluation study of regulation EC No. 510/2006 a consumer survey covering all 27 EU member states was conducted[15]. The aim was to obtain information with respect to consumers' recognition of the PDO/PGI labels, whether consumers differentiate between these symbols and other quality food symbols and what is associated with the PDO/PGI labels[5]. The person mainly in charge of the household shopping was questioned. The results indicate a low awareness of the two logos. On average only 8 % of the respondents stated to recognize the labels. However, there is a striking dispersion across Europe. In Greece, 54 % of all respondents stated to recognize the presented labels, followed by 16 % in Italy and 12 % in Portugal. In all other member countries the share of respondents recognizing the labels was below 10 %. The high percentage of Greek consumers is assumed to be a direct consequence of the feta dispute, which was widely documented and debated in the Greek media. Only 3 % of the respondents in Germany stated to recognize the PDO and PGI label. The respondents that claimed to recognize the labels were further asked to indicate their associations with these labels. In general, the results suggest that there is a confusion among consumers what these labels represent. Only 51 % of respondents stated correctly that the symbols signal that the product is produced in a specific area. About one fourth of the respondents erroneously believe that these symbols signal an environmentally friendly production.

The most comprehensive study with respect to perceptions of and demand for PDO/PGI-labelled products was conducted by van Ittersum et al. (2007)[16]. This study covered six different PDO/PGI products from three different European countries, namely Italy, Greece and the Netherlands. The main results are that consumers' image of regional certification labels consists of a quality warranty and an economic support dimension. The quality warranty dimension means that consumers perceive these products as being of a higher quality which results in a positive willingness to buy (WTB) and willingness to pay (WTP). Additionally, a positive WTB and WTP can be a due to the economic support dimension, i.e. the belief to support the local economy by buying these products.

Carpenter and Larceneux (2008) tried to explore the decision-making process of consumers when faced with products carrying different value-based labels[17]. Their experimental framework enabled them to compare the impact of a PGI label, when explained, to a PGI label not explained, a local terroir label and no label at all. The experiment was carried out with French consumers and two products, chicken and foie gras. The results highlight that the PGI label without additional information has got no positive impact on perceived quality of the product while the PGI label, if explained, influences the quality perception and purchase intention positively.

It can be summarized that the empirical evidence so far suggests that the most important aspect for the success of a product registered either as PDO or PGI is the perceived higher quality compared to non-protected products. In this context it must be stressed that quality is a social construct and may vary for specific products and between individuals[18]. Moreover, quality in relation to regionally denominated

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[5] The other symbols included in the survey were the symbol for organic production, the traditional speciality guarantee (TSG) label and the fair-trade label.

foods is closely related to other socially constructed concepts such as “authenticity”, “healthy” and “tradition”. This notion is important in that respect, that if regionally denominated products are perceived as being of a higher quality, this higher quality can comprise many different aspects.

Moreover, different quality attributes do interact with each other, which can lead to possible conflicts. One important aspect in this regard is the interaction of regional certification labels with brands. Several studies have addressed this issue, amongst others Profeta, Enneking and Balling (2008)[19]. To the best of our knowledge this is the only study that deals explicitly with German PDO and PGI products. The authors investigated the interactions between brands and region-of-origin (RO) labels for “Bavarian Beer” and “Munich Beer” using a discrete-choice approach. The results suggest that weak brands are more likely to benefit from RO labels than strong well-known brands. This is an important result for producers. It seems to be the case that consumers consider private brands and collective certification schemes as substitutes at least to a certain extent. Interestingly, the study by London Economics points out that most producers consider trademarks, i.e. brands, and PDO/PGI labels as complements rather than substitutes[15].

4 Empirical Results for Hessian Apple Wine

4.1 Producers’ Motivations, Expectations and Experiences

The Hessian apple wine producer association submitted the application for a registration of the term “Hessischer Apfelwein” as a protected geographical indication to the German Patent and Trade Mark Office (DPMA) in spring 2006. In August 2007 it was forwarded to the European Commission, where it is still under consideration.

In November 2008, an in-depth interview with one of the leading producers of Hessian apple wine and member of the Hessian apple wine producer association was conducted. The in-depth interview was structured into the following parts: motivation to apply for PGI status, application procedure, and support before and during the application process (see figure 3).

