Strengthening European Food Chain Sustainability by Quality and Procurement Policy

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Report on quantitative research findings on European consumers' perception and valuation of EU food quality schemes as well as their confidence in such measures

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

Food Quality Scheme labels are an essential means of communicating food product and process characteristics thereby aiming at reducing information asymmetry on the side of consumers and supporting an informed choice. Such labels, however, can only serve its purpose if they are recognized, understood and trusted by consumers. This implies that the competitiveness and growth of firms supplying food promoted by Food Quality Scheme (FQS) labels will depend on a thorough understanding of consumer demand. Based on such insights possible tools for more effective policy measures or marketing of products with FQS can be identified. Thus, the objective of WP 8.1 is to understand consumers' knowledge and valuation of FQS labels and the determinants of consumer confidence and willingness to pay for such labels. This report consists of two parts. In Part I of this report we first investigate the importance of different product and process attributes across seven countries (France, Germany, Hungary, Italy, Norway, Serbia and UK) and for different products (cheese, fresh meat, processed meat, fresh fish, fresh vegetables, and processed vegetables). Each product was evaluated by at least two countries. In addition, consumers' perceptions and valuation of FQS promoting selected product and process attributes are investigated across the same seven European countries. The analysis is based on online surveys. In each country about 800 consumers took part in the survey.

In Part II of the report a more in-depth understanding of the role of selected FQS in consumers' purchase decision is provided. Thereby we consider the extent to which cognitive and affective attitudes, trust, and social norms influence product choice. In addition, we show the effectiveness of a modification of the EU organic label in improving consumers' evaluation of this label. Finally, we provide some insights into the relevance of different marketing channels in consumers' purchase decision in general and investigate how much farmers' markets and farmers' shops play a role for specific products. The analysis of this second part of the report is again based on an online survey.

The main findings of Part 1 of the report can be summarized as follows. First, taste is of crucial importance in consumers' food purchase decisions. For many products in most countries it is the major or among the major attributes that influence food purchase. Second, knowing the producer is in general of little importance to consumers in the countries and for the products considered in this study. Third, our results demonstrate that the relevance of most

other attributes depends on the product type and the country. By and large, freshness/best before date is of special importance for fresh and thus perishable products such as fresh meat or fresh fruits and vegetables. However, not surprisingly, this attribute is of little relevance for processed products such as cheese, especially if we refer to hard cheese. Country and region of origin are process attributes with a relatively high relevance for consumers in Italy and France when buying food but prove to be of minor relevance in countries such as Serbia, UK, Norway and Hungary. Considerable heterogeneity also exists regarding the attribute GMO free which is one of the most important attributes in consumers' food purchase decisions in Serbia while being of relatively low importance in countries such as the UK or Norway. The same is true for animal welfare-friendly products which play a minor role in Serbia and Hungary and are of especially high relevance in Germany. The attribute price is an interesting case as in most countries and for most products its share in the most important counts is relatively high. Especially in Italy and France the respective shares in the least important counts are similarly high leading to an ambiguous evaluation of this attribute. This result indicates that there is considerable heterogeneity in consumers' preferences with respect to this attribute. Finally, for some countries more general conclusions can be drawn. Whatever the food product is, the respondents from France are more sensitive to its hedonic attributes such as taste, freshness and traditional food-processing method, rather than more abstract and ethical ones, such as animal welfare, environment-friendly production, or fair trade.

In this first part of the report we also investigated consumers' recognition, use, barriers to use, perception and knowledge for four EU food quality labels (Organic, PGI, PDO, and TSG) as well as 14 national/regional labels (two for each country). Our analysis revealed similarities and differences between the countries and labels considered.

Focusing first on the EU labels, we find that recognition is on average highest for the EU organic label, closely followed by the PGI label. The PDO is much less recognized and the TSG label has the lowest level of recognition. Recognition of EU labels between countries varies considerably. On average we find that national labels receive a higher level of recognition than EU labels.

Our results also reveal that recognition is the crucial step to use as the majority (in general around 70%) of those recognizing a label also states that they make use of the label at least sometimes when doing their grocery shopping. This reveals the importance of increasing

awareness regarding food quality labels for increasing the market relevance of products promoted by those labels.

The reasons why those who recognize the label do not use the label differ between labels and countries but one reason dominates: consumers indicate that they do not pay attention to product labels while doing their grocery shopping. Other reasons mentioned by a large proportion of respondents are that the products are too expensive and lack availability.

National labels receive a better evaluation by the respondents compared with the EU label. In particular, the EU organic label is least positively evaluated. Trust is the characteristic of a label perceived by consumers to be most important, however, the level of trust is, while positive for all labels, not very high. In general regarding all FQS labels and countries, we see that those consumers who recognize a label have in general a more positive perception of this label compared to those who do not. Usage of a label further improves consumers' label perception.

Finally, we investigated consumers' knowledge with respect to the EU and national/regional food quality labels. Our results show that knowledge is relatively low for all labels considered. Perceived knowledge increases for those recognizing and using the label; however, this does not always correspond to factual knowledge.

In Part II of the report we first investigate the role of selected FQS in consumers' purchase decisions across seven European countries considering the extent to which cognitive and affective attitudes, trust, and social norms influence product choice by applying an Integrated Choice and Latent Variable (ICLV) model. The respective products and labels investigated are as follows: (Semi)Hard Cheese promoted by a PDO label in France and Italy, Sausage promoted by a PGI label in Hungary, Apples promoted by the EU organic label in Germany, Norway and the UK and potatoes promoted by national organic labels in Serbia.

The results of the analysis reveal that respondents in all countries show the expected price reaction. Thus, in line with a negative price elasticity of demand, consumers' more often decide for a product the lower the price. However, the findings also provide some first indication that respondents' price sensitivity differs amongst the countries being higher in Norway and the UK. Divergence between different countries also exists with respect to consumers' appreciation of EU and national quality schemes. For France and Italy – both

surveys investigate the FQS label PDO for cheese, compared with no label or a combined label "PDO + Bio" in the case of France and "PDO + Mountain label" in the case of Italy – we see that the combined label is most preferred by consumers, though the sole PDO label also receives a higher relative purchase frequency compared with products with no label. For other countries we see that some FQS labels are not able to raise consumers' interest in the product. This holds true for the EU organic label in the case of Germany, Norway and the UK and for one of the national organic labels in the case of Serbia. Interestingly, however, it seems not to be organic per se which is of little interest to consumers but the specific label. These results confirm the insights generated in Part 1 of the report. The national organic label receives not only a much higher recognition in e.g. Germany, but is in addition also much better evaluated (see section 3.3.2). For Serbia, we see that one national organic label is not favoured by consumers while another is. The Hungarian discrete choice experiment (DCE) investigates consumers' preference of the PGI label with the example of sausage. The results reveal that consumers have a preference for PGI-labelled sausage which is higher than the one for sausage of the brand PICK and much higher than sausage without any label/brand.

Comparing the relevance of the FQS label attribute to the second attribute considered in the DCE we observe considerable differences amongst the countries investigated. In France and Italy, the FQS attribute is of higher importance in consumers' purchase decision compared with the second attribute 'brand'. This result is in line with the finding generated in the first part of the report (see section 3.2). For Germany, Norway and Serbia region/country of origin is much more important and for the UK it is somewhat more important than the FQS attribute 'organic'. Finally, for Hungary, Taste (Spiciness) and the FQS are of about equal relevance for consumers' purchase decision.

To better understand the drivers of consumers' purchase decision we investigated consumers' Attitude, Social Norms, Perceived Behavioural Control, Trust and Purchase Intention regarding products promoted by FQS labels. Based on an ICLV, we can show for six of the seven countries (exception Italy) that the three determinants of Behavioural Intention as suggested by the TPB - Attitude, Subjective Norms, and Perceived Behavioural Control - have a positive significant influence on consumers' intention to buy products promoted by FQS labels. Furthermore, for Hungary and Italy, a higher level of trust in e.g. the control system behind the label significantly increases consumers' intention to buy products promoted

by the FQS label. Finally, for France, Germany and Serbia we can show that consumers' intention to buy a product promoted by a FQS label has a significant positive influence on consumers' product choice as revealed by the DCE.

Besides better understanding of the role of FQS labels in consumers' purchase decision, a second objective of the second survey is also to investigate whether policy adjustment in the form of a slight modification of the green-leaf logo can improve consumers' evaluation of the EU organic label. Our finding clearly indicates that this rather small modification of the EU organic label would significantly improve its clarity, trustworthiness and attractiveness.

Though further in-depth analysis of the data is still to come, our results point to the need for action by policy makers and actors in the food value chain. EU and national/regional food quality schemes and their respective logos were introduced to serve as a quality cue for consumers thereby reducing consumers' uncertainty when purchasing food with respect to desired experience and credence attributes such as taste or production methods. Our results indicate that so far most FQS fulfil their key function only to a limited extent: Awareness of the EU labels and for the majority of the investigated national/regional labels is low. Awareness, however, is a necessary condition for labels to serve as quality cues. But even if awareness exists, a label can only perform its role as a decision-aid supporting consumers in choosing food products according to their preferences if consumers know what the label stands for and have trust in the label. Thus, knowledge and trust are the sufficient conditions for a label to perform its function. However, regarding the former our results also reveal a rather disappointing picture. Factual knowledge of what the label actual stands for is rather low, and this holds even for those being aware and making use of the label when doing their grocery shopping. Trust in labels differs between FQS and is higher for national compared with EU labels.

Based on our study, we can show that an ICLV model is suitable to identify the determinants affecting consumers' decision in favour of products promoted by FQS labels in a choice experimental. Our findings suggest that consumers can be expected to be more likely to (have the intention to) purchase products carrying a FQS label when they have a favourable attitude towards the FQS, they experience a certain normative pressure regarding buying such products, they feel they have control over their choice of buying those products, and for some countries if they trust that the FQS holds what it promises. Consequently, recommendations

for policy makers can be derived from these and the previous findings. Communication strategies promoting FQS should refer to consumers' feeling as well as their cognitive perception with respect to FQS labels. Furthermore, personal constraints of finding and deciding in favour of products carrying a FQS label as well as external constraints such as low availability need to be addressed. Communication campaigns that, in addition, provide information on the control system behind the label could help to increase confidence in the credibility and trust of the FQS.

However, first and foremost well-designed communication campaigns could serve as a tool to raise awareness and consumer knowledge. Particularly for labels such as the EU organic one, which is far from self-explanatory, smart campaigns are needed. Our empirical findings provide evidence on the effectiveness of a slight modification of the EU organic logo. As our analysis reveals such a modification can considerably increase consumers' understanding and trust in the EU organic labelling scheme. Such adjustments of labels should also be tested for other EU FQS labels.

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

AA	Affective attitude
AB	Agriculture biologique
BGB	Beskyttet Geografisk Betegnelse
BI	Behavioural intention
BWS	Best Worst Scaling
CA	Cognitive Attitude
COO	Country of Origin
CM	Count Measure
DCE	Discrete Choice Experiment
DE	Germany
DIN	Serbian Dinar
EB	Eurobarometer
EBRD	European Bank for Reconstruction and Development
EU	European Union
FAW	Farm Animal Welfare
FAO	Food and Agriculture Organization
FQS	Food quality schemes
FR	France
GMO	Genetically modified organisms
HU	Hungary
HUF	Hungarian Forint
ICLV	Integrated Choice and Latent Variable
IT	Italy
N	Number of observations

NGO	Non-governmental organization
NO	Norway
NOK	Norwegian Krone
PBC	Perceived behaviour control
PGI	Protected Geographical Indication
PDO	Protected Designation of Origin
PSFP	Public sector food procurement
QFH	Quality food from Hungary
RSPCA	Royal Society for the Prevention of Cruelty to Animals
RS	Serbia
SEM	Structural Equation Model
SFSC	Short Food Supply Chains
SN	Subjective Norm
T	Trust
TFR	Traditions-Flavours-Regions
TSG	Traditional Speciality Guaranteed
UK	United Kingdom
%	Percent
p	Probability value
£	British Pound (symbol)

PART 1: FIRST CONSUMER SURVEY

1 INTRODUCTION AND OBJECTIVE

Consumers assess the quality of products based on characteristics that are extrinsically visible and those that cannot be easily observed. Among the latter are experience attributes such as taste as well as credence attributes such as the region or country of origin of the product and the production method. These credence characteristics are usually presented through labels. Besides a large and increasing number of private labels there exist also public food quality schemes at the national and EU level. Those quality labels and their underlying standards aim at helping producers to market their products by highlighting the product and process qualities and tradition associated with registered/certified products. The objective of food quality labels is furthermore to serve as a quality cue for consumers, thereby reducing uncertainty associated with food purchases with respect to desired product and process characteristics. The focus of this report is on this second objective.

Thus, the aim of the report is to first provide insights into consumers' preferences for product and process attributes of food products. Second, consumers' perceptions and valuation of food quality schemes (FQS) promoting selected product and process attributes will be investigated across seven European countries (France, Germany, Hungary, Italy, Norway, Serbia and UK) through quantitative research using online surveys. More precisely the aim is to gain insights into consumers' recognition, use, perception, and knowledge of selected EU/national/regional food quality labels and consumers' perceived barriers to buy products which are promoted by EU/national/regional quality schemes. Based on our findings, conclusions are derived to what extent food quality schemes serve their purpose in that they help consumers to make a choice more in accordance to their preferences.

This report contributes to the literature in two ways. Our research is the first to simultaneously investigate consumers' evaluation of different food product and process characteristics with respect to various food product categories across seven distinctive European countries using best-worst scaling approach. Second, so far no other study has compared consumers' recognition/ adoption/ perception/ knowledge of the four existing EU food quality labels (EU organic/ PGI/ PDO/ TSG labelling), associated with varied governmental regulated national and regional labels concurrently in a multi-country cross-sectional setting.

This report starts with a description of the methodological approach, including information on data collection. This section is followed by the presentation and discussion of the results (chapter 3).

2 DATA AND METHODS

2.1 Data

Data were collected via online surveys. For each country about 800 adult respondents were recruited through the market research company LiGHTSPEED.[1]

The survey was conducted in autumn 2017. To reduce respondents' fatigue while at the same time being able to cover all four EU FQS labels as well as two national/regional labels per country, the survey was divided into two subgroups per country. Subgroups also differed regarding the products selected to investigate the relevance of different product characteristics.

All questionnaires were originally designed in English but translated by the participating researchers into their respective languages. To ensure that all surveys were identical independent of language we outsourced a back translation to a professional translation institute. Consistency to the original English survey was checked and in case of problems corrected before the questionnaire was pre-tested in the seven countries.

2.2 Methods

The consumer survey includes a so-called object-case (Flynn, 2010) best-worst scaling (BWS) experiment. BWS is an attribute-based methodology. It is used in this study to investigate the relevance consumers attach to different product and process characteristics when purchasing food from a specific product category. The BWS was originally introduced by Finn and Louviere (1992), and firstly implemented by Marley and Louviere (2005). According to Erdem and Rigby (2013), BWS is particularly advantageous in reducing the cognitive burden that often occurs, if people are asked to rank a large number of attributes. In

[1] The surveys were programmed and hosted by the UBO team.

the design process of a BWS experiment the selection of the BWS attributes is of central importance.

In the context of this research, a two-step procedure was taken:

First, each country selected three product categories. Selection criteria were the importance of the respective product category in consumers' diet in the respective country, the relevance of process characteristics and labels for the respective product category and the coverage of a diverse set of processed and fresh products over the seven countries included in the research. In addition, it was secured that each product category selected was considered by at least two countries. Cheese was determined to be the product category to be investigated in all countries.

As indicated above, two subgroups per country existed for this survey (see Table 1). Each respondent had to answer the best-worst questions for two product categories with one product category being considered in both subgroups. Our approach allows a comparison of product attribute importance for one product category between all countries and for all product categories between at least two countries. In addition, for each country the sample size is higher (800 instead of 400) for one product category allowing for a more robust analysis.

Table 1. Country-specific product categories used in the BWS

Country	**Group 1**		**Group 2**	
France	**Cheese**	**Fresh meat**	**Fresh fruits**	**Fresh meat**
Germany	**Cheese**	**Processed vegetables**	**Processed vegetables**	**Fresh vegetables**
Hungary	**Cheese**	**Fresh vegetables**	**Fresh vegetables**	**Processed meat**
Italy	**Cheese**	**Fresh vegetables**	**Fresh vegetables**	**Processed meat**
Norway	**Cheese**	**Fresh fish**	**Fresh fruits**	**Fresh fish**
Serbia	**Cheese**	**Processed vegetables**	**Processed vegetables**	**Processed meat**
UK	**Cheese**	**Fresh meat**	**Fresh meat**	**Fresh fish**

Second, 14 attributes (see Table 2) of special relevance in consumers' food purchase decisions were selected based on a review of the relevant literature and discussions in the project team. Food attributes were adjusted to be in accordance with the product category investigated if deemed necessary (e.g. "freshness of product" used for fresh produce and "Best before date" used for processed food).

The fourteen attributes were assigned to blocks using an orthogonal frequency balance design. Each version had six choice sets displaying five attributes at a time (see Figure 1). In each BWS task, respondents were asked to choose the attribute that they find most or least important when purchasing a product out of the specific product category.

Table 2. BWS attributes with respect to different product categories

BWS attributes for						
Cheese	**Fresh vegetable**	**Processed vegetable**	**Fresh meat**	**Processed meat**	**Fresh fish**	**Fresh fruits**
1.**Product's country of origin** (produced in XXX (country)/ in the EU / overseas)						
2.**Visual appearance of the product** (very appealing/ moderately appealing/ less appealing)						
3.**Brand** (branded product/ no name product)	3.**Specific variety of the product** (tomato/ potato/ onion and different cultivars, e.g. concerning tomato: cherry tomato, Roma tomato)	3.**Brand** (branded product/ no name product)	3.**Specific variety of the product** (beef, pork, poultry and different cuts, e.g. fillet and steak)	3.**Brand** (branded product/ no name product)	3.**Specific variety of the product** (fish variety A/ variety B and different part of fish e.g. fillet/ loin)	3.**Specific variety of the product** (apple/ pear/ blueberry and different cultivars, e.g. concerning apples: golden, gala, pink lady)
4.**Best before date** (best before date that is short term/ medium term/ longer term)	4.**Freshness of products** (very fresh/ fresh/ less fresh)	4.**Best before date** (best before date that is short term/ medium term/ longer term)	4.**Freshness of products** (very fresh/ fresh/ less fresh)	4.**Best before date** (best before date that is short term/ medium term/ longer term)	4.**Freshness of products** (very fresh/ fresh/ less fresh)	4.**Freshness of products** (very fresh/ fresh/ less fresh)
5.**Price** (high/ medium/ low)						
6.**Nutritional value of the product** (very good/ moderate/ less good nutritional value)						
7.**Traditional methods used in the production/processing of the product** (with/ without traditional methods involved)						
8. **Animal welfare friendly production** (Yes/ No)	8. **Environmental friendly production** (Yes/ No)	8. **Environmental friendly production** (Yes/ No)	8. **Animal welfare friendly production** (Yes/ No)	8. **Animal welfare friendly production** (Yes/ No)	8. **Animal welfare friendly production** (Yes/ No)	8. **Environmental friendly production** (Yes/ No)
9.**Organic production** (Yes/ No)						
10.**GMO-free** (Genetically modified organisms (GMO) not used in the production process / Genetically modified organisms (GMO) used in the production process)						
11.**Taste of the product** (highly/ medium/ less palatable)						
12.**My knowledge of the producer** (extensive/ to some extent/ none)						
13.**Fair trade** (yes/ no)						
14.**Product's region of origin** (specific region in your country/ in another country/ no specific region)						

2b. How important are the following criteria for you when buying ***fresh meat***?

From the following five criteria please indicate which one is the Least Important and which one is the Most Important for you? You may click on the criterion to obtain more information.
(1 of 6)

Least Important	Criteria	Most Important
○	My knowledge of the producer	○
○	Specific variety of the product	○
○	Product's region of origin	○
○	Fair trade	○
○	Nutritional value of the product	○

Figure 1. Example of BWS question

3 RESULTS

This section provides information on the sample structure and the results of the first consumer survey.

3.1 Sample structure

A total of 7444 consumers took part in the survey (see Table 3). Exclusion of those not living in the respective country and those not being at least partially responsible for their household food shopping leads to an overall valid sample size of 5688. The valid sample size per country varies between 799 for Italy to 839 for Germany being in each country about equally distributed between the two sub-groups (see Table 3).

The **French** sample is representative of the French population with respect to both age and gender. Participants are people with upper secondary education (36.2 % for group 1 and 38.1% for group 2) and with university or college qualification below a degree (24.1% and 22% respectively). Their shopping location is supermarket (72.4% and 74%) and hypermarket (51.7% and 50%). The majority of participants live in rural areas (53.2 % and 55.4%). This rural versus urban distribution is far from country level statistics (20.5% living in rural areas in France in 2016).

The **German** data consist of a random sample of both men and women which is representative of the entire population of Germany with respect to gender (Statistisches Bundesamt, 2017a) and average age (Statistisches Bundesamt, 2016a). Regarding the living area, respondents from cities are slightly underrepresented (35.66% in the census, 33.6% and 33.4% in the sample), while those from rural areas are overrepresented (22.78% in the census, 39.1% and 40.7% in the sample) (Statistisches Bundesamt, 2016b). In terms of education, the sample contains more respondents with a higher level of education; especially people with a Bachelor's degree are overrepresented (1.90% in the census, 10.90% and 11.30% in the sample) (Statistisches Bundesamt, 2016c). The household size in the sample is with an average of 2.3 people living in a household slightly higher compared to an average of 2.0 people per household in the German census statistics (Statistisches Bundesamt, 2015). Based on the census an average German household has 0.44 children (Statistisches Bundesamt, 2017b) that is less compared to the sample's numbers (0.59 and 0.57 children). Thus, we can conclude that the German sample is close to being representative in terms of gender and age, while respondents of the survey are less urban, more educated and have more children than the German average.

The **Hungarian** sample is representative for the whole Hungarian population with respect to gender, average age and household size (Hungarian Central Statistical Office Population Census, 2011). Regarding the living area, respondents from cities are overrepresented (37.82% in the census, 41.30% and 44.00% in the sample), while those from rural areas are underrepresented (30.52% in the census, 19.1% and 20.9% in the sample). In terms of education, the sample is heavily dominated by respondents with a higher level of education, especially people with upper secondary education are underrepresented (48.08% in the census, 10.6% and 12.8% in the sample). Based on the census an average Hungarian

household has 1.06 children that is much more compared to the sample's numbers (0.65 and 0.68 children). Thus, we can conclude that the Hungarian sample is close to being representative in terms of gender and age, while respondents of the survey are more urban, more educated and have fewer children than the Hungarian average.

The average age of the **Italian** survey participants is 42.4 and 42.1 for Group 1 and 2, respectively. These figures are somewhat lower than the average age of Italian citizens in the 15 to 90 years of age range which, from inter-census data for the year 2011 from the Italian National Institute for Statistics (ISTAT, 2013), is 48.73. Roughly 47% of the sample respondents are male, which is almost exactly equal to the percentage calculated for the Italian citizens in the 15 to 90 years of age range for 2011 (ISTAT, 2013). Regarding the living area, respondents from urban areas are slightly overrepresented (33.3% in the census, 37.8% and 42.4% in the sample), those in intermediate areas are quite well represented, in particular in group 2 (42.4% in the census, 47.0% and 43.1% in the sample), while those from rural areas are underrepresented (24.3% in the census, 15.3% and 14.5% in the sample) (ISTAT, 2014). The distribution of the ISCED 2011 maximum levels of education attained by the Italian population of 25 to 64 years of age is as follows (Eurostat, 2016),: lower secondary education or below 39.9%, upper secondary education 41.5%, university or college qualification below a degree 0.9%, Bachelor's or equivalent level 3.6% and postgraduate with master or doctoral degree 14.1%. Therefore, it is apparent that there are sizeable differences in the distribution of educational attainment at the national and survey(s) level (see Table 3). The household size in the sample is with an average of 3 people living in a household, slightly higher compared to an average of 2.4 people per household in the Italian census statistics (ISTAT, 2017). Based on the census an average Italian household has 0.5 children (ISTAT, 2017), which is comparable to the sample's numbers, in particular for group 2 (0.64 and 0.55 children). Thus, we can conclude that the Italian sample is representative in terms of gender and persons living in intermediate areas, close to being representative in terms of age, household size, number of children and persons living in urban areas, while respondents of the survey are more educated than the Italian average and underrepresented in terms of persons living in rural contexts.

The **Norwegian** survey sample is representative of the population in terms of gender and age (Statistics Norway, 2016). Concerning living area, respondents from rural areas are slightly

overrepresented (18.2% in the national census compared to 22.4% in group 1 and 21.2% in group 2 in the sample), while people from large cities and medium sized urban towns taken together[2] are slightly underrepresented (81.5% in the national census compared to a total of 77.6% and 78.9% in the sample). Regarding education level, the survey sample percentages are somewhat disproportionate from the national population. Specifically, people with a lower secondary education or below are rather absent from the survey (26.5% in the census compared to 2.4% and 5.8% in the sample). Respondents with upper secondary education (37.8% in the census, 26.7% and 25.1% in the sample) are also underrepresented. On the other hand, the survey sample is overrepresented among people with higher education. Namely, respondents holding a university or college qualification below a degree (2.8% in the census, 13.6% and 13.4% in the sample), bachelor's or equivalent level (23.4% in the census, 35.1% and 37.2% in the sample) and postgraduate level, including master's and doctoral degrees (9.5% in the census, 22.2% and 18.5% in the sample) are overrepresented. Given the average number of 1.62 children in Norwegian households, the number of children in the survey sample in both groups is lower (0.77 and 0.89). In summary, the Norwegian sample is representative of the Norwegian population in terms of gender and age. However, survey respondents are typically more rural, higher educated, and have fewer children compared to the average Norwegian population.

Gender and age distributions reflect the structure of the population in **Serbia**. However, the sample is skewed towards respondents coming from urban parts and those with higher educational levels. According to the 2011 census results[3], about 40% of inhabitants in Serbia live in rural area compared to 12% in our sample, and 16% people have a higher education compared to 60% in our sample.

The **United Kingdom** sample broadly resembles the country's adult population in terms of the mean age (census 40.0; sample 42.8 years of age) and gender (census 49.1% of population male; sample 47.9%) (ONS, 2015). Regarding the living area, respondents from rural areas are over-represented. In official statistics, for England and Wales the designation of rural and urban is based on a classification of output areas using 2011 Census data (ONS, 2013). This

[2] National statistical frequencies do not separate between urban medium towns and cities.

[3] 2011 Census of Population, Households and Dwellings of the Republic of Serbia

defines urban settlements as those with a population of 10,000 or more, with all smaller settlements labelled as rural (DEFRA, 2016). In Scotland and Northern Ireland slightly different approaches are taken; for instance in Scotland the threshold between urban and rural settlements is set at 3,000 inhabitants. Using the 10,000 settlement size threshold, latest official statistics for the UK suggest that 17% of the population live in rural areas. In the sample, the comparable figure is 27.9 %. There might be a degree of misclassification on the part of survey respondents regarding the nature of output areas and settlement size. Official statistics indicate that 27.2% of the UK population has a degree or equivalent or higher qualification (ONS, 2015). This suggests that the sample is slightly skewed to better educated individuals where 24% have a Bachelor's degree and 8.1% have a Master's degree or higher. The average household size in the UK is 2.3 people, which is slightly less than the sample mean 2.74.

The exposition above indicates that the sample structure with respect to some characteristics deviates from the respective structure of the overall population in some countries. Accordingly, conclusions based on our analysis cannot in all cases be considered representative for the whole country.

Table 3. Demographical statistics of the seven countries participating in Survey I

	FR		DE		HU		IT		NO		RS		UK		All
	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	
Total N	542	564	528	522	514	505	495	488	574	635	535	495	510	537	7444
Valid N	406	404	414	425	404	398	400	399	419	411	401	403	402	402	5688
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Gender															
Female (%)	49.8	50.5	48.3	49.4	50.5	51.0	53.3	53.1	51.6	52.1	49.4	50.4	49.8	54.5	50.9
Male (%)	50.2	49.5	51.7	50.6	49.5	49.0	46.8	46.9	48.4	47.9	50.6	49.6	50.2	45.5	49.1
Average age	41.3	41.1	42.8	42.0	40.9	42.7	42.4	42.1	42.3	41.8	41.9	41.5	42.4	43.3	42.0
Living area															
Rural area (%)	53.2	55.4	39.1	40.7	19.1	20.9	15.3	14.5	22.4	21.2	12.7	11.4	28.1	27.6	27.4
Urban medium town (%)	22.4	24.8	27.3	25.9	39.6	35.2	47.0	43.1	36.5	35.8	40.1	43.4	41.5	44.3	36.1
City (%)	24.4	19.8	33.6	33.4	41.3	44.0	37.8	42.4	41.1	43.1	47.1	45.2	30.3	28.1	36.5
Education															
Lower secondary/primary education or below (%)	5.7	4.2	19.6	22.8	2.5	2.5	6.3	8.8	2.4	5.8	0.2	0.2	20.6	24.1	9.0
Upper secondary education (%)	36.2	38.1	17.9	19.1	10.6	12.8	41.0	39.8	26.7	25.1	39.9	35.7	25.1	26.9	28.1
University or college entrance qualification (e.g. A-levels, vocational certificate, technical diploma,)(%)	24.1	22.0	40.3	34.1	41.6	46.5	17.5	14.3	13.6	13.4	17.7	19.1	20.9	18.2	24.5
Bachelor’s degree or equivalent level (%)	18.2	19.1	10.9	11.3	31.4	27.9	16.3	17.8	35.1	37.2	32.2	36.0	25.1	22.9	24.3
Master, Postgraduate or doctoral degree (%)	15.8	16.6	11.4	12.7	13.9	10.3	19.0	19.3	22.2	18.5	10.0	8.9	8.2	8.0	13.9
HH size	2.60	2.55	2.34	2.33	2.87	2.85	2.98	2.97	2.5	2.59	3.38	3.34	2.55	2.73	2.75
Kids number	0.84	0.87	0.59	0.57	0.65	0.68	0.64	0.55	0.77	0.89	0.65	0.69	0.68	0.75	0.7

3.2 Relevance of product and process characteristics in consumers' purchase decision

In this section the importance of different product and process attributes is investigated based on the BWS method. Counting analysis is used to summarize respondents' preferences by dividing the frequency each attribute was chosen (most important or least important) by the number of times it was shown to the participants. In addition, information is provided on the net effect which is obtained by subtracting the share of least important counts from those of the most important counts.

3.2.1 Product analysis across countries: Cheese

Tables 4a and 4b show the results of the BWS for Cheese. The findings show that taste is by far of highest importance in all countries (highest share of most important counts, lowest share of least important counts and accordingly highest net effect). Also of high relevance in most countries is the price, though Italy ranked second or third if measured according to the most important counts and Serbian respondents seemed to care little about price. However, regarding this attribute there is also a high share of least important counts in France, Germany, Italy and Serbia, leading to relatively low net effects in those countries and in Italy even to a negative value (most < least). Table 4a also indicates that while some attributes are of relevance in some countries (e.g. Product's country/region of origin in Italy and France), they get considerably less attention in consumers' purchase decision in other countries (e.g. Hungary, Norway). These findings already demonstrate that similarities and differences exist amongst consumers' importance attached to the attributes of cheese in the countries considered in the analysis. Results are now summarized separately for each country.

In France, the most important attributes when choosing cheese are related to taste, traditional cheese-making method and price. The least important attributes when choosing cheese are brand, nutritional value and knowledge of the producer. France holds the world record for mature and ripened cheese consumption per capita (CNIEL, 2017). Consequently, consumers pay attention to taste and raw milk use, while branding is less important for them.

German participants also rate taste of the product as by far the most important criterion when purchasing cheese; a result which is in line with the findings of Buder et al. (2014). Price takes second place closely followed by GMO-free and animal-friendly production. In fact, considering the net effect, these two attributes achieve even higher scores than the attribute

price. GMO as well as animal welfare are topics of high relevance in the public discussion in Germany. Regarding animal welfare, the "Initiative Animal Welfare" (Initiative Tierwohl)[4] was launched by all relevant actors in the German meat chain (production, processing and distribution) in 2015 to develop a joint effort measure to improve the welfare of animals in the pork and poultry sector. The initiative has gained considerable media attention, though not only positive as e.g. animal protection NGOs have shown that farmers participating in the initiative do not necessarily secure an acceptable level of animal welfare.[5] Partly due to the perceived insufficiency of this initiative, the Federal Ministry of Food and Agriculture has announced the introduction of a farm animal welfare label which is planned to be launched in 2018.[6] The high scepticism of German consumers regarding genetic modification has been shown in previous studies (e.g. Bredahl, 2001; Christoph et al., 2008). Recently, the topic gained again considerable attention in Germany as all large food retailers increase the share of their own brand that they label GMO-free.[7] The results of the BWS shows in addition, that brand and knowledge of the producers are the least important criteria for German consumers in their cheese purchase. This can be seen based on the high percentage of the least important counts (0.39 in both cases; see Table 4a) as well as of the high negative net effect for both attributes (see Table 4b).

For the Hungarian consumers, taste, price and best before date are by far the most important attributes when buying cheese products. This holds if we consider the most important values as well as the net effects. Personal knowledge of the producer on the other hand is of least importance. The latter might be explained by the fact that in Hungary the vast majority of cheese consumed comes from mass production (mainly trappista fresh cheese), the relevance of speciality cheese in contrast is of little importance.

For Italian consumers, best before date is after taste the second important attribute, indicating a significant sensitiveness of Italian consumers to the food safety and quality issue (Van

[4] The initiative is organized as follows (example pig, slightly different for poultry): Retailers pay into a fund depending on the amount of pork meat and meat products that they sell in their outlets. Different programmes and criteria that promote farm animal welfare are defined and controlled. Implementing any of those higher farm animal welfare standards at the farm level remains voluntary. However, those producers who put defined FAW measures into practice are rewarded by a payment that is independent of the price for pigs at the farm level. Prices for pig meat at the consumer level are as well not differentiated according to the different animal welfare standards in the programme (see Hartmann et al., 2014).

[5] E.g. https://www.agrarheute.com/land-leben/spiegel-kritisiert-initiative-tierwohl-qual-nutztierhaltung-534188

[6] https://www.bmel.de/DE/Tier/Tierwohl/_texte/Einfuehrung-Tierwohllabel.html

[7] http://www.lebensmittelzeitung.net/handel/Eigenmarken-Handel-listet-Gentechnik-aus-127713

Rijswijk et al., 2008). GMO-free product is the attribute with the third largest share of most important counts, but it also has a considerable share of least important counts; this confirms other studies indicating a low acceptance of GM food for large part of Italian consumers (Costa-Font and Gil, 2009), whereas other consumer groups exhibit more positive attitude for these products. The fourth ranked attribute is animal welfare friendly production. Di Pasquale et al. (2016) identified a cluster of "sensible and aware consumers" of around 36%, indicating an important market segment for "animal friendly". Brand and fair trade are the least important elements; the cheese market in Italy is strongly characterised by the Geographical Indications (e.g., Parmigiano Reggiano, Grana Padano, etc.) where companies' brands are overwhelmed by the Consortium marks; however, still some brands have important market shares, in particular for some kind of cheese (e.g. Auricchio for provolone, Galbani for fresh cheese, etc.), which evidently were not considered by respondents.

Dairy products traditionally play a major role in Norwegian food habits, with a significant consumption of cheeses. Table 4a underlines several interesting characteristics of what is important for Norwegian consumers when buying cheese. Firstly, we find that taste, followed with some distance by price are the two most important criteria of choice for cheese. Secondly, we notice a duality between brands, on the one hand and food quality schemes such as organic or traditional production, on the other hand. While brand has almost the same shares for most important and least important counts, the least important shares are much higher than the most important shares for many sustainability attributes leading mainly to (high) negative net effects for those attributes. Thus, it seems that Norwegian consumers perceive this kind of quality as less relevant.

As with other countries, Serbian consumers mostly value the taste of cheese (58%). Surprisingly, being GMO-free closely follows in relevance. With 46% of the share of most important counts, this is much higher in Serbia than in any other country for this attribute. This could be because the topic of GMO products is widely discussed in national public debates as well as in the media[8]. In addition, the proportion of the sample with higher education and more people residing in urban areas is much higher than the national average,

[8] Radio television of Serbia (2017), Would GMO be allowed in Serbia?, http://www.rts.rs/page/stories/sr/story/125/drustvo/2687089/da-li-ce-i-u-srbiji-biti-dozvoljen-promet-gmo-hrane-.html; N1 info (2017), Serbia, a country without GMO – until what time?, http://rs.n1info.com/a250192/Vesti/Vesti/GMO-u-Srbiji.html

thus respondents in our sample might be more aware of GMO than holds for Serbia as a whole. Similarly best before date is a highly valued attribute by Serbian respondents. This can be explained by the fact that in Serbia, different from e.g. France and Germany, a large proportion of cheese is "young" soft cheese, which in general has a more limited shelf life than hard cheese. The least important factor when purchasing cheese is brand, with 39% of the least important counts. Notably for Serbian consumers, the price of cheese is of little relevance (only Italians care less), despite the fact that they have the lowest purchasing power of the seven countries investigated. Given that previous research[9] revealed both high brand and high price sensitivities of Serbian consumers, the results of the current study require further exploration. It is likely that, due to the sample structure (higher level of education leading to higher income) the average income of the sample participants is higher compared to the national average. In addition, in the present study consumers are forced to consider trade-offs and discriminate between attributes. Thus, the results do not imply that consumers do not care about prices and brands but that other attributes are more important to them.

For the UK, according to the results of the BWS method, the most important attributes for consumers are the taste of the product, price and best before date. Comparatively little importance is given to knowledge of the producer, the brand and organic production. Those results can be explained by the fact that cheese sales in the UK are dominated overwhelmingly by multiple retailers (supermarkets) with a mix of manufacturers' and own label products. Brand loyalty is relatively low, with a high degree of price sensitivity. While consumers are often aware of the main UK varieties of cheese (e.g. Cheddar, Double Gloucester) and some continental types (e.g. Camembert, Gouda, Roquefort), knowledge of individual producers is generally weak. GI protected cheeses are available but the main UK varieties of cheese are generic in nature (Blundel and Tregear, 2006). Organic's share of the cheese market is peripheral.

[9] e.g. Stojanović, Ž., Dragutinović-Mitrović, R., & Ognjanov, G. (2013). Functional food market development in Serbia: Motivations and barriers. Industrija, 41(3), 25-38.

Table 4a. Count analysis of BWS data: Cheese (Most/Least Important Count Proportion) [1]

	FR		**DE**		**HU**		**IT**		**NO**		**RS**		**UK**	
Total Number of Respondents	391		396		397		387		412		394		382	
Label	Most	Least	Most	Least	Most	Least	Most	Least	Most	Least	Most	Least	Most	Least
	Important Count Proportion													
1.Product's country of origin	0.18	0.14	0.12	0.23	0.12	0.25	0.23	0.15	0.10	0.27	0.09	0.32	0.13	0.25
2.Visual appearance of the product	0.13	0.27	0.13	0.26	0.15	0.19	0.12	0.25	0.08	0.31	0.09	0.28	0.21	0.18
3.Brand	0.13	0.37	0.10	0.39	0.17	0.32	0.08	0.43	0.25	0.23	0.07	0.39	0.14	0.32
4.Best before date	0.15	0.26	0.14	0.26	0.36	0.08	0.30	0.13	0.16	0.17	0.27	0.05	0.29	0.14
5.Price	0.26	0.17	0.32	0.19	0.42	0.07	0.19	0.25	0.33	0.11	0.23	0.20	0.43	0.08
6.Nutritional value of the product	0.10	0.31	0.16	0.19	0.18	0.14	0.17	0.19	0.18	0.18	0.11	0.27	0.16	0.16
7.Traditional methods used in the production/processing of the product	0.27	0.14	0.14	0.19	0.20	0.16	0.23	0.11	0.13	0.25	0.26	0.10	0.11	0.23
8.Animal welfare friendly production	0.23	0.09	0.27	0.06	0.14	0.09	0.25	0.07	0.19	0.11	0.11	0.17	0.19	0.08
9.Organic production	0.15	0.18	0.19	0.14	0.08	0.25	0.18	0.19	0.09	0.32	0.25	0.09	0.09	0.32
10.GMO-free	0.22	0.14	0.31	0.11	0.23	0.18	0.26	0.21	0.18	0.24	0.46	0.09	0.11	0.28
11.Taste of the product	0.60	0.04	0.63	0.02	0.58	0.02	0.39	0.03	0.72	0.02	0.58	0.01	0.66	0.03
12.My knowledge of the producer	0.10	0.30	0.06	0.39	0.02	0.66	0.13	0.34	0.22	0.17	0.16	0.26	0.08	0.34
13.Fair trade	0.05	0.25	0.08	0.17	0.08	0.12	0.06	0.30	0.08	0.15	0.06	0.34	0.08	0.16
14.Product's region of origin	0.23	0.15	0.14	0.20	0.07	0.28	0.21	0.16	0.07	0.28	0.09	0.24	0.12	0.25

1) The count proportion is calculated by dividing the frequency each attribute was chosen (most important or least important) by the number of times it was shown to the participants.

Table 4b. Count analysis of BWS data: Cheese (Net effect) [1]

	FR	DE	HU	IT	NO	RS	UK
Total Number of Respondents	391	396	397	387	412	394	382
Label				Net effect			
1.Product's country of origin	0.04	-0.11	-0.13	0.08	-0.17	-0.23	-0.12
2.Visual appearance of the product	-0.14	-0.13	-0.04	-0.13	-0.23	-0.19	0.03
3.Brand	-0.24	-0.29	-0.15	-0.35	0.02	-0.32	-0.18
4.Best before date	-0.11	-0.12	0.28	0.17	-0.01	0.22	0.15
5.Price	0.09	0.13	0.35	-0.06	0.22	0.03	0.35
6.Nutritional value of the product	-0.21	-0.03	0.04	-0.02	0.00	-0.16	0.00
7.Traditional methods used in the production/processing of the product	0.13	-0.05	0.04	0.12	-0.12	0.16	-0.12
8.Animal welfare friendly production	0.14	0.21	0.05	0.18	0.08	-0.06	0.11
9.Organic production	-0.03	0.05	-0.17	-0.01	-0.23	0.16	-0.23
10.GMO-free	0.08	0.20	0.05	0.05	-0.06	0.37	-0.17
11.Taste of the product	0.56	0.61	0.56	0.36	0.70	0.57	0.63
12.My knowledge of the producer	-0.20	-0.33	-0.64	-0.21	0.05	-0.10	-0.26
13.Fair trade	-0.20	-0.09	-0.04	-0.24	-0.07	-0.28	-0.08
14.Product's region of origin	0.08	-0.06	-0.21	0.05	-0.21	-0.15	-0.13

1) The net effect is obtained by subtracting the share of least important counts from those of the most important counts.

3.2.2 Product analysis across countries: Fresh meat

Fresh meat has been considered in the French and the UK sample in both subgroups, respectively. Table 5 shows that although some differences exist between the two countries regarding the relevance consumers attach to various product attributes in their purchase decision, several similarities can be observed as well.

As expected, *freshness* and *taste* are the most important declared attributes for French consumers when choosing fresh meat (Sans et al., 2008). Process characteristics such as animal welfare friendly production and the product's country of origin prove to be also relevant and even more so than the attribute price. *Knowledge of the producer* and *fair trade* attributes are the least considered when choosing fresh meat in France.

In the UK, the most important attributes for consumers regarding meat are also freshness and taste; however, it is price that follows. Knowledge of the producer is, similar to the results from France, the least important attribute. Region of origin, GMO and organic production are also of relatively little importance. While consumer's interest in traceability has grown in recent years, most meat sold in supermarkets is not advertised as being from a particular farm or region of the UK (MINTEL, 2013). Organic sales remain modest, although having recovered slightly after a significant drop in demand following the 2007/8 financial crisis during which the major UK supermarkets dramatically reduced their shelf space given over to organic produce (MINTEL, 2012). Animal welfare labels are generally more prominent and cover greater sales volume for meat sold in the UK, in comparison with certified organic products. The UK market for fresh meat is very price sensitive with the consumption of red meat, particularly pork, in long term decline (MINTEL, 2017b).

Table 5. Count analysis of BWS data: Fresh meat[1]

Total Number of Respondents	FR 731			UK 715		
Label	Best Count Proportion	Worst Count Proportion	Net effect	Best Count Proportion	Worst Count Proportion	Net effect
1.Product's country of origin	0.25	0.13	0.12	0.15	0.24	-0.09
2.Visual appearance of the product	0.18	0.2	-0.02	0.25	0.12	0.13
3.Specific variety of the product	0.10	0.25	-0.15	0.14	0.23	-0.09
4.Freshness of products	0.46	0.04	0.42	0.52	0.04	0.48
5.Price	0.24	0.21	0.03	0.38	0.14	0.24
6.Nutritional value of the product	0.08	0.33	-0.25	0.14	0.16	-0.02
7.Traditional methods used in the production/processing of the product	0.16	0.18	-0.02	0.10	0.22	-0.12
8.Animal welfare friendly production	0.27	0.08	0.19	0.25	0.08	0.17
9.Organic production	0.15	0.24	-0.09	0.08	0.34	-0.26
10.GMO-free	0.21	0.15	0.06	0.10	0.33	-0.23
11.Taste of the product	0.38	0.04	0.34	0.47	0.03	0.44
12.My knowledge of the producer	0.09	0.44	-0.35	0.08	0.35	-0.27
13.Fair trade	0.05	0.37	-0.32	0.06	0.22	-0.16
14.Product's region of origin	0.19	0.17	0.02	0.10	0.30	-0.20

1) The count proportion is calculated by dividing the frequency each attribute was chosen (most important or least important) by the number of times it was shown to the participants. The net effect is obtained by subtracting the share of least important counts from those of the most important counts.

3.2.3 Product analysis across countries: Processed meat

In Hungary, Italy and Serbia consumers were asked to provide information on the relevance of the 14 product and process attributes for processed meat (see Table 6).

Similar to cheese for the Hungarian consumers, taste matters the most when buying processed meat products. The best before date has a similar high importance, mainly because Hungarian consumers purchase many cold cuts with shorter expiry date, especially compared to aged and/or smoked salami and sausage products. Knowledge of the producer is by far the least important characteristic for consumers in Hungary when buying processed meat products. Also, brand and organic production prove to be of relative low relevance as the high shares of least important counts and high negative net effects reveal. The former might be considered surprising as the meat industry is highly concentrated in Hungary with only a few but well-known brands.

Similar to the cheese case, Italian consumers rank the taste, animal welfare and GMO-free attributes as the most important when buying processed meat. For processed meat, the country of origin characteristic is the third most important one. Again, similar to the cheese case, brand and fair trade attribute seem the least important. The Italian processed meat market is also characterised by the Geographical Indications (e.g., Parma ham, San Daniele ham, etc.); nevertheless, several processor brands have important market shares (e.g. Citterio, Fiorucci, Neggroni, etc.), which evidently were not considered by respondents.

In line with the results obtained for cheese, Serbian consumers attach high value to the attribute GMO-free when buying processed meat. For processed meat, this characteristic is the most important one while taste only takes the second place. It appears that Serbian consumers give a much higher priority to GMO-free in their purchase decision compared to Hungary and Italy. Brand is the least important product characteristic; however, the sustainability characteristics fair trade, animal welfare friendly production and a product's country or region of origin play only minor roles, as well.

Table 6. Count analysis of BWS data: Processed meat[1]

	HU			IT			RS		
Total Number of Respondents	381			258			389		
Label	Best Count Prop.	Worst Count Prop.	Net effect	Best Count Prop.	Worst Count Prop.	Net effect	Best Count Prop.	Worst Count Prop.	Net effect
1.Product's country of origin	0.16	0.21	-0.05	0.28	0.13	0.15	0.11	0.31	-0.20
2.Visual appearance of the product	0.19	0.15	0.04	0.21	0.15	0.06	0.11	0.24	-0.13
3.Brand	0.10	0.37	-0.27	0.07	0.45	-0.38	0.07	0.43	-0.36
4.Best before date	0.47	0.04	0.43	0.29	0.12	0.17	0.35	0.05	0.30
5.Price	0.33	0.11	0.22	0.17	0.24	-0.07	0.20	0.19	0.01
6.Nutritional value of the product	0.17	0.15	0.02	0.15	0.20	-0.05	0.11	0.24	-0.13
7.Traditional methods used in the production/processing of the product	0.21	0.17	0.04	0.24	0.19	0.05	0.25	0.12	0.13
8.Animal welfare friendly production	0.14	0.12	0.02	0.29	0.10	0.19	0.06	0.20	-0.14
9.Organic production	0.08	0.30	-0.22	0.15	0.18	-0.03	0.23	0.07	0.16
10.GMO-free	0.21	0.19	0.02	0.26	0.16	0.10	0.55	0.07	0.48
11.Taste of the product	0.49	0.02	0.47	0.31	0.05	0.26	0.47	0.02	0.45
12.My knowledge of the producer	0.04	0.61	-0.57	0.12	0.32	-0.20	0.19	0.22	-0.03
13.Fair trade	0.10	0.15	-0.05	0.06	0.33	-0.27	0.03	0.35	-0.32
14.Product's region of origin	0.13	0.21	-0.08	0.22	0.19	0.03	0.07	0.29	-0.22

1) The count proportion is calculated by dividing the frequency each attribute was chosen (most important or least important) by the number of times it was shown to the participants. The net effect is obtained by subtracting the share of least important counts from those of the most important counts.

3.2.4 Product analysis across countries: Fish

Table 7 shows the BWS results of fresh fish for Norway and the UK. Fish export is the second most important industry in Norway, after oil. Fish is not only a recent source of income due to aquaculture and fish farming, but already in the Viking time the export value of stockfish exceeded the national budget. In other words, Norway is a huge fish nation with its 103,000 km of coast (second largest in the world after Canada). Fish consumption amounts to about 46 kg per capita in 2017 (Helsedirektorat, 2017) and is high in global terms, though quite low compared with other Nordic countries. Traditionally Norwegian citizens only ate fresh fish they caught themselves or got through the gift economy. Fish purchased in shops was traditionally more often salted, dried, fermented or smoked, as well as hermetic and frozen fish after the 1950s. The fresh fish market recently expanded, especially in the last 10 years, but is still relatively small, as it is a quite new market for Norwegian consumers. It is not surprising that freshness, as well as taste, are the most important characteristics for respondents when buying fresh fish (see Table 7). Organic production or product's origin is, in contrast, not very relevant in a country where consumers trust local fisheries and, to a certain extent, the pureness of nature.

Similar to Norway in the UK freshness and taste are the two most important attributes for consumers when buying fresh fish (see Table 7). Price seems also of relatively high importance, even though in both countries price takes an ambivalent position as it reveals not only a high share of most important but also a high share of least important counts. Many of the sustainability attributes (e.g. organic production), knowledge of the producer and product's region of origin are less important. In the UK most fish is sold through food supply chains which cannot be traced back to specific catching vessels or even ports and regions. There is a high degree of international trade in the UK's fishing sector (both exports and imports), with consumers used to internationally sourced offerings. Consumers remain, generally, price sensitive and there is a low degree of brand loyalty (MINTEL, 2017a). The relative lack of importance given to the specific variety of the product may be surprising. However, UK consumers' knowledge of fish species is relatively limited. The best-selling white fish products in the UK remain processed products (pies, fish fingers) which often comprise multiple species (MINTEL, 2017a).

Table 7. Count analysis of BWS data: Fresh fish[1]

	NO			UK		
Total Number of Respondents	527			223		
Label	Best Count Proportion	Worst Count Proportion	Net effect	Best Count Proportion	Worst Count Proportion	Net effect
1.Product's country of origin	0.12	0.26	-0.14	0.12	0.25	-0.13
2.Visual appearance of the product	0.17	0.19	-0.02	0.24	0.13	0.11
3.Specific variety of the product	0.22	0.22	0.00	0.17	0.22	-0.05
4.Freshness of products	0.60	0.02	0.58	0.53	0.05	0.48
5.Price	0.27	0.18	0.09	0.36	0.18	0.18
6.Nutritional value of the product	0.16	0.15	0.01	0.15	0.16	-0.01
7.Traditional methods used in the production/processing of the product	0.07	0.30	-0.23	0.13	0.17	-0.04
8.Animal welfare friendly production	0.15	0.12	0.03	0.23	0.10	0.13
9.Organic production	0.08	0.35	-0.27	0.09	0.34	-0.25
10.GMO-free	0.22	0.21	0.01	0.12	0.33	-0.21
11.Taste of the product	0.50	0.03	0.47	0.41	0.05	0.36
12.My knowledge of the producer	0.10	0.28	-0.18	0.07	0.33	-0.26
13.Fair trade	0.07	0.23	-0.16	0.07	0.23	-0.16
14.Product's region of origin	0.07	0.28	-0.21	0.11	0.28	-0.17

1) The count proportion is calculated by dividing the frequency each attribute was chosen (most important or least important) by the number of times it was shown to the participants. The net effect is obtained by subtracting the share of least important counts from those of the most important count.

3.2.5 Product analysis across countries: Fresh Vegetables

Fresh vegetables are the product category investigated by one subgroup of the survey in Germany and by both subgroups of the surveys in Hungary and Italy (see Table 8). For this product category freshness is the attribute perceived to be most important by consumers in all three countries. This result is not surprising as fresh vegetables are a highly perishable product category and the freshness of the products determines to some extent the visual appearance, the nutritional value and the taste of a product. Similarly, Zander et al. (2015) found that 'freshness' is the most important attribute of a food product. The three countries investigated are consistent regarding the least important attribute. Knowledge of the producers seems to be of little relevance for consumers in their purchase decision for fresh vegetables.

Despite those similarities between German, Hungarian and Italian consumers regarding the importance (or lack of importance) of attributes in their purchase decisions, differences also exist. A product's country of origin is again (see expositions above) of much greater relevance in Italy compared with Germany and Hungary. However, fair trade plays a much lower role in a consumer's purchase decision in Italy compared with the other two countries. The low relevance of fair trade for Italian respondents was also found for cheese and processed meat. The results also indicate that price is a decisive attribute for Hungarian consumers when purchasing fresh vegetables while it has an ambiguous role in the other two countries. As with cheese, GMO free is especially important for German consumers.

Table 8. Count analysis of BWS data: Fresh vegetable[1]

	DE			HU			IT		
Total Number of Respondents	425			802			799		
Label	Best Count Prop.	Worst Count Prop.	Net effect	Best Count Prop.	Worst Count Prop.	Net effect	Best Count Prop.	Worst Count Prop.	Net effect
1.Product's country of origin	0.13	0.23	-0.10	0.17	0.21	-0.04	0.26	0.16	0.10
2.Visual appearance of the product	0.19	0.18	0.01	0.16	0.19	-0.03	0.15	0.28	-0.13
3.Specific variety of the product	0.11	0.29	-0.18	0.02	0.45	-0.43	0.09	0.30	-0.21
4.Freshness of products	0.54	0.04	0.50	0.58	0.02	0.56	0.55	0.02	0.53
5.Price	0.26	0.20	0.06	0.33	0.09	0.24	0.19	0.26	-0.07
6.Nutritional value of the product	0.11	0.24	-0.13	0.19	0.15	0.04	0.14	0.23	-0.09
7.Traditional methods used in the production/processing of the product	0.10	0.29	-0.19	0.17	0.20	-0.03	0.17	0.17	0.00
8.Environmentally friendly production	0.14	0.09	0.05	0.13	0.08	0.05	0.17	0.08	0.09
9.Organic production	0.19	0.16	0.03	0.10	0.27	-0.17	0.17	0.19	-0.02
10.GMO free	0.31	0.13	0.18	0.23	0.18	0.05	0.28	0.17	0.11
11.Taste of the product	0.45	0.03	0.42	0.43	0.02	0.41	0.26	0.07	0.19
12.My knowledge of the producer	0.04	0.54	-0.50	0.05	0.59	-0.54	0.09	0.38	-0.29
13.Fair trade	0.08	0.15	-0.07	0.10	0.13	-0.03	0.06	0.31	-0.25
14.Product's region of origin	0.14	0.23	-0.09	0.14	0.22	-0.08	0.20	0.20	0.00

1) The count proportion is calculated by dividing the frequency each attribute was chosen (most important or least important) by the number of times it was shown to the participants. The net effect is obtained by subtracting the share of least important counts from those of the most important counts.

3.2.6 Product analysis across countries: Processed Vegetables

For German consumers of processed vegetables, taste of the product is considered to be the most important criterion followed by GMO free and price. Brand and knowledge of producers have the least relevance for consumers when buying processed vegetables.

Also for Serbian consumers brand is the least important attribute. Besides taste, the attribute GMO free is of high relevance in Serbian consumers' purchase decision of processed vegetables. This is in line with the results for cheese and processed meat presented above.

Table 9. Count analysis of BWS data: Processed vegetable[1]

Total Number of Respondents	DE			RS		
	839			804		
Label	Best Count Proportion	Worst Count Proportion	Net effect	Best Count Proportion	Worst Count Proportion	Net effect
1.Product's country of origin	0.13	0.19	-0.06	0.09	0.31	-0.22
2.Visual appearance of the product	0.15	0.28	-0.13	0.08	0.34	-0.26
3.Brand	0.10	0.42	-0.32	0.05	0.44	-0.39
4.Best before date	0.13	0.26	-0.13	0.29	0.07	0.22
5.Price	0.34	0.15	0.19	0.25	0.16	0.09
6.Nutritional value of the product	0.19	0.17	0.02	0.13	0.26	-0.13
7.Traditional methods used in the production/processing of the product	0.15	0.25	-0.10	0.24	0.13	0.11
8.Environmentally friendly production	0.16	0.08	0.08	0.19	0.09	0.10
9.Organic production	0.20	0.14	0.06	0.24	0.09	0.15
10.GMO free	0.34	0.11	0.23	0.51	0.07	0.44
11.Taste of the product	0.60	0.04	0.56	0.47	0.02	0.45
12.My knowledge of the producer	0.06	0.40	-0.34	0.14	0.26	-0.12
13.Fair trade	0.10	0.11	-0.01	0.05	0.30	-0.25
14.Product's region of origin	0.15	0.20	-0.05	0.08	0.28	-0.20

1) The count proportion is calculated by dividing the frequency each attribute was chosen (most important or least important) by the number of times it was shown to the participants. The net effect is obtained by subtracting the share of least important counts from those of the most important counts.

3.2.7 Product analysis across countries: Fresh fruits

The last product category considered in the BWS analysis is fresh fruits which were selected for one subgroup of the French and Norwegian survey. Both countries differ in the relevance of fresh fruits in the country's agricultural production and for its consumption. While most of the fresh fruits consumed in Norway are imported (over 90%) (Helsedirektoraret, 2017), domestic production is the main source of fruits consumed in France.

Table 10 shows that *freshness* and *taste* are by far the most important attributes when choosing fresh fruits in Norway as well as in France, while knowledge of the producer is of little relevance in consumers' purchase decision of fresh fruits in both countries. In Norway, however, a product's region and country of origin are also in general not considered when buying fresh fruits.

Table 10. Count analysis of BWS data: Fresh fruits[1]

Total Number of Respondents	FR			NO		
	404			411		
Label	Best Count Proportion	Worst Count Proportion	Net effect	Best Count Proportion	Worst Count Proportion	Net effect
1.Product's country of origin	0.20	0.17	0.03	0.07	0.35	-0.28
2.Visual appearance of the product	0.16	0.37	-0.21	0.22	0.25	-0.03
3.Specific variety of the product	0.12	0.26	-0.14	0.17	0.19	-0.02
4.Freshness of products	0.41	0.03	0.38	0.53	0.03	0.50
5.Price	0.29	0.15	0.14	0.29	0.11	0.18
6.Nutritional value of the product	0.10	0.26	-0.16	0.17	0.15	0.02
7.Traditional methods used in the production/processing of the product	0.13	0.21	-0.08	0.07	0.26	-0.19
8. Environmental friendly production	0.21	0.08	0.13	0.14	0.12	0.02
9.Organic production	0.19	0.21	-0.02	0.10	0.28	-0.18
10.GMO free	0.28	0.12	0.16	0.22	0.20	0.02
11.Taste of the product	0.41	0.03	0.38	0.58	0.02	0.56
12.My knowledge of the producer	0.08	0.47	-0.39	0.07	0.36	-0.29
13.Fair trade	0.05	0.25	-0.20	0.12	0.13	-0.01
14.Product's region of origin	0.17	0.20	-0.03	0.06	0.36	-0.30

1) The count proportion is calculated by dividing the frequency each attribute was chosen (most important or least important) by the number of times it was shown to the participants. The net effect is obtained by subtracting the share of least important counts from those of the most important counts.

3.2.8 Summary and conclusions

Based on the explanations above, the main findings can be summarized as follows. First, taste is of crucial importance in consumers' food purchase decision. For many products in most countries it is the major or among the major attributes that influence food purchase. Second, knowing the producer is in general of little importance to consumers in the countries and for the products considered in this study.

Third, our results reveal that besides those similarities across countries and products consumers' preferences depend on the product type and the country. By and large freshness/best before date is the most important attribute for fresh and thus perishable products such as fresh meat or fresh fruits and vegetables. However, not surprisingly, this attribute is of little relevance for processed products such as cheese, especially if we refer to hard cheese. Tables 4a and 4b, however, reveal that best before dates are of higher importance in Hungary and Serbia compared to the other countries. This can be explained by the fact that in those two countries different from e.g. France and Germany a large proportion of cheese is "young" soft cheese, which in general has a more limited shelf life than hard cheese. Country and region of origin are process attributes with a relative high relevance for consumers in Italy and France when buying food but prove to be of minor relevance in countries such as Serbia, UK, Norway and Hungary. Considerable heterogeneity also exist regarding the attribute GMO free which is one of the most important attribute in consumers' food purchase decision in Serbia while being of relative low importance in countries such as the UK or Norway. The same holds for animal welfare friendly products which play a minor role in Serbia and Hungary and are especially of high relevance in Germany. For some countries more general conclusions can be drawn. Whatever the food product is, the respondents from France are more sensitive to its hedonic attributes such as taste, freshness and traditional food-processing method, rather than more abstract and ethical ones, such as animal welfare, environment friendly production, or fair trade.

Finally, the attribute price is an interesting case as in most countries and for most products its share in the most important counts is relative high but in countries such as France its share in the least important counts is similarly high leading to a low positive or in some cases even to a negative net value. This result indicates that there is considerable heterogeneity in the sample in consumers' preferences.

3.3 Consumers' recognition, perception, use and knowledge with respect to labels

The quantity of food labels in grocery stores of many European countries has considerably increased over the past decade. Following this, the term 'labelling jungle' has been introduced, relating to how consumers are struggling to find a trail in the heaps of labels available in the stores. There is a suspicion that too many different labels confuse the consumers and do not help them, as originally meant, to obtain information that eases their purchase decision and leads to shopping choices more in accordance with their preferences. A report from Heidenstrøm, Jacobsen and Borgen (2011) on consumers' perceptions of labels, found two potential ways that consumers use to manoeuvre in the label jungle; through selection and ignorance. If consumers have already decided what to look for and buy before going shopping, the labels may serve as a useful tool for finding those products. These consumers have required the information usually due to a specific interest and thus they know what to look for. The other category indicates a tendency to ignore the labels. Thus, if consumers have difficulties finding labels they trust, understand and appreciate, they tend to generally ignore them.

To prevent label ignorance it is important that a label covers those characteristics important to consumers. For this reason, in the following we try to identify first those characteristics of special relevance for consumers with respect to labels (section 3.3.1) and second the level of consumers' recognition, use, impediments to use, perception and knowledge of different EU, national and regional labels (sections 3.3.2 and 3.3.3). Regarding label perception we also investigate the extent to which the four major EU food quality labels (Organic, PGI, PDO, and TSG) as well as domestic labels (two for each country) cover those characteristics important to consumers. The chapter closes with a comparison of the obtained results (section 3.3.4).

3.3.1 Importance of label characteristics for consumers

Table 11 shows the results from asking respondents the question: "How important to you is it that a label has the following characteristics." Respondents were asked to indicate their opinion on a scale from 1 to 5, with 1 implying extremely unimportant and 5 extremely important. The results show for most of the countries a rather homogeneous picture regarding

what characteristics of a label are perceived to be important. Trustworthiness is considered as the most important characteristic in five of the seven countries considered, namely in France, Germany, Hungary, Norway and the UK. In Italy trust is of similar importance to the ease with which a label can be understood and only in Serbia does trustworthiness receive a much lower rating than the characteristic easiness to understand the label. Thus, based on the results given in Table 11, it can be concluded that Serbian consumers appreciate simplicity and clarity of the labels. However, label characteristics that make it easy to understand the label are also of relatively high importance to consumers in the other countries (rated around or above 4 on a scale 1 – 5 in the seven countries). Surprisingly, aspects of labels that are supposed to facilitate consumers making an informed choice received only medium ratings. In all countries except Hungary, the attractiveness of the label is considered to be least important followed by the statement that products with a label should have similar prices. In Hungary, the sequence is vice versa, which might be surprising given the high price sensitivity of Hungarian consumers.

The results summarized in Table 11 also show that the general perception of label characteristics does not seem very discriminant between the different proposed items. This is especially true for France where the perception varies only between 3.19 for the statement the label is attractive to 4.08 for the statement the label is trustworthy. It holds to a lesser extent for Italy where the range is wider and varies from 2.92 to 4.27.

Table 11. Consumers' general perception on the importance of label characteristics[1]

Country	**FR**		**DE**		**HU**		**IT**		**NO**		**RS**		**UK**		**All**	
N	810		839		802		799		830		804		804		5688	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
The label is easy to understand	3.82	1.07	3.97	1.10	3.94	1.10	4.27	0.92	3.92	1.09	4.11	1.12	4.05	1.04	4.01	1.07
The label has a clear logo/symbol	3.88	1.05	3.86	1.09	3.92	1.04	4.00	0.92	3.84	1.07	3.95	1.10	3.81	1.07	3.88	1.05
The label is trustworthy	4.08	1.06	4.14	1.08	4.08	1.03	4.25	0.90	4.19	1.06	3.68	1.19	4.19	0.97	4.08	1.06
The label helps me to make an informed choice	3.78	1.06	3.69	1.08	3.93	0.99	4.11	0.89	3.71	1.07	3.50	1.19	3.94	0.98	3.78	1.06
Products with this label have similar prices to other products without this label	3.47	1.10	3.39	1.09	3.37	1.10	3.59	1.05	3.59	1.05	3.17	1.17	3.69	1.06	3.47	1.10
The label is more than just a means of advertising	3.70	1.13	3.81	1.18	3.77	1.12	3.71	1.06	3.82	1.12	3.39	1.22	3.92	1.05	3.70	1.14
The label is attractive	3.19	1.15	3.24	1.11	3.48	1.11	2.92	1.17	3.29	1.09	3.09	1.24	3.07	1.13	3.19	1.15

1) How important to you is that a label has the following characteristics? Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being "extremely unimportant" and 5 being "extremely important".

3.3.2 Analysis of EU food quality labels across countries

In this section consumers' recognition, use and knowledge of the four EU quality labels as well as of selected national labels will be presented.

3.3.2.1 EU Organic Label

Figure 2. EU Organic Label

The EU organic logo was implemented in 2010 under Council Regulation (EC) No 834/2007 and Commission Regulation (EC) No 889/2008. It is a compulsory label for all pre-packaged, organically produced food types. For processed products the logo indicates that at least 95% of the ingredients are organic.

3.3.2.1.1 Recognition of the EU organic label

A label that is not recognized by consumers cannot serve its purpose, i.e. reduce information asymmetry on the side of consumers and help consumers to make an informed choice. In this respect the survey provides a disappointing picture. Only about a third of respondents of the survey recognized the EU organic logo. This share is higher in France (52%), Germany (50%) and Italy (47%) but considerable lower in all other countries. Recognition is especially low in the UK. A reason could be that retailers' own organic labels are nowadays prevalent in UK supermarkets and more easily understood compared to the EU organic label as retailers' own organic labels in general include the word 'organic'.[10] Thus, consumers might not look for a

[10] https://www.google.co.uk/search?q=organic+tesco&rlz=1C1GGRV_enGB752GB752&source=lnms&tbm=isch&sa=X&ved=0ahUKEwi7hu6-u7nZAhUGa8AKHUcNBNsQ_AUICygC&biw=1396&bih=778; https://www.google.co.uk/search?rlz=1C1GGRV_enGB752GB752&biw=1396&bih=778&tbm=isch&sa=1&ei=v6-OWpTsM4ycgAa5052wBA&q=organic+sainsburys&oq=organic+sain&gs_l=psy-ab.1.1.0i8i30k1j0i24k1l2.5660.7255.0.9267.4.4.0.0.0.0.55.200.4.4.0....0...1c.1.64.psy-ab..0.4.197...0.0.EA6kjbN-Aj4

certification. Those who do, seem mainly to rely on the certification of the organic soil organization (Soil Association, 2011) and secondly on the organic farmers' and growers' label (http://ofgorganic.org/). This might explain why respondents in the UK survey very rarely recognize the EU leaf symbol. Also in several other countries (e.g. Germany and Hungary) national organic labels exist that, though not mandatory, are still used by producers and are often more meaningful than the leaf without any text.

Comparing our results with those of the Special Eurobarometer (EB) 473[11] (European Commission 2018) reveals similar results for the UK (EB 14%, our study 16%) a higher level of recognition in our study for Germany, France and Hungary (EB 41%, 40% and 14%, respectively; our study 50%, 52%, and 24%, respectively) and a much higher level of recognition in our study for Italy (46% compared to 16%).

Neither Norway nor Serbia was included in the Special Eurobarometer 473 (European Commission, 2018). The low recognition of the EU organic label for the former country can be explained by the fact that this logo is not the primary label for organic food products in Norway, and limited to imported products. The national Ø-label used by Norwegian producers is the most commonly known organic label. This label was recognized by more than 80 % of the respondents in a national survey in 2010. In the same survey less than 10 % recognized the EU organic label. This was not surprising given the fact that the EU label was first introduced into the Norwegian market in 2010 and thus in the year the survey took place (Heidenstrøm et al., 2011). Regarding Serbia, it can be assumed that the 24.1% recognition of the EU organic logo is an overestimation given that our sample is skewed toward more educated citizens with a higher income.

[11] The wording of the question in the Special Eurobarometer 473 (European Commission 2018) was slightly different. Consumers saw a number of logos (EU organic logo, PDO, PGI, TSG and Fairtrade) and were asked 'Which of the logos on this card are you aware of?' In the survey of the present study respondents saw a label and were asked 'Do you recognize this label'?

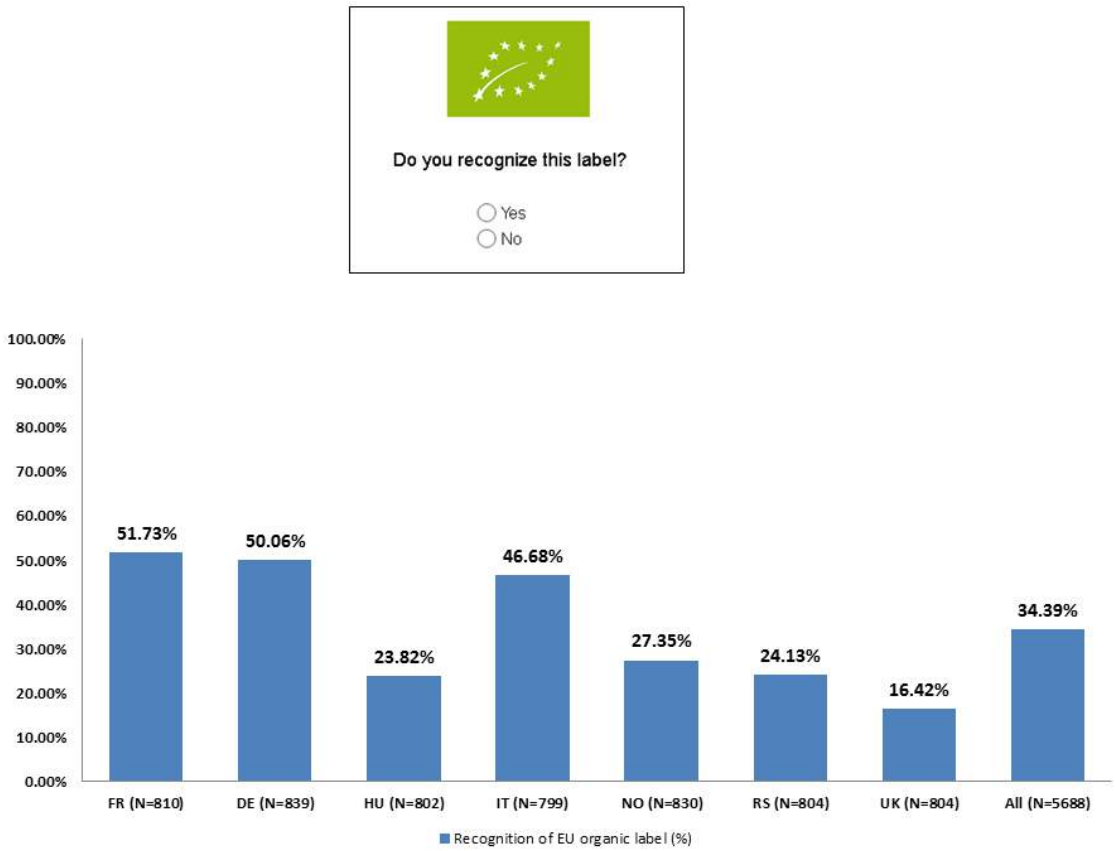

Figure 3. Percentage recognition of the EU organic label

3.3.2.1.2 EU organic label: Use and barriers to use

Without awareness (recognition), a particular brand will not have associations and its use in consumer decision making will be limited (Keller, 1993). This holds accordingly for a label such as the EU organic logo. We consider "use of the label" if consumers state that they sometimes, almost every time or every time take the label into account when doing their grocery shopping.

Figure 4 shows that the level of use of the EU's organic label is consistent with data on the level of recognition. In fact, figure 5 reveals that in general about 70 % of those being aware of the EU organic label also make use of it. In particular, in Italy the share is high (78%), likely because there is no other public certification or logo for organic products. This share is lower in Norway. This low figure may be explained by the fact that there are few products

with this European label on the Norwegian market. It is the national Ø-label which is the most commonly known organic label and the one considered by consumers in their purchase decision. In a national representative survey from 2017 45% of the respondents stated that they had bought organic food within the last four weeks (Vittersø & Laitala, 2017), while in a national representative survey from 2013 consumers said that they sometimes (40%), often (13%) or always (2%) buy organic food Vittersø & Tangeland, 2015). Despite growth in sales of organic food in recent years, it represents only 1.5 % of the total turnover in the Norwegian food market (Virke Dagligvare, 2015). Organic agriculture is certified according to a governmental regulation which is harmonized with the regulation of organic food in EU. Thus, the content behind the Norwegian Ø-label and the EU organic label is the same.

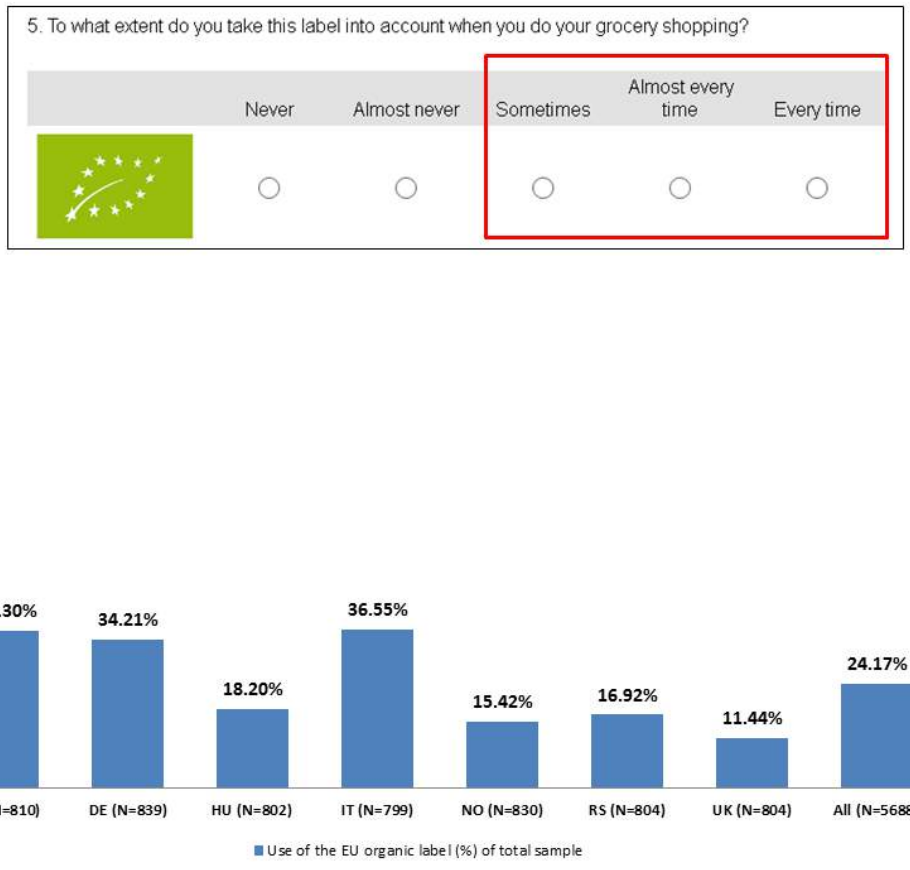

Figure 4. Percentage of consumers taking the EU organic label into account when doing their grocery shopping (out of the total sample)

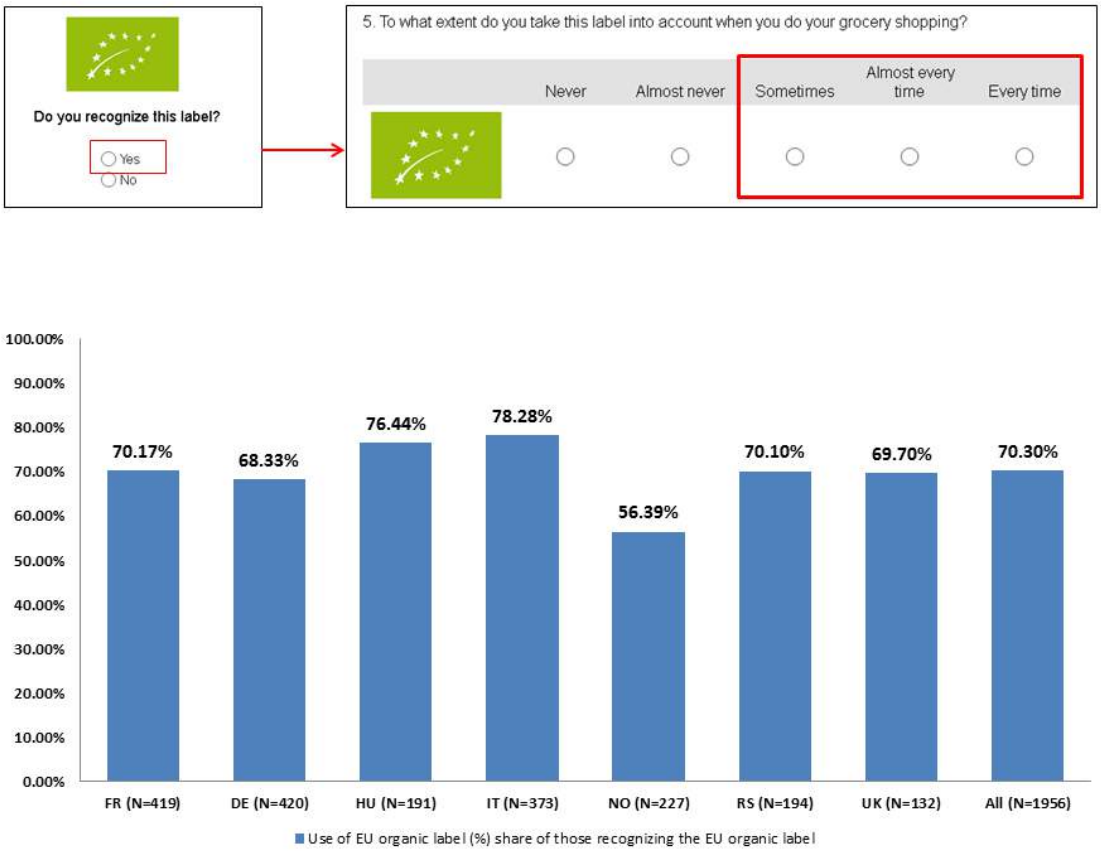

Figure 5. Consumers taking the EU organic label into account when doing their grocery shopping (share of those recognizing the EU organic label)

To better understand why those consumers recognizing the label do not buy products promoted by the EU organic logo we investigated possible barriers and reasons (Table 12). From a list of 15 potential barriers, respondents could tick up to 3 that prevent them from taking the label into account when doing their grocery shopping. The results (Table 12) reveal that 'I rarely pay attention to product labels while doing grocery shopping' is for most countries by far the most important reason. This is in accordance with the findings by Grunert (2011) as well as Heidenstrøm et al. (2011) that much information on and around products is ignored by consumers or at least not consciously perceived when shopping. Other reasons mentioned by a considerable share of respondents in the seven countries are "Products with this label are too expensive" and "Products with or without this label taste the same". This is

in line with the results in section 3.2 that taste and price are important attributes in consumers' purchase decision. Furthermore, a lack of time is an impediment preventing consumers to pay attention to labels.