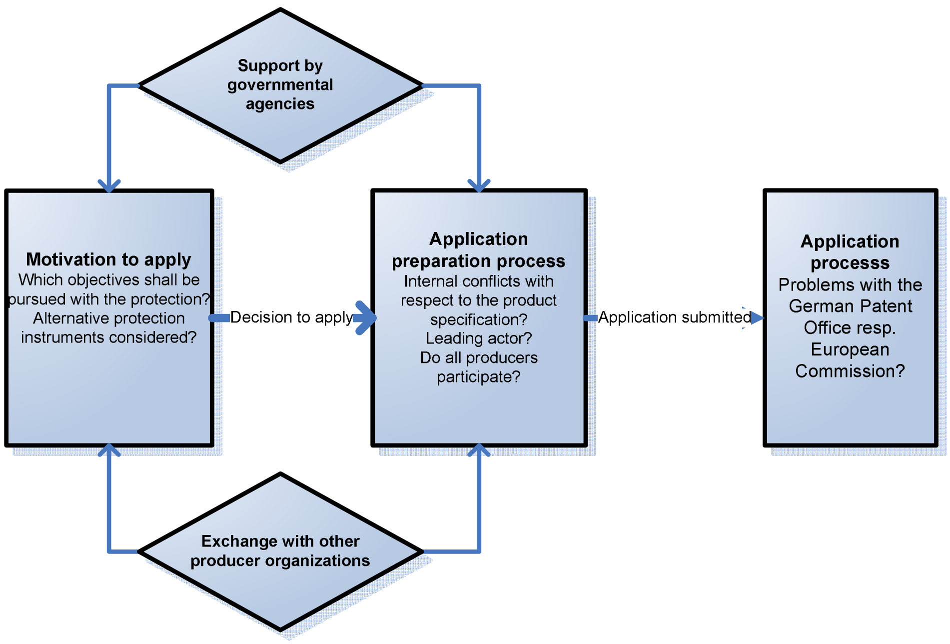

Figure 3: Aspects of the application process covered in the in-depth interview

Source: Own presentation.

The main research hypothesis to be tested is based on results from previous studies on the Hessian apple wine market[8;20]. These studies proposed using the protection of the region of origin as a marketing tool in order to stop the declining apple wine consumption in Hesse. Hence, it is hypothesized that the main motivation to apply for a PGI is to use this label as a marketing tool. In other words, it is assumed that the Hessian apple wine producers primarily want to pursue a promotion instead of a protection strategy.

The Hessian apple wine producer association was founded in 1948 with the aim to represent the interests of Hessian apple wine producers in public. Hence, co-operation and bundling of interests has got a long history in the Hessian apple wine industry. This is very contrary to the case of Herefordshire, Worcestershire and Gloucestershire Cider analyzed by Ilbery and Kneafsey (2000), where a producer association was newly-founded in order to submit an application for a PGI. However, the main motivation to apply for EU-wide registration is the same in both cases. Both producer groups want to achieve protection against free-riders and imitations. The Hessian apple wine producer association considers the EU-wide registration as an important tool in securing the quality level of Hessian apple wine. In this regard the protection shall secure the recent price level and prevent price erosion due to copycat products with lower quality in the market. Moreover, the Hessian apple wine producers have got the feeling that this type of certification is somehow demanded by retailers due to a growing focus on labels and certification schemes. These results are in contrast to the hypothesis stated above that the application for protection is driven by the aim to use the EU-wide protection as an active marketing tool both in the domestic as well as in foreign markets.

Another question addressed was the decision to apply for a PGI instead of a PDO. There was no discussion on this topic among the Hessian apple wine producers, since the restriction to use only Hessian apples in the case of a PDO application would impose severe difficulties. Thus, the general consensus was to apply for a PGI with the specification to use, if possible, 100% Hessian apples from *Streuobstwiesen*. This leads to the aspect of product specification. This is of great importance, because the product specification is the determining factor in obtaining registration[15]. Within the product specification, the documentation of an existing link between the product's quality or at least one characteristic and the defined geographical region is the most important part. According to the interview results, the product specification caused no problems among producers and was agreed by all participants very quickly. This can certainly be due to the long history of producing apple wine. Hence, it seems to be that endogenous obstacles were not of any importance in the application process. The same seems to be true for exogenous obstacles. No major difficulties were faced during the application process and the direct costs, i.e. application fee, were very low. Indirect costs that are often cited to be of significance seem to be of low importance in the case of Hessian apple wine, too[6]. Production costs are assumed to be not affected by the registration, since the established way of production is the basis for the product specification.