Though there are considerable similarities, there are also some differences between countries regarding the reasons preventing them from using the organic label when deciding on their purchases. For example, only 8.9 % of Hungarian consumers taking part in the survey mention the price of organic products as a reason for not buying organic products while this share is considerable higher (16.5% to 26.4%) in the other countries. This is surprising. As purchasing power is lower in Hungary than in all other countries except Serbia, it might be that Hungarian respondents are not aware of the higher prices for those labelled products. The barrier 'lack of trust in labels' is highest in Serbia.

The results for Norway are to some extent surprising. Although the statement 'I don't know where to find products with this label' has greater relevance in Norway than in all other countries except Serbia, this does not hold for the statement 'There are only few varieties of products with this label in stores where I do my grocery shopping'. Vittersø & Tangeland (2015) found, however, that the most important barriers to buying organic food for Norwegian consumers are that these foods are not sufficiently available in food stores, that they are perceived as more expensive than conventional food products and that consumers lack sufficient information about organic food. According to Vittersø & Tangeland (2015), there also seemed to be an increasing distrust in the organic Ø-label. Some consumers also questioned the benefits from buying organic food (Vittersø & Tangeland, 2015).

Table 12. Barriers to taking the EU organic label into account when making a purchasing decision[1]

		FR (N=125)	DE (N=133)	HU (N=45)	IT (N=81)	NO (N=99)	RS (N=58)	UK (N=39)
1	Products with this label are too expensive	33 (26.4%)	22 (16.5%)	4 (8.9%)	20 (24.7%)	19 (19.2%)	13 (22.4%)	8 (20.5%)
2	I do not trust this label	7 (5.6%)	10 (7.5%)	2 (4.4%)	2 (2.5%)	1 (1.0%)	9 (15.5%)	1 (2.6%)
3	I do not trust labels in general	15 (12.0%)	29 (21.8%)	4 (8.9%)	5 (6.2%)	9 (9.1%)	20 (34.5%)	0 (0.0%)
4	Products with or without this label taste the same	15 (12.0%)	25 (18.8%)	1 (2.2%)	14 (17.3%)	29 (29.3%)	11 (19.0%)	3 (7.7%)
5	I rarely pay attention to product labels while doing grocery shopping	46 (36.8%)	57 (42.9%)	25 (55.6%)	20 (24.7%)	42 (42.4%)	21 (36.2%)	12 (30.8%)
6	There are only few varieties of products with this label in stores where I do my grocery shopping	12 (9.6%)	6 (4.5%)	6 (13.3%)	17 (21.0%)	10 (10.1%)	7 (12.1%)	3 (7.7%)
7	I have no time to consider labels while doing my grocery shopping	16 (12.8%)	16 (12.0%)	15 (33.3%)	8 (9.9%)	14 (14.1%)	10 (17.2%)	4 (10.3%)
8	The issue advertised on this label is not important to me	8 (6.4%)	7 (5.3%)	6 (13.3%)	8 (9.9%)	11 (11.1%)	7 (12.1%)	1 (2.6%)
9	I don't know where to find products with this label	6 (4.8%)	6 (4.5%)	6 (13.3%)	7 (8.6%)	15 (15.2%)	9 (15.5%)	1 (2.6%)
10	I am not interested in buying labeled products	10 (8.0%)	14 (10.5%)	3 (6.7%)	6 (7.4%)	3 (3.0%)	4 (6.9%)	4 (10.3%)
11	I don't buy products with this label because the label is just a marketing tool	12 (9.6%)	14 (10.5%)	4 (8.9%)	5 (6.2%)	7 (7.1%)	10 (17.2%)	3 (7.7%)
12	Products with this label do not look good	1 (0.8%)	1 (0.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
13	I don't like the taste of products with this label	0 (0.0%)	0 (0.0%)	1 (2.2%)	0 (0.0%)	1 (1.0%)	1 (1.7%)	0 (0.0%)
14	Lack of opportunity in the last 2 weeks	9 (7.2%)	1 (0.8%)	2 (4.4%)	6 (7.4%)	4 (4.0%)	9 (15.5%)	2 (5.1%)
15	None of those reasons	11 (8.8%)	15 (11.3%)	3 (6.7%)	9 (11.1%)	14 (14.1%)	2 (3.4%)	9 (23.1%)

1) From the list of 15 potential barriers respondents could tick up to 3 that prevent them from taking the label into account when doing their grocery shopping.

3.3.2.1.3 Perception of the EU organic label

In section 3.3.1 findings were presented regarding those label characteristics perceived to be important. In this section we investigated the extent to which the European organic logo meets those characteristics. We differentiate between consumers' perception of the EU organic label considering the whole sample (Table 13), only those participants recognizing the label (Table 14) and finally only those using the label (Table 15). As indicated above we consider use of the label if consumers state that they sometimes, almost every time or every time takes the label into account when doing their grocery shopping.

The results in Table 13 indicate that evaluation of the EU organic logo is rather neutral, implying that consumers neither agree nor disagree with most of the statements in all seven countries. On average, evaluation of the EU organic logo is especially low (tendency to disagree) for Norway and Serbia, the two countries in our study that are not part of the European Union.

The following two statements on average received the lowest scores: 'The label helps me to make an informed choice' and 'Products with this label have similar prices to other products'. The latter reflects the reality for organic products in the market and supports the findings in the Eurobarometer 473 (European Commission, 2018). The former statement, however, is important, as helping to make more informed choices is what the introduction of labels is all about. Note, though, that the results in Table 13 refer to all participants and thus also those not recognizing the label.

The findings in section 3.3.1 indicate that consumers in all countries except Serbia perceive the trustworthiness of a label as the most important characteristic of a label. Thus, a closer look is necessary to the extent to which the EU organic logo is perceived as trustworthy. Table 13 indicates that trustworthiness of the EU organic logo reflects a mean across countries very close to 3 (average over all countries: 3.12) and thus, consumers neither agree nor disagree with the statement that the EU organic label is trustworthy, with higher values especially in Italy (3.5) and France (3.4). The Norwegian consumers together with the Serbian participants scored lowest on trustworthiness of the label. This finding is in line with scepticism among Norwegian consumers towards the national organic Ø-label (Vittersø & Tangeland, 2015).

That analysis of consumers' perception of the organic label considered all respondents irrespective of whether they recognize or use the label. Table 14 shows European consumers' perception of the EU organic labels considering only those who recognize it while Table 15 focuses only on those who, in addition, take the label at least sometimes into account when grocery shopping.

Comparing Tables 13, 14 and 15 reveals the following pattern: the perception of the label improves and the variance in the responses declines from Table 13 to Table 15. For those who recognise the EU's organic label, the degree of understanding is, not surprisingly, higher and views are more positively. Those who recognise the EU's organic label are more likely to see it as trustworthy, attractive and helping them make more informed choices. Recognition of the EU quality label is therefore linked with more positive assessments of it (increasing over all countries and statements by 0.56 from 2.98 to 3.54). The two statements 'The label is easy to understand' and 'The label helps me to make an informed choice' show an above average increase in the mean. At the country level, we can see higher scores especially for the UK, Norway and Serbia and thus those countries with an especially low recognition of the label.

Those who use the EU's organic label (Table 15) are by and large more positive that those who merely recognise it and record the highest degree of agreement with statements that the label is trustworthy, easy to understand and not a means merely for advertising. This group of consumers is most likely to see the EU's organic label as facilitating them to make informed choices.

Table 13. Perception of the EU organic label (total sample) [1]

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	773	2.93	1.39	784	2.70	1.35	728	2.83	1.34	770	3.04	1.36	710	2.40	1.32	766	2.65	1.40	766	2.37	1.38
The label has a clear logo/symbol	779	3.20	1.31	797	3.35	1.29	736	2.81	1.29	778	3.37	1.27	716	2.71	1.35	762	3.16	1.40	773	3.48	1.26
The label is trustworthy	710	3.36	1.15	780	3.16	1.13	668	3.25	1.12	737	3.50	1.15	618	2.96	1.23	741	2.60	1.23	710	3.00	1.15
The label helps me to make an informed choice	743	3.03	1.36	766	2.78	1.33	711	3.02	1.28	745	3.24	1.33	646	2.55	1.31	747	2.42	1.30	731	2.55	1.34
Products with this label have similar prices to other products without this label	693	2.91	1.24	745	2.92	1.12	649	2.95	1.10	715	2.96	1.16	559	2.83	1.15	691	2.45	1.13	693	2.83	1.15
The label is more than just a means of advertising	720	3.23	1.24	758	3.12	1.21	701	3.18	1.24	744	3.40	1.18	585	2.95	1.20	726	2.87	1.25	708	2.97	1.20
The label is attractive	747	3.16	1.26	792	3.24	1.21	732	3.17	1.28	770	3.18	1.25	668	2.99	1.22	755	3.12	1.27	772	3.11	1.18

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”. Respondents could also indicate ‘Does not apply’. Respondents who ticked ‘Does not apply’ were not considered in the following analysis which explains that the N differs by statement.

Table 14. Perception of the EU organic label (participants who recognize the label) [1]

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	409	3.49	1.27	406	3.19	1.27	190	3.49	1.22	364	3.65	1.18	225	3.18	1.26	193	3.57	1.34	128	3.49	1.39
The label has a clear logo/symbol	411	3.70	1.11	409	3.72	1.17	189	3.53	1.06	366	3.87	1.08	225	3.39	1.23	193	3.78	1.28	129	3.94	1.09
The label is trustworthy	394	3.78	1.00	405	3.55	1.04	183	3.87	0.95	361	3.99	0.96	215	3.63	0.96	190	3.46	1.16	127	3.90	1.00
The label helps me to make an informed choice	399	3.58	1.17	400	3.30	1.22	186	3.61	1.09	361	3.86	1.05	218	3.33	1.18	189	3.22	1.22	127	3.69	1.09
Products with this label have similar prices to other products without this label	395	3.14	1.23	400	3.09	1.06	182	3.16	1.02	366	3.14	1.17	202	3.15	1.00	188	2.68	1.18	127	3.36	1.15
The label is more than just a means of advertising	393	3.60	1.14	399	3.50	1.13	184	3.63	1.05	360	3.76	1.02	208	3.46	1.08	190	3.33	1.23	129	3.78	0.98
The label is attractive	399	3.55	1.12	406	3.65	1.06	186	3.59	1.12	362	3.51	1.15	220	3.50	1.02	190	3.45	1.18	130	3.69	1.08

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being "don't agree at all" and 5 being "completely agree". Respondents could also indicate 'Does not apply'. Respondents who ticked 'Does not apply' were not considered in the following analysis which explains that the N differs by statement.

Table 15. Perception of the EU organic label (participants who use the label) [1]

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	287	3.72	1.19	279	3.48	1.20	145	3.61	1.18	284	3.81	1.12	128	3.64	1.14	136	3.76	1.24	90	3.73	1.29
The label has a clear logo/symbol	288	3.86	1.07	279	3.94	1.04	145	3.62	1.01	285	3.98	1.00	128	3.75	1.11	135	4.02	1.14	91	3.90	1.12
The label is trustworthy	283	3.96	0.95	277	3.86	0.87	142	3.99	0.91	282	4.11	0.92	124	3.93	0.87	133	3.83	1.00	88	4.06	0.95
The label helps me to make an informed choice	285	3.84	1.04	275	3.65	1.06	144	3.76	1.03	281	4.03	1.00	125	3.79	1.01	132	3.52	1.10	89	3.87	0.93
Products with this label have similar prices to other products without this label	284	3.44	1.16	275	3.23	1.04	141	3.33	0.98	286	3.25	1.17	117	3.38	1.06	133	2.87	1.17	90	3.40	1.21
The label is more than just a means of advertising	280	3.78	1.09	274	3.77	1.03	143	3.81	0.99	281	3.86	0.98	119	3.75	0.97	132	3.53	1.14	92	3.80	0.99
The label is attractive	283	3.78	1.05	279	3.93	0.90	142	3.70	1.10	282	3.62	1.13	125	3.84	0.88	132	3.62	1.14	91	3.76	1.08

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”. Respondents could also indicate ‘Does not apply’. Respondents who ticked ‘Does not apply’ were not considered in the following analysis which explains that the N differs by statement.

3.3.2.1.4 Knowledge of the EU organic label

A label can especially help consumers to make an informed choice if consumers have some knowledge about the label. To obtain insights with respect to consumers' knowledge we showed consumers 10 statements and asked them which of those statements apply to food products with the organic label (see Table 16). Consumers were asked to select all that apply. They could also indicate that none of the statements applies or that they do not know. The results in Tables 16, 17 and 18 refer to all respondents, who recognize the label and those considering the label when doing their grocery shopping, respectively. Four of the 10 statements clearly refer to the organic label. Those are written in bold letters.

Considering all respondents Table 16 reveals that overall understanding of the EU's organic label is very poor. More than half of Norwegian consumers (54.9%) have no knowledge of the EU-label. This percentage is somewhat lower, though still very high, for the other countries. However, it is not surprising that respondents not recognizing a label are not knowledgeable about a label especially if in the case of the EU organic logo the label is not self-explaining.

Focusing on respondents stating that they recognize the label reveals that only a minority selected the statement indicating see that they do not know what the label stands for (1.6% in Hungary to 21.1% in Norway; Table 17). The number of respondents ticking this last statement in the list declines even further if considering only those who also make use of the label (0.7% in Hungary to 12.5% in Germany; see Table 18).

However, this does not imply that those latter two groups are indeed knowledgeable with respect to the label. Only approximately 50% of respondents recognizing the EU organic label are aware that the green leaf label is an EU label (see Table 17). The share is somewhat higher for those using the label (see Table 18). An even lower number of respondents is aware that the logo implies that the product carrying this label is produced according to the EU organic guidelines (see Tables 17 and 18). These shares further decline regarding the statement a product with this label 'is certified by a body independent of the producer and retailer'. Finally, the last correct statement 'in case of livestock products, higher animal welfare standards apply'[12] is much less frequently ticked than several of the statements that are wrong in the sense that the EU organic label does not stand for what is mentioned in the statement.[13]

[12] In the Special Eurobarometer 473 consumers were asked the following question: Do you agree or not with the following statement about food products coming from 'organic' agriculture? *They respect higher animal welfare*

Though knowledge is in generally moderate to low, differences exist between countries. Overall, our findings reveal confusion regarding what the EU organic logo stands for also in the sub-samples of those who recognize and those who recognize and use the EU's organic label in their decision making.

standards than other food products. Consumers could tick 'Totally agree', 'Tend to agree', 'Tend to disagree', 'Totally disagree' and 'Don't know'. The share of those consumers totally agreeing is 18% for France, 32% for Germany, 28% for Hungary, 30% for Italy and 19% for the UK. Those shares are higher compared to the percentage of respondents in our study who correctly indicate that the statement regarding higher animal welfare applies to the organic label. However, the way the question is asked differs considerable and thus results are not comparable.

[13] Another study has shown that consumers associate the attributes "minimum use of fertilizers" (28%), "absence of GMOs" (28%), and for animal welfare (14.5%) with the EU organic certification (Aprile et al., 2009).

Table 16. Knowledge of EU organic label (total sample)[1]

		FR (N=810)	DE (N=839)	HU (N=802)	IT (N=799)	NO (N=830)	RS (N=804)	UK (N=804)
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	90 (11.1%)	105 (12.5%)	113 (14.1%)	105 (13.1%)	58 (7.0%)	126 (15.7%)	68 (8.5%)
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	86 (10.6%)	93 (11.1%)	64 (8.0%)	83 (10.4%)	41 (4.9%)	63 (7.8%)	74 (9.2%)
3	the product is of specific character in that either its raw materials, production method or processing is traditional	82 (10.1%)	67 (8.0%)	83 (10.3%)	106 (13.3%)	46 (5.5%)	75 (9.3%)	60 (7.5%)
4	**it is certified by a body independent of the producer and retailer**	**104 (12.8%)**	**65 (7.7%)**	**67 (8.4%)**	**85 (10.6%)**	**55 (6.6%)**	**88 (10.9%)**	**62(7.7%)**
5	**it is an EU label**	**320 (39.5%)**	**279 (33.3%)**	**362 (45.1%)**	**345 (43.2%)**	**197 (23.7%)**	**254 (31.6%)**	**202 (25.1%)**
6	**this product is produced according to the EU organic guidelines**	**212 (26.2%)**	**217 (25.9%)**	**232 (28.9%)**	**264 (33.0%)**	**165 (19.9%)**	**356 (44.3%)**	**124 (15.4%)**
7	stricter rules than the minimum required by law have been followed regarding food safety	*76 (9.4%)*	*111 (13.2%)*	*78 (9.7%)*	*77 (9.6%)*	*52 (6.3%)*	*120 (14.9%)*	*34 (4.2%)*
8	this is a product of superior nutritional value	43 (5.3%)	18 (2.1%)	23 (2.9%)	34 (4.3%9	32 (3.9%)	42 (5.2%)	36 (4.5%)
9	the region where the product is produced/processed is specified	50 (6.2%)	39 (4.6%)	61 (7.6%)	34 (4.3%)	22 (2.7%)	33 (4.1%)	22 (2.7%)
10	**in case of livestock products higher animal welfare standards apply**	**63 (7.8%)**	**49 (5.8%)**	**34 (4.2%)**	**37 (4.6%)**	**28 (3.4%)**	**45 (5.6%)**	**31 (3.9%)**
11	None of the above	25 (3.1%)	62 (7.4%)	20 (2.5%)	28 (3.5%)	50 (6.0%)	21 (2.6%)	72 (9.0%)
12	I do not know	283 (34.9%)	293 (34.9%)	251 (31.3%)	196 (24.5%)	456 (54.9%)	230 (28.6%)	375 (46.6%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. Those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

Table 17. Knowledge of EU organic label (participants who recognize the label) [1]

		FR (N=419)	DE (N=420)	HU (N=191)	IT (N=373)	NO (N=227)	RS (N=194)	UK (N=132)
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	66 (15.8%)	63 (15.0%)	49 (25.7%)	71 (19.0%)	34 (15.0%)	44 (22.7%)	29 (22.0%)
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	56 (13.4%)	57 (13.6%)	23 (12.0%)	51 (13.7%)	20 (8.8%)	29 (14.9%)	39 (29.5%)
3	the product is of specific character in that either its raw materials, production method or processing is traditional	62 (14.8%)	40 (9.5%)	34 (17.8%)	70 (18.8%)	27 (11.9%)	25 (12.9%)	24 (18.2%)
4	**it is certified by a body independent of the producer and retailer**	**83 (19.8%)**	**50 (11.9%)**	**30 (15.7%)**	**57 (15.3%)**	**27 (11.9%)**	**34 (17.5%)**	**27 (20.5%)**
5	**it is an EU label**	**234 (55.8%)**	**184 (43.8%)**	**131 (68.6%)**	**193 (51.7%)**	**99 (43.6%)**	**81 (41.8%)**	**48 (36.4%)**
6	**this product is produced according to the EU organic guidelines**	**169 (40.3%)**	**161 (38.3%)**	**97 (50.8%)**	**183 (49.1%)**	**107 (47.1%)**	**122 (62.9%)**	**47 (35.6%)**
7	stricter rules than the minimum required by law have been followed regarding food safety	*62 (14.8%)*	*88 (21.0%)*	*40 (20.9%)*	*48 (12.9%)*	*31 (13.7%)*	*52 (26.8%)*	*18 (13.6%)*
8	this is a product of superior nutritional value	33 (7.9%)	11 (2.6%)	9 (4.7%)	18 (4.8%)	15 (6.6%)	16 (8.2%)	15 (11.4%)
9	the region where the product is produced/processed is specified	36 (8.6%)	22 (5.2%)	22 (11.5%)	22 (5.9%)	12 (5.3%)	8 (4.1%)	7 (5.3%)
10	**in case of livestock products higher animal welfare standards apply**	**53 (12.6%)**	**39 (9.3%)**	**17 (8.9%)**	**24 (6.4%)**	**18 (7.9%)**	**18 (9.3%)**	**11 (8.3%)**
11	None of the above	4 (1.0%)	13 (3.1%)	4 (2.1%)	2 (0.5%)	10 (4.4%)	4 (2.1%)	2 (1.5%)
12	I do not know	61 (14.6%)	87 (20.7%)	3 (1.6%)	28 (7.5%)	48 (21.1%)	9 (4.6%)	19 (14.4%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. Those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

Table 18. Knowledge of EU organic label (participants who use the label) [1]

		FR (N=294)	DE (N=287)	HU (N=146)	IT (N=292)	NO (N=128)	RS (N=136)	UK (N=93)
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	51 (17.3%)	48 (16.7%)	43 (29.5%)	59 (20.2%)	25 (19.5%)	33 (24.3%)	25 (26.9%)
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	46 (15.6%)	48 (16.7%)	19 (13.0%)	41 (14.0%)	14 (10.9%)	22 (16.2%)	31 (33.3%)
3	the product is of specific character in that either its raw materials, production method or processing is traditional	45 (15.3%)	33 (11.5%)	31 (21.2%)	62 (21.2%)	20 (15.6%)	21 (15.4%)	20 (21.5%)
4	**it is certified by a body independent of the producer and retailer**	**65 (22.1%)**	**46 (16.0%)**	**25 (17.1%)**	**48 (16.4%)**	**19 (14.8%)**	**29 (21.3%)**	**23 (24.7%)**
5	**it is an EU label**	**170 (57.8%)**	**136 (47.4%)**	**102 (69.9%)**	**151 (51.7%)**	**56 (43.8%)**	**52 (38.2%)**	**35 (37.6%)**
6	**this product is produced according to the EU organic guidelines**	**126 (42.9%)**	**122 (42.5%)**	**71 (48.6%)**	**141 (48.3%)**	**65 (50.8%)**	**91 (66.9%)**	**34 (36.6%)**
7	stricter rules than the minimum required by law have been followed regarding food safety	*47 (16.0%)*	*68 (23.7%)*	*34 (23.3%)*	*40 (13.7%*	*23 (18.0%)*	*38 (27.9%)*	*16 (17.2%)*
8	this is a product of superior nutritional value	29 (9.9%)	11 (3.8%)	9 (6.2%)	14 (4.8%)	13 (10.2%)	13 (9.6%)	11 (11.8%)
9	the region where the product is produced/processed is specified	27 (9.2%)	17 (5.9%)	16 (11.0%)	17 (5.8%)	7 (5.5%)	7 (5.1%)	6 (6.5%)
10	**in case of livestock products higher animal welfare standards apply**	**45 (15.3%)**	**37 (12.9%)**	**15 (10.3%)**	**20 (6.8%)**	**13 (10.2%)**	**14 (10.3%)**	**8 (8.6%)**
11	None of the above	3 (1.0%)	6 (2.1%)	3 (2.1%)	1 (0.3%)	6 (4.7%)	3 (2.2%)	2 (2.2%)
12	I do not know	30 (10.2%)	36 (12.5%)	1 (0.7%)	23 (7.9%)	15 (11.7%)	5 (3.7%)	8 (8.6%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. Those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

3.3.2.2 EU PGI label

Figure 6. EU PGI Label

"The Protected Geographical Indication (PGI) logo underlines the local know how and the close link between a product and the place or region. For registered products, at least one of the stages of production, processing or preparation takes place in the region, but for example the ingredients need not necessarily come from that geographical area."[14] The standards which have to be met are written down in the EU regulation No. 1151/2012.

3.3.2.2.1 Recognition of the EU PGI label

As for the EU organic label (section 3.3.2.1.1) we first investigate consumers' recognition of the PGI label. Figure 7 reveals that recognition varies considerably, from a low of 7.2% in Norway to a high share of 69.3% in Italy. The poor recognition of the PGI label in Norway is not surprising as these labels are quite seldom present on the Norwegian food market. Compared with the Special Eurobarometer 473 (European Commission 2018)[15], recognition is (considerably) higher in our survey for all countries covered in the EB 473 2012 survey[16,17]

[14] (https://ec.europa.eu/agriculture/quality/schemes/foodstuff_en , last access: 05.02.18)
[15] The wording of the question in the Special Eurobarometer 473 (European Commission, 2018) was slightly different. Consumers saw a number of logos (EU organic logo, PDO, PGI, TSG and Fairtrade) and were asked 'Which of the logos on this card are you aware of?' In the survey of the present study respondents saw a label and were asked 'Do you recognize this label'?
[16] The results of Teuber et al. (2011) also point to a low awareness of the EU PDO and PGI logos by German consumers.
[17] Recognition according to the Special Eurobarometer 473: France 38%, Germany 12%, Hungary 31%, Italy 33%, UK 8% (European Commission, 2018).

Norway and Serbia were not considered in the Special Eurobarometer 473. Currently, the UK has 40 registered PGI products, the most important of which in terms of sales are Yorkshire Wensleydale Cheese, Welsh Lamb, Welsh Beef, Scottish Beef and Scottish Lamb as well as Cornish Pasties and Melton Mowbray Pork Pie. In Germany, the number of registered PGI products is higher (77). Recognition of the PGI label is especially high in Italy and France. This is in accordance with the larger number of products registered with this label in both countries (Italy 126; France 141). Currently, there are 126 registered PGI products in Italy, in particular fruits and vegetables (75), processed meat products (20), and bread products (10).[18]

34.7% of Serbian respondents state awareness of the EU PGI Label, which is above the seven country average of 32.2%. This result is surprising as so far no registered Serbian PGI product exists on the market. Thus, recognition can only be based on imported products with the PGI label.

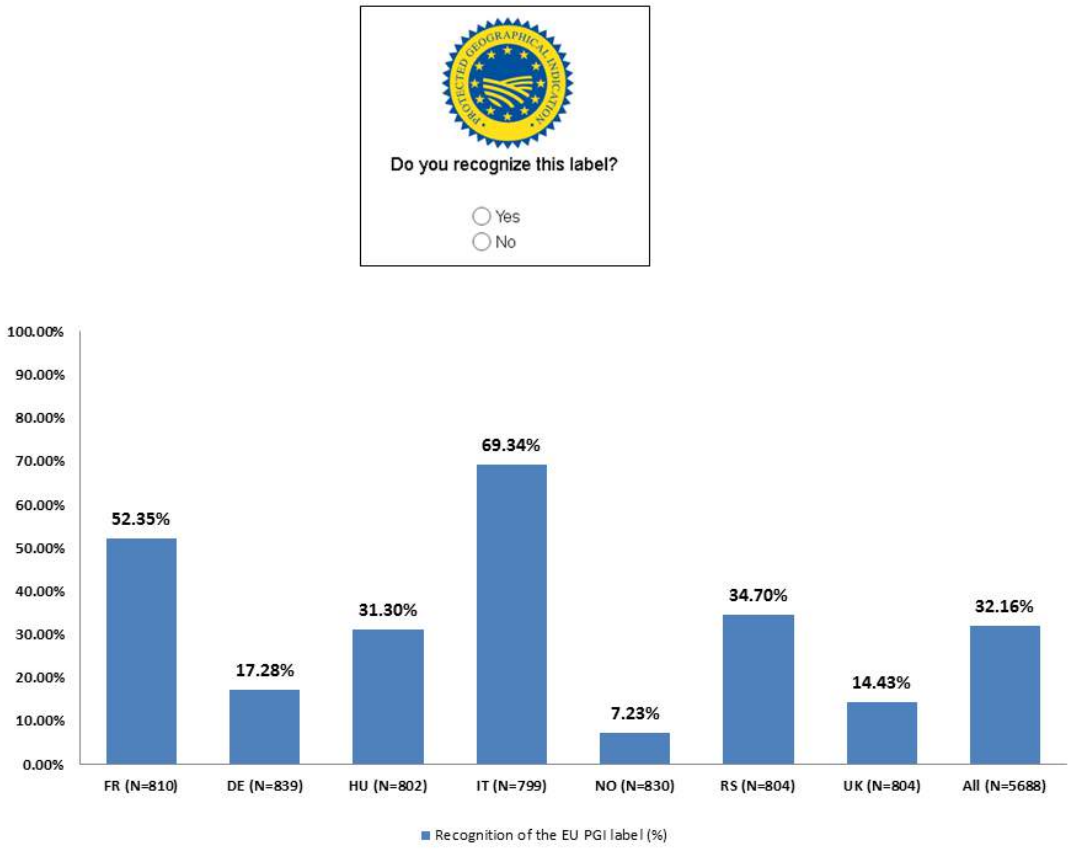

Figure 7. Percentage recognition of the EU PGI label

[18] DOOR Database http://ec.europa.eu/agriculture/quality/door/list.html

3.3.2.2.2 PGI label: Use and barriers to use

Figure 8 shows that the level of use of the EU's PGI label is consistent with data on the level of recognition. In fact, Figure 9 reveals that between 61% in Serbia to 84% in Italy of respondents recognizing the PGI label take it into account when purchasing food. These results are similar to those for the organic label in that the large majority of those recognizing a label may at least sometimes use it.[19] Taking the label into account when doing grocery shopping, however, is only possible when products with those labels are on the supermarket's shelves. Given the larger number of PGI-registered products in Italy and France this would be more the case in these two countries while especially in Serbia, with no PGI-registered products of its own and only imported PGI products available, a lower percentage of use would be expected, even among respondents recognizing the label.

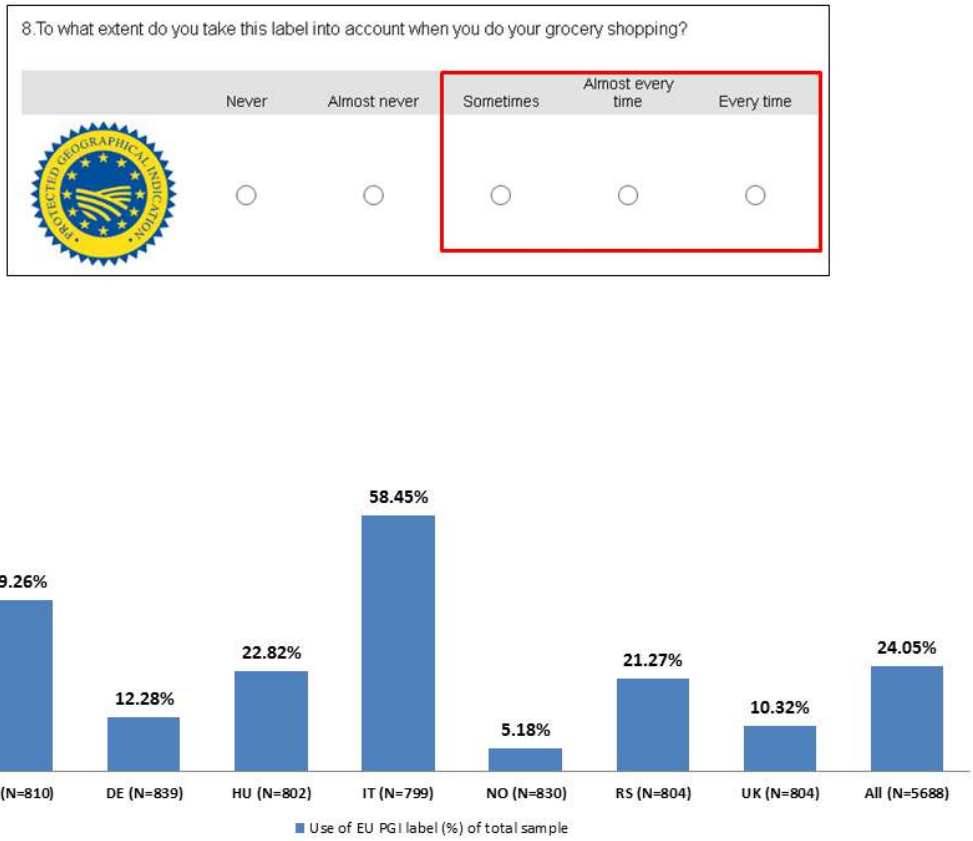

Figure 8. Percentage of consumers taking the EU PGI label into account when doing their grocery shopping (out of the total sample)

[19] We consider "use of the label" if the consumer states that (s)he sometimes, almost every time or every time takes the label into account when doing her/his grocery shopping.

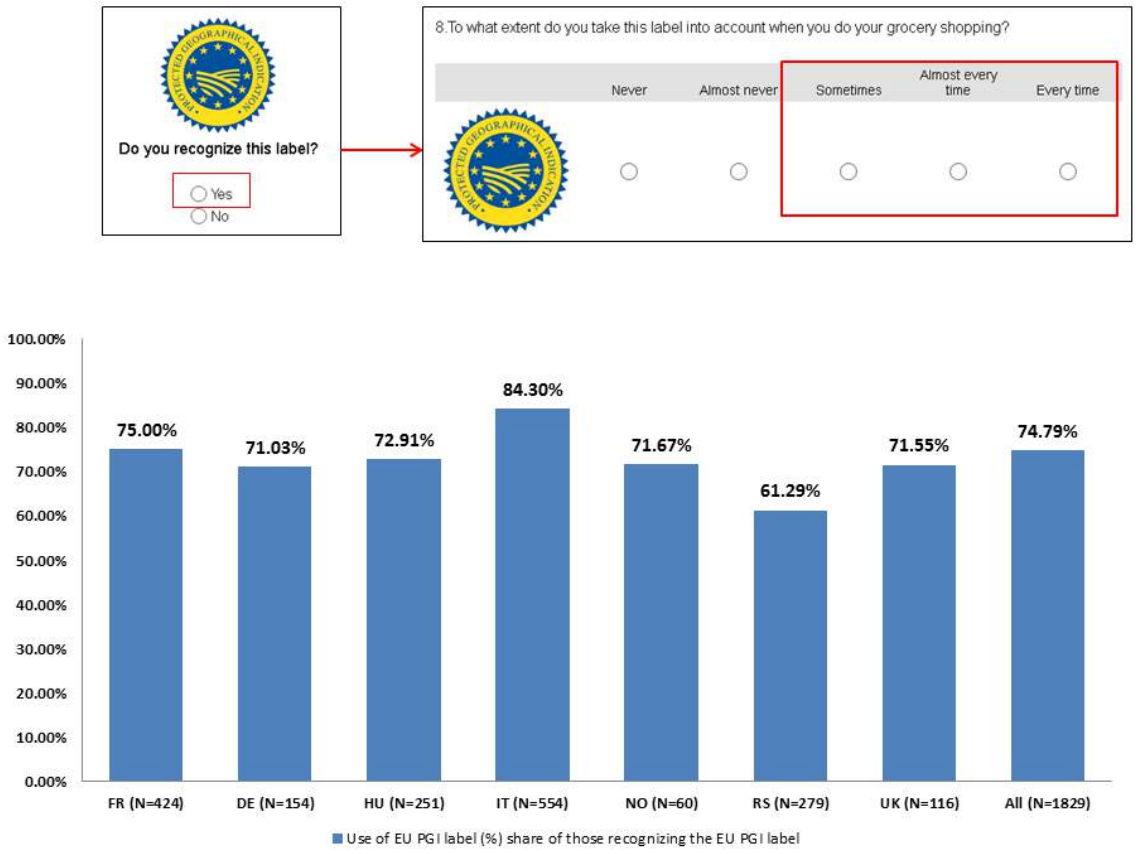

Figure 9. Consumers taking the EU PGI label into account when doing their grocery shopping (share of those recognizing the EU PGI label)

3.3.2.2.3 Perception of the EU PGI label

To better understand why consumers who recognize the label do not buy products promoted by the EU PGI[20], we investigated barriers and reasons for this (see Table 19). From a list of 15 potential barriers respondents could tick up to 3 that prevent them from taking the label into account when doing their grocery shopping. In fact, the majority of respondents ticked either 1 or 2 reasons (average 1.5 in the UK to 2.1 in Serbia). The results (Table 19) reveal a similar picture as for the EU organic label (see section 3.3.2.1.2 and Table 12). The statement 'I rarely pay attention to product labels while doing grocery shopping' is again the most important reason (see discussion in 3.3.2.1.2). Other reasons mentioned by a considerable

[20] Those consumers were asked who stated that they never or almost never buy products with the EU PGI label.

percentage of respondents in the seven countries are 'Products with or without this label taste the same', 'Products with this label are too expensive', 'There are only a few varieties of products with this label in stores where I do my grocery shopping' and 'I have no time to consider labels while doing my grocery shopping'. As indicated for organic products, besides similarities we also find some differences between countries regarding the reasons preventing consumers from using the PGI label when doing their purchase decision. For example the statement 'Products with this label are too expensive' were especially ticked by respondents from France (22.6%) and Italy (25.3%) and thus the two countries in which many respective products are already on the market and thus a higher familiarity with those products can be assumed. We also see that the general trust in labels differs considerably between countries, with a high percentage of consumers in Germany (21.4%) and Serbia (20.4%) and a low share of respondents in the UK (3%) indicating this as a reason for not buying products with a PGI label. However, it should be noted that the absolute numbers of those answering this question[21] is rather low in some countries, e.g. only 17 in Norway. Thus, for those countries the respective results should be treated with caution.

In section 3.3.1 findings were presented regarding the label characteristics perceived to be important. Here we investigate the extent to which the European PGI label meets those characteristics. We differentiate between consumers' perceptions of the EU PGI label considering the whole sample (Table 20), only the participants recognizing the label (Table 21) and finally only those using the label (Table 22). As indicated above, we consider use of the label if consumer state that they sometimes, almost every time or every time take the label into account when doing their grocery shopping.

[21] only those recognizing but not using the label

Table 19. Barriers to taking the PGI label into account when making a purchasing decision[1]

		FR (N=106)	DE (N=42)	HU (N=68)	IT (N=87)	NO (N=17)	RS (N=108)	UK (N=33)
1	Products with this label are too expensive	24 (22.6%)	4 (9.5%)	9 (13.2%)	22 (25.3%)	3 (17.6%)	16 (14.8%)	6 (18.2%)
2	I do not trust this label	1 (0.9%)	3 (7.1%)	2 (2.9%)	1 (1.1%)	0 (0.0%)	10 (9.3%)	0 (0.0%)
3	I do not trust labels in general	9 (8.5%)	9 (21.4%)	10 (14.7%)	12 (13.8%)	3 (17.6%)	22 (20.4%)	1 (3.0%)
4	Products with or without this label taste the same	15 (14.2%)	7 (16.7%)	12 (17.6%)	13 (14.9%)	5 (29.4%)	15 (13.9%)	6 (18.2%)
5	I rarely pay attention to product labels while doing grocery shopping	34 (32.1%)	20 (47.6%)	22 (32.4%)	29 (33.3%)	6 (35.3%)	47 (43.5%)	10 (30.3%)
6	There are only few varieties of products with this label in stores where I do my grocery shopping	15 (14.2%)	5 (11.9%)	20 (29.4%)	19 (21.8%)	2 (11.8%)	22 (20.4%)	8 (24.2%)
7	I have no time to consider labels while doing my grocery shopping	14 (13.2%)	4 (9.5%)	12 (17.6%)	9 (10.3%)	0 (0.0%)	23 (21.3%)	3 (9.1%)
8	The issue advertised on this label is not important to me	7 (6.6%)	8 (19.0%)	7 (10.3%)	9 (10.3%)	3 (17.6%)	20 (18.5%)	5 (15.2%)
9	I don't know where to find products with this label	5 (4.7%)	2 (4.8%)	12 (17.6%)	5 (5.7%)	0 (0.0%)	18 (16.7%)	1 (3.0%)
10	I am not interested in buying labeled products	6 (5.7%)	5 (11.9%)	9 (13.2%)	9 (10.3%)	1 (5.9%)	6 (5.6%)	3 (9.1%)
11	I don't buy products with this label because the label is just a marketing tool	7 (6.6%)	4 (9.5%)	9 (13.2%)	3 (3.4%)	1 (5.9%)	9 (8.3%)	1 (3.0%)
12	Products with this label do not look good	1 (0.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
13	I don't like the taste of products with this label	0 (0.0%)	1 (2.4%)	0 (0.0%)	0 (0.0%)	2 (11.8%)	0 (0.0%)	0 (0.0%)
14	Lack of opportunity in the last 2 weeks	15 (14.2%)	4 (9.5%)	5 (7.4%)	14 (16.1%)	4 (23.5%)	15 (13.9%)	1 (3.0%)
15	None of those reasons	12 (11.3%)	2 (4.8%)	5 (7.4%)	7 (8.0%)	1 (5.9%)	5 (4.6%)	3 (9.1%)

1) From the list of 15 potential barriers respondents could tick up to 3 that prevent them from taking the label into account when doing their grocery shopping.

The results in Table 20 (total sample) indicate that evaluation of the EU PGI is slightly positive, on a scale from 1 to 5, with 1 being “don’t agree at all” and 5 being “completely agree”, the average score over all countries and statements was slightly above the mid-point: 3.26. Heterogeneity exists amongst the countries with a rather positive overall evaluation in Italy (3.77) and France (3.51) and a slightly negative one in Norway (2.75). According to all respondents (average over all countries), clarity is a strength of the label; indeed, the label is easy to understand (3.38) and the label has a clear logo (3.47) were the most agreed items. The scores for the Italian respondents were especially high for the two items at 4.11 and 3.97, respectively. Respondents agreed least with the statement that products with this label have similar prices if compared to similar non-labelled products (average 2.99), with especially low scores in Serbia (2.65) and Norway (2.74). Trustworthiness, the characteristic of a label respondents perceive overall to be most important (see section 3.3.1) receives only a slightly positive evaluation over all countries (3.31) with, however, considerable differences amongst countries, being close to 4 in Italy but below 3 in Norway and Serbia.

Considering only the respondents recognizing (Table 21) or recognizing and using (Table 22) the PGI label leads to a more positive perception (over all countries and statements 3.76 and 3.92, respectively). This holds true for all statements in all countries. Again, however, it is notable that in some countries the groups recognizing and especially those recognizing and using the label are rather small.

Overall the PGI label is more positively evaluated than the EU organic label. Consumers especially perceive the PGI label to be more easily understandable than the EU organic logo. In addition, they agree to a greater extent that the label helps them to make an informed choice. One reason for the different perception could be that the EU organic label is complicated by several national organic schemes in the countries under investigation (e.g. UK), that do not exist in most of the analysed countries regarding a national PGI or PDO schemes.

Table 20. Perception of the EU PGI label (total sample) [1]

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	781	3.72	1.16	791	3.09	1.29	764	3.57	1.26	788	4.11	1.01	670	2.62	1.30	768	3.47	1.39	771	3.05	1.30
The label has a clear logo/symbol	778	3.65	1.11	797	3.26	1.22	761	3.53	1.23	787	3.97	1.04	669	2.72	1.26	772	3.55	1.28	779	3.61	1.10
The label is trustworthy	733	3.63	1.09	766	3.09	1.10	714	3.48	1.05	770	3.93	0.96	584	2.81	1.19	741	2.92	1.25	721	3.31	1.07
The label helps me to make an informed choice	757	3.52	1.14	767	2.96	1.20	749	3.55	1.15	781	3.98	1.00	606	2.76	1.26	746	2.94	1.27	754	3.10	1.21
Products with this label have similar prices to other products without this label	718	3.17	1.15	722	2.93	1.02	671	3.13	1.05	758	3.23	1.13	486	2.74	1.12	708	2.65	1.15	704	3.10	1.06
The label is more than just a means of advertising	746	3.49	1.16	756	3.08	1.15	722	3.51	1.12	778	3.74	1.05	546	2.88	1.17	738	2.98	1.22	733	3.26	1.11
The label is attractive	757	3.38	1.13	789	3.01	1.14	745	3.37	1.15	779	3.41	1.14	615	2.74	1.15	762	3.05	1.25	773	3.14	1.12

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

Table 21. Perception of the EU PGI label (participants who recognize the label) [1]

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	421	4.08	0.99	144	4.01	1.08	248	3.97	1.12	550	4.31	0.84	56	3.88	1.05	274	4.14	1.09	113	3.86	1.20
The label has a clear logo/symbol	418	4.00	0.96	144	3.96	1.04	247	3.94	1.12	548	4.16	0.91	57	3.81	1.03	277	4.12	1.04	116	4.20	0.84
The label is trustworthy	409	4.04	0.93	143	3.87	1.01	245	3.87	0.96	546	4.12	0.87	56	3.70	0.95	272	3.53	1.12	111	4.05	0.93
The label helps me to make an informed choice	412	3.93	0.98	141	3.80	1.08	245	3.87	1.02	547	4.15	0.89	55	3.65	1.14	271	3.46	1.20	115	3.87	1.04
Products with this label have similar prices to other products without this label	407	3.36	1.16	136	3.38	1.05	234	3.21	1.09	538	3.32	1.16	52	3.44	1.06	268	2.90	1.18	108	3.68	1.09
The label is more than just a means of advertising	412	3.73	1.12	140	3.74	1.21	242	3.73	1.06	547	3.87	1.02	53	3.43	1.10	271	3.25	1.21	111	3.91	1.06
The label is attractive	411	3.70	1.05	142	3.66	1.12	245	3.67	1.07	546	3.53	1.10	55	3.40	1.18	276	3.42	1.20	115	3.68	1.06

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

Table 22. Perception of the EU PGI label (participants who use the label) [1]

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	316	4.18	0.91	102	4.24	0.90	181	4.06	1.00	464	4.38	0.76	41	3.83	1.02	169	4.34	0.93	82	4.12	1.01
The label has a clear logo/symbol	314	4.14	0.90	102	4.19	0.88	181	4.10	0.93	462	4.22	0.87	41	3.78	0.96	171	4.26	0.93	83	4.20	0.85
The label is trustworthy	309	4.18	0.86	101	4.09	0.88	180	4.03	0.89	461	4.22	0.79	41	3.76	0.77	168	3.86	0.99	81	4.20	0.84
The label helps me to make an informed choice	311	4.11	0.89	100	4.10	0.88	179	4.07	0.88	462	4.23	0.83	41	3.78	1.01	167	3.77	1.02	82	4.13	0.90
Products with this label have similar prices to other products without this label	311	3.48	1.15	96	3.59	1.02	172	3.38	1.08	455	3.40	1.13	40	3.55	0.96	168	3.08	1.19	79	3.87	0.99
The label is more than just a means of advertising	310	3.82	1.13	98	3.99	1.06	176	3.93	0.96	461	3.95	1.00	38	3.66	0.88	168	3.45	1.21	80	4.09	0.96
The label is attractive	308	3.84	1.02	100	3.95	0.96	179	3.85	0.97	461	3.62	1.09	40	3.63	0.98	170	3.65	1.15	82	3.79	1.04

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

3.3.2.2.4 Knowledge of the EU PGI label

Consumers' knowledge was also investigated with respect to the PGI label by showing consumers the same 10 statements as in the case of the organic label and asking them which of the statements apply to food products with the PGI label (see Table 23). Consumers were asked to select all that apply. They could also indicate that none of the statements apply or that they do not know. The results in Tables 23, 24 and 25 refer, respectively, to all respondents, who recognize the label and those considering the label when doing their grocery shopping. Three of the 10 statements clearly refer to the PGI label. Those are shown in bold letters.

Considering all respondents, Table 23 shows that overall understanding of the PGI label is very poor. More than half of Norwegian consumers (56.0%) have no knowledge of the PGI label. This percentage is somewhat lower in the UK (32.5%), Germany (29.8%) and Hungary (25.2%). Only in Italy is the share of respondents indicating that they do not know what the label means below 10%. As it is not surprising that those not recognizing a label are not knowledgeable about a label we take a closer look at the results for respondents recognizing (Table 24) and recognizing as well as using the label (Table 25).

Focusing on respondents who stated to recognize/recognize and use the label reveals that in all countries the percentage of those indicating that they do not know what the label means does not exceed 10.0%. However, our results show that subjective knowledge considerably differs from factual knowledge.

The data in Tables 24 and 25 demonstrate that there is evidently a high degree of confusion between PDO and PGI labels in all countries as the majority of respondents think that the PDO criteria (statement 1 in Tables 24 and 25) define the PGI label, rather than the correct PGI rule (statement 2 in the respective Tables). A much smaller share of respondents (between 25% and 45% depending on the country and whether we consider recognition or recognition and use) correctly indicated that at least one of the stages of production, processing or preparation takes place in a determined geographical area. Regarding the other 'true' statements (it is certified by a body independent of the producer and retailer; it is an EU label) the respective percentage of correct answers is even considerably lower. Aprile et al. (2009) showed for Italy that although respondents were habitual consumers of food products protected by European PDO or PGI designations, they had little awareness of the meaning of those labels.

Though knowledge is in generally moderate to low, differences exist between countries. Overall, our findings reveal a lack of clarity regarding what the EU PGI stands for. This holds also in the sub-samples of those who recognise and those who recognize and use the PGI label in their decision making.

Table 23. Knowledge of EU PGI label (total sample) [1]

		FR (N=810)		DE (N=839)		HU (N=802)		IT (N=799)		NO (N=830)		RS (N=804)		UK (N=804)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	378	(46.7%)	331	(39.5%)	314	(39.2%)	441	(55.2%)	178	(21.4%)	470	(58.5%)	288	(35.8%)
2	**at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product**	**215**	**(26.5%)**	**193**	**(23.0%)**	**189**	**(23.6%)**	**223**	**(27.9%)**	**98**	**(11.8%)**	**243**	**(30.2%)**	**167**	**(20.8%)**
3	the product is of specific character in that either its raw materials, production method or processing is traditional	109	(13.5%)	57	(6.8%)	100	(12.5%)	123	(15.4%)	52	(6.3%)	101	(12.6%)	64	(8.0%)
4	**it is certified by a body independent of the producer and retailer**	**123**	**(15.2%)**	**53**	**(6.3%)**	**86**	**(10.7%)**	**101**	**(12.6%)**	**39**	**(4.7%)**	**95**	**(11.8%)**	**82**	**(10.2%)**
5	**it is an EU label**	**136**	**(16.8%)**	**128**	**(15.3%)**	**161**	**(20.1%)**	**161**	**(20.2%)**	**98**	**(11.8%)**	**168**	**(20.9%)**	**151**	**(18.8%)**
6	this product is produced according to the EU organic guidelines	51	(6.3%)	51	(6.1%)	77	(9.6%)	64	(8.0%)	35	(4.2%)	105	(13.1%)	56	(7.0%)
7	stricter rules than the minimum required by law have been followed regarding food safety	59	(7.3%)	53	(6.3%)	82	(10.2%)	70	(8.8%)	26	(3.1%)	82	(10.2%)	51	(6.3%)
8	this is a product of superior nutritional value	39	(4.8%)	21	(2.5%)	24	(3.0%)	42	(5.3%)	17	(2.0%)	26	(3.2%)	29	(3.6%)
9	*the region where the product is produced/processed is specified*	*200*	*(24.7%)*	*136*	*(16.2%)*	*174*	*(21.7%)*	*158*	*(19.8%)*	*67*	*(8.1%)*	*107*	*(13.3%)*	*83*	*(10.3%)*
10	in case of livestock products higher animal welfare standards apply	43	(5.3%)	11	(1.3%)	35	(4.4%)	33	(4.1%)	15	(1.8%)	28	(3.5%)	18	(2.2%)
11	None of the above	16	(2.0%)	43	(5.1%)	14	(1.7%)	11	(1.4%)	34	(4.1%)	22	(2.7%)	34	(4.2%)
12	I do not know	158	(19.5%)	250	(29.8%)	202	(25.2%)	74	(9.3%)	465	(56.0%)	149	(18.5%)	261	(32.5%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. Those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

Table 24. Knowledge of EU PGI label (participants who recognize the label) [1]

		FR (N=424)		DE (N=145)		HU (N=251)		IT (N=554)		NO (N=60)		RS (N=279)		UK (N=116)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	260	(61.3%)	78	(53.8%)	144	(57.4%)	334	(60.3%)	26	(43.3%)	204	(73.1%)	67	(57.8%)
2	**at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product**	**128**	**(30.2%)**	**64**	**(44.1%)**	**85**	**(33.9%)**	**169**	**(30.5%)**	**18**	**(30.0%)**	**110**	**(39.4%)**	**36**	**(31.0%)**
3	the product is of specific character in that either its raw materials, production method or processing is traditional	77	(18.2%)	25	(17.2%)	46	(18.3%)	94	(17.0%)	16	(26.7%)	53	(19.0%)	20	(17.2%)
4	**it is certified by a body independent of the producer and retailer**	**92**	**(21.7%)**	**18**	**(12.4%)**	**36**	**(14.3%)**	**81**	**(14.6%)**	**10**	**(16.7%)**	**40**	**(14.3%)**	**22**	**(19.0%)**
5	**it is an EU label**	**85**	**(20.0%)**	**40**	**(27.6%)**	**62**	**(24.7%)**	**109**	**(19.7%)**	**19**	**(31.7%)**	**68**	**(24.4%)**	**30**	**(25.9%)**
6	this product is produced according to the EU organic guidelines	29	(6.8%)	17	(11.7%)	30	(12.0%)	42	(7.6%)	7	(11.7%)	51	(18.3%)	14	(12.1%)
7	stricter rules than the minimum required by law have been followed regarding food safety	38	(9.0%)	17	(11.7%)	36	(14.3%)	54	(9.7%)	5	(8.3%)	40	(14.3%)	16	(13.8%)
8	this is a product of superior nutritional value	27	(6.4%)	5	(3.4%)	11	(4.4%)	28	(5.1%)	4	(6.7%)	14	(5.0%)	8	(6.9%)
9	*the region where the product is produced/processed is specified*	*142*	*(33.5%)*	*43*	*(29.7%)*	*78*	*(31.1%)*	*130*	*(23.5%)*	*13*	*(21.7%)*	*51*	*(18.3%)*	*20*	*(17.2%)*
10	in case of livestock products higher animal welfare standards apply	28	(6.6%)	5	(3.4%)	16	(6.4%)	26	(4.7%)	3	(5.0%)	18	(6.5%)	5	(4.3%)
11	None of the above	4	(0.9%)	2	(1.4%)	1	(0.4%)	4	(0.7%)	1	(1.7%)	0	(0.0%)	0	(0.0%)

12	I do not know	25	(5.9%)	7	(4.8%)	12	(4.8%)	23	(4.2%)	6	(10.0%)	13	(4.7%)	10	(8.6%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In Table 24 those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

Table 25. Knowledge of EU PGI label (participants who use the label)

		FR (N=318)		**DE** (N=103)		**HU** (N=183)		**IT** (N=467)		**NO** (N=43)		**RS** (N=171)		**UK** (N=83)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	197	(61.9%)	58	(56.3%)	104	(56.8%)	280	(60.0%)	18	(41.9%)	126	(73.7%)	51	(61.4%)
2	**at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product**	**100**	**(31.4%)**	**43**	**(41.7%)**	**63**	**(34.4%)**	**148**	**(31.7%)**	**11**	**(25.6%)**	**67**	**(39.2%)**	**32**	**(38.6%)**
3	the product is of specific character in that either its raw materials, production method or processing is traditional	61	(19.2%)	21	(20.4%)	41	(22.4%)	83	(17.8%)	14	(32.6%)	35	(20.5%)	15	(18.1%)
4	**it is certified by a body independent of the producer and retailer**	**78**	**(24.5%)**	**14**	**(13.6%)**	**31**	**(16.9%)**	**73**	**(15.6%)**	**9**	**(20.9%)**	**30**	**(17.5%)**	**17**	**(20.5%)**
5	**it is an EU label**	**67**	**(21.1%)**	**33**	**(32.0%)**	**46**	**(25.1%)**	**98**	**(21.0%)**	**14**	**(32.6%)**	**41**	**(24.0%)**	**21**	**(25.3%)**
6	this product is produced according to the EU organic guidelines	23	(7.2%)	14	(13.6%)	20	(10.9%)	36	(7.7%)	6	(14.0%)	34	(19.9%)	12	(14.5%)
7	stricter rules than the minimum required by law have been followed regarding food safety	31	(9.7%)	13	(12.6%)	29	(15.8%)	48	(10.3%)	3	(7.0%)	30	(17.5%)	14	(16.9%)

8	this is a product of superior nutritional value	21	(6.6%)	4	(3.9%)	8	(4.4%)	27	(5.8%)	4	(9.3%)	12	(7.0%)	8	(9.6%)
9	*the region where the product is produced/processed is specified*	*114*	*(35.8%)*	*30*	*(29.1%)*	*52*	*(28.4%)*	*113*	*(24.2%)*	*11*	*(25.6%)*	*35*	*(20.5%)*	*14*	*(16.9%)*
10	in case of livestock products higher animal welfare standards apply	24	(7.5%)	3	(2.9%)	13	(7.1%)	23	(4.9%)	3	(7.0%)	15	(8.8%)	5	(6.0%)
11	None of the above	3	(0.9%)	1	(1.0%)	0	(0.0%)	2	(0.4%)	1	(2.3%)	0	(0.0%)	0	(0.0%)
12	I do not know	13	(4.1%)	3	(2.9%)	8	(4.4%)	17	(3.6%)	4	(9.3%)	7	(4.1%)	5	(6.0%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In Table 25 those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

3.3.2.3 EU PDO label

Figure 10. EU PDO Label

The protected designation of origin (PDO) identifies an agricultural product, raw or processed, whose quality, reputation or other characteristics are linked to its geographical origin. To be eligible for obtaining this official label, all the stages among production, transformation and packaging of this product must take place in the defined geographical area (inao.gouv.fr). A PDO food product must be produced AND processed AND prepared/packed in its area of origin. PDO is a guarantee of origin. The PDO logo is the EU logo which underlines the strongest link to the territory. The certified product must fulfil the requirements of the regulation (EU) No. 1151/2012. The regulation was implemented in November 2012.[22]

The relevance of registered PDO products considerably differs between the countries considered in our study amounting in 2017 to 103 in France, 12 in Germany, 6 in Hungary, 167 in Italy, and 25 in the UK. No PDO product is registered in Norway or Serbia. [23]

3.3.2.3.1 Recognition of the EU PDO label

Recognition of the PDO label again varies amongst countries and shows a structure similar to the case of the PGI label. Thus, it is again Norway which has the lowest percentage of respondents who recognize the label (6.70%) while Italy has the highest share (52.3%). France and Italy show a level of recognition considerably above average. In general, recognition of the PDO label (Figure 11) is lower than recognition of the PGI label (Figure 7).

[22] https://ec.europa.eu/agriculture/quality/schemes/foodstuff, last access: 05/02/18
[23] DOOR Database http://ec.europa.eu/agriculture/quality/door/list.html

That holds for all countries. Compared with the Special Eurobarometer 473[24], recognition of the PDO is higher in our survey for Italy (EB 32%), Hungary (EB 13%) and the UK (EB 5%) while it is slightly lower for Germany (EB 12%) and France (EB 41%) (European Commission, 2018).

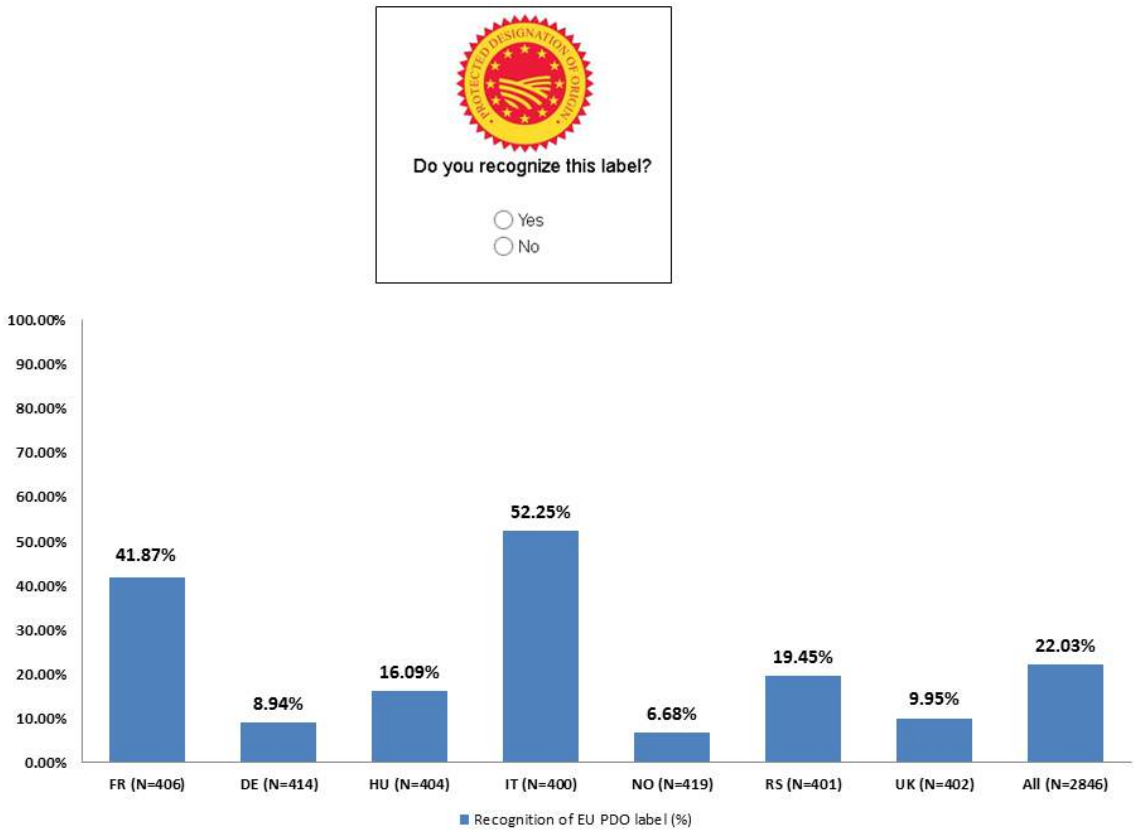

Figure 11. Percentage recognition of the EU PDO label

[24] The wording of the question in the Special Eurobarometer 473 (European Commission 2018) was slightly different. Consumers saw a number of logos (EU organic logo, PDO, PGI, TSG and Fairtrade) and were asked 'Which of the logos on this card are you aware of?' In the survey of the present study respondents saw a label and were asked 'Do you recognize this label'?

3.3.2.3.2 PDO label: Use and barriers to use

Figure 12 shows that not all respondents recognizing the label take it at least sometimes into account while grocery shopping.[25] In fact, the respective share is about 75% and very similar in the seven countries investigated.

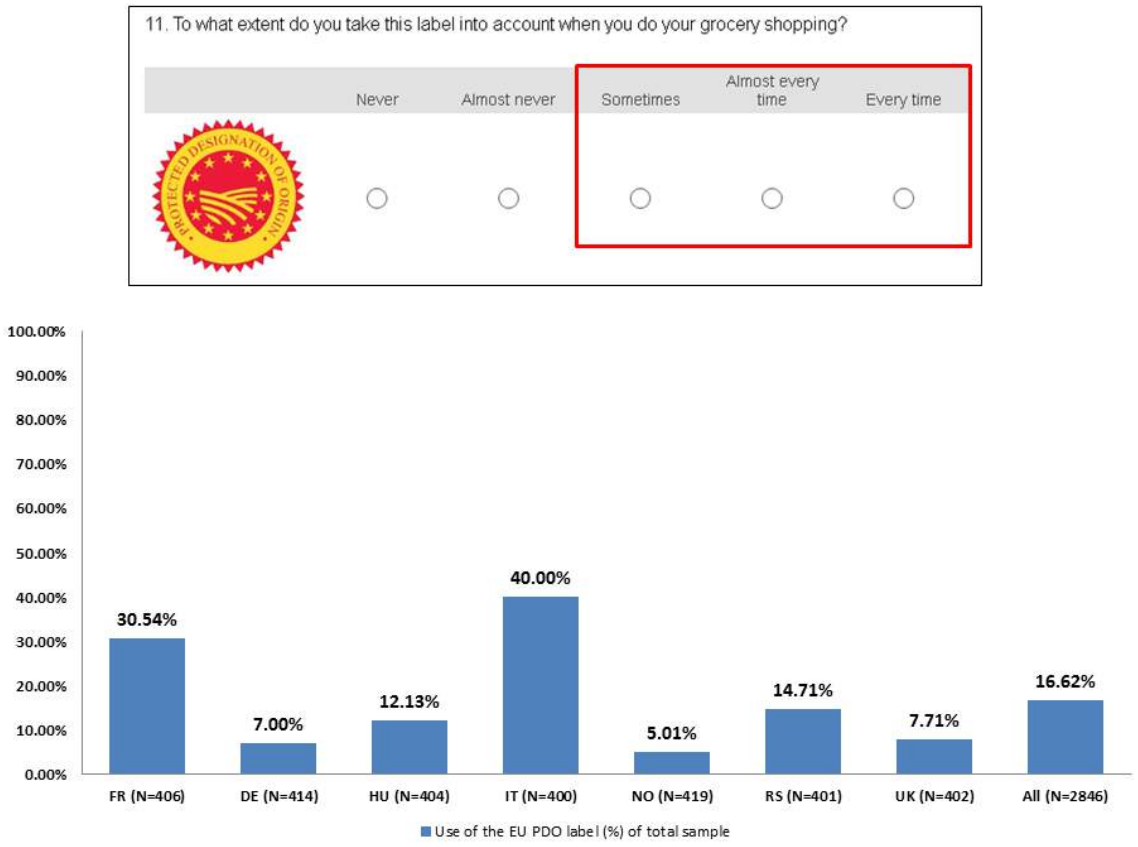

Figure 12. Percentage of consumers taking the PDO label into when doing their grocery shopping (out of the total sample)

[25] We consider "use of the label" if the consumer states that (s)he sometimes, almost every time or every time takes the label into account when doing her/his grocery shopping.

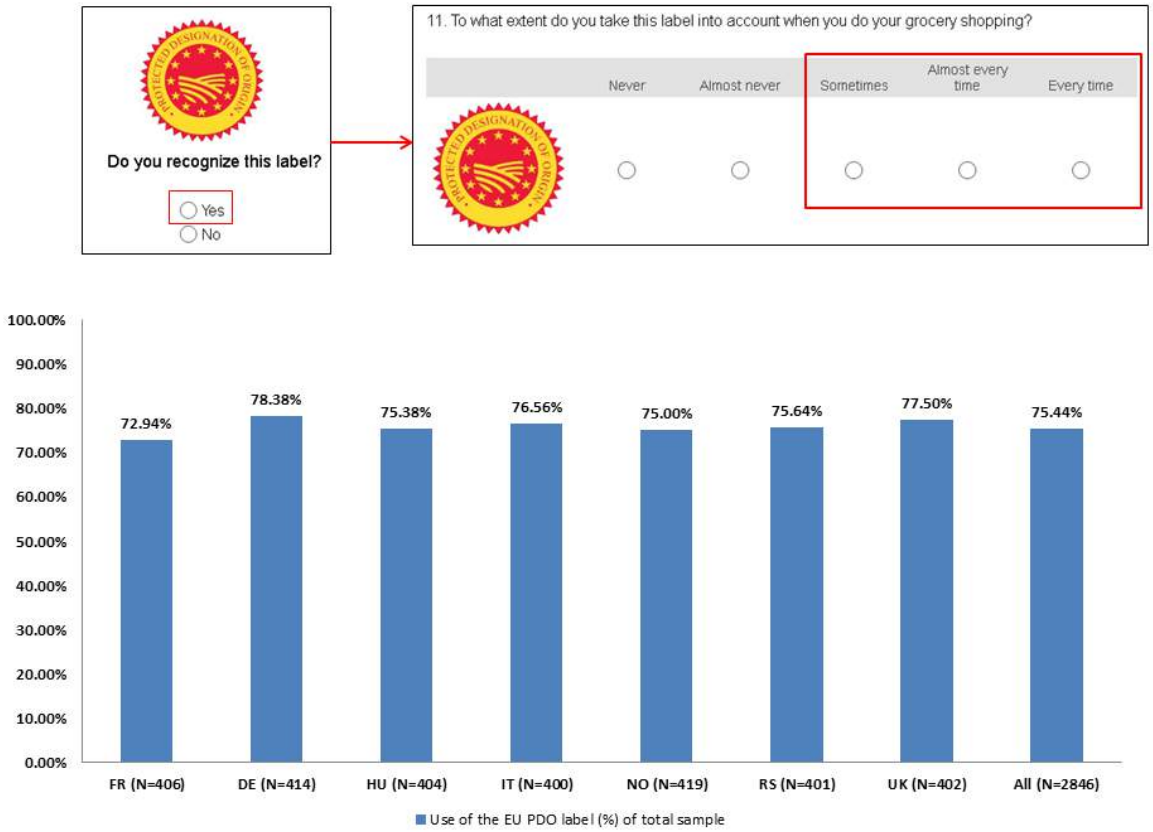

Figure 13. Consumers taking the EU PDO label into account when doing their grocery shopping (share of those recognizing the EU PDO label)

The reasons why respondents do not use the PDO label are similar to those explaining why they abstain from making use of the PGI and the organic label (see Table 26)[26]: Again the statement 'I rarely pay attention to product labels (doing) grocery shopping' is the most important reason. Also, the high price is stated as an impediment to use the label. Given the small numbers, it is difficult to draw firm conclusions from the sample regarding barriers. This holds true for all countries except France and Italy.

[26] From a list of 15 potential barriers, respondents could tick up to 3 that prevent them from taking the label into account when doing their grocery shopping.

Table 26. Barriers to taking the PDO label into account when making a purchasing decision

		FR (N=46)	DE (N=8)	HU (N=16)	IT (N=49)	NO (N=7)	RS (N=19)	UK (N=9)
1	Products with this label are too expensive	9 (19.6%)	0 (0.0%)	1 (6.3%)	13 (26.5%)	1 (14.3%)	3 (15.8%)	2 (22.2%)
2	I do not trust this label	1 (2.2%)	0 (0.0%)	0 (0.0%)	4 (8.2%)	2 (28.6%)	4 (21.1%)	0 (0.0%)
3	I do not trust labels in general	2 (4.3%)	2 (25.0%)	4 (25.0%)	6 (12.2%)	0 (0.0%)	5 (26.3%)	0 (0.0%)
4	Products with or without this label taste the same	6 (13.0%)	2 (25.0%)	4 (25.0%)	8 (16.3%)	0 (0.0%)	2 (10.5%)	2 (22.2%)
5	I rarely pay attention to product labels while doing grocery shopping	22 (47.8%)	4 (50.0%)	5 (31.3%)	11 (22.4%)	4 (57.1%)	4 (21.1%)	5 (55.6%)
6	There are only few varieties of products with this label in stores where I do my grocery shopping	4 (8.7%)	2 (25.0%)	1 (6.3%)	8 (16.3%)	1 (14.3%)	4 (21.1%)	1 (11.1%)
7	I have no time to consider labels while doing my grocery shopping	5 (10.9%)	0 (0.0%)	6 (37.5%)	5 (10.2%)	0 (0.0%)	1 (5.3%)	0 (0.0%)
8	The issue advertised on this label is not important to me	5 (10.9%)	1 (12.5%)	3 (18.8%)	4 (8.2%)	0 (0.0%)	1 (5.3%)	2 (22.2%)
9	I don't know where to find products with this label	3 (6.5%)	1 (12.5%)	3 (18.8%)	3 (4.1%)	0 (0.0%)	4 (21.1%)	1 (11.1%)
10	I am not interested in buying labeled products	8 (17.4%)	0 (0.0%)	0 (0.0%)	4 (8.2%)	0 (0.0%)	2 (10.5%)	0 (0.0%)
11	I don't buy products with this label because the label is just a marketing tool	1 (2.2%)	1 (12.5%)	3 (18.8%)	1 (2.0%)	1 (14.3%)	2 (10.5%)	0 (0.0%)
12	Products with this label do not look good	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
13	I don't like the taste of products with this label	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
14	Lack of opportunity in the last 2 weeks	7 (15.2%)	0 (0.0%)	2 (12.5%)	6 (10.2%)	2 (28.6%)	3 (15.8%)	2 (22.2%)
15	None of those reasons	3 (6.5%)	0 (0.0%)	2 (12.5%)	8 (14.3%)	0 (0.0%)	1 (5.3%)	1 (11.1%)

1) From the list of 15 potential barriers respondents could tick up to 3 that prevent them from taking the label into account when doing their grocery shopping.

3.3.2.3.3 Perception of the EU PDO label

In section 3.3.1 findings were presented regarding what label characteristics consumers perceive to be important. In this section we investigate the extent to which the European PDO label meets those characteristics. We differentiate between consumers' perception of the EU PDO label considering the whole sample (Table 27), only participants recognizing the label (Table 28) and finally only those using the label (Table 29). As previously mentioned, we consider use of the label if consumers state that they sometimes, almost every time or every time take the label into account when doing their grocery shopping.

The results in Table 27 (total sample) indicate that the overall evaluation of the EU PDO is slightly positive. On a scale from 1 to 5, with 1 being "don't agree at all" and 5 being "completely agree", the average score over all countries and statements was slightly above the mid-point, namely 3.21. Heterogeneity exists amongst the countries with the highest positive overall evaluation in Italy (3.77) and a slightly negative one in Norway (2.71) and Serbia (2.89). Comparing Table 27 for the PDO with the respective Table for PGI (Table 20) reveals a high level of similarity implying that the perception of the two labels does not differ to a great extent. Accordingly, clarity is evaluated again as a strength of the label. Also in line with the results for the PGI label, respondents least agreed with the statement that products with this label have similar prices if compared with similar non-labelled products (average 2.93, with especially low scores of 2.54 and 2.66 again in Serbia and Norway, respectively). Also trustworthiness, the most important label characteristic for respondents, obtains a score of only 3.26 if measured over all countries. As in the case of the PGI, it is by far the lowest in Norway and Serbia and highest in Italy. As for the PGI label, the PDO label is also more positively evaluated than the EU organic label.

Compared with all respondents (Table 27), those recognizing (Table 28) or recognizing and using (Table 29) the PDO label leads to a more positive perception (over all countries and statements: 3.81 and 3.96, respectively). This holds for all statements in all countries. Again, however, note that in some countries (especially Norway and Germany) the groups recognizing and, even more, those recognizing and using the label are rather small.