The Hessian apple wine producer association was supported by the Hessian Marketing Agency, which is financed by the Hessian government, i.e. governmental support in terms of consulting was granted.

Another aspect discussed was the possible conflict among brands and the PGI label. This is not perceived as problematic by the producer organization, since the PGI label is seen as an umbrella brand with the aim to push apple wine consumption in general, which will not affect the demand for certain brands. Hence, the EU logo is perceived as a tool to ensure authenticity to consumers and to act as a collective or umbrella brand promoting Hessian apple wine in general[7].

4.2 Consumers' Awareness, Perceptions and Willingness-to-pay for the EU Protection

In November 2008, an online survey with 741 Hessian consumers was carried out. The sample is representative for the population in Hesse with respect to sex, age and place of residence in the age group 15-59. Older consumers are clearly underrepresented while higher educated people are clearly overrepresented. This is a typical bias in online surveys and should always be kept in mind while interpreting the results.

[6] Indirect costs are costs that arise from restrictions on agricultural practices (e.g. certain variety must be used) and processing practices (e.g. minimum maturing time etc.)[21].
[7] There is a growing body of literature on the interactions between generic and brand advertising[22,23]. These studies show that generic advertising can have an impact on the market share of individual brands. This topic lies outside the scope of this paper but should be addressed in future research.

In the first part the survey addressed the level of awareness of the official EU logos (presented in figure 4) among Hessian consumers and the associations with these labels.[8] The second part contained questions with regard to Hessian apple wine and the possible protection as a PGI. The main results are presented and discussed below.

Figure 4: EU Logos PDO and PGI

4.2.1 PDO and PGI Labels in General

The awareness of the official EU logos is very low among Hessian consumers. Only 6.8 % (N=71) of all respondents claimed to know at least one of the two EU logos. This is in line with the findings presented in section 3.2 and a note by the European Economic and Social Committee (EESC) issued in 2008 that the recognition of "European certification schemes and their logos and labels is still inadequate and very patchy".

By means of the chi-square test it was investigated whether there are significant differences[9] between consumers claiming to know at least one label and consumers not being aware of the labels. No significant differences between these two groups were found with respect to sex, income, and household size. However, significant differences could be identified in terms of education level and age. Higher educated respondents and respondents under the age of 30 are more likely to know the labels. A significant difference was also found with respect to organic shopping behaviour. People stating to buy regularly organic products have got a significant higher awareness of the PDO/PGI label than people who buy organic products rarely or never. This is not surprising given the fact that people who buy regularly organic foods are most often more interested in the foods they purchase and, hence, are generally better informed than non-organic buyers.

Additionally, the respondents claiming to know at least one label were asked whether they could recall on which products they had seen one of the logos. The product categories mentioned most frequently are meat and meat products (e.g. Schwarzwälder Schinken), followed by cheeses (e.g. feta and parmesan were named), and alcoholic beverages with champagne and cognac mentioned. Some respondents stated to have seen one of the logo on products such as bananas, milk and eggs. Currently, there are no protected products under regulation No. 510/2006 in these product categories leading to the assumption that the presented labels were confused with other labels.

Of great interest is the signal effect of a label, i.e. what is transmitted by the label to the consumer. This question was investigated for consumers claiming to know at least one of the labels and consumers not being aware of these labels separately. One striking result is that among the consumers declaring to have seen one of the logos before, nearly 40 % did not state any association with the labels. This does reflect the wide-spread lack of knowledge among Hessian consumers what these labels stand for. Among the stated associations, the statements “the label secures that the origin is the true origin”, “the product is the original one”, the product is a high-quality product” and “the product is controlled” were mentioned most frequently. This group was also questioned closed-ended with respect to their expectations towards products protected either as PDO or PGI. The results are presented in figure 5.

[8] For the survey the old PDO logo was used. The new PDO logo was introduced in July 2008 due to the claim that consumers cannot distinguish between the two labels because of the optical similarity. However, at the time the survey was carried out a large share of PDO products was still labelled with the old logo. Therefore, it was decided to use the old blue-coloured logo instead of the new red-coloured one.