Table 27. Perception of the EU PDO label (total sample)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	395	3.63	1.21	390	3.02	1.28	390	3.66	1.20	393	4.07	1.07	320	2.59	1.31	380	3.21	1.39	386	3.16	1.27
The label has a clear logo/symbol	391	3.62	1.15	389	3.18	1.21	391	3.55	1.22	394	3.99	1.05	320	2.78	1.28	379	3.26	1.35	388	3.56	1.13
The label is trustworthy	378	3.59	1.14	377	3.03	1.12	369	3.54	1.06	384	3.92	0.97	260	2.75	1.18	360	2.74	1.22	360	3.26	1.07
The label helps me to make an informed choice	382	3.43	1.14	371	2.90	1.15	382	3.55	1.09	390	3.97	1.01	264	2.70	1.21	362	2.72	1.25	370	3.19	1.19
Products with this label have similar prices to other products without this label	369	3.08	1.13	360	2.84	0.98	349	3.14	1.10	372	3.20	1.10	220	2.66	1.11	342	2.54	1.12	355	3.05	1.05
The label is more than just a means of advertising	373	3.38	1.11	373	3.02	1.13	376	3.45	1.10	390	3.74	1.10	245	2.82	1.15	359	2.82	1.22	368	3.26	1.12
The label is attractive	379	3.36	1.13	385	2.95	1.16	384	3.38	1.15	391	3.51	1.12	286	2.67	1.16	376	2.91	1.23	384	3.13	1.15

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

Table 28. Perception of the EU PDO label (participants who recognize the label)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	170	4.13	0.99	37	4.11	1.22	65	4.15	1.03	209	4.38	0.84	27	3.67	1.11	78	4.19	0.98	40	3.93	1.10
The label has a clear logo/symbol	168	4.05	1.02	36	4.06	1.17	65	3.98	1.15	209	4.30	0.88	27	3.70	0.95	77	4.05	1.02	40	4.03	1.10
The label is trustworthy	166	4.07	1.01	37	4.00	1.08	65	4.06	0.93	204	4.19	0.83	26	3.46	1.10	78	3.68	0.93	40	3.85	1.00
The label helps me to make an informed choice	166	3.89	0.99	36	3.92	1.02	65	3.92	0.89	207	4.23	0.84	26	3.50	0.95	77	3.66	1.10	40	4.08	0.86
Products with this label have similar prices to other products without this label	164	3.30	1.18	35	3.34	0.97	64	3.58	1.07	200	3.27	1.15	26	3.27	0.92	76	2.86	1.26	39	3.49	1.10
The label is more than just a means of advertising	164	3.66	1.05	36	4.19	0.86	64	3.81	1.04	208	3.96	1.03	27	3.48	1.16	76	3.25	1.20	40	3.88	0.88
The label is attractive	166	3.78	1.04	36	3.94	0.98	65	3.86	1.09	207	3.69	1.06	27	3.22	1.05	76	3.67	1.14	40	3.93	0.89

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

Table 29. Perception of the EU PDO label (participants who use the label)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	124	4.30	0.86	29	4.31	1.04	49	4.24	0.97	160	4.53	0.70	20	3.60	0.99	59	4.27	0.93	31	4.00	1.10
The label has a clear logo/symbol	124	4.23	0.91	28	4.29	1.01	49	4.14	1.08	160	4.39	0.79	20	3.70	0.80	59	4.15	0.98	31	4.06	1.06
The label is trustworthy	124	4.33	0.89	29	4.28	0.92	49	4.24	0.85	157	4.33	0.69	19	3.74	0.87	59	3.90	0.82	31	3.81	0.91
The label helps me to make an informed choice	122	4.15	0.89	28	4.18	0.90	49	4.20	0.71	160	4.34	0.74	19	3.74	0.65	58	3.90	1.02	31	4.00	0.89
Products with this label have similar prices to other products without this label	123	3.59	1.10	27	3.30	1.07	49	3.76	0.90	155	3.44	1.13	20	3.25	0.79	58	3.03	1.30	30	3.67	1.09
The label is more than just a means of advertising	121	3.79	1.06	28	4.32	0.86	49	4.00	0.94	160	4.07	1.00	20	3.70	0.73	57	3.44	1.17	31	3.87	0.92
The label is attractive	122	4.02	0.95	28	4.18	0.82	49	4.06	1.01	158	3.82	1.03	20	3.45	0.89	58	3.86	1.12	31	3.90	0.94

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

3.3.2.3.4 Knowledge of the EU PDO label

What do consumers know about the PDO label? To gain insights into this aspect consumers saw 10 statements, the same as in the case of the EU organic and the PGI label and were asked to indicate which of those statements apply to food products with the PDO label (see Table 30). Consumers were asked to select all that apply. They could also indicate that none of the statements apply or that they do not know. Three of the 10 statements clearly refer to the PDO label. Those are written in bold letters.

Table 30, which summarizes results for the total sample, reveals that the overall understanding of the PDO label is extremely limited. Almost two thirds of Norwegian consumers (62.8%) state that they do not know what the PDO label stands for. Percentages for this statement were also very high (around 40%) in the UK and Germany. Only in Italy was the proportion of those indicating that they do not know what the label means low (only 12.5%). Those not recognizing a label cannot be expected to be knowledgeable about a label. Thus, of greater interest is knowledge of those recognizing (Table 31) and recognizing as well as using the label (Table 32).

Concentrating on the latter two groups shows that the percentage of those indicating that they do not know what the label means sharply drops in general far below 10% in all countries except Norway (14.3%). A closer look, however, reveals in all countries some discrepancy between subjective knowledge and factual knowledge.

The most frequently chosen statement is the first one, which is one of the 'true' statements. In fact the majority of respondents in France and Italy know that a product with a PDO label has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties. This statement is also gets a relatively high percentage (around 40%) in the other countries. However, surprisingly the proportion of respondents ticking this statement is lower in the case of the PDO label (where it is correct) than in the case of the PGI label (where it was not correct). This confirms the findings from section 3.3.2.1.2 regarding consumers' confusion between PDO and PGI labels. Regarding the other statements that apply to the PDO label, only a minority knows that the label is certified by a body independent of the producer and retailer and that it is an EU label.

Table 30. Knowledge of EU PDO label (total sample)

		FR (N=406)		DE (N=414)		HU (N=404)		IT (N=400)		NO (N=419)		RS (N=401)		UK (N=402)	
1	**the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties**	**152**	**(37.4%)**	**97**	**(23.4%)**	**106**	**(26.2%)**	**172**	**(43.0%)**	**68**	**(16.2%)**	**116**	**(28.9%)**	**109**	**(27.1%)**
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	93	(22.9%)	87	(21.0%)	97	(24.0%)	116	(29.0%)	50	(11.9%)	84	(20.9%)	75	(18.7%)
3	the product is of specific character in that either its raw materials, production method or processing is traditional	94	(23.2%)	47	(11.4%)	94	(23.3%)	103	(25.8%)	29	(6.9%)	92	(22.9%)	37	(9.2%)
4	**it is certified by a body independent of the producer and retailer**	**73**	**(18.0%)**	**19**	**(4.6%)**	**60**	**(14.9%)**	**62**	**(15.5%)**	**21**	**(5.0%)**	**49**	**(12.2%)**	**35**	**(8.7%)**
5	**it is an EU label**	**61**	**(15.0%)**	**49**	**(11.8%)**	**79**	**(19.6%)**	**68**	**(17.0%)**	**46**	**(11.0%)**	**58**	**(14.5%)**	**58**	**(14.4%)**
6	this product is produced according to the EU organic guidelines	30	(7.4%)	24	(5.8%)	44	(10.9%)	17	(4.3%)	19	(4.5%)	51	(12.7%)	30	(7.5%)
7	stricter rules than the minimum required by law have been followed regarding food safety	52	(12.8%)	27	(6.5%)	44	(10.9%)	44	(11.0%)	13	(3.1%)	38	(9.5%)	22	(5.5%)
8	this is a product of superior nutritional value	22	(5.4%)	3	(0.7%)	19	(4.7%)	24	(6.0%)	7	(1.7%)	19	(4.7%)	15	(3.7%)
9	*the region where the product is produced/processed is specified*	*99*	*(24.4%)*	*65*	*(15.7%)*	*83*	*(20.5%)*	*66*	*(16.5%)*	*33*	*(7.9%)*	*52*	*(13.0%)*	*40*	*(10.0%)*
10	in case of livestock products higher animal welfare standards apply	29	(7.1%)	7	(1.7%)	26	(6.4%)	25	(6.3%)	8	(1.9%)	9	(2.2%)	10	(2.5%)
11	None of the above	6	(1.5%)	18	(4.3%)	7	(1.7%)	5	(1.3%)	15	(3.6%)	9	(2.2%)	13	(3.2%)
12	I do not know	90	(22.2%)	166	(40.1%)	109	(27.0%)	50	(12.5%)	263	(62.8%)	126	(31.4%)	153	(38.1%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In Table 30 those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

Table 31. Knowledge of EU PDO label (participants who recognize the label)

		FR (N=170)		**DE** (N=37)		**HU** (N=65)		**IT** (N=209)		**NO** (N=28)		**RS** (N=78)		**UK** (N=40)	
1	**the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties**	**89**	**(52.4%)**	**15**	**(40.5%)**	**25**	**(38.5%)**	**109**	**(52.2%)**	**11**	**(39.3%)**	**36**	**(46.2%)**	**17**	**(42.5%)**
2	*at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product*	*55*	*(32.4%)*	*14*	*(37.8%)*	*24*	*(36.9%)*	*71*	*(34.0%)*	*10*	*(35.7%)*	*26*	*(33.3%)*	*15*	*(37.5%)*
3	the product is of specific character in that either its raw materials, production method or processing is traditional	54	(31.8%)	11	(29.7%)	22	(33.8%)	63	(30.1%)	3	(10.7%)	26	(33.3%)	8	(20.0%)
4	**it is certified by a body independent of the producer and retailer**	**47**	**(27.6%)**	**2**	**(5.4%)**	**12**	**(18.5%)**	**38**	**(18.2%)**	**7**	**(25.0%)**	**17**	**(21.8%)**	**6**	**(15.0%)**
5	**it is an EU label**	**32**	**(18.8%)**	**9**	**(24.3%)**	**20**	**(30.8%)**	**41**	**(19.6%)**	**6**	**(21.4%)**	**15**	**(19.2%)**	**10**	**(25.0%)**
6	this product is produced according to the EU organic guidelines	13	(7.6%)	6	(16.2%)	7	(10.8%)	9	(4.3%)	5	(17.9%	17	(21.8%)	6	(15.0%)
7	stricter rules than the minimum required by law have been followed regarding food safety	31	(18.2%)	9	(24.3%)	15	(23.1%)	26	(12.4%)	4	(14.3%)	16	(20.5%)	9	(22.5%)

8	this is a product of superior nutritional value	14	(8.2%)	1	(2.7%)	7	(10.8%)	16	(7.7%)	3	(10.7%)	8	(10.3%)	5	(12.5%)
9	*the region where the product is produced/processed is specified*	*59*	*(34.7%)*	*11*	*(29.7%)*	*24*	*(36.9%)*	*48*	*(23.0%)*	*7*	*(25.0%)*	*13*	*(16.7%)*	*6*	*(15.0%)*
10	in case of livestock products higher animal welfare standards apply	13	(7.6%)	3	(8.1%)	4	(6.2%)	12	(5.7%)	3	(10.7%)	4	(5.1%)	1	(2.5%)
11	None of the above	1	(0.6%)	0	(0.0%)	0	(0.0%)	3	(1.4%)	0	(0.0%)	0	(0.0%)	1	(2.5%)
12	I do not know	11	(6.5%)	1	(2.7%)	4	(6.2%)	7	(3.3%)	4	(14.3%)	5	(6.4%)	2	(5.0%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In Table 31 those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

Table 32. Knowledge of EU PDO label (participants who use the label)

		FR (N=124)		DE (N=29)		HU (N=49)		IT (N=160)		NO (N=21)		RS (N=59)		UK (N=31)	
1	**the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties**	**63**	**(50.8%)**	**11**	**(37.9%)**	**20**	**(40.8%)**	**84**	**(52.5%)**	**10**	**(47.6%)**	**26**	**(44.1%)**	**13**	**(41.9%)**
2	*at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product*	*43*	*(34.7%)*	*11*	*(37.9%)*	*17*	*(34.7%)*	*53*	*(33.1%)*	*6*	*(28.6%)*	*21*	*(35.6%)*	*14*	*(45.2%)*
3	the product is of specific character in that either its raw materials, production method or processing is traditional	40	(32.3%)	9	(31.0%)	18	(36.7%)	54	(33.8%)	2	(9.5%)	22	(37.3%)	6	(19.4%)
4	**it is certified by a body independent of the producer and retailer**	**38**	**(30.6%)**	**1**	**(3.4%)**	**11**	**(22.4%)**	**36**	**(22.5%)**	**6**	**(28.6%)**	**14**	**(23.7%)**	**5**	**(16.1%)**
5	**it is an EU label**	**26**	**(21.0%)**	**8**	**(27.6%)**	**16**	**(32.7%)**	**36**	**(22.5%)**	**5**	**(23.8%)**	**10**	**(16.9%)**	**9**	**(29.0%)**
6	this product is produced according to the EU organic guidelines	11	(8.9%)	5	(17.2%)	5	(10.2%)	8	(5.0%)	5	(23.8%)	10	(16.9%)	5	(16.1%)
7	stricter rules than the minimum required by law have been followed regarding food safety	27	(21.8%)	7	(24.1%)	10	(20.4%)	24	(15.0%)	3	(14.3%)	10	(16.9%)	7	(22.6%)
8	this is a product of superior nutritional value	11	(8.9%)	1	(3.4%)	6	(12.2%)	15	(9.4%)	1	(4.8%)	7	(11.9%)	5	(16.1%)
9	*the region where the product is produced/processed is*	*44*	*(35.5%)*	*5*	*(17.2%)*	*20*	*(40.8%)*	*41*	*(25.6%)*	*6*	*(28.6%)*	*10*	*(16.9%)*	*3*	*(9.7%)*

	specified														
10	in case of livestock products higher animal welfare standards apply	9	(7.3%)	2	(6.9%)	3	(6.1%)	11	(6.9%)	3	(14.3%)	3	(5.1%)	0	(0.0%)
11	None of the above	1	(0.8%)	0	(0.0%)	0	(0.0%)	1	(0.6%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
12	I do not know	7	(5.6%)	1	(3.4%)	3	(6.1%)	4	(2.5%)	3	(14.3%)	4	(6.8%)	2	(6.5%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In Table 32 those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

3.3.2.4 EU TSG label

Figure 14. EU TSG Label

The Traditional Speciality Guaranteed (TSG) logo highlights the traditional production method or composition of a product, handed down from generation to generation, without necessarily being linked to a specific geographical area."[27] The standards which have to be met are written down in an EU regulation No. 1151/2012. The regulation was prescribed at the end of 2012. TSG-registered products are much less common in all countries studied. In the UK four, in Italy two and in France and Hungary one product are registered as TSG. No product has been registered in Germany, Norway or Serbia as a TSG product. [28]

3.3.2.4.1 Recognition of the EU TSG label

Recognition of the TSG label is, both on average across all countries and for four of the seven countries (France, Italy, Norway, and the UK), the lowest among the four EU food quality labels (18.11% compared with 22.20% for PDO, 32.20% for PGI and 34.40 % for the EU organic label). Awareness again varies amongst countries but shows a quite different structure from awareness for the other EU quality labels. Respondents from Serbia (29.80%), Italy

[27] (https://ec.europa.eu/agriculture/quality/schemes/foodstuff_en. Last access: 06.02.18)

[28] DOOR Database http://ec.europa.eu/agriculture/quality/door/list.html

(29.10%) and Hungary (25.90%) show the highest levels of recognition, while recognition in France is only about equal to the average over all countries (18.11%). As in the case of the PGI and PDO labels it is Norway again that shows the lowest level of recognition (3.60%). Compared with the Special Eurobarometer 473[29], recognition of the TSG in our study is similar for the UK (EB 8%), somewhat lower for France (EB 22%) and higher for Italy (EB 24%), Germany (EB 8%) and especially Hungary (EB 10%) (European Commission, 2018).

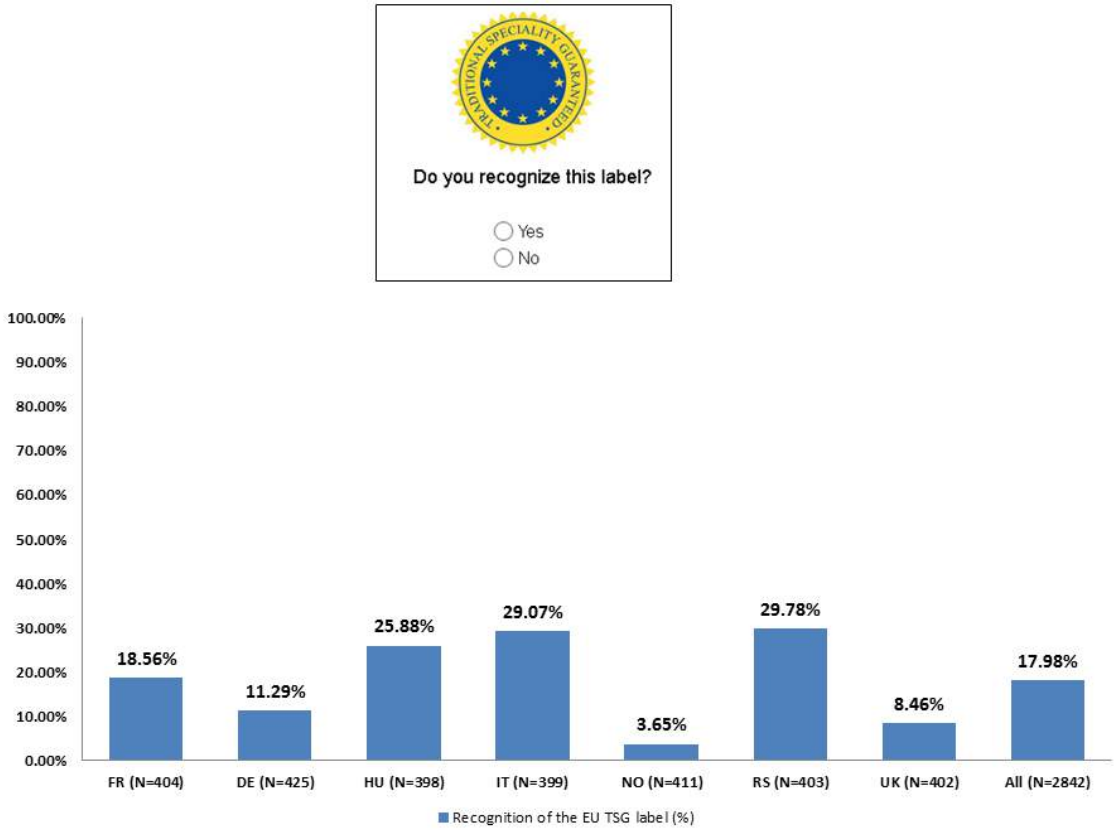

Figure 15. Percentage recognition of the EU TSG label

[29] The wording of the question in the Special Eurobarometer 473 (EU Commission 2018) was slightly different. Consumers saw a number of logos (EU organic logo, PDO, PGI, TSG and Fairtrade) and were asked 'Which of the logos on this card are you aware of?' In the survey of the present study respondents saw a label and were asked 'Do you recognize this label'?

3.3.2.4.2 TSG label: Use and barriers to use

A comparison of Figures 15 and 16 shows that not all those recognizing the TSG label consider it when doing their grocery shopping. The respective proportions taking the label into account vary considerably amongst countries ranging from 59.17% in Serbia to 85.44% in Hungary. Where the TSG designation is recognized it influences the majority of consumers in their decision making and in this regard the results for the TSG label mirror those for the EU organic label, the PDO and PGI labels.

Though Hungary has only one TSG product, the use of this label was the highest among the selected countries. This might be due to the fact that several imported products with a TSG label are available in Hungarian supermarkets: mainly processed meat products (Jamón Serrano from Spain) and dairy products (Mozzarella from Italy).

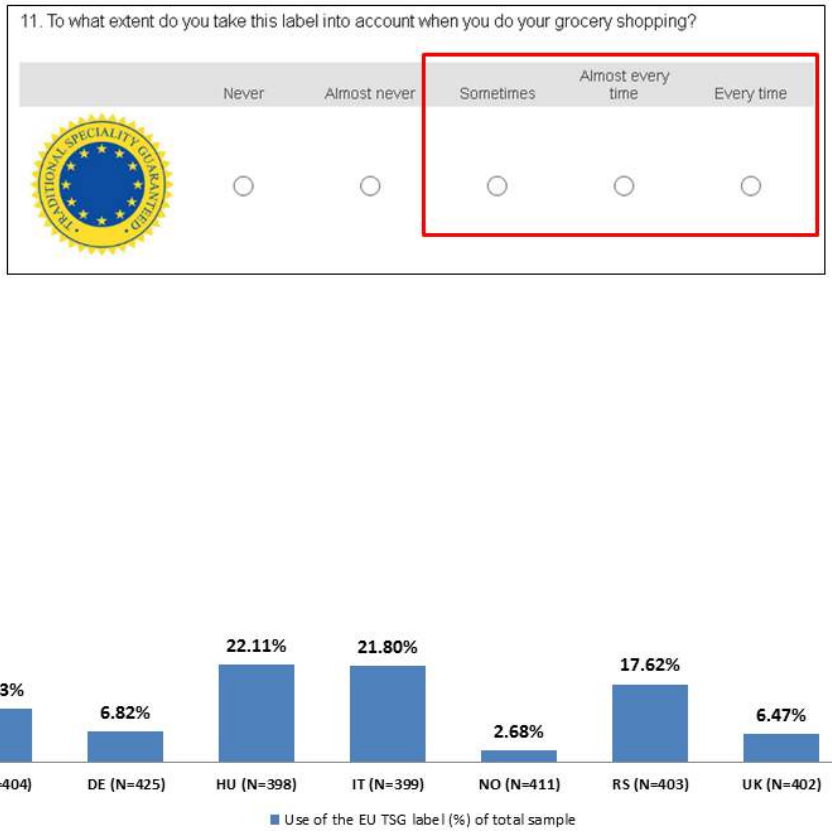

Figure 16. Percentage of consumers taking the EU TSG label into when doing their grocery shopping (out of the total sample)

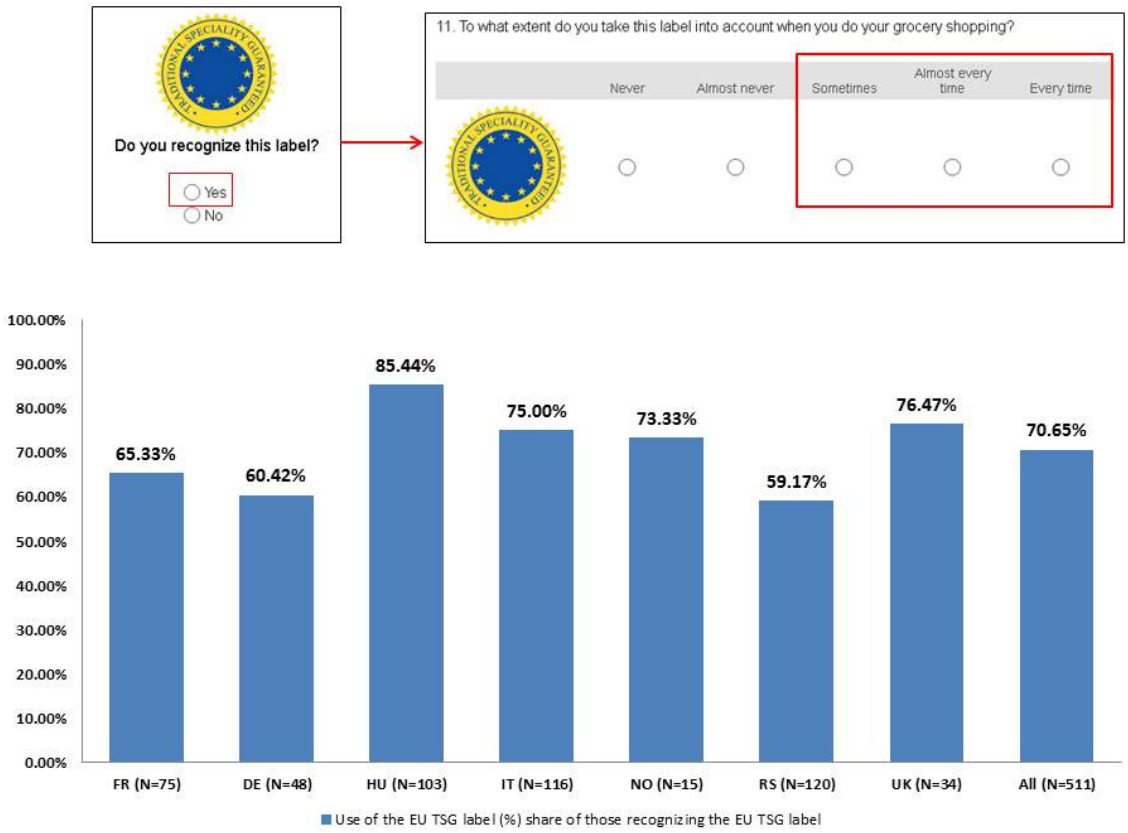

Figure 17. Consumers taking the EU TSG label into account when doing their grocery shopping (share of those recognizing the EU TSG label)

Table 33 shows that for most countries the reason why respondents do not use the TSG label is the lack of attention they pay to product labels while doing their grocery shopping. However a lack of availability (covered by the statements: There are only few varieties of products with this label in stores where I do my grocery shopping; Lack of opportunity in the last 2 weeks; I don't know where to find products with this label) seems to be a problem as well, which is not surprising given the low number of registered TSG products. For all countries the number of respondents answering this question (only those recognizing but not using the label) is rather small (from 8 respondents in the UK to 49 in Serbia). This makes it impossible to draw firm conclusions from the sample regarding barriers.

Table 33. Barriers to taking the TSG label into account when making a purchasing decision

		FR (N=26)	DE (N=19)	HU (N=15)	IT (N=29)	NO (N=4)	RS (N=49)	UK (N=8)
1	Products with this label are too expensive	3 (11.5%)	1 (5.3%)	1 (6.7%)	7 (24.1%)	1 (25.0%)	8 (16.3%)	3 (37.5%)
2	I do not trust this label	1 (3.8%)	0 (0.0%)	3 (20.0%)	0 (0.0%)	0 (0.0%)	5 (10.2%)	1 (12.5%)
3	I do not trust labels in general	0 (0.0%)	3 (15.8%)	1 (6.7%)	2 (6.9%)	1 (25.0%)	14 (28.6%)	0 (0.0%)
4	Products with or without this label taste the same	2 (7.7%)	3 (15.8%)	3 (20.0%)	4 (13.8%)	1 (25.0%)	6 (12.2%)	2 (25.0%)
5	I rarely pay attention to product labels while doing grocery shopping	5 (19.2%)	8 (42.1%)	2 (13.3%)	1 (3.4%)	0 (0.0%)	22 (44.9%)	4 (50.0%)
6	There are only few varieties of products with this label in stores where I do my grocery shopping	6 (23.1%)	2 (10.5%)	3 (20.0%)	7 (24.1%)	0 (0.0%)	9 (18.4%)	1 (12.5%)
7	I have no time to consider labels while doing my grocery shopping	2 (7.7%)	2 (10.5%)	1 (6.7%)	3 (10.3%)	1 (25.0%)	9 (18.4%)	1 (12.5%)
8	The issue advertised on this label is not important to me	1 (3.8%)	5 (26.3%)	2 (13.3%)	2 (6.9%)	0 (0.0%)	3 (6.1%)	1 (12.5%)
9	I don't know where to find products with this label	4 (15.4%)	2 (10.5%)	3 (20.0%)	3 (10.3%)	0 (0.0%)	8 (16.3%)	0 (0.0%)
10	I am not interested in buying labelled products	0 (0.0%)	1 (5.3%)	1 (6.7%)	0 (0.0%)	0 (0.0%)	2 (4.1%)	3 (37.5%)
11	I don't buy products with this label because the label is just a marketing tool	0 (0.0%)	3 (15.8%)	1 (6.7%)	1 (3.4%)	1 (25.0%)	3 (6.1%)	0 (0.0%)
12	Products with this label do not look good	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (12.5%)
13	I don't like the taste of products with this label	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
14	Lack of opportunity in the last 2 weeks	7 (26.9%)	2 (10.5%)	1 (6.7%)	3 (10.3%)	1 (25.0%)	7 (14.3%)	1 (12.5%)
15	None of those reasons	5 (19.2%)	2 (10.5%)	0 (0.0%)	4 (13.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

1) From the list of 15 potential barriers respondents could tick up to 3 that prevent them from taking the label into account when doing their grocery shopping.

3.3.2.4.3 Perception of the EU TSG label

This section considers the extent to which the European TSG label meets specified characteristics. In the analysis we differentiated between consumers' perception of the EU TSG label considering the whole sample (Table 34), only participants recognizing the label (Table 35) and finally only those using the label (Table 36). For this, we consider that consumers make use of a label if they state that they sometimes, almost every time or every time take the label into account when doing their grocery shopping.

The results in Table 34 (total sample) indicate that evaluation of the EU TSG label is slightly positive over all items and countries. On a scale from 1 to 5, with 1 being "don't agree at all" and 5 being "completely agree", average agreement over all countries and statements was 3.27, and thus comparable to the overall average score for the PDO and PGI labels. Heterogeneity exists among countries with the highest positive overall evaluations in Italy (3.63) and Hungary (3.60) and a slightly negative one in Norway (2.87). As for the PGI and the PDO labels, clarity is evaluated as a strength of the label (average score 3.51 for the statement 'The label has a clear logo/symbol' and 3.43 for the statement 'The label is easy to understand'). Also in line with results for the other two labels, respondents agreed least with the statement that products with this label have similar prices if compared to similar non-labelled products (average 3.00 over all countries, with especially low scores again in Serbia and Norway (2.70 and 2.80, respectively). Also, trustworthiness, the most important label characteristic for respondents as revealed in section 3.3.1, scored only 3.29 if measured over all countries. As for the PGI and PDO labels, the TSG label is also more positively evaluated than the EU organic label.

Compared with results using all respondents (Table 34), those recognizing (Table 35) or those recognizing and using (Table 36) the PDO label lead to a more positive perception (over all countries and statements: 3.81 and 3.95, respectively). This holds true for all statements in all countries if comparing the results between all respondents and those recognizing the label. Comparing the group recognizing the label with those recognizing and using the label shows a slightly different picture. In particular, the attractiveness of the label is more critically perceived by the latter group. Though, as stated above, trustworthiness gets a score of only 3.29 if the whole sample is considered, consumers recognizing (3.81) and those recognizing and using the label (4.01) evaluate trustworthiness of the TSG label considerably more positively. Finally, as for other quality labels, for some countries (especially Norway, the UK

and Germany) the groups recognizing, and especially those recognizing and using the label, are rather small and thus the results have to be treated with some caution for those countries.

Table 34. Perception of the EU TSG label (total sample)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	380	3.44	1.22	406	3.33	1.22	374	3.76	1.31	392	3.83	1.09	349	2.82	1.37	385	3.77	1.26	395	3.06	1.29
The label has a clear logo/symbol	379	3.43	1.16	404	3.30	1.16	374	3.72	1.26	392	3.82	1.05	351	2.96	1.29	389	3.75	1.21	390	3.62	1.10
The label is trustworthy	349	3.37	1.07	393	3.11	1.11	352	3.63	1.07	380	3.79	0.95	323	2.92	1.22	372	3.05	1.18	372	3.19	1.07
The label helps me to make an informed choice	363	3.30	1.15	393	3.07	1.15	363	3.66	1.13	384	3.83	1.00	326	2.85	1.23	374	3.03	1.24	378	3.01	1.21
Products with this label have similar prices to other products without this label	339	3.05	1.12	371	2.96	1.00	336	3.21	1.09	372	3.25	1.09	275	2.80	1.11	359	2.70	1.10	362	3.01	1.08
The label is more than just a means of advertising	356	3.29	1.15	391	3.12	1.11	355	3.60	1.13	384	3.60	1.08	303	2.90	1.16	374	2.97	1.21	371	3.18	1.09
The label is attractive	365	3.20	1.12	402	3.10	1.11	371	3.61	1.20	381	3.30	1.16	331	2.82	1.14	381	3.12	1.24	391	3.06	1.10

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”

Table 35. Perception of the EU TSG label (participants who recognize the label)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	75	4.05	1.14	48	3.75	1.31	103	4.19	1.11	116	4.29	0.89	15	3.80	1.15	118	4.14	1.11	34	3.91	1.14
The label has a clear logo/symbol	74	4.01	0.97	47	3.60	1.21	102	4.22	1.03	116	4.18	0.97	15	3.80	1.15	119	4.09	1.07	34	4.12	0.98
The label is trustworthy	72	3.92	0.88	46	3.65	1.12	103	4.03	0.99	114	4.18	0.82	14	3.57	0.94	118	3.43	1.11	33	3.88	1.02
The label helps me to make an informed choice	72	4.07	0.88	47	3.81	1.14	103	4.05	0.97	115	4.18	0.95	13	3.54	1.13	118	3.34	1.23	34	3.79	1.17
Products with this label have similar prices to other products without this label	70	3.56	1.15	45	3.47	1.04	101	3.50	1.05	112	3.46	1.14	14	3.36	1.34	115	2.90	1.15	33	3.64	1.25
The label is more than just a means of advertising	70	3.69	1.19	46	3.72	1.11	102	3.95	1.06	115	3.97	1.07	13	3.54	1.27	117	3.15	1.17	33	3.70	1.13
The label is attractive	70	3.76	0.98	47	3.70	1.16	103	4.08	1.06	112	3.69	1.17	14	3.43	1.16	116	3.32	1.26	34	3.68	1.15

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

Table 36. Perception of the EU TSG label (participants who use the label)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	49	4.24	0.92	29	4.03	1.12	88	4.27	1.06	87	4.31	0.88	11	3.73	1.10	70	4.44	0.77	26	4.12	0.91
The label has a clear logo/symbol	48	4.17	0.86	28	3.93	1.09	88	4.30	0.98	87	4.20	0.95	11	3.73	0.79	71	4.37	0.81	26	4.19	0.85
The label is trustworthy	48	4.08	0.82	27	4.00	0.92	88	4.13	0.94	85	4.24	0.81	11	3.73	0.90	70	3.81	0.92	26	4.08	0.89
The label helps me to make an informed choice	47	4.26	0.85	28	4.11	0.99	88	4.13	0.94	87	4.17	0.94	11	3.73	0.90	71	3.80	1.05	26	4.00	1.02
Products with this label have similar prices to other products without this label	45	3.78	1.11	26	3.88	0.86	87	3.53	1.05	85	3.53	1.05	11	3.64	0.92	70	3.27	1.03	26	3.85	1.08
The label is more than just a means of advertising	46	3.89	1.16	28	4.11	0.92	87	4.05	1.02	86	3.91	1.05	11	3.73	1.10	69	3.49	1.04	26	3.88	1.03
The label is attractive	46	3.80	1.02	28	4.07	0.94	88	4.17	0.96	85	3.69	1.15	11	3.64	1.03	69	3.59	1.12	26	3.96	0.96

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

3.3.2.4.4 Knowledge of the EU TSG label

Besides recognition, use and perception we also investigate consumers' knowledge with respect to the EU TSG label. Table 37 reveals that the most frequently chosen statement is the third one, which says that the product is of a specific character in that either its raw materials, production method or processing is traditional, which is one of the three correct statements. The word "traditional" on the logo is likely to have helped respondents to recognize the character of the label. Nevertheless, in all countries the percentage of respondents stating that they do not know what the label means is also very high, ranging from 15.3% in Italy to 50.9% in Norway. Regarding the other two correct statements (it is certified by a body independent of the producer and retailer; it is an EU label) respondents knowledge is more limited with on average about 10% of respondents ticking the former and about 25% ticking the latter. However, Table 37 also reveals that statements not applying to the TSG label were also ticked by a considerable proportion of consumers. This was true especially regarding statements 1 and 2 regarding geographical area. While the results in Table 37 consider the responses of all consumers and thus also include those not recognizing the label, Table 38 focuses on those recognizing and Table 39 on those recognizing and using the TSG label.

When considering only respondents who stated to have recognized (and used) the label (Tables 38 and 39), the share of respondents indicating that they do not know what the label means considerably declines in all countries. In parallel, the percentages of respondents correctly ticking the statements applying to the TSG (statements 3, 4 and 5) considerably increase in most countries. However, compared with the total sample, those recognizing (and using) the TSG label also tick to a greater extent those statements that are wrong. This provides some indication that knowledge about the label is poor, even among those making use of the label when doing their grocery shopping.

Table 37. Knowledge of EU TSG label (total sample)

		FR (N=404)		DE (N=425)		HU (N=398)		IT (N=399)		NO (N=411)		RS (N=403)		UK (N=402)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	76	(18.8%)	77	(18.1%)	52	(13.1%)	105	(26.3%)	45	(10.9%)	70	(17.4%)	53	(13.2%)
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	65	(16.1%)	64	(15.1%)	56	(14.1%)	79	(19.8%)	27	(6.6%)	52	(12.9%)	56	(13.9%)
3	**the product is of specific character in that either its raw materials, production method or processing is traditional**	**134**	**(33.2%)**	**150**	**(35.3%)**	**149**	**(37.4%)**	**149**	**(37.3%)**	**87**	**(21.2%)**	**229**	**(56.8%)**	**123**	**(30.6%)**
4	**it is certified by a body independent of the producer and retailer**	**46**	**(11.4%)**	**22**	**(5.2%)**	**47**	**(11.8%)**	**45**	**(11.3%)**	**20**	**(4.9%)**	**56**	**(13.9%)**	**39**	**(9.7%)**
5	**it is an EU label**	**59**	**(14.6%)**	**76**	**(17.9%)**	**87**	**(21.9%)**	**98**	**(24.6%)**	**71**	**(17.3%)**	**125**	**(31.0%)**	**91**	**(22.6%)**
6	this product is produced according to the EU organic guidelines	25	(6.2%)	23	(5.4%)	50	(12.6%)	43	(10.8%)	21	(5.1%)	74	(18.4%)	36	(9.0%)
7	stricter rules than the minimum required by law have been followed regarding food safety	33	(8.2%)	37	(8.7%)	48	(12.1%)	35	(8.8%)	18	(4.4%)	56	(13.9%)	20	(5.0%)
8	this is a product of superior nutritional value	27	(6.7%)	15	(3.5%)	28	(7.0%)	21	(5.3%)	8	(1.9%)	31	(7.7%)	18	(4.5%)
9	the region where the product is produced/processed is specified	55	(13.6%)	46	(10.8%)	43	(10.8%)	47	(11.8%)	17	(4.1%)	34	(8.4%)	32	(8.0%)
10	in case of livestock products higher animal welfare standards apply	20	(5.0%)	6	(1.4%)	23	(5.8%)	18	(4.5%)	7	(1.7%)	18	(4.5%)	19	(4.7%)
11	None of the above	11	(2.7%)	25	(5.9%)	8	(2.0%)	3	(0.8%)	23	(5.6%)	9	(2.2%)	24	(6.0%)
12	I do not know	118	(29.2%)	121	(28.5%)	108	(27.1%)	61	(15.3%)	209	(50.9%)	63	(15.6%)	132	(32.8%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In Table 37 those statements applying to food product with the respective label are bold.

Table 38. Knowledge of EU TSG label (participants who recognize the label)

		FR (N=75)		DE (N=48)		HU (N=103)		IT (N=116)		NO (N=15)		RS (N=120)		UK (N=34)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	25	(33.3%)	13	(27.1%)	24	(23.3%)	40	(34.5%)	3	(20.0%)	22	(18.3%)	11	(32.4%)
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	16	(21.3%)	16	(33.3%)	21	(20.4%)	35	(30.2%)	6	(40.0%)	18	(15.0%)	9	(26.5%)
3	**the product is of specific character in that either its raw materials, production method or processing is traditional**	**31**	**(41.3%)**	**16**	**(33.3%)**	**53**	**(51.5%)**	**53**	**(45.7%)**	**4**	**(26.7%)**	**80**	**(66.7%)**	**14**	**(41.2%)**
4	**it is certified by a body independent of the producer and retailer**	**14**	**(18.7%)**	**5**	**(10.4%)**	**19**	**(18.4%)**	**17**	**(14.7%)**	**2**	**(13.3%)**	**19**	**(15.8%)**	**5**	**(14.7%)**
5	**it is an EU label**	**12**	**(16.0%)**	**13**	**(27.1%)**	**27**	**(26.2%)**	**27**	**(23.3%)**	**7**	**(46.7%)**	**37**	**(30.8%)**	**9**	**(26.5%)**
6	this product is produced according to the EU organic guidelines	7	(9.3%)	5	(10.4%)	15	(14.6%)	15	(12.9%)	1	(6.7%)	34	(28.3%)	6	(17.6%)
7	stricter rules than the minimum required by law have been followed regarding food safety	12	(16.0%)	10	(20.8%)	15	(14.6%)	9	(7.8%)	3	(20.0%)	17	(14.2%)	4	(11.8%)
8	this is a product of superior nutritional value	11	(14.7%)	2	(4.2%)	12	(11.7%)	9	(7.8%)	1	(6.7%)	12	(10.0%)	5	(14.7%)
9	the region where the product is produced/processed is specified	19	(25.3%)	6	(12.5%)	15	(14.6%)	19	(16.4%)	3	(20.0%)	14	(11.7%)	5	(14.7%)
10	in case of livestock products higher animal welfare standards apply	4	(5.3%)	0	(0.0%)	8	(7.8%)	5	(4.3%)	1	(6.7%)	10	(8.3%)	2	(5.9%)
11	None of the above	3	(4.0%)	2	(4.2%)	3	(2.9%)	0	(0.0%)	0	(0.0%)	1	(0.8%)	1	(2.9%)
12	I do not know	6	(8.0%)	5	(10.4%)	5	(4.9%)	2	(1.7%)	1	(6.7%)	8	(6.7%)	2	(5.9%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In Table 37 those statements applying to a food product with the respective label are bold.

Table 39. Knowledge of EU TSG label (participants who use the label)

		FR (N=49)		DE (N=29)		HU (N=88)		IT (N=87)		NO (N=11)		RS (N=71)		UK (N=26)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	20	(40.8%)	8	(27.6%)	22	(25.0%)	34	(39.1%)	2	(18.2%)	16	(22.5%)	9	(34.6%)
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	12	(24.5%)	12	(41.4%)	19	(21.6%)	26	(29.9%)	5	(45.5%)	15	(21.1%)	9	(34.6%)
3	**the product is of specific character in that either its raw materials, production method or processing is traditional**	**20**	**(40.8%)**	**9**	**(31.0%)**	**47**	**(53.4%)**	**38**	**(43.7%)**	**4**	**(36.4%)**	**51**	**(71.8%)**	**11**	**(42.3%)**
4	**it is certified by a body independent of the producer and retailer**	**9**	**(18.4%)**	**4**	**(13.8%)**	**17**	**(19.3%)**	**12**	**(13.8%)**	**2**	**(18.2%)**	**14**	**(19.7%)**	**4**	**(15.4%)**
5	**it is an EU label**	**6**	**(12.2%)**	**10**	**(34.5%)**	**23**	**(26.1%)**	**22**	**(25.3%)**	**5**	**(45.5%)**	**24**	**(33.8%)**	**7**	**(26.9%)**
6	this product is produced according to the EU organic guidelines	5	(10.2%)	3	(10.3%)	13	(14.8%)	10	(11.5%)	0	(0.0%)	25	(35.2%)	4	(15.4%)
7	stricter rules than the minimum required by law have been followed regarding food safety	11	(22.4%)	7	(24.1%)	11	(12.5%)	7	(8.0%)	3	(27.3%)	11	(15.5%)	4	(15.4%)
8	this is a product of superior nutritional value	8	(16.3%)	1	(3.4%)	11	(12.5%)	7	(8.0%)	1	(9.1%)	10	(14.1%)	4	(15.4%)
9	the region where the product is produced/processed is specified	13	(26.5%)	4	(13.8%)	14	(15.9%)	14	(16.1%)	1	(9.1%)	11	(15.5%)	4	(15.4%)
10	in case of livestock products higher animal welfare standards apply	2	(4.1%)	0	(0.0%)	7	(8.0%)	5	(5.7%)	1	(9.1%)	7	(9.9%)	2	(7.7%)
11	None of the above	1	(2.0%)	1	(3.4%)	2	(2.3%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	1	(3.8%)
12	I do not know	5	(10.2%)	2	(6.9%)	5	(5.7%)	2	(2.3%)	1	(9.1%)	2	(2.8%)	2	(7.7%)

The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In Table 37 those statements applying to a food product with the respective label are bold.

3.3.2.4.5 Comparison among EU-labels

Our analysis revealed similarities and differences between countries regarding their recognition, use, barriers to use, perception and knowledge of EU quality labels which again differ depending on the label considered.

Overall our results show that recognition is on average highest for the EU organic label, with about 40% of respondents over all countries recognizing the label, and lowest for the EU TSG label with a share of recognition which is only slightly above 20%. Besides the EU organic label, consumers in the seven countries are particularly familiar with the EU PGI label (35% recognition) while awareness is somewhat lower for the PDO label. However, for each EU label recognition considerably varies amongst countries. Thus, for example regarding the PGI label recognition is very high (69.3%) in Italy while only 7.2% of respondents from Norway recognize this label. However, relatively low recognition of the label was found not only in the non-EU country Norway but also in the EU member states UK and Germany, with 14.4% and 17.3%, respectively. In accordance with our results in section 3.2, where the attributes region and country of origin proved to be especially important, we found that for France and Italy recognition of the PGI and PDO labels considerably exceeds recognition in the other countries. Our results also demonstrate that recognition is the crucial step to the label's use. In our study, we found that the majority (in general around 70%) of those recognizing a label also state that they make use of the label at least sometimes when doing their grocery shopping. This reveals the importance of increasing awareness regarding the EU food quality labels.

The reasons why consumers who recognize the label do not use the label differ, though one reason dominates: consumers indicate that they just do not pay attention while doing their grocery shopping. Other reasons mentioned by a large proportion of respondents are that the labelled products are too expensive and have a lack of availability.

Though the EU organic label is the one best recognized by respondents it is not regarded very highly. In fact, considering the whole sample over all countries and statements it is just neutrally perceived (an average around 3 on a five point scale with 1 being “don’t agree at all” and 5 being “completely agree”). The three other EU labels are more favourably perceived. Consumers especially see a lack of clarity regarding the EU organic label. Evidently, the green leaf does not explain itself. The perception of the other three EU labels is very similar. Though trust is perceived by consumers to be the most important characteristic, even those

indicating that they take the label into account when doing their grocery shopping give this item a score of only about 4 on the 5-point.

In general, over all EU labels and countries we found that label perception improves with recognition and further improves with use. This again reveals the importance linked to consumers' initial recognition of a label.

Finally, we investigated consumers' knowledge with respect to the EU food quality label. Our results show that knowledge is poor for all four labels. Perceived knowledge increases for those recognizing and using the label, though this does not always correspond to factual knowledge. Indeed, if consumers do not know what the label stands for and whether it is third-party certified, the label cannot help them to make an informed choice. In fact, in their evaluation of the EU labels, the statement 'this label helps me to make an informed choice' receives comparably low ratings in all countries except Italy.

3.3.2.5 National labels

Besides the four EU labels for each of the seven countries, two national/regional labels for each country were considered in the analysis. First, the 14 labels will be briefly introduced. In a second step consumers' recognition, use, barriers to use, perception and knowledge will be investigated for each national/regional label.

The following two national labels were selected and used in the French survey: *AB* (Agriculture Biologique) which certifies organic products, and *Label Rouge* (since 1960) which guarantees the use of higher quality raw materials in food processing. Although the use of the EU organic label is mandatory since 2010 on organic products, the French label *AB* can also be used and is still present to a large extent on organic food products provided on the French market.

The specifications of the *French national label AB* are more stringent than those applied to the EU Organic label. Organic producers often use on their packaging the EU organic label, which is mandatory for organic products, and the national *label AB* which is not mandatory, but which promotes the French touch from the organic farming sector.

The *Label Rouge* is almost 60 years old and very well-known and attractive on the French food market where consumers pay attention mainly to taste and higher gustative quality of the food.

There are two German national labels used in the consumer survey. The first is the German *Bio* label and the second is the *Regional window* label. The German *Bio* label was introduced in September 2001 by the Federal Ministry of Food and Agriculture. Food displaying the *Bio* label must have been produced and prepared according to Regulation (EC) No. 834/2007. It can be used in addition to the EU Organic label (the use of the latter is mandatory) as the same rules apply for both labels.[30]

The *Regional Window* label was founded in August 2012 by the association of "Regionalfenster e.V." with the goal of establishing a consistent, transparent and trustworthy label for the uniform labelling of regional products at the federal level. The *Regional Window* label was established as a promising approach for helping consumers to identify regional food in Germany. The main product groups labelled with the *Regional Window* are "fruits and vegetables", followed by "meat and sausages" and "milk and dairy products". The certification rules request that at least 51% of the ingredients are from a certain region. The first products were labelled in January 2014 with the *Regional Window*.[31] In 2017, there were contracts with 760 licensees and over 4000 products were certified with the German *Regional Window* label.

The two Hungarian national labels were both introduced in 1998 and are managed by the Ministry of Agriculture. With the *Traditions-Flavours-Regions (TFR) label* Hungary joined the EU Euroterroirs initiative. Traditional and locally-typical Hungarian agricultural and food products are labelled by the *TFR*. By the end of 2001 the first registration round had resulted in more than 300 registered products. Since then producers could join the system following a yearly announced call of the Ministry. Those producers meeting all the requirements of the *TFR* standard with their products can use the logo.[32]

[30] https://www.bmel.de/DE/Landwirtschaft/Nachhaltige-Landnutzung/Oekolandbau/_Texte/Bio-Siegel.html

[31] http://www.regionalfenster.de

[32] http://eredetvedelem.kormany.hu/hagyomanyok-izek-regiok

The Quality Food from Hungary (*QFH*) label was launched in 1998 by the Ministry of Agriculture and Rural Development to help producers and processors of top quality food products to differentiate those from standard products. Only those products can use the label for which the raw materials, ingredients, the manufacturing process and the final product exceeds given governmental regulations. Currently, about 50 products use the *QFH* label.[33]

There are two Italian regional labels used in the consumer survey. The first, the label of *Prodotti Di Qualità Pugliah* refers to the "Quality Products of Apulia". The second is the label of *Qualità Alto Adige* and refers to "Quality South Tyrol".

The Italian label from Apulia was filed for application in 2012 by the region of Apulia and was approved by the office for harmonisation in the domestic market (UAMI). "*Quality Products of Apulia*" is a quality label with indication of origin which guarantees the quality and origin of the product. Products carrying a *Quality Products of Apulia* label aim to enhance agricultural and food products with a high quality-controlled standard and to inform consumers, through information and advertising actions, about the qualitative characteristics of the products and services provided by the label participating in the food quality system. Food products displaying the *Apulia* label guarantee higher quality standards than current legal standards, the origin of the product and ensure complete traceability of the products (EC Regulation no. 1698). The *Quality South Tyrol* label was introduced in 2005 by the region of Bozen and approved by the European Commission. The label has been established to ensure a consistent, transparent and trustworthy label for certain agricultural products and foods from the South Tyrol region in compliance with the restrictive rules imposed by the EU. The aim of this label is to guarantee a higher quality level than the national standard with a focus on traditional production.[34]

The two Norwegian labels that were selected for the consumer survey (Table 40) are both national labels administered by Matmerk, an independent foundation established by the Ministry of Agriculture and Food in 2007. The *Nyt Norge* label aims to make it easier for consumers to choose Norwegian food. To use the *Nyt Norge* label, a product has to fulfil certain criteria, such as the raw materials have to be produced in Norway and the products

[33] http://elelmiszerlanc.kormany.hu/kivalo-magyar-elelmiszer-kme-vedjegy

[34] IDM – Südtirol/Alto Adige (2018); Label-Online (2018)

have to be processed and packed in Norway. The second label "*BGB*" is the Norwegian PGI label, which was introduced in 2002 in Norway based on the European directive. Currently 23 products carry this label (including fresh fruits).[35]

For the Serbian consumer survey the national organic label was selected. Every product certified as organic in Serbia must carry this label. The label is authorized and maintained by the Ministry of Agriculture. The logo contains the picture of a tree, with green, blue and red colours, and also includes the text "Organic product", written in Cyrillic. The second label selected is the "*Serbian Quality*" label. The Serbian government has been working with the European Bank for Reconstruction and Development (EBRD) and the Food and Agriculture Organization (FAO) to encourage the adoption of high quality standards in the meat sector. To obtain the quality stamp, products must use Serbian raw materials, in this case Serbian meat. In addition, for each type of product category, the label will require up to three specific properties differentiating the Srpski Kvalitet products from standard products in the market. The new quality label, created by a ministerial decree, can help premium meat products to gain recognition in the domestic market and potentially abroad, and provide consumers with guarantees on product quality and traceability. The label is inspired by France's *Label Rouge*.[36]

The *Red Tractor* scheme, run by Assured Food Standards, is an independent UK whole chain food assurance scheme, and the largest in the UK, which certifies that the food is produced in Britain and in line with agreed quality standards for food safety, hygiene, and the environment (from farm to fork). *RSPCA Assured* is the RSPCA's ethical food label dedicated to animal welfare[37], with standards applied to each stage of an animal's life (including rearing, handling, transportation and slaughter).

[35] www.matmerk.no

[36] Pyrkalo, S. (2017), New quality label to raise profile of Serbian meats, http://www.ebrd.com/news/2017/new-quality-label-to-raise-profile-of-serbian-meats.html

[37] This was previously known as Freedom Food

Table 40. Selected national/regional labels of seven European countries

Countries	Group 1 survey	Group 2 survey
France		
Germany		
Hungary		
Italy		
Norway		
Serbia		
UK		

3.3.2.5.1 Recognition of the national /regional labels

Figure 18 shows the results with respect to recognition of the national/regional labels.

For France, Figure 18 reveals that the *AB* as well as the *Label Rouge* are recognized by about 96% of the survey participants. These results are in line with those usually published in France (respectively 98% and 88%) regarding consumers awareness of those labels.

Considerable differences exist between consumers' recognition of the two German labels. While the German *Bio* label is recognized by almost everybody (98.1%) the percentage of those recognizing the German *Regional Window* label is relative low (25.9%). However, the German *Bio* label had already been introduced in 2001, accompanied by massive public advertisement at that time. In contrast, the first product carrying the Regional *Regional Window* was introduced in only 2014 and received comparably little public attention.

Recognition of the Hungarian *QFH* label (97.0%) is comparable to recognition of the *AB*, *Label Rouge* and the *Bio* labels. Compared with previous studies, our findings for the *QFH* label reveal a higher level of recognition. Szakály et al. (2014) conducted a consumer survey (n=1000) in 2014 and found a level of recognition of 71.9%. The difference might be due to different wording of the question (know instead of recognize) as well as the fact that the survey by Szakály et al. (2014) was carried out three years earlier. As in the case of the German *Regional Window*, the second Hungarian label investigated, the *TFR*, was recognized by only 28.0% of survey participants. To our knowledge this label has so far not been investigated in any prior study.

Recognition of the regional label *Quality Products of Apulia* is lower (23.0%) than the *Quality South Tyrol* label (62.7%). The latter is often associated with traditional food products with significant market shares, including some geographical indications widely recognized, i.e. the South Tyrol Speck PGI and the South Tyrol Apple PGI. These synergies are not exploited in the Apulia regional case.

Figure 18 shows that almost all Norwegian respondents (95.2%) recognized the *NYT Norge* label while recognition of the *Norwegian PGI label* was much lower: less than 10% of respondents. The latter label has the lowest level of recognition of all national/regional labels.

Serbian participants' recognition is much higher for the organic label (85.3%) than for the Serbian Quality label (61.8%). This is likely due to the fact that the latter has been established

quite recently, with only a few products having been granted the right to use it in 2017[38], while the organic label has been present in the Serbian market since 2011[39].

Recognition of national labels (both *Red Tractor* scheme (75.9%) and RSPCA (35.3%)) is higher than that for the EU's organic label as well as for PDO, PGI and TSG labels. The majority of the UK sample recognises the *Red Tractor* logo, indicating that it is possible for food quality labels to gain a reasonable degree of 'cut through' with consumers.

[38] Pyrkalo, S. (2017), New quality label to raise profile of Serbian meats, http://www.ebrd.com/news/2017/new-quality-label-to-raise-profile-of-serbian-meats.html

[39] Official Gazette of the RS, No. 48/11

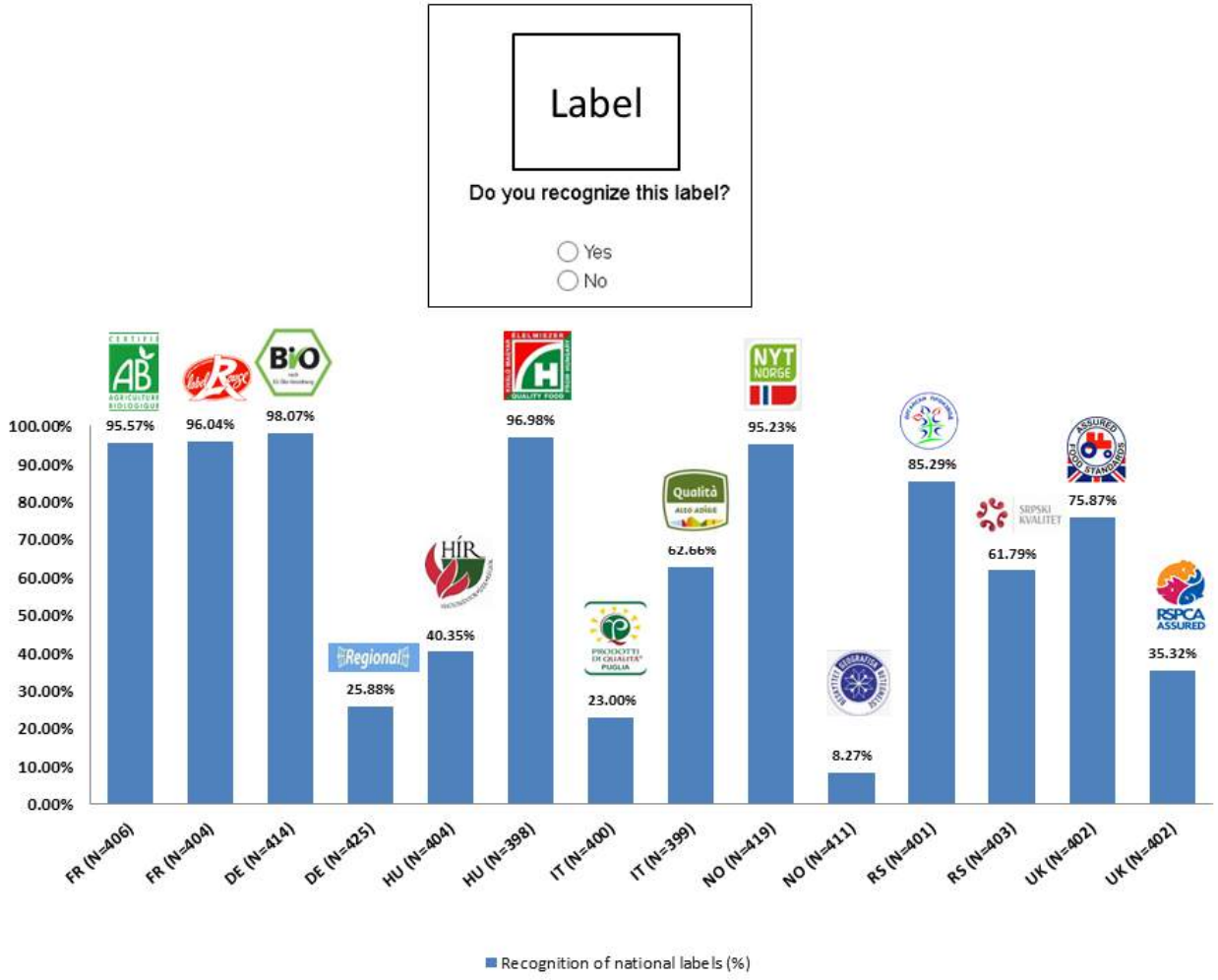

Figure 18. Percentage recognition of national/regional labels (out of total the sample)

3.3.2.5.2 National/regional label: Use and barriers to use

Figure 19 presents the results regarding the use of the respective national/regional labels considering all participants.[40] In addition, Figure 20 provides information on the percentage of use considering only those recognizing the label.

Figure 19 shows a similar structure to Figure 18, indicating a considerable level of correspondence between label recognition and label use. This, however, does not imply that the relation between recognizing and using the label is the same in all countries and for all labels. Figure 20 reveals that recognition varies between about 59% for the Italian *Prodotti Di Qualità Puglia* and the Norwegian *BGB* label and 87% for the Hungarian *QFH* label.

[40] We consider "use of the label" if the consumer states that (s)he sometimes, almost every time or every time takes the label into account when doing her/his grocery shopping.

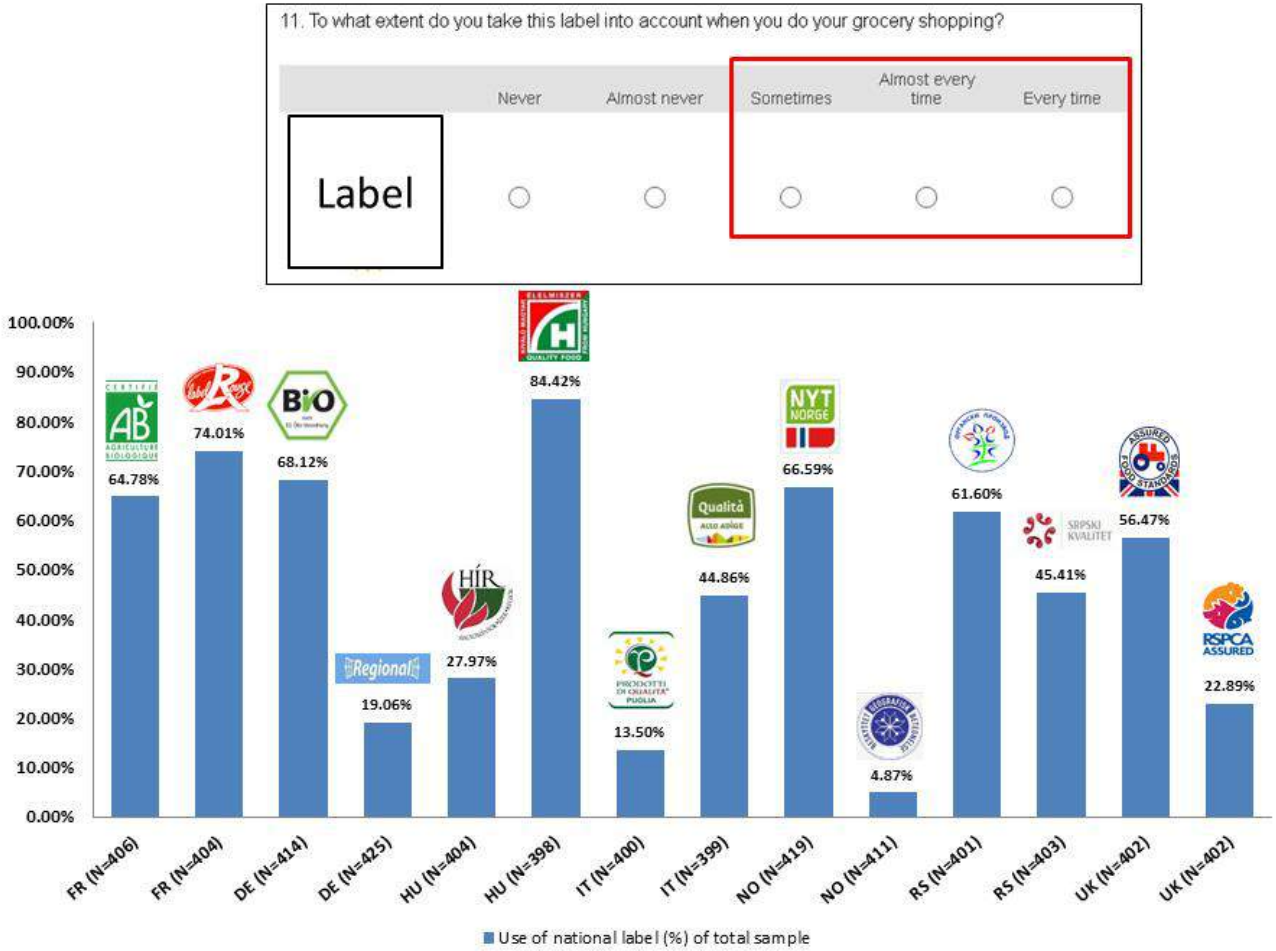

Figure 19. Percentage of consumers taking the national/regional label into account when doing their grocery shopping (out of the total sample)

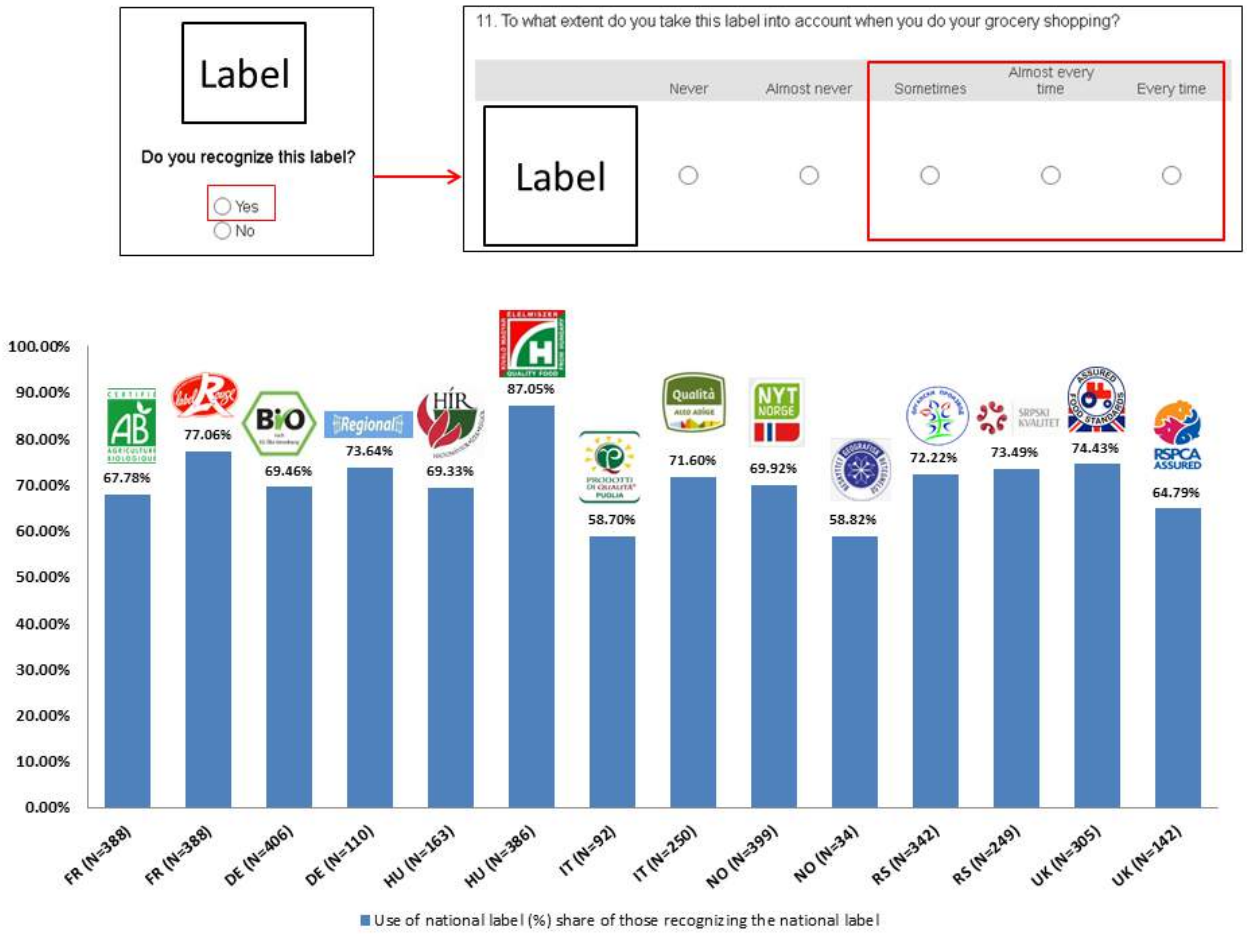

Figure 20. Consumers taking the respective national/regional label into account when doing their grocery shopping (percentage of those recognizing the respective national/regional label)

What prevents respondents recognizing a national/regional label to take it into account when doing their grocery shopping? Tables 41a and 42b provide answers with respect to this question for the 14 labels analysed.[41]

For the German *Bio* label (see Table 41a) it is first and foremost the high price (52.4%) that prevents consumers from making use of the label. This result confirms the results of Buder et al. (2014). In addition, a high percentage of consumers (30.6%) indicate that in general they do not pay attention to product labels during grocery shopping. Also the study by Grunert (2011) showed that much information on and around products is ignored by consumers, or at least not consciously perceived.

With regard to the German *Regional Window* label, the statement 'I rarely pay attention to product labels while doing grocery shopping' was most often ticked (37.9% of those respondents that recognize but do not use the label). However, regarding this label a lack of availability (There are only few varieties of products with this label in stores where I do my grocery shopping 20.7%; I don't know where to find products with this label 24.1%) is also relevant. Finally, the proportion of those deciding not to buy the product because they perceive the label as a marketing gag is 24.1%, again relatively high. Regarding interpretation of the results for the *Regional Window* label, it is notable that the number of participants who answered the question with respect to barriers (those respondents that recognize but do not use the label) was rather small: only 29.

Similar to results for the EU quality labels, the lack of attention to labels and a lack of time are the most important reasons why Hungarian consumers who recognize the national labels do not make use of them (28.0% for the *TFR* label and 48.0% for the *QFH* label regarding lack of attention/time). Also, a lack of availability seems to be a barrier to use in the case of the *TFR* label (There are only few varieties of products with this label in stores where I do my grocery shopping 20.0%; I don't know where to find products with this label 20.0%). A lack of trust in this specific label was not mentioned by any respondent as a barrier in the case of the *TFR* label.

Taking a look at what prevents Italian consumers from using the regional labels in their purchase decisions confirms the relevance of availability. The main barriers for both regional

[41] From a list of 15 potential barriers, respondents could tick up to 3 that prevent them from taking the label into account when doing their grocery shopping.

labels *Quality Products of Apulia* and *Quality South Tyrol* are the fact that only a few varieties are available where consumers do their grocery shopping (18.4% and 26.8%, respectively), and a lack of knowledge where to find those labels (respectively 13.2% and 16.9%). Lack of opportunity which might be closely linked to lack of availability is another important reason why Italian respondents do not consider the two regional labels (28.9% and 16.9%, respectively, see Tables 41a and 41b).

The main reason for Norwegian consumers not to consider the national labels when doing their grocery shopping are that they rarely pay attention to product labels while doing grocery shopping (41.7% for the *NYT Norge* label and 21.4% for the *Norwegian PGI* label) and that products with or without this label taste the same (40.0% and 35.7%, respectively). These findings correspond well to the results presented in the counting frequencies of BWS of cheese, fresh fruits, and fresh fish among Norwegian consumers (see section 3.2), emphasizing that consumers are not actively looking for labels, but rather focus on price and taste. This contrasts Norwegian consumers with most respondents from the other countries in the survey.

The main barriers preventing Serbian consumers from using the organic label are high prices (49.5%), lack of attention (32.6%) and lack of trust in the label (26.3%) and in labels in general (27.4%) (see Table 41a). The *Serbian Quality label* is not considered during consumers' grocery shopping due to a lack of attention to labels in general (39.4%) and a lack of time while doing grocery shopping (30.3%). Notably, products with quality labels are not perceived to be less attractive (none of the respondents stated their bad appearance) or tasty than non-labelled products. A rather small number of participants cited the lack of availability of products with these labels as a limitation, which might be due to the fact that in the sample urban respondents are overrepresented compared with the national average. Surprisingly, many respondents perceive the *Serbian organic label* to be just a marketing tool (17.9%).

The main barrier to the use of the UK national labels is that consumers do not pay attention to them when shopping (50.0% for the *Red Tractor* label and 40.0% for the *RSPCA* label). All other statements are ticked to a much lower degree (none above 16%). It may be that in a retail environment, shoppers pay more attention to convenience and price than ethical and environmental concerns, with supermarkets focusing on price, priming consumers to focus on frugality as a goal rather than wider, societal objectives (Reczek and Irwin, 2015).

Table 41a. Barriers to taking the national/regional label into account when making a purchasing decision (Group 1 of the respective surveys)

		FR (N=125)	DE (N=124)	HU (N=50)	IT (N=38)	NO (N=120)	RS (N=95)	UK (N=78)
1	Products with this label are too expensive	81 (64.8%)	65 (52.4%)	8 (16.0%)	4 (10.5%)	17 (14.2%)	47 (49.5%)	5 (6.4%)
2	I do not trust this label	16 (12.8%)	29 (23.4%)	0 (0.0%)	1 (2.6%)	14 (11.7%)	25 (26.3%)	1 (1.3%)
3	I do not trust labels in general	11 (8.8%)	34 (27.4%)	15 (30.0%)	0 (0.0%)	10 (8.3%)	26 (27.4%)	4 (5.1%)
4	Products with or without this label taste the same	18 (14.4%)	32 (25.8%)	2 (4.0%)	3 (7.9%)	48 (40.0%)	17 (17.9%)	12 (15.4%)
5	I rarely pay attention to product labels while doing grocery shopping	26 (20.8%)	38 (30.6%)	14 (28.0%)	6 (15.8%)	50 (41.7%)	31 (32.6%)	39 (50.0%)
6	There are only few varieties of products with this label in stores where I do my grocery shopping	9 (7.2%)	1 (0.8%)	10 (20.0%)	7 (18.4%)	9 (7.5%)	11 (11.6%)	9 (11.5%)
7	I have no time to consider labels while doing my grocery shopping	15 (12.0%)	7 (5.6%)	15 (30.0%)	4 (10.5%)	13 (10.8%)	8 (8.4%)	10 (12.8%)
8	The issue advertised on this label is not important to me	7 (5.6%)	13 (10.5%)	4 (8.0%)	3 (7.9%)	27 (22.5%)	10 (10.5%)	4 (5.1%)
9	I don't know where to find products with this label	1 (0.8%)	3 (2.4%)	10 (20.0%)	5 (13.2%)	5 (4.2%)	4 (4.2%)	3 (3.8%)
10	I am not interested in buying labeled products	13 (10.4%)	16 (12.9%)	8 (16.0%)	2 (5.3%)	6 (5.0%)	6 (6.3%)	6 (7.7%)
11	I don't buy products with this label because the label is just a marketing tool	14 (11.2%)	10 (8.1%)	8 (16.0%)	0 (0.0%)	22 (18.3%)	17 (17.9%)	8 (10.3%)

12	Products with this label do not look good	2 (1.6%)	1 (0.8%)	0 (0.0%)	0 (0.0%)	1 (0.8%)	0 (0.0%)	0 (0.0%)
13	I don't like the taste of products with this label	1 (0.8%)	5 (4.0%)	2 (4.0%)	0 (0.0%)	0 (0.0%)	1 (1.1%)	0 (0.0%)
14	Lack of opportunity in the last 2 weeks	9 (7.2%)	1 (0.8%)	7 (14.0%)	11 (28.9%)	5 (4.2%)	5 (5.3%)	1 (1.3%)
15	None of those reasons	3 (2.4%)	6 (4.8%)	1 (2.0%)	7 (18.4%)	7 (5.8%)	1 (1.1%)	13 (16.7%)

1) From the list of 15 potential barriers respondents could tick up to 3 that prevent them from taking the label into account when doing their grocery shopping.

Table 41b. Barriers to taking the national/regional label into account when making a purchasing decision (Group 2)

	(Frequency count)	**FR** (N=89)	**DE** (N=29)	**HU** (N=50)	**IT** (N=71)	**NO** (N=14)	**RS** (N=66)	**UK** (N=50)
1	Products with this label are too expensive	34 (38.2%)	3 (10.3%)	8 (16.0%)	7 (9.9%)	1 (7.1%)	7 (10.6%)	8 (16.0%)
2	I do not trust this label	12 (13.5%)	1 (3.4%)	10 (20.0%)	2 (2.8%)	1 (7.1%)	8 (12.1%)	3 (6.0%)
3	I do not trust labels in general	11 (12.4%)	2 (6.9%)	12 (24.0%)	4 (5.6%)	2 (14.3%)	13 (19.7%)	4 (8.0%)
4	Products with or without this label taste the same	4 (4.5%)	5 (17.2%)	8 (16.0%)	2 (2.8%)	5 (35.7%)	11 (16.7%)	6 (12.0%)
5	I rarely pay attention to product labels while doing grocery shopping	23 (25.8%)	11 (37.9%)	24 (48.0%)	11 (15.5%)	3 (21.4%)	26 (39.4%)	20 (40.0%)
6	There are only few varieties of products with this label in stores where I do my grocery shopping	7 (7.9%)	6 (20.7%)	4 (8.0%)	19 (26.8%)	2 (14.3%)	5 (7.6%)	8 (16.0%)

7	I have no time to consider labels while doing my grocery shopping	9 (10.1%)	3 (10.3%)	16 (32.0%)	4 (5.6%)	0 (0.0%)	20 (30.3%)	6 (12.0%)
8	The issue advertised on this label is not important to me	2 (2.2%)	4 (13.8%)	7 (14.0%)	7 (9.9%)	3 (21.4%)	6 (9.1%)	1 (2.0%)
9	I don't know where to find products with this label	1 (1.1%)	7 (24.1%)	4 (8.0%)	12 (16.9%)	2 (14.3%)	12 (18.2%)	6 (12.0%)
10	I am not interested in buying labeled products	5 (5.6%)	2 (6.9%)	6 (12.0%)	3 (4.2%)	1 (7.1%)	3 (4.5%)	5 (10.0%)
11	I don't buy products with this label because the label is just a marketing tool	9 (10.1%)	7 (24.1%)	5 (10.0%)	2 (2.8%)	4 (28.6%)	7 (10.6%)	5 (10.0%)
12	Products with this label do not look good	1 (1.1%)	0 (0.0%)	1 (2.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
13	I don't like the taste of products with this label	1 (1.1%)	0 (0.0%)	0 (0.0%)	1 (1.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
14	Lack of opportunity in the last 2 weeks	5 (5.6%)	2 (6.9%)	4 (8.0%)	12 (16.9%)	2 (14.3%)	11 (16.7%)	4 (8.0%)
15	None of those reasons	11 (12.4%)	2 (6.9%)	3 (6.0%	9 (12.7%)	2 (14.3%)	2 (3.0%)	9 (18.0%)

1) From the list of 15 potential barriers respondents could tick up to 3 that prevent them from taking the label into account when doing their grocery shopping.

3.3.2.5.3 Perception of labels

In section 3.3.1 findings were presented regarding what label characteristics consumers perceive to be important. In this section we investigate the extent to which the 14 national/regional labels considered in this report meet those characteristics. We differentiate between consumers' perception of the respective label considering the whole sample (Tables 42a and 42b), only participants recognizing the label (Tables 43a and 43b) and finally only those using[42] the label (Tables 44a and 44b).

The *AB* label as well as the *Label Rouge* are perceived by respondents from France in a rather positive way. On a scale from 1 to 5, with 1 being "don't agree at all" and 5 being "completely agree", average agreement over all statements is equal to 3.90 for the *AB* and 3.83 for *Label Rouge*. Especially the clarity of the label is appreciated (The label is easy to understand, the label has a clear logo/symbol) with scores around 4.4 for the *AB* label and 4.04 and 4.13 for the *Label Rouge*. The trustworthiness of the label, and thus the characteristic consumers in France as well as in all other analysed countries perceive to be most important (see section 3.3.1), scores 3.94 for the *AB* label and for the *Label Rouge*, both positive. As almost all respondents in the French survey recognize the two labels, results depicted for France hardly differ between Tables 42a and 42b on the one hand and Tables 43a and 43b on the other hand. However, considering participants who do not only recognize but also make use of the label (see Tables 44a and 44b) reveals a considerably more positive perception (4.22 for the *AB*, 4.05 for the *Label Rouge*). Comparing the results summarized above for the national labels with the results for the four EU labels shows a much lower score for the EU compared with the national labels.