[9] Significance level of $p < 0.05$

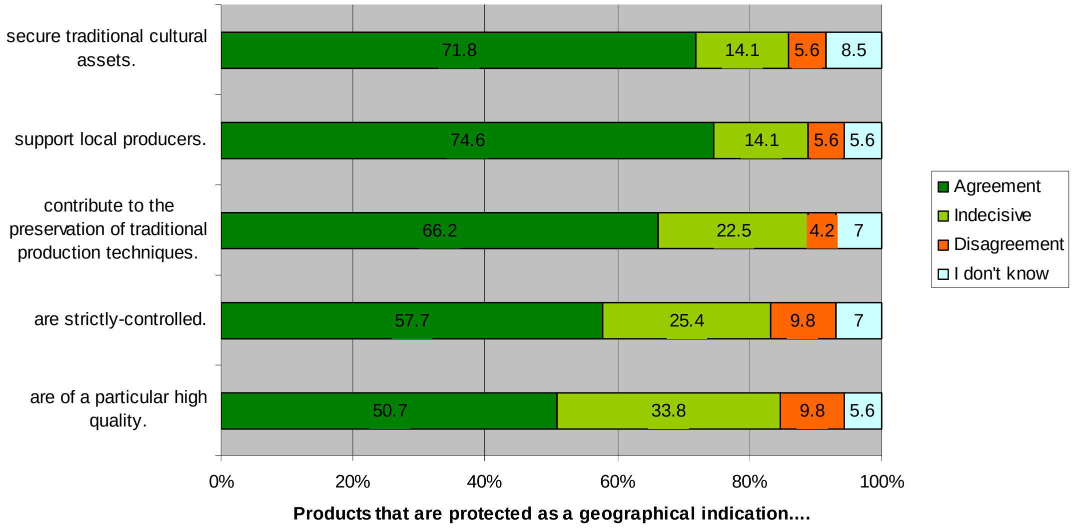

Figure 5: Expectations towards PDO and PGI products (N=71)

Source: Own presentation.

Figure 5 provides some interesting results. Consumers' agreement respectively disagreement to the presented statements was measured on a 5-point Likert scale ranging from "I totally agree" to "I totally disagree" with an additional "I don't know"-option. Over 70 % of the respondents agree that geographical indications support local producers and secure traditional cultural assets. On the other hand, the share of respondents associating tight controls and a particular high quality with geographical indications is 57.7 % and 50.7 %, respectively. For these two statements the share of respondents being indecisive was highest with 25.4 % and 33.8 %, respectively. It seems to be the case that geographical indications are tightly connected with protecting tradition and supporting the local economy, whereas around 50 % are not convinced that these products possess a particularly high quality. This is an important finding given the results from previous consumer studies presented above that in most cases the higher perceived quality of protected products determines the preference and WTP for these products.

4.2.2 PGI Label and Hessian Apple Wine

After this general part on the EU Certification labels, the second part addressed Hessian apple wine. Based on their consumption frequency the respondents were classified in consumers and non-consumers.

42 % of respondents state to drink apple wine at no time. These consumers constitute the group of non-consumers. All other respondents comprise the group of consumers. All respondents were asked to state their associations with Hessian apple wine open-ended and closed-ended. The results for the closed-ended statements for the consumer group are presented in figure 6[10].

[10] The complete statements plus code are listed in Annex 1.