Clarity is also a strength of the two German labels. Considering the whole sample, the mean score for the *German Bio Label* for the statement 'The label has a clear logo/symbol' is 4.29, and 4.27 for the statement 'The label is easy to understand' (see Table 42a). The respective scores for the *German Regional Window* are 3.96 and 4.17 (see Table 42b). The trustworthiness for both labels is rated considerably lower but still positive. Table 42a, in addition, reveals that respondents perceive products with the *Bio* label to be pricy. Regarding the German *Bio* label there are no large differences between Tables 42a and 43a, as almost all

[42] As previously mentioned, we consider use of the label if the consumer states that (s)he sometimes, almost every time or every time takes the label into account when doing her/his grocery shopping.

survey participants of the German sample recognize the label. However, comparing Tables 43a and 44a reveals that those who make use of the label in their purchase decision perceive the label more positively than those who only recognize the label. In the case of the German *Regional Window*, respondents' perception is more positive for those recognizing the label compared with all respondents. Perception further improves for those also using the label. As in the case of France, perception of both German labels is more positive than for the four EU labels.

Clarity is highest among all labels for the *QFH* logo (mean scores around 4.6 for the total sample; Table 42b). However, trust with 4.3 (Table 42b) is also a characteristic that consumers rated very highly for this label. The only attribute that receives a score below 4 (3.67) refers to the price of products carrying the *QFH* logo. Over all statements the score for the *QFH* logo is 4.25 if considering the total sample. Evaluation of the second Hungarian label receives an average score of 3.63 for the whole sample (see Table 42a). Participants recognizing the label perceive the label more positively (Tables 43a and 43b). This was even more apparent for those using the label (Tables 44a and 44b). Participants of the Hungarian sample perceive their national labels more positively than the EU labels investigated in section 3.3.2.

According to the Italian respondents, clarity is a strength of the regional labels "*Quality Products of Apulia*" and "*Quality South Tyrol*"; indeed, the label is easy to understand (mean scores, respectively, 4.28 and 4.27), and the label has a clear logo (respectively, 4.11 and 4.20) were the most agreed items (Tables 42a and 42b). Again, clarity of the label helps consumers to make an informed choice (respectively, 3.92 and 4.03). Trustworthiness is also perceived for the "*Quality South Tyrol*" label (4.01) as relatively high. For participants who recognize the label (Tables 43a and 43b) and for those who use the label (Tables 44a and 44b) these statements are still the most important ones, with, however, higher scores.

The Norwegian respondents seemed to largely agree that the *Nyt Norge* label is clear and easy to understand (the respective statements scored around 4.25, Table 42a), whereas this does not hold for the *Norwegian PGI* (respective scores about 3.1, Table 42b). However, respondents' evaluations differ between the two national labels not only with respect to the statements of clarity but also the overall evaluation is rather positive for the *Nyt Norge* label while it is neutral for the *Norwegian PGI*. Label perception is higher for consumers recognizing the

labels and even further increases if consumers also use the labels. Compared with the EU labels, national labels are more positively perceived. This was true even for the *Norwegian PGI* label.

The general perception of the *Serbian Organic label* is positive among all respondents of the Serbian sample. Agreement with the different statements was below 3 only for the statement referring to equal prices (2.81) which implies that Serbian consumers perceive products with the Serbian organic label as expensive. Clarity seems to be the strength of the label. The scores are 4.47 for the statement that 'The label has a clear logo/symbol' and even 4.62 for the statement 'The label is easy to understand'. The scores for trustworthiness of the label (3.75) and the value of the label (The label is more than just a means of advertising; 3.48) are comparatively low. Similar results are obtained for the *Serbian Quality label*. However, while the average score over all statements is 3.81 for the organic label, it is 3.61 for the quality label (Tables 42a and 42b). Again label perception improves with recognition and further improves with use. Finally, evaluations of the national labels are much more positive than the EU labels.

The latter is also true for the UK national labels (*Red Tractor* and *RSPCA* assured) which are perceived in a more favourable light than the EU's quality labels (PDO, PGI, TSG and organics) by respondents from the UK. Focusing on the UK national labels shows that those are perceived as being rather clear (The label is easy to understand: Red Tractor 4.00, *RSPCA*: 3.96, Table 42a; the label has a clear logo/symbol: *Red Tractor* 4.19; *RSPCA* 4.11, Table 42b). Respondents recognizing the Red Tractor label/the *RSPCA* label hold more positive views of the scheme compared with the full sample. As in the case of the EU quality schemes and the other national labels, the sub-samples that record the most positive evaluations of both UK national schemes (*Red Tractor* and *RSPCA Assured*) are those that use the labels in their decision making. In both cases, the labels are regarded as easy to use, trustworthy and help consumers make informed choices.

Table 42a. Perception of the national/regional label in group 1 (total sample)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	401	4.41	0.88	401	4.27	0.97	399	3.90	1.12	390	4.28	0.89	413	4.24	1.01	394	4.62	0.75	395	4.00	1.12
The label has a clear logo/symbol	398	4.37	0.91	403	4.29	0.90	397	3.85	1.14	389	4.11	0.96	413	4.30	0.97	393	4.47	0.89	396	4.19	0.96
The label is trustworthy	391	3.94	1.13	400	3.72	1.11	370	3.66	1.06	375	3.83	1.01	403	3.93	1.13	392	3.75	1.26	387	3.92	1.04
The label helps me to make an informed choice	390	3.96	1.14	397	3.73	1.17	388	3.65	1.11	387	3.92	1.01	406	3.86	1.13	393	3.72	1.22	393	3.81	1.14
Products with this label have similar prices to other products without this label	389	3.08	1.39	396	2.86	1.23	353	3.21	1.15	353	3.30	1.06	381	3.50	1.08	377	2.81	1.34	382	3.55	1.05
The label is more than just a means of advertising	392	3.74	1.18	401	3.57	1.17	382	3.54	1.12	387	3.68	1.03	391	3.64	1.18	385	3.48	1.27	390	3.79	1.06
The label is attractive	390	3.83	1.09	401	3.79	1.06	393	3.63	1.15	385	3.52	1.14	406	3.86	1.12	391	3.82	1.12	395	3.74	1.07

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

Table 42b. Perception of the national/regional label in group 2 (total sample)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	396	4.04	1.07	419	4.17	1.02	391	4.59	0.80	392	4.27	0.94	361	3.07	1.42	395	4.24	1.13	398	3.96	1.13
The label has a clear logo/symbol	396	4.13	0.97	417	3.96	1.10	391	4.58	0.77	391	4.20	0.96	359	3.10	1.35	395	4.18	1.10	397	4.11	0.98
The label is trustworthy	383	3.94	1.09	407	3.43	1.12	386	4.30	0.96	385	4.01	0.94	334	3.08	1.26	389	3.55	1.22	385	3.82	1.07
The label helps me to make an informed choice	390	3.91	1.08	407	3.57	1.12	392	4.34	0.92	383	4.03	0.95	335	2.98	1.25	389	3.42	1.20	391	3.81	1.08
Products with this label have similar prices to other products without this label	380	3.26	1.24	393	3.23	1.03	371	3.67	1.18	372	3.42	1.12	274	2.83	1.16	370	3.07	1.13	370	3.32	1.05
The label is more than just a means of advertising	384	3.67	1.16	405	3.42	1.12	385	4.12	1.09	385	3.78	1.07	310	3.00	1.23	383	3.26	1.19	380	3.73	1.09
The label is attractive	391	3.84	1.03	415	3.38	1.16	386	4.16	1.02	384	3.68	1.10	335	3.02	1.20	389	3.56	1.21	396	3.69	1.07

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

Table 43a. Perception of the national/regional label in group 1 (participants who recognize the label)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	384	4.46	0.84	393	4.28	0.97	162	4.12	1.01	92	4.59	0.67	395	4.30	0.96	336	4.63	0.77	302	4.20	0.96
The label has a clear logo/symbol	381	4.42	0.86	395	4.30	0.90	162	4.07	1.06	92	4.49	0.81	395	4.35	0.92	336	4.48	0.90	304	4.37	0.81
The label is trustworthy	375	3.98	1.11	392	3.72	1.12	159	3.84	1.02	92	4.20	0.90	388	3.97	1.11	336	3.80	1.26	299	4.14	0.85
The label helps me to make an informed choice	374	4.00	1.11	389	3.74	1.17	161	3.78	1.10	92	4.26	0.92	391	3.90	1.12	336	3.74	1.23	302	4.00	0.99
Products with this label have similar prices to other products without this label	373	3.09	1.40	388	2.84	1.23	156	3.32	1.19	89	3.45	1.24	366	3.54	1.06	327	2.81	1.37	294	3.67	0.99
The label is more than just a means of advertising	376	3.77	1.18	393	3.57	1.17	159	3.64	1.14	92	4.02	1.03	374	3.66	1.17	330	3.51	1.27	300	3.98	0.95
The label is attractive	373	3.87	1.08	394	3.79	1.07	160	3.78	1.15	91	3.89	1.15	389	3.89	1.10	334	3.88	1.09	302	3.89	0.96

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

Table 43b. Perception of the national/regional label in group 2 (participants who recognize the label)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	381	4.10	1.02	110	4.51	0.82	380	4.62	0.75	249	4.41	0.85	34	4.03	1.19	245	4.39	0.98	141	4.26	1.01
The label has a clear logo/symbol	381	4.19	0.90	110	4.28	0.97	380	4.61	0.73	248	4.35	0.87	34	4.09	1.06	246	4.33	0.96	141	4.33	0.90
The label is trustworthy	370	3.98	1.07	110	3.96	1.02	376	4.31	0.96	246	4.16	0.95	33	3.91	1.18	245	3.76	1.16	139	4.05	1.02
The label helps me to make an informed choice	376	3.94	1.05	108	4.07	0.95	381	4.35	0.90	243	4.16	0.93	34	3.76	1.21	244	3.59	1.15	140	4.08	1.01
Products with this label have similar prices to other products without this label	366	3.26	1.23	110	3.58	1.08	362	3.67	1.17	243	3.51	1.17	29	3.48	1.30	239	3.21	1.08	134	3.60	1.10
The label is more than just a means of advertising	370	3.69	1.15	109	3.76	1.19	374	4.15	1.07	246	3.87	1.08	31	3.81	1.40	240	3.43	1.16	137	3.84	1.10
The label is attractive	376	3.88	1.02	110	3.85	1.21	375	4.18	1.01	243	3.84	1.08	34	3.91	1.24	245	3.70	1.17	140	3.94	0.99

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

Table 44a. Perception of the national/regional label in group 1 (participants who use the label)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	260	4.59	0.72	276	4.41	0.88	112	4.25	0.91	54	4.65	0.55	276	4.54	0.77	244	4.66	0.72	225	4.35	0.85
The label has a clear logo/symbol	257	4.60	0.72	276	4.39	0.83	112	4.20	0.95	54	4.50	0.86	276	4.57	0.75	244	4.55	0.79	227	4.44	0.80
The label is trustworthy	257	4.34	0.88	277	4.03	0.92	112	4.06	0.89	54	4.33	0.85	272	4.34	0.83	244	4.17	1.04	224	4.28	0.79
The label helps me to make an informed choice	257	4.35	0.84	276	4.08	0.96	112	3.97	0.96	54	4.33	0.97	273	4.25	0.84	244	4.10	1.03	225	4.25	0.81
Products with this label have similar prices to other products without this label	253	3.41	1.32	272	3.07	1.13	110	3.53	1.10	53	3.57	1.35	262	3.73	0.99	238	3.06	1.37	223	3.88	0.91
The label is more than just a means of advertising	257	4.04	1.08	278	3.86	1.02	112	3.89	1.00	54	4.04	1.10	262	3.99	0.97	239	3.71	1.22	226	4.14	0.94
The label is attractive	255	4.18	0.92	278	4.06	0.91	112	3.99	1.02	54	4.04	1.12	274	4.23	0.92	242	4.13	0.95	227	4.00	0.94

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

Table 44b. Perception of the national/regional label in group 2 (participants who use the label)

	FR			DE			HU			IT			NO			RS			UK		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
The label is easy to understand	297	4.27	0.87	81	4.54	0.69	330	4.68	0.68	178	4.52	0.76	20	4.20	1.06	179	4.44	0.93	91	4.34	0.97
The label has a clear logo/symbol	297	4.33	0.80	81	4.33	0.91	330	4.65	0.70	177	4.47	0.77	20	4.20	0.95	180	4.39	0.92	91	4.41	0.87
The label is trustworthy	290	4.24	0.87	81	4.21	0.88	329	4.45	0.81	176	4.32	0.86	20	4.20	1.06	180	4.02	0.97	91	4.18	0.94
The label helps me to make an informed choice	296	4.18	0.83	81	4.28	0.73	333	4.47	0.77	174	4.34	0.83	20	3.95	1.15	181	3.82	1.04	90	4.24	0.89
Products with this label have similar prices to other products without this label	291	3.42	1.20	81	3.74	0.98	319	3.76	1.14	174	3.68	1.16	19	3.95	1.08	178	3.41	1.00	87	3.72	1.07
The label is more than just a means of advertising	288	3.85	1.06	80	3.88	1.14	326	4.32	0.90	176	4.02	1.04	19	4.21	1.18	176	3.60	1.12	88	4.00	1.04
The label is attractive	294	4.05	0.89	81	4.04	1.04	328	4.34	0.85	175	4.02	1.03	20	4.25	0.97	180	3.89	1.08	91	4.00	1.01

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being “don’t agree at all” and 5 being “completely agree”.

3.3.2.5.4 Knowledge of national labels

Do consumers know what those national labels stand for? To obtain insights with respect to consumers' knowledge we showed consumers 10 statements and asked them which of those statements apply to food products with the respective label. Consumers were asked to select all that apply. They could also indicate that none of the statements apply or that they do not know. The results in Tables 45a and 45b refer to all respondents; those in Tables 46a and 46b to respondents who recognize the label and those in Tables Table 47a and 47b to respondents considering the label when doing their grocery shopping.

Investigating first the results based on all participants (Tables 45a and 45b) reveals a rather heterogeneous pattern. Compared with the EU labels we see on average that a much lower percentage of respondent state "I do not know". However, the higher level of perceived knowledge does not in all cases correspond to factual knowledge.

With regard to the three national organic labels (*French AB, German BIO, Serbian organic label*) 53.2% of the French, 63.5% of the German and 44.1% of the Serbian respondent state that products with those labels are produced according to the EU organic guidelines. This clearly holds for the German for which the standards are identical with the ones of the EU organic label. Regarding the *French AB* label and *Serbian organic label*, however, higher standards than the ones for the EU organic label apply. As those higher standards include the ones of the EU organic standards the statement is somewhat equivocal and thus written in italics in Table 45a (neither right nor wrong). Table 45a reveals that the share of those being aware that for products labelled with any of the three organic labels higher animal welfare standards apply is much smaller (20.7%, 27.3%, and 8.5%, respectively). The same holds regarding the statement 'it is certified by a body independent of the producer and retailer' (29.3%, 16.2%, and 24.7%, respectively). At the same time, respondents tick a large number of statements that do not apply, e.g. 30.4% of the respondents from Serbia state that the organic label implies that respective products are of specific character in that either its raw materials, production method or processing is traditional, a statement which does not apply.

Several of the national/regional labels promote regional aspects such as the German *Regional Window*, the Hungarian *TFR* label, the two Italian labels *Quality Products of Apulia* and *Quality South Tyrol*, *Nyt Norge label*, the Norwegian *BGB* label and the Serbian *Quality Label.* For those labels more than one third of participants correctly tick the statement "the

region where the product is produced/processed is specified". We see that knowledge of regional labels

"*Quality Products of Apulia*" and "*Quality South Tyrol*" clearly overlaps with the PDO characters, indeed, the proportion of those indicating that these products have been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties, is, respectively, 51.5% and 54.6%. Notably, even 33.7% of Hungarian participants are aware that the Hungary *TFR* label is not only about regional issues, but also involves the characteristics of traditional methods in the production or processing procedure. Although the exact definitions of the Hungarian labels were not among the answers, the majority of the respondents consider the Hungarian labels somehow connected to the producing area and specific/traditional products. This means that the majority of the respondents were aware of the basic meaning and message of the labels. Also regarding the Norwegian labels *Nyt Norge* and *BGB* consumers correctly associate those with regional issue; however, the statement most often ticked 'the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties' does not apply. Along similar lines knowledge that the labels are third party certified is very low.

There is a relative good understanding of the UK national quality labels. A significant proportion of UK respondents correctly tick those statements that hold for the *Red Tractor* scheme. Regarding the *RSPCA Assured label*, the most commonly cited attribute is that higher welfare standards apply, which indeed is the central objective of the scheme.

The results of consumers' knowledge with respect to the national labels are presented in Tables 46a and 46b, based on the participants who recognize the label. Results are similarly to the ones of the whole sample (Tables 46a and 46b). With respect to those labels that received a high level of recognition (the French and German organic label, the French *Label Rouge*, the Hungarian *Food Quality* label and the *Norwegian Nyt Norge*) there are no differences in the results as almost all respondents considered in Tables 45a and 45b are also considered in Tables 46a and 46b. For the other national/regional labels we find that the proportion of respondents indicating that they do not know what the label expresses is lower for those recognizing the label compared to the whole sample. In addition, a larger percentage of those recognizing the label tick the right statements. However, it should be noted that they also tick with a larger percentage the wrong ones, though in general not to the same extent. Perceived

knowledge slightly further increases for those using the label when doing their grocery shopping though factual knowledge remains low to moderate. Only for five of the 14 considered labels at least one of the correct statements was recognized by more than 50% of the respondent even in this latter group.

Table 45a. Knowledge of national/regional label in group 1 (total sample)

		FR (N=406)		DE (N=414)		HU (N=404)		IT (N=400)		NO (N=419)		RS (N=401)		UK (N=402)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	54	(13.3%)	44	(10.6%)	***128***	***(31.7%)***	***206***	***(51.5%)***	255	(60.9%)	97	(24.2%)	**95**	**(23.6%)**
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	48	(11.8%)	33	(8.0%)	***102***	***(25.2%)***	**87**	**(21.8%)**	***107***	***(25.5%)***	43	(10.7%)	**58**	**(14.4%)**
3	the product is of specific character in that either its raw materials, production method or processing is traditional	98	(24.1%)	60	(14.5%)	**136**	**(33.7%)**	***69***	***(17.3%)***	100	(23.9%)	122	(30.4%)	72	(17.9%)
4	it is certified by a body independent of the producer and retailer	**119**	**(29.3%)**	**67**	**(16.2%)**	**55**	**(13.6%)**	**44**	**(11.0%)**	**62**	**(14.8%)**	**99**	**(24.7%)**	**141**	**(35.1%)**
5	it is an EU label	***77***	***(19.0%)***	122	(29.5%)	25	(6.2%)	21	(5.3%)	11	(2.6%)	19	(4.7%)	29	(7.2%)
6	this product is produced according to the EU organic guidelines	216	(53.2%)	**263**	**(63.5%)**	21	(5.2%)	16	(4.0%)	21	(5.0%)	177	(44.1%)	36	(9.0%)
7	stricter rules than the minimum required by law have been followed regarding food safety	***100***	***(24.6%)***	112	(27.1%)	45	(11.1%)	30	(7.5%)	67	(16.0%)	**129**	**(32.2%)**	**109**	**(27.1%)**
8	this is a product of superior nutritional value	59	(14.5%)	27	(6.5%)	30	(7.4%)	22	(5.5%)	58	(13.8%)	49	(12.2%)	35	(8.7%)
9	the region where the product is produced/processed is specified	29	(7.1%)	28	(6.8%)	***129***	***(31.9%)***	**157**	**(39.3%)**	***109***	***(26.0%)***	40	(10.0%)	40	(10.0%)
10	in case of livestock products higher animal welfare standards apply	***84***	***(20.7%)***	**113**	**(27.3%)**	33	(8.2%)	**9**	**(2.3%)**	43	(10.3%)	**34**	**(8.5%)**	**135**	**(33.6%)**
11	None of the above	14	(3.4%)	11	(2.7%)	10	(2.5%)	5	(1.3%)	19	(4.5%)	11	(2.7%)	11	(2.7%)
12	I do not know	29	(7.1%)	35	(8.5%)	82	(20.3%)	44	(11.0%)	48	(11.5%)	21	(5.2%)	66	(16.4%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In the Table those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

Table 45b. Knowledge of national/regional label in group 2 (total sample)

		FR (N=404)		**DE** (N=425)		**HU** (N=398)		**IT** (N=399)		**NO** (N=411)		**RS** (N=403)		**UK** (N=402)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	75	(18.6%)	187	(44.0%)	196	(49.2%)	***218***	***(54.6%)***	***120***	***(29.2%)***	**242**	**(60.0%)**	41	(10.2%)
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	57	(14.1%)	73	(17.2%)	105	(26.4%)	**97**	**(24.3%)**	**62**	**(15.1%)**	120	*(29.8%)*	32	(8.0%)
3	the product is of specific character in that either its raw materials, production method or processing is traditional	***119***	***(29.5%)***	43	(10.1%)	93	(23.4%)	***78***	***(19.5%)***	***30***	***(7.3%)***	158	*(39.2%)*	33	(8.2%)
4	it is certified by a body independent of the	**111**	**(27.5%)**	**32**	**(7.5%)**	**100**	**(25.1%)**	**42**	**(10.5%)**	**21**	**(5.1%)**	**57**	**(14.1%)**	**105**	**(26.1%)**

	producer and retailer														
5	it is an EU label	60	(14.9%)	20	(4.7%)	26	(6.5%)	31	(7.8%)	14	(3.4%)	6	(1.5%)	19	(4.7%)
6	this product is produced according to the EU organic guidelines	26	(6.4%)	20	(4.7%)	23	(5.8%)	27	(6.8%)	16	(3.9%)	29	(7.2%)	27	(6.7%)
7	stricter rules than the minimum required by law have been followed regarding food safety	***112***	***(27.7%)***	24	(5.6%)	***123***	***(30.9%)***	31	(7.8%)	16	(3.9%)	**67**	**(16.6%)**	**59**	**(14.7%)**
8	this is a product of superior nutritional value	***117***	***(29.0%)***	11	(2.6%)	***36***	***(9.0%)***	39	(9.8%)	9	(2.2%)	**28**	**(6.9%)**	16	(4.0%)
9	the region where the product is produced/processed is specified	49	(12.1%)	**190**	**(44.7%)**	157	(39.4%)	**148**	**(37.1%)**	**46**	**(11.2%)**	**192**	**(47.6%)**	22	(5.5%)
10	in case of livestock products higher animal welfare standards apply	***111***	***(27.5%)***	6	(1.4%)	29	(7.3%)	**18**	**(4.5%)**	***7***	***(1.7%)***	**24**	**(6.0%)**	**237**	**(59.0%)**
11	None of the above	13	(3.2%)	20	(4.7%)	12	(3.0%)	8	(2.0%)	17	(4.1%)	13	(3.2%)	14	(3.5%)
12	I do not know	55	(13.6%)	67	(15.8%)	8	(2.0%)	28	(7.0%)	202	(49.1%)	27	(6.7%)	69	(17.2%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In the Table those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

Table 46a. Knowledge of national/regional label in group1 (participants who recognize the label)

		FR (N=388)		DE (N=406)		HU (N=163)		IT (N=92)		NO (N=399)		RS (N=342)		UK (N=305)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	51	(13.1%)	44	(10.8%)	***65***	***(39.9%)***	***64***	***(69.6%)***	250	(62.7%)	84	(24.6%)	**79**	**(25.9%)**
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	45	(11.6%)	32	(7.9%)	***47***	***(28.8%)***	**23**	**(25.0%)**	***104***	***(26.1%)***	36	(10.5%)	**46**	**(15.1%)**
3	the product is of specific character in that either its raw materials, production method or processing is traditional	96	(24.7%)	60	(14.8%)	**60**	**(36.8%)**	***17***	***(18.5%)***	97	(24.3%)	108	(31.6%)	54	(17.7%)
4	it is certified by a body independent of the producer and retailer	**119**	**(30.7%)**	**67**	**(16.5%)**	**26**	**(16.0%)**	**11**	**(12.0%)**	**59**	**(14.8%)**	**90**	**(26.3%)**	**127**	**(41.6%)**
5	it is an EU label	***75***	***(19.3%)***	122	(30.0%)	19	(11.7%)	9	(9.8%)	10	(2.5%)	19	(5.6%)	25	(8.2%)
6	this product is produced according to the EU organic guidelines	209	(53.9%)	**261**	**(64.3%)**	12	(7.4%)	7	(7.6%)	19	(4.8%)	156	(45.6%)	26	(8.5%)
7	stricter rules than the minimum required by law have been followed regarding food safety	***97***	***(25.0%)***	112	(27.6%)	25	(15.3%)	11	(12.0%)	65	(16.3%)	**117**	**(34.2%)**	**95**	**(31.1%)**

8	this is a product of superior nutritional value	57	(14.7%)	27	(6.7%)	15	(9.2%)	10	(10.9%)	57	(14.3%)	41	(12.0%)	28	(9.2%)
9	the region where the product is produced/processed is specified	28	(7.2%)	28	(6.9%)	***59***	***(36.2%)***	**38**	**(41.3%)**	***104***	***(26.1%)***	35	(10.2%)	33	(10.8%)
10	in case of livestock products higher animal welfare standards apply	***83***	***(21.4%)***	**112**	**(27.6%)**	14	(8.6%)	**2**	**(2.2%)**	43	(10.8%)	**29**	**(8.5%)**	**128**	**(42.0%)**
11	None of the above	11	(2.8%)	10	(2.5%)	6	(3.7%)	0	(0.0%)	18	(4.5%)	6	(1.8%)	5	(1.6%)
12	I do not know	26	(6.7%)	31	(7.6%)	9	(5.5%)	2	(2.2%)	42	(10.5%)	13	(3.8%)	33	(10.8%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In the Table those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

Table 46b. Knowledge of national/regional label in group 2 (participants who recognize the label)

		FR (N=388)		DE (N=110)		HU (N=386)		IT (N=250)		NO (N=34)		RS (N=249)		UK (N=142)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	73	(18.8%)	57	(51.8%)	191	(49.5%)	***153***	***(61.2%)***	***24***	***(70.6%)***	157	(63.1%)	26	(18.3%)
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	54	(13.9%)	25	(22.7%)	103	(26.7%)	**62**	**(24.8%)**	**6**	**(17.6%)**	82	(32.9%)	21	(14.8%)
3	the product is of specific character in that either its raw materials, production method or processing is traditional	***117***	***(30.2%)***	24	(21.8%)	92	(23.8%)	***54***	***(21.6%)***	***10***	***(29.4%)***	109	(43.8%)	22	(15.5%)
4	it is certified by a body independent of the producer and retailer	**108**	**(27.8%)**	**14**	**(12.7%)**	**97**	**(25.1%)**	**30**	**(12.0%)**	**3**	**(8.8%)**	**42**	**(16.9%)**	**49**	**(34.5%)**
5	it is an EU label	59	(15.2%)	9	(8.2%)	25	(6.5%)	20	(8.0%)	3	(8.8%)	5	(2.0%)	11	(7.7%)
6	this product is produced according to the EU organic guidelines	26	(6.7%)	9	(8.2%)	23	(6.0%)	21	(8.4%)	5	(14.7%)	23	(9.2%)	15	(10.6%)
7	stricter rules than the minimum required by law have been followed regarding food safety	***112***	***(28.9%)***	12	(10.9%)	***121***	***(31.3%)***	26	(10.4%)	3	(8.8%)	50	(20.1%)	**31**	**(21.8%)**

8	this is a product of superior nutritional value	***116***	***(29.9%)***	5	(4.5%)	***34***	***(8.8%)***	29	(11.6%)	3	(8.8%)	19	(7.6%)	7	(4.9%)
9	the region where the product is produced/processed is specified	49	(12.6%)	**64**	**(58.2%)**	155	(40.2%)	**99**	**(39.6%)**	**10**	**(29.4%)**	**126**	**(50.6%)**	14	(9.9%)
10	in case of livestock products higher animal welfare standards apply	***108***	***(27.8%)***	4	(3.6%)	29	(7.5%)	**16**	**(6.4%)**	***1***	***(2.9%)***	17	(6.8%)	**91**	**(64.1%)**
11	None of the above	12	(3.1%)	3	(2.7%)	10	(2.6%)	1	(0.4%)	0	(0.0%)	7	(2.8%)	2	(1.4%)
12	I do not know	49	(12.6%)	2	(1.8%)	7	(1.8%)	8	(3.2%)	1	(2.9%)	3	(1.2%)	9	(6.3%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In the Table those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

Table 47a. Knowledge of national/regional label in group 1 (participants who use the label)

		FR (N=263)		DE (N=282)		HU (N=113)		IT (N=54)		NO (N=279)		RS (N=247)		UK (N=227)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	42	(16.0%)	34	(12.1%)	***44***	***(38.9%)***	***39***	***(72.2%)***	194	(69.5%)	64	(25.9%)	**66**	**(29.1%)**
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	36	(13.7%)	28	(9.9%)	***30***	***(26.5%)***	**12**	**(22.2%)**	***81***	***(29.0%)***	30	(12.1%)	**40**	**(17.6%)**
3	the product is of specific character in that either its raw materials, production method or processing is traditional	69	(26.2%)	48	(17.0%)	**42**	**(37.2%)**	***12***	***(22.2%)***	79	(28.3%)	84	(34.0%)	47	(20.7%)
4	it is certified by a body independent of the producer and retailer	**90**	**(34.2%)**	**61**	**(21.6%)**	**23**	**(20.4%)**	**7**	**(13.0%)**	**49**	**(17.6%)**	**72**	**(29.1%)**	**95**	**(41.9%)**
5	it is an EU label	***57***	***(21.7%)***	96	(34.0%)	17	(15.0%)	7	(13.0%)	10	(3.6%)	17	(6.9%)	22	(9.7%)
6	this product is produced according to the EU organic guidelines	146	(55.5%)	**194**	**(68.8%)**	11	(9.7%)	5	(9.3%)	16	(5.7%)	117	(47.4%)	23	(10.1%)
7	stricter rules than the minimum required by law have been followed regarding food safety	***69***	***(26.2%)***	87	(30.9%)	21	(18.6%)	8	(14.8%)	58	(20.8%)	**84**	**(34.0%)**	**73**	**(32.2%)**

8	this is a product of superior nutritional value	47	(17.9%)	23	(8.2%)	14	(12.4%)	7	(13.0%)	49	(17.6%)	31	(12.6%)	23	(10.1%)
9	the region where the product is produced/processed is specified	26	(9.9%)	23	(8.2%)	46	(40.7%)	**22**	**(40.7%)**	***83***	***(29.7%)***	28	(11.3%)	31	(13.7%)
10	in case of livestock products higher animal welfare standards apply	***64***	***(24.3%)***	**86**	**(30.5%)**	11	(9.7%)	**1**	**(1.9%)**	40	(14.3%)	**23**	**(9.3%)**	**108**	**(47.6%)**
11	None of the above	5	(1.9%)	2	(0.7%)	2	(1.8%)	0	(0.0%)	7	(2.5%)	4	(1.6%)	3	(1.3%)
12	I do not know	13	(4.9%)	12	(4.3%)	4	(3.5%)	1	(1.9%)	16	(5.7%)	7	(2.8%)	17	(7.5%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In the Table those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

Table 47b. Knowledge of national/regional label in group 2 (participants who use the label)

		FR (N=299)		DE (N=81)		HU (N=336)		IT (N=179)		NO (N=20)		RS (N=183)		UK (N=92)	
1	the product has been produced, processed and prepared in a specific geographical area that defines significantly its quality or properties	61	(20.4%)	44	(54.3%)	171	(50.9%)	***108***	***(60.3%)***	***15***	***(75.0%)***	121	(66.1%)	18	(19.6%)
2	at least one of the stages of production, processing or preparation takes place in a determined geographical area that influences the quality or a specific property of the product	43	(14.4%)	20	(24.7%)	94	(28.0%)	**49**	**(27.4%)**	**2**	**(10.0%)**	64	(35.0%)	16	(17.4%)
3	the product is of specific character in that either its raw materials, production method or processing is traditional	***98***	***(32.8%)***	17	(21.0%)	82	(24.4%)	***41***	***(22.9%)***	***7***	***(35.0%)***	79	(43.2%)	16	(17.4%)
4	it is certified by a body independent of the producer and retailer	**92**	**(30.8%)**	**10**	**(12.3%)**	**88**	**(26.2%)**	**23**	**(12.8%)**	**2**	**(10.0%)**	**29**	**(15.8%)**	**31**	**(33.7%)**
5	it is an EU label	51	(17.1%)	8	(9.9%)	24	(7.1%)	16	(8.9%)	2	(10.0%)	3	(1.6%)	10	(10.9%)
6	this product is produced according to the EU organic guidelines	23	(7.7%)	6	(7.4%)	21	(6.3%)	17	(9.5%)	4	(20.0%)	18	(9.8%)	11	(12.0%)
7	stricter rules than the minimum required by law have been followed regarding food safety	***96***	***(32.1%)***	9	(11.1%)	***114***	***(33.9%)***	23	(12.8%)	1	(5.0%)	40	(21.9%)	**22**	**(23.9%)**

8	this is a product of superior nutritional value	***99***	***(33.1%)***	4	(4.9%)	***31***	***(9.2%)***	24	(13.4%)	3	(15.0%)	17	(9.3%)	6	(6.5%)
9	the region where the product is produced/processed is specified	45	(15.1%)	**50**	**(61.7%)**	141	(42.0%)	**78**	**(43.6%)**	**3**	**(15.0%)**	**93**	**(50.8%)**	12	(13.0%)
10	in case of livestock products higher animal welfare standards apply	***91***	***(30.4%)***	4	(4.9%)	27	(8.0%)	**11**	**(6.1%)**	***1***	***(5.0%)***	15	(8.2%)	**63**	**(68.5%)**
11	None of the above	4	(1.3%)	2	(2.5%)	4	(1.2%)	1	(0.6%)	0	(0.0%)	4	(2.2%)	1	(1.1%)
12	I do not know	24	(8.0%)	0	(0.0%)	4	(1.2%)	4	(2.2%)	0	(0.0%)	2	(1.1%)	4	(4.3%)

1) The question was as follows: Below are several statements. Which of the following do you think apply to food products with this label? Please select all that apply. In the Table those statements applying to food product with the respective label are bold. The statements in italics can be interpreted heterogeneously and are considered as neither right nor wrong.

3.3.2.5.5 Comparison among national/regional labels

Our analysis of national/regional labels considered organic, food quality, regional as well as animal welfare labels. Recognition of labels considerably varies even between the same kinds of label (regional label) in the same country (Italy). In general, however, it seems that especially organic labels have a relative high level of recognition. Label recognition seems, in addition, dependent on the time span a label has been on the market and thus, consumers could see products with this label on the shelves.

Approximately 70% of participants recognizing a label take the label at least sometimes into account when doing their grocery shopping underlining the relevance of awareness for label use and thus for exploiting the market potential. The reasons why participants recognizing a label but do not consider the label when grocery shopping show that the lack of attention with regard to labels in general is one of the core reasons. For organic products an even more important barrier is the perceived high price of those products. One other reason mentioned especially for the regional labels is a lack of availability.

For most national labels their clarity is very positive perceived. Though differences exist between the 14 national/regional labels we do note a positive overall evaluation. This evaluation improves with recognition and further improves with use of the label. This again reveals the importance linked to consumers' recognition of a label.

Finally, we investigated consumers' knowledge with respect to the 14 national/regional labels. Our results show that knowledge is moderate to poor for most countries. Consumers recognizing and using the label have a higher level of perceived knowledge. However, this does not necessary imply that they actually know better what the label stands for. Due to these deficiencies labels cannot help consumers to make an informed choice in line with their preferences.

3.3.2.6 Comparison between EU and national/regional labels

A comparison between the four EU food quality labels and the 14 national and regional labels reveals similarities and differences.

What we observe for the EU and for the national/regional labels is that recognition of labels is the crucial step to be successful in achieving a higher uptake of labelled products in

consumers' purchase decision. This holds as for most labels we find that the large majority of consumers make at least sometimes use of a label if they recognize it (about 70%). We also find that recognition and use leads to a more positive evaluation of a label. This holds for regional/national and EU labels alike.

Generally, we do find a more positive evaluation of national relative to the EU labels. This is especially interesting if comparing consumers' perception of two labels that are based on the same standards: e.g. the EU organic label and the German Bio label. While e.g. the trustworthiness of the EU label is evaluated by respondents with a score of 3.16, the German Bio label receives a score of 3.72.

Consumers' knowledge about what a label represents is low for national/regional as well as EU labels though there is some indication that it is lower for the latter group of labels. We also find that perceived knowledge considerably increases with recognition of a label and even more with the use of a label. However, factual knowledge does not improve (to the same extent). Labels thus cannot serve their role in helping consumers in making an informed.

PART 2: SECOND CONSUMER SURVEY

4 INTRODUCTION AND OBJECTIVE

The objectives of this second part of the report are threefold. First, they are to provide a better understanding of the role of food quality schemes (FQS) in consumers' purchase decisions across seven European countries (France, Germany, Hungary, Italy, Norway, Serbia and the UK) through quantitative research using online surveys. The analysis is based on selected EU/national/regional food quality labels that have proved to be of special relevance for consumers in each of the countries as revealed in Part I of this report (survey I of WP 8.1) and on insights gained in WP 8.2. Importantly this research also provides insights into the extent to which cognitive and affective attitudes, trust, and social norms influence product choice linking discrete choice experiments (DCE) with structural equation modelling (e.g. O'Neill et al, 2014). Second, we investigate whether a slight modification of the green-leaf logo is able to impact consumers' evaluation of the EU organic label. Third, we provide some insights into the relevance of different marketing channels in consumers' purchase decisions in general and investigate the extent to which farmers' markets and farmers' shops play a role when buying products promoted by FQS.

In addition to providing a sound basis for policy recommendations on promoting national and EU FQS labels this second part of the report contributes significantly to the literature on factors influencing food consumer choice in several ways. Firstly, our research is the first to simultaneously investigate the role of FQS in consumers' purchase decisions across a diverse range of European countries. Second, this research applies an Integrated Choice and Latent Variable (ICLV) model thereby providing insights into the extent to which cognitive and affective attitudes, trust, and social norms influence product choice. Finally, to our knowledge there is no study revealing the impact of a modification of the EU organic label on consumers' perception.

We start with a description of the methodological approach, including information on data collection (chapter 5). This section is followed by the presentation and discussion of the results (chapter 6).

5 DATA AND METHODS

This chapter starts with an explanation of how the data acquisition was conducted. After this, the methods used in the second survey are explained.