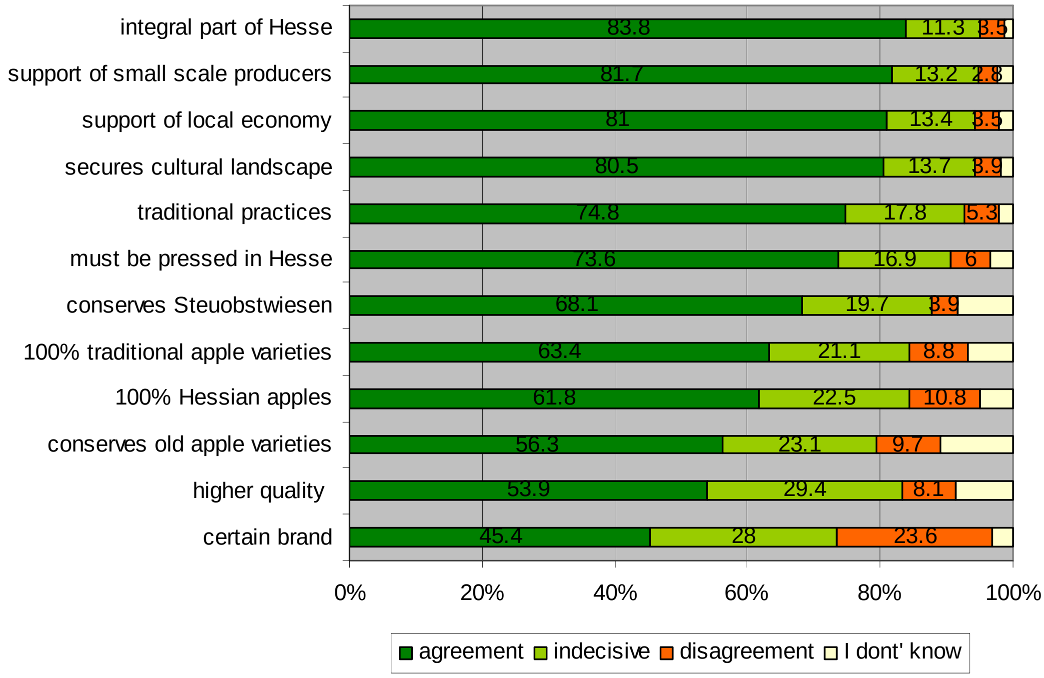

Figure 6: Associations with and expectations towards Hessian apple wine and the protection as geographical indication, apple wine consumers (N=432)

Figure 6 highlights that the highest share of agreement can be found for statements that are related to tradition, cultural landscape and support of the local economy. The lowest degree of agreement is present for statements related to higher quality and production specifications such as the exclusive use of Hessian apples, traditional apple varieties or apples from *Streuobstwiesen*. These results suggest that from the consumer point of view, Hessian apple wine is deeply-rooted in the local culture and tradition, whereas detailed expectations with respect to the product specification are not widespread.

Furthermore, the respondents had to indicate whether they were willing to pay a higher price for a protected apple wine. 48 % of consumers stated to be willing to pay a higher price for a protected apple wine. Hence, the question arises which factors may contribute to a positive willingness-to-pay (WTP) for protection. Therefore, a binary logit model was estimated with the WTP as the dependent variable. Such a model permits the examination of the marginal impact of variables on the probability of having a positive WTP for protection *ceteris paribus*. The included explanatory variables comprise sociodemographic variables as well as consumers' attitudes and expectations towards organic products, Hessian apple wine in general and the protection in particular. Since some of the statements are highly correlated, only a limited number of statements is included in the model.[11] These statements cover the aspects of Hessian origin, tradition, quality and brand affinity.

The estimated model is

$$\boldsymbol{logit(p_i)} = \mathbf{ln}\left(\frac{\boldsymbol{p_i}}{1-\boldsymbol{p_i}}\right) = \boldsymbol{\alpha} + \sum_j \boldsymbol{\beta_j X_{ji}} \qquad (1)$$

with

p_i being the probability of consumer *i* having a positive WTP, α and β are regression coefficients and X_{ji} are explanatory variables (a detailed list of all included variables is presented in Annex 2). The maximum likelihood estimates are presented in table 2[12].

[11] The statements were chosen based on the correlation matrix and an exploratory factor analysis.

[12] The model is estimated by the stepwise forward logistic regression using the maximum likelihood function in SPSS 15.0

Table 2: Results from the estimated binary Logit model (N=432)

Variables	Code	Exp(β)	p-Value
Dependent Variable : Willingness to pay (no WTP =0, positive WTP=1)			
Explanatory Variables			
Constant term		0.024***	0.000
Socio-demographics			
Age	*Older*	1.161	0.557
Gender	*Female*	1.208	0.419
Socio-economics			
Education	*Higher_edu*	1.069	0.776
Income	*Higher_inc*	1.010	0.972
Size of home town	*Rural*	0.823	0.403
Residence in Hesse	*Northern_Hesse*	1.595	0.186
	Middle_Hesse	0.990	0.974
Shopping Behaviour			
Organic foods	*Organic_seldom*	1.505	0.419
	Organic_occass	2.738*	0.044
	Organic_regularly	3.277*	0.032
Place of apple wine purchase	*Producer*	1.115	0.803
	Supermarket	1.264	0.422
	Discounter	1.014	0.941
Psychographic variables			
Cognitive factors	*Higher Quality*	2.608***	0.000
Affective factors[a]	*Traditional practices*	2.329**	0.008
	Brand affinity	1.376	0.189
Normative factors	*Support of local economy*	1.677	0.152
	Secures Streuobstwiesen	2.934***	0.000
Percent correctly predicted		0.70	
Log-Likelihood Value		483	
Nagelkerke's R^2		0.310	

Notes: [a] The variable *integral part of Hesse* had to be removed due to multicollinearity problems. *,**,*** denotes significance at the 0.05, 0.01 and 0.001 level, respectively.

Source: Own presentation.

Overall, the model fit is satisfying with a Nagelkerke R^2 of 0.310 and a correct prediction of 0.70, whereby the prediction is better for people having a positive WTP (72 percent) compared to people with no WTP (67 percent).

The impact of the independent variable is reported by the effect coefficient exp (β), which indicates the change of the odds ratio when the independent variable increases by one unit. The odd ratio is presented in equation 2.

$$\boldsymbol{Odds(WTP=1)} = \frac{\boldsymbol{p(WTP=1)}}{1-\boldsymbol{p(WTP=1)}}, \tag{2}$$

This implies that an effect coefficient above unity signals a positive impact of the independent variable on the probability of having a positive WTP, whereas an effect coefficient below unity signals a negative impact.

None of the socio-demographic and socio-economic characteristics is significant in explaining the WTP for protection. It was assumed that older people, women, people with a higher income as well as people living in rural areas and people living in southern Hesse have got a higher probability to have a positive WTP for a protected apple wine. This could not be proven by the data. However, significant impacts are found for the organic shopping behaviour, i.e. consumers who state to buy regularly organic products have got a significant higher probability for a positive WTP. This is also true for the psychographic factors. The belief that Hessian apple wine has got a higher quality than apple wine from other regions and a positive attitude towards the protection as geographical indication significantly increases the probability to state a positive WTP. These results are in line with findings from previous consumers studies on preferences and willingness-to-pay for regional and local foods [24; 25]. Socio-demographic and socio-economic variables seem to be poor predictors of preferences for local food and regional specialties. Such results were also found by Kubitzki and Schulz (2007)[20]. They estimated a multinomial logit-model in order to explain the apple wine consumption in Hesse and identified the time period of residence in Hesse and the attitude towards apple wine as the most important determinants.

5. Discussion

The product Hessian apple wine is a product with a long history that is deeply embedded in Hesse. This is an important requirement for a territorial based strategy. Such a strategy based on the granted protection could reinforce the territorial identity of the region through the collective action of apple wine producers and the recognition of the region through the promotion of the protected product. However, the results from the consumer survey indicate that the PGI logo itself will not boost the apple wine consumption in Hesse or in Germany. Hence, it seems necessary to involve the EU protection in a wider promotion campaign informing consumers about the granted protection and stressing the attributes of authenticity and typicality of Hessian apple wine. The most successful PDO and PGI examples, e.g. Parmigiano-Reggiano, spend considerable sums of money on advertising and promotion. Other studies also prove that advertising matters and that the certification itself will not influence the demand significantly. In promoting the protected Hessian apple wine, both traditional apple wine drinkers and potential new consumers can be attracted by promoting typicality and authenticity. This would be in line with findings by Barjolle and Sylvander (2000) who analyzed 20 PDO and PGI products with respect to the factors that are most important in determining the success of a geographical indication. They concluded that one of the most important determinants of success is the specificity of the product. The survey results confirm that consumers usually perceive Hessian apple wine as a very specific product that is deeply rooted in the region. The PGI label can be used to enforce this image and to promote the product at a national level to target the growing consumer demand for variety and regional specialties.

Looking at empirical evidence from other PDO/PGI products the PGI label may serve as a quality guarantee for new marketing channels, especially long-distance distribution channels such as exports to foreign markets. In this case the PGI label serves as a standard securing authenticity and traceability.

The logit-analysis results indicate that socio-demographic and socio-economic variables are poor predictors of the existence of a positive WTP for protection. However, psychographic factors, i.e. attitudes and beliefs towards Hessian apple wine in general and the protection as a geographical indication in particular do significantly influence the WTP. These results highlight the importance of informing consumers with respect to the impacts of a protected geographical indication. If consumers are convinced that through this certification scheme the local economy, the local cultural and tradition can be supported, the protection can result in a higher willingness to pay.

6. Conclusions

The Hessian apple wine producer organization has applied for a PGI in 2006, whereby the application is still under consideration. The increasing interest in this certification scheme raises several research questions with respect to producers' motivations and expectations on the one hand and consumers' expectations and associations with such a certification on the other hand. The present paper has addressed both market sides by presenting empirical results from an in-depth interview and a consumer online survey. The results indicate that Hessian apple wine is well-suited for such an origin-based differentiation strategy due to its long tradition and strong connection with the region itself. This is proven by the consumer associations that highlight the strong connection between Hessian apple wine and tradition. Hessian apple wine is considered to be an integral part of Hessian culture and to be something specific, one of the main factors of success for a regional specialty. Hence, even if the results from the supply side indicate that the producer association primarily pursues a protection strategy a promotion strategy based on the granted protection seems to be appropriate given the increasing consumer interest in traditional and authentic products.

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Annex

Annex 1: Codeplan and detailed statements with respect to Hessian apple wine and the protection as geographical indication

Code	Statement
Higher_quality	Hessian apple wine is of a higher quality than apple wine from other regions.
Conserves endangered apple varieties	The protection as geographical indication conserves endangered apple varieties.
100% Hessian apples	Hessian apple wine must be produced by using exclusively Hessian apples.
100% traditional apple varieties	Hessian apple wine must be produced by using exclusively traditional apple varieties.
Secures S*teuobstwiesen*	The protection as geographical indication conserves Hessian *Streuobstwiesen*.
Must be pressed in Hesse	Hessian apple wine must be pressed in Hesse.
Traditional practices	Hessian apple wine must be manufactured according to traditional practices.
Secures cultural landscape	Regional specialties such as Hessian apple wine contribute to the survival of the domestic cultural landscape.
Support of local economy	By buying Hessian apple wine I support the local economy.
Support of small scale producers	Regional specialties contribute to the survival of small scale producers.
Integral part of Hesse	Hessian apple wine is an integral part of Hessian culture.

Annex 2: Variables description and descriptive statistics (N=432)

Variables	**Code**	**Mean**	
"I were willing to pay a premium for an apple wine that is protected as a geographical indication."	WTP	0.47	
Independent variables			
Socio-demographics		WTP	No WTP
Age			
Below 30 years (reference)[a)]		0.31	0.35
Above 30 years	*Older*	0.79	0.75
Sex			
Male (reference)		0.47	0.53
Female	*Female*	0.53	0.47
Socio-Economics			
Education			
No qualification for university entrance (reference)		0.55	0.59
Qualification for university entrance	*Higher_edu*	0.45	0.41
Monthly household income			
Below 1,500 € (reference)		0.21	0.22
Above 1,500 €	*Higher_inc*	0.79	0.78
Size of the home town			

Urban area (reference)		0.55	0.54
Rural area	*Rural*	0.45	0.46
Residence in Hesse			
Southern Hesse (reference)		0.69	0.69
Middle Hesse	*Middle_Hesse*	0.17	0.18
Northern Hesse	*Northern Hesse*	0.14	0.13
Shopping Behaviour			
Place of Apple Wine Purchase			
Only out-of-home consumption (reference)		0.17	0.26
Directly from producer	*Producer*	0.13	0.12
Supermarket	*Supermarket*	0.66	0.57
Discounter	*Discounter*	0.05	0.06
Shopping frequency of organic products			
Never (reference)		0.04	0.08
Seldom	*Organic_seldom*	0.25	0.38
Occasionally	*Organic_occass*	0.50	0.42
Regularly	*Organic_regularly*	0.21	0.12
Psychographic factors [b)]			
Quality dimension			
Hessian apple wine has got a higher quality than apple wine from other regions.	*Higher quality*	0.72	0.38
Tradition dimension			
Apple wine is an integral part of Hessian culture.	*Integral part of Hesse*	0.92	0.76
For me it is important that Hessian apple wine is produced in a traditional manner.	*Traditional practices*	0.90	0.62
Support dimension			
By buying apple wine I support the local economy.	*Support of local Economy*	0.92	0.76
The protection as geographical indication secures *Streuobstwiesen*.	*Secures Streuobstwiesen*	0.84	0.78
Brand affinity			
I always buy a certain brand.	*Brand affinity*	0.55	0.37

Notes: [a)] The reference category is always coded as 0; [b)] Top 2 categories are coded as 1 = agreement; all other categories are codes as 0 = no agreement;

Source: Own presentation.