5.1 Data

Data were collected via online surveys. The following analysis is based on 400 valid responses from each of the seven countries included in the analysis. Respondents were recruited through the market research company LiGHTSPEED.[43]

The survey was conducted in summer 2018. Selection criteria for the FQS investigated in each of the seven study countries were the stated recognition of the FQS in the respective country as revealed in the first survey. In addition, the decision on the FQS investigated was done in a way to allow for some comparison between countries. Thus, in most cases we examined the same FQS for the same (e.g. apples) or a similar product (semi-hard versus hard cheese) between two or more countries. The respective products and labels are as follows: (Semi) Hard Cheese promoted by a PDO label was investigated in France and Italy, Sausage promoted by a PGI in Hungary, Apples promoted by the EU organic label in Germany, Norway and the UK, and potatoes promoted by national organic labels in Serbia.

All questionnaires were originally designed in English but translated by the participating researchers into their respective languages. In order to ensure that all surveys were identical independent of language, we outsourced a back translation to a professional translation institute. Consistency to the original English survey was checked and in case of problems corrected before the questionnaire was pre-tested in the seven countries.

5.2 Methods

The second consumer survey was divided into three parts: a discrete choice experiment, questions referring to the constructs of an extended Theory of Planned Behaviour (TPB) (Ajzen, 1991) and questions requesting information on sociodemographics.

[43] The surveys were programmed and hosted by the UBO team.

5.2.1 Discrete Choice Experiments

Discrete choice experiments (DCE) are based on Lancaster's new demand theory (McFadden, 1974; Lancaster, 1966), which assumes that consumers' utility does not depend on the products but on the characteristics in the products consumed. In compliance with utility maximizing behaviour, consumers choose the product among a given set of alternatives that hold the combination of attributes that maximizes their utility. The product and the attributes investigated are country specific though as indicated above selection was done in a way to allow for some comparison between countries. As the aim of the study is to better understand the relevance of food quality schemes in consumers' purchase decisions, all DCEs included at least one FQS attribute. The decision on the attribute and attribute levels and those on the products was based on the findings of the first survey of WP 8.1 and on insights gained in WP 8.2. Thus, labels not recognized and used in a country were not considered in the more in depth analysis in the second survey. As the TSG in the first survey was recognized on average over all countries by less than 18% of respondents it was not considered in the second survey.

In our study, we are not only interested in investigating the relevance of FQS in consumers' purchase decisions but also in understanding the role of cognitive and affective attitudes, trust, and social norms in driving those preferences. For that reason we have applied an Integrated Choice and Latent Variable (ICLV) model merging structural equation modelling with discrete choice experiments. Table 48 presents an overview of the experimental design of the DCE implemented in each of the seven countries analyzed. The attribute level that was the focus of the SEM questionnaire is underlined in the Table (for detailed information on the SEM questionnaire see Chapter 5.2.2). As Table 48 reveals, we used a DCE design with 3 attributes for all countries. Two of the attributes consist of three levels while the third attribute (which is always the price) comprises four levels. All prices used in the experimental design were decided on the basis of market research conducted by the involved scientists in retail stores of their respective countries and thus reflect market prices at the time of the study.

In France, the EU PDO label is recognized by about 42% of all respondents of the first survey. After Italy, this is the second highest share of recognition over all countries analysed in the first survey (see chapter 3.3.2.3.1). That makes this label an interesting one for further investigation in France as well as Italy. Thus, for **France** the analysis focuses on the EU PDO label with the example of semi-hard cheese. The respective attributes and levels used in the

French DCE are as follows: the first attribute is "FQS characteristics", including the levels of generic semi-hard cheese (Emmental – no PDO), the PDO labelled Comte cheese, and the PDO and organic labelled Comte cheese. The second attribute selected is "Brand" including the levels no brand, manufacturing brand (Fruitière de Plasne) and a cheese refiner brand (Louis Arnaud affineur). For the "Price" attribute the following four levels were selected for a 200gr semi-hard cheese: 6.60€/kg, 10.85€/kg, 15.10€/kg, and 19.35€/kg.

In Germany, only 11% of the respondents of the first survey indicate that they recognize the PGI label with the respective share for the PDO label being even lower (9%). However, about every second respondent stated to being aware of the EU organic label. Thus, it was decided to focus the survey conducted in **Germany** on the EU organic label at the example of the product apple. For the "FQS" attribute the three levels of no-label, EU organic label, and German Bio in combination with the EU Organic Label are defined. As a second attribute "Country of Origin" (COO) was selected with the three attribute levels New Zealand, Italy and Germany. "Price" was the third attribute with the four attribute levels € per kilogram apples of 1.99€, 2.79€, 3.59€, and 4.39€.

In **Hungary** the results of the first survey revealed that all EU FQS receive low recognition (see section 3.3.2). With about 31% of respondents being aware of the PGI label this is the one EU FQS still best recognized. Thus, for Hungary the analysis concentrates on this label at the example of sausage associated with the attributes "FQS", "taste", and "price" selected. The attribute "FQS" consists of the three levels sausage with no-label, Gyulai sausage with a PGI label, and sausage with the PICK label. For taste, the attribute levels no taste specification, spicy, and extra spicy are selected. The four pricing levels refer to an 80 gram sausage product and are as follows: 189HUF, 279HUF, 369HUF, and 459HUF.

Based on the findings of the first survey, participants in Italy are those most aware of the PDO label in comparison with the other countries in our study. More than every second participant recognized this label. Therefore, the second consumer survey conducted in **Italy** focuses on this label with respect to hard granular cheese. As the French second survey also concentrates on this FQS with respect to cheese this also allows for some comparison between the two countries. The "FQS" attribute includes the three levels hard granular cheese with no label, the Parmigiano Reggiano PDO labelled cheese, and the Parmigiano Reggiano PDO labelled cheese combined with the Mountain label. The second attribute selected is "brand" with the

three levels large scale retailer's brand, national brand and local brand. The four levels of the attribute "price" are set to 5.60€/kg, 6.30€/kg, 7.00€/kg, and 7.70€/kg.

In **Norway,** recognition of the EU FQS labels proved to be especially low (see section 3.3.2). With 27%, the EU organic label received recognition by at least every fourth participant of the first survey. Thus, as "FQS" attribute we concentrate in the second survey on the EU organic label. To allow for cross country comparison, apples, the same product as in the case of Germany, were selected for this in-depth analysis. The attribute levels selected for the "FQS" attribute are no label, the EU Organic label, and the Norwegian organic label (Debio label Norway). The second attribute "COO" consists of the three levels Chile, Italy and Norway. The four levels of the "price" attribute were set to 19.9NOK, 28.9NOK, 37.9NOK, and 46.9NOK, each for a pack of 6 apples.

For the second non-EU country in our study, **Serbia**, it was decided to focus in this second online survey on national organic labels as levels of the "FQS" attribute. As product, potatoes were selected. The "FQS" attribute consists of the three levels no label, the BIOCS label, and the Organski proizvod label. "Production country/region" is the second attribute in the DCE, including three levels: Ivanjički (which is a specific Serbian region for potato production), Serbia and France. Based on market research the four levels for the "price" attribute were set to 49.99din/kg, 104.99din/kg, 159.99din/kg, and 214.99din/kg.

The **United Kingdom (UK)** follows the same design as Norway and Germany. As "FQS" it focuses on the EU organic label, as product on apples. The "FQS" attribute includes the three levels of no label, the EU Organic label, and the Soil Association label which is a UK organic label. The second attribute is "COO" referring to the three origins New Zealand, France and the UK. Finally, the third attribute "price" has the four pricing levels in £ per pack of 6 apples of 1.29£, 2.09£, 2.89£, and 3.79£.

The DCE designs were generated based on the efficient design approach using the NGENE software. The design consists of 120 choice sets. Those were allocated into 20 blocks, with each comprising six choice situations. Respondents were randomly assigned to one of the 20 blocks. In each choice task, consumers were asked to make a choice between three products (e.g. three kind of apples) that varied in the levels of the three attributes. We also provided participants with an "opt-out" option. That way we wanted to ensure that participants are not forced to choose a product they would not buy during a normal shopping trip. To make the

choice experiment as real as possible, we visualized the products and their respective attribute levels using pictures and text (see Figure 21).

Table 48. DCE and SEM study design

Country	Label focused in SEM	Product category	DCE structure (Attributes and respective Levels)
FR		**Cheese**	1. **Label**: generic semi-hard cheese (emmental)/ PDO Comté/ PDO & Organic Comté 2. **Brand**: No brand/ Manufacturing brand/ Cheese refiner brand 3. **Price (€/200gr; €/kg incl. VAT)**: 1.32€ (6.60€/kg)/ 2.17€ (10.85€/kg)/ 3.02€ (15.10€/kg)/ 3.87€ (19.35€/kg)
DE		**Apple**	1. **Label**: None/ EU Organic label/ German Bio and EU Organic label 2. **Country of Origin**: New Zealand/ Italy/ German 3. **Price (€/kg)**: 1.99€/ 2.79€/ 3.59€/ 4.39€
HU		**Sausage**	1. **Label**: generic sausage/ Gyulai sausage PGI/ PICK labelled sausage 2. **Taste**: None/ Spicy/ Extra Spicy 3. **Price (HUF/80g):** 189HUF/ 279HUF/ 369HUF/ 459HUF
IT		**Cheese**	1. **Label**: Hard granular cheese non-PDO/ Parmigiano Reggiano PDO cheese/ Parmigiano Reggiano PDO cheese + Mountain label 2. **Brand**: Large scale retailer's brand/ National brand/ Local brand 3. **Price (€/kg)**: 5.60€/ 6.30€/ 7.00€/ 7.70€
NO		**Apple**	1. **Label:** None/ EU Organic/ Debio label (Norwegian Organic label) 2. **Country of Origin**: Chile/ Italy/ Norway 3. **Price (NOK/pack of 6 apples)**: 19.9NOK/ 28.9NOK/ 37.9NOK/ 46.9NOK

RS		**Potatoes**	1. **Label**: None/ BIOCS/ Organski proizvod (Serbian organic label) 2. **Country of Origin**: Ivanjički/ Serbia/ France 3. **Price (din/kg)**: 49.99din/ 104.99din/ 159.99din/ 214.99din
UK		**Apple**	1. **Label**: None/ EU Organic/ Soil Association 2. **Country of Origin**: New Zealand/ France/ UK 3. **Price (£/pack of 6 apples)**: 1.29£/ 2.09£/ 2.89£/ 3.79£

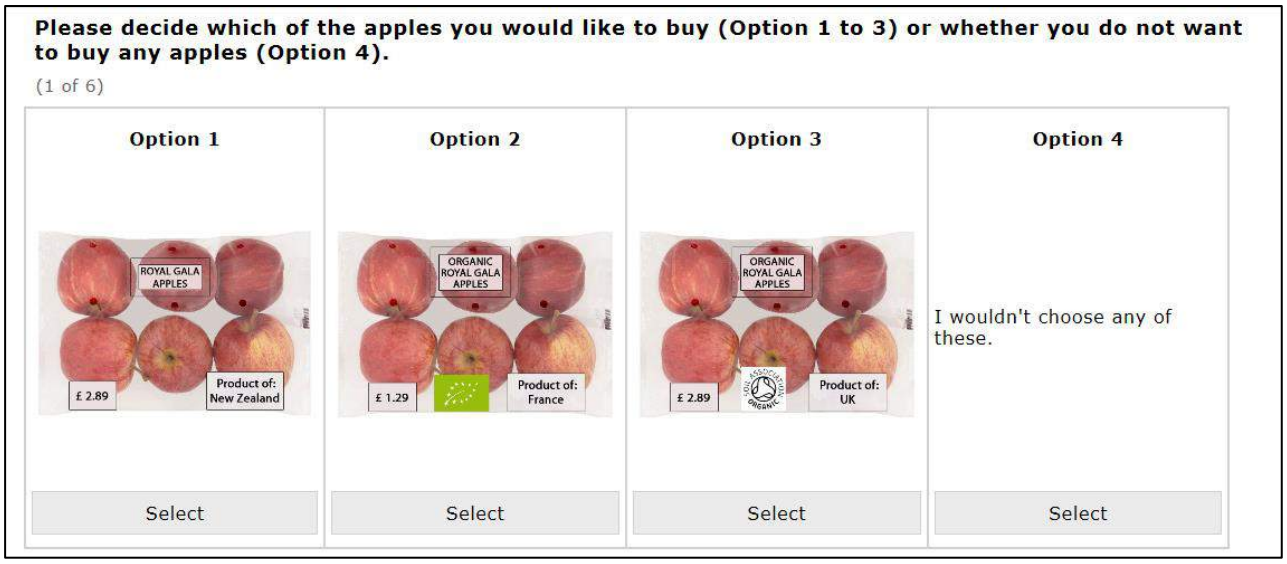

Figure 21. Example of a DCE task for apples in the UK survey

5.2.2 Extended Theory of Planned Behaviour

The second section of the questionnaire refers to the constructs of an extended Theory of Planned Behaviour (TPB) (Ajzen 1985, 1991) framework. The Theory of Planned Behaviour (TPB) is one of the most extensively applied models for explaining individual health- and food related behaviour (Armitage and Conner, 2001). According to the TPB behaviour is determined by the intention of an individual to pursue the behaviour. Behavioural intention itself is influenced by the three constructs, attitude towards the behaviour, social norms and perceived behavioural control over the behaviour (Ajzen, 1991). Attitude summarises an

individual's evaluation of the positive and negative consequences associated with the behaviour and can be differentiated according to Crites et al. (1994) into a cognitive and an affective dimension. Subjective Norms refers to the pressure an individual perceives from important others to carry out the behaviour or to abstain from doing so. Finally, perceived behavioural control considers the level of control an individual has over pursuing a specific behaviour. The inclusion of this construct has proven to be especially of relevance in situations where there exist factors outside the power of the individual that prevent the person from pursuing a behaviour (Madden et al., 1992). Based on the TPB it is hypothesized that the more positive the attitudes toward a behaviour, the more positive the subjective norms, and the higher the PBC over a behaviour the stronger is the intention to perform that behaviour which again makes it more likely that the behaviour is in fact carried out.

Several extensions have been suggested regarding the TPB, depending on the specific area of application. With respect to the application of the TPB for investigating consumer behaviours that are linked to credence attributes such as in the case for purchasing products promoted by FQS labels it was suggested to include a construct such as consumer's confidence or trust that the products really fulfil what it promises (Vermeir and Verbeke, 2008). A lack or low levels of trust that the claim is reliable will negatively impact the intention to purchase the product (e.g. O'Neill et al., 2014).

To analyze the purchase intention of food products promoted by FQS based on the extended TPB, empirical measures for the multidimensional constructs (affective attitudes, cognitive attitudes, social norms, perceived behavioural control, intention to buy, and trust) need to be defined. In line with previous consumer studies we defined these constructs by measurement systems of three in one case (social norms) of four variables each. All items were measured on a 7-point Likert scale. An overview of the measurement of the behavioural variables using the example of the UK case is provided in Table 49. A detailed description of all behavioural variables adjusted to the specific FQS and product analyzed in each of the seven countries is summarized in Tables A1 to A6 in the Appendix.

In tables 49 and A1 to A6 the instructions given to the respondents as well as the respective scales are provided. Furthermore, each item is linked to a code that is used in the later analysis. Additionally, the tables provide information on the product and the FQS analysed in the respective country. Please note that in the case of organic the questions regarding the

constructs cognitive and affective attitudes, social norms, behavioural control and purchase intention do not refer to a specific organic label but to organic production of the specific product (apple in the case of UK). Only the trust question is specifically referring to the label under investigation (e.g. the EU organic label).

Table 49. Measurement of behavioural variables with the example of the UK

Behavioural Variable	Label focus in SEM  Product category: Apple
Affective Attitude (AA)	**Please move the slider to the number that best reflects your opinion:** -3 -2 -1 0 1 2 3 Unsatisfied — Satisfied **[Code: AA1]** Unhappy — Happy **[Code: AA2]** Bad — Good **[Code: AA3]** Imagine, you are grocery shopping and think about buying organic apples instead of conventionally produced apples. Buying organic apples instead of conventionally produced apples would make me feel...
Cognitive Attitude (AA)	**Please move the slider to the number that best reflects your opinion:** -3 -2 -1 0 1 2 3 Meaningless — Meaningful **[Code: CA1]** Harmful — Beneficial **[Code: CA2]** Unimportant — Important **[Code: CA3]** I think that buying organic apples instead of conventionally produced apples is…
Social Norms (SN)	**For each of the following statements please indicate on a scale from 1 (false) to 7 (true) whether you perceive the statement to be true or false: (Answer from "False" [1] to "True" [7])** 1. Most people who are important to me would like me to buy organic apples instead of conventionally produced apples. **[Code: SN1]** 2. My close friends and family expect me to buy organic apples instead of conventionally produced apples. **[Code: SN2]** 3. Most of my close friends and family generally buy organic apples instead of conventionally produced apples. **[Code: SN3]** 4. Nowadays, organic apples are widely regarded as a better alternative to conventionally produced apples. **[Code: SN4]**

Perceived Behavioural Control (PBC)	**Please indicate on a scale from 1 (strongly disagree) to 7 (strongly agree) your strength of agreement with the following statements: (Answer: "Strongly disagree" [1] to "Strongly agree" [7])** 1. Whether or not I buy organic apples instead of conventionally produced ones on a regular basis is completely up to me. **[Code: PBC1]** 2. I am confident that I can buy organic apples instead of conventionally produced ones on a regular basis. **[Code: PBC2]** 3. For me buying organic apples instead of conventionally produced ones on a regular basis is easy. **[Code: PBC3]**
Behavioural Intention (BI)	**Please rate on a scale from 1 (extremely unlikely) to 7 (extremely likely) how likely it is that you have the following intention: (Answer: "Extremely unlikely" [1] to "Extremely likely" [7])** 1. I intend to buy organic apples instead of conventionally produced apples on a regular basis. **[CODE: BI1]** **Please rate on a scale from 1 (strongly disagree) to 7 (strongly agree) how likely it is that you have the following intention: (Answer: "strongly disagree" [1] to "strongly agree" [7])** 2. I will make an effort to buy organic apples instead of conventionally produced apples on a regular basis. **[CODE: BI2]** **Please tick the frequency that best describes your future behavior: (Answer: Never/ Almost never/ Seldom/ Sometimes/ Often/ Almost every time/ Every time)** 3. In the future when you buy apples how often will you buy organic apples? **[CODE: BI3]**
Trust (T)	**Please indicate on a scale from 1 (strongly disagree) to 7 (strongly agree) your strength of agreement with the following statements: (Answer: "Strongly disagree" [1] to "Strongly agree" [7])** 1. Products with the EU organic label fulfil strict rules. **[Code: T1]** 2. The EU logo for organic products guarantees that the products are really organic. **[Code: T2]** 3. I have great trust in the control system behind the EU-organic logo. **[Code: T3]**

6 RESULTS

This section provides information on the sample structure (chapter 6.1) and the results of the second consumer survey. The latter is divided into three parts. Chapter 6.2 reports on the findings of the DCE and the SEM, first separately and then combined, applying an Integrated Choice and Latent Variable (ICLV) model. In chapter 6.3 the results of the modifications of the EU organic label are presented while in chapter 6.4 consumers' use of short food supply chains are reported on.

6.1 Sample structure

A total of 4901 were recruited for the analysis presented in this second part of the report (see Table 50). Exclusion of those not living in the respective country and those not being at least partially responsible for their household food shopping leads to an overall valid sample size of 2822. The valid sample size per country varies between 400 for Hungary to 408 for Italy (see Table 50). On average 41% of those taking part in the second survey had already participated in the first one. The respective shares differ considerably between the countries from a low of 28% in Norway to a high of 50% in France. An overlap in respondents was explicitly desired as, in both surveys, respondents were asked to evaluate the EU organic label. While respondents evaluated in the first survey the original EU organic label they were asked to assess in the second survey a slightly modified EU organic label. This allows for investigating the impact of the modification at an individual level.

A comparison of Table 50 with Table 3 reveals a very similar structure of the samples of the two surveys carried out. This implies that the deviation of the samples for each country of the second survey from the overall population in the respective countries holds to a similar extent as for the first survey and will not be further discussed (see chapter 3.1).

Table 50. Demographical statistics of the seven countries participating in Survey II

	FR	DE	HU	IT	NO	RS	UK
Total N	645	756	615	746	744	781	614
Valid N	400	404	400	408	407	402	401
% (valid N/total N)	62.02	53.44	65.04	54.69	54.70	51.47	65.31
Resp. from 1st survey	198	166	191	197	112	174	112
% (Resp./valid N)	49.50	41.09	47.75	48.28	27.52	43.28	27.93
Gender							
Female (%)	50.00	50.50	50.00	49.75	52.83	50.75	50.87
Male (%)	50.00	49.50	50.00	50.25	47.17	49.25	49.13
Average age	40.04	43.23	42.07	42.88	43.98	42.18	43.28
Living area							
Rural (%)	49.50	38.12	16.50	12.75	19.90	9.45	26.93
Urban medium town (%)	25.00	28.22	36.75	41.91	38.57	46.52	46.13
City (%)	25.50	33.66	46.75	45.34	41.52	44.03	26.93
Education							
Lower secondary/primary education or below (%)	4.50	18.32	3.00	7.11	4.67	1.24	20.20
Upper secondary education (%)	31.75	15.35	27.25	38.48	24.08	45.27	27.93
University or college entrance qualification (e.g. A-levels, vocational certificate, technical diploma,)(%)	27.50	37.13	26.00	16.42	14.00	17.41	15.46
Bachelor’s degree or equivalent level (%)	20.50	14.60	26.75	16.42	34.64	24.63	25.19
Master, Postgraduate or doctoral degree (%)	15.75	14.60	17.00	21.57	22.60	11.44	11.22
HH size	2.59	2.41	2.87	3.10	2.51	3.42	2.54
Number of Kids	0.63	0.45	0.58	0.54	0.59	0.64	0.53

6.2 Relevance of DCE and SEM analysis in consumers' decision making

This chapter starts out with a short summary of the results of the DCE (Chapter 6.2.1). In this report the analysis of the DCE data is based on the so called count analysis. Chapter 6.2.2 provides the descriptive results for the six constructs which form the basis for the extended TPB and which will be estimated by a SEM. In chapter 6.2.3 the reliability of these SEM constructs is investigated while in chapter 6.2.4 the integrated latent variable choice models combining SEM and DCE are estimated. The findings for all seven countries are reported in the following sections.

6.2.1 Results of DCE analysis across countries

Tables 51 to 57 summarize the results of the DCE. As indicated, examination is limited to the so-called count analysis. More in depth analysis of the DCE data based on logit simulations are planned for future analysis. However, count analyses provide already a good first impression of the main effects regarding the different attribute levels and are an intuitive way to summarize consumers' preferences with respect to the different attributes and attribute level investigated in a DCE. Count data for an attribute level are obtained by dividing the frequency a product with that attribute level (e.g. Comté PDO) has been selected by the number a product with that attribute level (e.g. Comté PDO) has been shown in the DCE. Thus, a count data of 0.26 for Comté PDO (see Table 51) implies that about every fourth time a product with this attribute level has been shown, it has been selected by respondents.

First of all, the results for all countries reveal that the higher the price the lower the relative frequency the product has been selected (see Tables 51 to 57). This is in line with a negative price elasticity of demand. Though, not completely comparable given the different price ranges between the seven countries (see Table 48), the findings provide a first indication that respondents' price sensitivity differs between the countries being especially high in Norway and the UK. In the following, we report the results of the count analysis of the DCE data primarily focusing on the other two attributes and their respective levels.

Regarding the French DCE and concentrating first on the FQS attribute, the count analysis reveals that respondents value the combined label PDO Comté + Bio highest with a Count Measure (CM) of 0.51 when buying cheese, followed by the attribute level PDO Comté (CM 0.26). The generic hard cheese on the other hand seems to be least preferred (CM 0.16). For the attribute brand, the no name brand receives as expected the lowest CM, followed by the manufacturing brand while the cheese refiner brand is most preferred by respondents with a CM of 0.40.

Table 51. Count analysis of DCE data: France for cheese

DCE Count analysis	**FR**
N	400
Attribute 1: FQS Label	
Emmental (generic hard cheese)	0.16
Comté cheese with PDO Label	0.26
Comté cheese with PDO + Bio Label	0.51
Attribute 2: Brand	
No name brand	0.25
Manufacturing brand	0.27
Cheese refiner brand	0.40
Attribute 3: Price	
1.32€ (6.60€/Kg)	0.49
2.17€ (10.85€/Kg)	0.38
3.02€ (15.10€/Kg)	0.23
3.87€ (19.35€/Kg)	0.13

Moving to the results of the German DCE choice data reveals that the combined FQS attribute level German organic label & EU organic label is by far most preferred by respondents (CM 0.41) when buying apples while the EU organic label obtains the same CM (0.23) as no FQS label. The findings also reveal that domestic apples seem to provide a higher utility to respondents (CM 0.51). However, if apples are imported consumers do not seem to care whether the apples originate from a European destination (Italy, CM 0.18) or from further abroad (New Zealand, CM 0.17).

Table 52. Count analysis of DCE data: Germany for apple

DCE Count analysis	**DE**
N	404
Attribute 1: FQS Label	
No Label	0.23
EU Organic Label	0.23
German Organic label & EU Organic Label	0.41
Attribute 2: COO	
New Zealand	0.17
Italy	0.18
Germany	0.53
Attribute 3: Price	
€ 1.99	0.58
€ 2.79	0.36
€ 3.59	0.16
€ 4.39	0.08

With respect to the count analysis results for the Hungarian DCE data, the FQS attribute level PGI Gyula Sausage has the highest CM 0.37 while as expected sausages not promoted by any FQS label obtain the lowest CM (0.22). Somewhat more surprising are the results regarding the taste information as the sausage without any additional information reveals the highest CM (0.41). Respondents do not seem to have a preference for spiciness as sausages with information on being spicy or even being extra spicy receive lower (0.29 and 0.21, respectively) values.

Table 53. Count analysis of DCE data: Hungary for sausage

DCE Count analysis	**HU**
N	400
Attribute 1: FQS Label	
No Label	0.22
Gyula Sausage with PGI Label	0.37
Sausage with PICK Label	0.31
Attribute 1: Taste	
No taste information	0.41
Spicy	0.29
Extra spicy	0.21
Attribute 1: Price	
189 HUF	0.45
279 HUF	0.38
369 HUF	0.24
459 HUF	0.14

Also for Italy it is the combined FQS attribute level, Parmigiano Reggiano PDO cheese + Mountain label, which receives the highest CM (0.41) and thus is most preferred by respondents when buying hard cheese. A Parmigiano Reggiano PDO cheese is somewhat less preferred (0.33) but compared to a hard cheese without any FQS label the probability that this cheese is selected is still almost twice as high (CM for no labelled cheese 0.17). The second attribute investigated in the Italian DCE is brand. Here we see that the Italian national brand obtains the highest CM (0.37) while respondents seem to value the Italian large-scale retailer's brand (0.26) and the local brand (0.28) at a lower but similar level.

Table 54. Count analysis of DCE data: Italy for cheese

DCE Count analysis	**IT**
N	408
Attribute 1: FQS Label	
No Label	0.17
Parmigiano Reggiano PDO cheese	0.33
Parmigiano Reggiano PDO cheese + Mountain Label	0.41
Attribute 2: Brand	
Italian large-scale retailer brand	0.26
Italian national brand	0.37
Italian local brand	0.28
Attribute 3: Price	
€ 5.60	0.51
€ 6.30	0.37
€ 7.00	0.21
€ 7.70	0.13

Looking at the Norwegian results reveals that respondents seem to be especially price conscious. The probability that a respondent chooses an apple with the lowest price (CM 0.63) is more than 15 times higher than the probability that an apples with the highest price (CM 0.04) is selected. Also the domestic origin seems of special importance when buying apples, while the FQS labels investigated are of less importance. More precisely, our findings indicate that apples with the EU organic label (CM 0.23) are even less preferred than apples with no FQS label at all (CM 0.25). The national organic label receives the highest CM (0.36). As indicated above regarding the attribute COO, Norwegian respondents have a high preference for domestic apples (CM 0.47) compared with apples from Italy (CM 0.18) or Chile (CM 0.19).

Table 55. Count analysis of DCE data: Norway for apples

DCE Count analysis	**NO**
N	407
Attribute 1: FQS Label	
No Label	0.25
EU Organic Label	0.23
Debio (Norwegian Organic Label)	0.36
Attribute 2: COO	
Chile	0.19
Italia	0.18
Norway	0.47
Attribute 3: Price	
19.9 NOK	0.63
28.9 NOK	0.33
37.9 NOK	0.11
46.9 NOK	0.04

As in the case of Norway also the findings for Serbia reveal a relative low importance of the FQS investigated while price and Serbian regional or domestic origin is of high relevance. With respect to Serbia it needs, however, to be considered that the price range is much higher in this country than in the other six study countries (from 49.99 din/kg to 214.99 din/kg). This makes comparison with the other countries somewhat difficult. Our findings reveal that potatoes carrying the national organic label "Organski proizvod" (CM 0.29) are not preferred compared to those with no label. The second national organic label BIOCS receives a slightly higher value (CM 0.35). The second attribute for Serbia is the COO. For this attribute the level referring to Ivanjički, which is a Serbian region famous for its potatoes receives the highest CM (0.45), followed by the attribute level Serbia (CM 0.33). Potatoes originating from France obtain the lowest CM (0.15).

Table 56. Count analysis of DCE data: Serbia for potatoes

DCE Count analysis	**RS**
N	402
Attribute 1: FQS Label	
No Label	0.29
BIOCS (Serbian Organic Label)	0.35
Organski proizvod (Serbian Organic Label)	0.29
Attribute 2: COO	
Serbian region Ivanjički	0.45
Serbia	0.33
France	0.15
Attribute 3: Price	
49.99 din	0.70
104.99 din	0.34
159.99 din	0.15
214.99 din	0.05

Also, UK respondents are highly price sensitive when buying apples, while neither the FQS nor the second attribute COO is of comparable importance. From the FQS labels it is the national organic label (Soil Association) which is most preferred while the EU organic label is even slightly less valued (CM 0.25) than no label at all (CM 0.27). The findings also reveal that respondents like to buy domestic apples (CM 0.39) while apples originating from New Zealand (CM 0.25) or from France (CM 0.21) obtain a lower utility.

Table 57. Count analysis of DCE data: United Kingdom for Apple

DCE Count analysis		**UK**
N		401
Attribute 1: FQS Label		
	No Label	0.27
	EU Organic Label	0.25
	Soil Association Label	0.33
Attribute 2: COO		
	New Zealand	0.25
	France	0.21
	UK	0.39
Attribute 3: Price		
	£ 1.29	0.66
	£ 2.09	0.29
	£ 2.89	0.12
	£ 3.79	0.06

6.2.2 Descriptive analysis of all items of the SEM constructs

In this chapter the properties of the different items making up the six behavioural constructs were analyzed with respect to their distributional characteristics. The results - means, standard deviations, skewness, and kurtosis – are summarized in Table 63, separately for each of the seven countries. To simplify the table, the statements are coded based on the abbreviated indication used in Table 49 and in Tables in the Appendix (A1 to A7).

The Maximum-Likelihood method applied in chapter 6.2.4 assumes a normal distribution for all items included in the model. Thus, to ensure a reliable analysis the variables' distributions were investigated for deviations from the postulated normality. Table 58 reveals that none of the included items violates this assumption of normal distribution. The values for skewness and kurtosis for all items are below the proposed threshold values (for skewness < ±2; for kurtosis < ±2) (Field, 2009; Gravetter and Wallnau, 2014).

In the following an overview on the means for the items of the six behavioural constructs will be presented, separately for each of the seven countries included in the study.

For France all mean values of the items underlying the constructs Affective Attitude, Cognitive Attitude and Trust are at least 5 (ranging from 5.00 for T3 to 5.54 for AA3) on a scale from 1 to 7[44], with 4 indicating neutrality, thus indicating that respondents have on average a slightly positive cognitive and affective attitude towards PDO labelled semi-hard cheese and also have a moderate trust in the label. The mean values of Perceived Behaviour Control (ranging from 4.90 for PBC3 to 5.27 for PBC1) and Behavioural Intention (ranging from 4.69 for BI3 to 4.88 for BI1) are slightly lower. Nevertheless, based on those values it can be concluded that on average French respondents feel to have some control on making the decision to buy PDO labelled semi-hard cheese and to have a slightly positive intention to do so. The mean values for all items of the Subjective Norm constructs are the lowest, ranging from 4.05 with respect to SN2 to 4.95 regarding SN4. This reflects that respondents do not seem to feel any strong social pressure to buy PDO labelled cheese.

Also for Germany, the mean values of all items of the constructs of Affective Attitude and Cognitive Attitude are well above 5 (ranging from 5.24 for AA2 to 5.54 for CA2). Thus, respondents taking part in the second German survey have on average a slight to moderate positive cognitive and affective attitude towards buying organic apples. The mean of the items covering the construct Perceived Behavioural Control differ considerably with a low for the item PBC 3 of 4.75 and a high for the item PBC 1 of 5.84. Thus, though respondents feel that buying organic apples instead of conventional ones is to a large degree up to them (PBC 1), and they do not find it that easy to make this purchase decision (PBC 3). Thus, it is not that

[44] The original scale for all items of the constructs cognitive and affective attitude was from -3 to +3 but for comparison transformed to a scale from 1 to 7 as the items of all other constructs was measured on that latter scale.

surprising that all mean values for the construct Behavioural Intention are only around 4.5 (ranging from 4.37 for BI3 to 4.52 for BI2). German respondents do not perceive any social pressure to buy organic apples (ranging from 3.24 for SN2 to 4.63 for SN4) and they only slightly trust the EU organic label (ranging from 4.33 in T3 to 4.86 in T1).

According to the Hungarian results, the mean values of all items referring to the constructs Affective (ranging from 4.96 for AA2 to 5.28 for AA1) and Cognitive Attitude (ranging from 4.98 for CA3 to 5.05 for CA2), and Trust (ranging from 4.74 for T3 to 5.10 for T1) are around 5 pointing to a slight positive attitude with respect to sausage with a PGI label and a tendency to trust the PGI label. As for most countries, we also see for Hungary considerable differences in the mean values of the different items of the construct Perceived Behaviour Control with higher values for the first item (5.22 for PBC1) and lower ones for the two others (4.27 for PBC2 and 4.25 for PBC3). On average, the Behavioural Intention to buy PGI-labelled sausage is only very slightly positive (ranging from 4.24 for BI2 to 4.51 for BI1). Finally, we see that respondents do not perceive any social pressure to buy PGI labelled sausage (ranging from 3.16 for SN2 to 4.50 for SN4).

The values for the items of all constructs except Subjective Norm are in the Italian case above 5, pointing to slightly positive affective (ranging from 5.06 for AA2 to 5.38 for AA1) and cognitive attitudes (ranging from 5.28 for CA2 to 5.49 for CA3) towards buying PDO labelled hard cheese, a feeling of control over such buying decisions (ranging from 5.18 for PBC 3 to 5.41 for PBC1), an intention to pursue such purchase decision (ranging from 5.15 for BI3 to 5.29 for BI1) and a moderate level of trust in the PDO label (ranging from 5.19 for T3 to 5.34 for T1 and T2). The mean values for Subjective Norm are lower (ranging from 4.49 for SN2 to 5.14 for SN4) though they are still higher compared with all other countries investigated in this study.

While in the case of Italy the mean values for all items are general higher compared with the other countries, the opposite is true for Norway. All mean values except the one for PBC 1 (5.92) - which refers to consumers' evaluation whether it is up to them to buy organic apples - are in general well below 5. Thus, compared with all other countries, Affective (ranging from 4.80 for AA2 to 4.96 for AA1) and Cognitive Attitudes (ranging from 4.41 for CA3 to 4.80 for CA2) with respect to buying products promoted with the FQS investigated are lower, as is Trust in the scheme (ranging from 4.24 for T3 to 4.62 for T2). All items referring to the

Intention to buy products promoted by the FQS are even below 4 (ranging from 3.33 for BI2 to 3.73 for BI3). Norwegian respondents do not feel social pressure to buy organic apples instead of conventional ones (ranging from 2.66 for SN2 to 4.00 for SN4).

With mean values around or above 5 for all items referring to Affective (ranging from 4.99 to 5.49) and Cognitive Attitudes (ranging from 4.98 to 5.13), Serbian respondents reveal a slightly positive attitude towards buying organic potatoes. The mean values for Trust in the organic label are somewhat lower (ranging from 4.40 for T3 to 4.91 for T1). The items referring to the construct Subjective Norm reveal considerable differences in their mean (2.86 for SN3 to 4.60 for SN4). This holds to a similar extent for the ones referring to Perceived Behaviour Control (ranging from 3.66 for PBC2 and 3 to 4.93 for PBC1). The mean of all items referring to the construct Behavioural Intention are around 4 (ranging from 3.95 for BI1 to 4.03 for BI2) revealing that Serbian consumers are rather indifferent on whether to buy or not to buy organic potatoes.

In the case of the UK, our findings reveal that respondents have a more positive Affective Attitude towards buying organic apples (ranging from 5.22 for AA2 to 5.40 for AA3) compared with their Cognitive Attitude (ranging from 4.80 for CA3 to 5.32 for CA2). Again, there is quite a disparity in the means for the constructs Perceived Behavioural Control (ranging from 4.28 for PBC3 to 5.73 for PBC1) and Subjective Norms (ranging from 3.22 for SN2 to 4.46 for SN4). In general, however, the findings indicate that respondents feel to have at least some control over their behaviour to buy organic instead of conventional apples and that they do not perceive social pressure to do so. The mean values for all Trust items are between 4.42 and 4.84 indicating a positive but rather low level of trust in the EU organic label. Finally, all items referring to respondents' Intention have mean values below 4, thus indicating that they are indifferent on whether or not to buy organic apples instead of conventional ones.

Table 58. Descriptive results for all items of the six behavioural constructs for the seven countries

Country Food Quality Scheme N		FR PDO 400				DE Organic 404				HU PGI 400				IT PDO 408			
	Statement	**Mean**	**S.D.**	**Skewness**	**Kurtosis**	**Mean**	**S.D.**	**Skewness**	**Kurtosis**	**Mean**	**S.D.**	**Skewness**	**Kurtosis**	**Mean**	**S.D.**	**Skewness**	**Kurtosis**
Affective Attitude	AA1	5.54	1.26	-1.18	1.55	5.50	1.33	0.38	-0.49	5.28	1.24	-0.77	0.72	5.38	1.50	-1.18	0.96
	AA2	5.19	1.55	-0.97	0.40	5.24	1.51	-1.17	1.80	4.96	1.30	-0.63	0.62	5.06	1.68	-0.82	-0.23
	AA3	5.33	1.50	-1.10	0.84	5.52	1.54	-0.95	0.74	5.06	1.49	-0.74	0.20	5.16	1.66	-0.90	0.12
Cognitive Attitude	CA1	5.31	1.22	-0.74	0.49	5.26	1.54	-1.17	1.00	4.99	1.37	-0.60	0.19	5.42	1.39	-1.10	1.29
	CA2	5.36	1.51	-1.12	1.00	5.54	1.35	-1.06	0.74	5.05	1.39	-0.74	0.49	5.28	1.52	-0.99	0.57
	CA3	5.24	1.48	-0.89	0.45	5.28	1.57	-1.13	1.55	4.98	1.52	-0.77	0.24	5.49	1.45	-1.07	0.94
Subjective Norm	SN1	4.20	1.69	-0.47	-0.4	3.60	1.78	-0.27	0.29	3.53	1.81	0.01	-0.96	4.64	1.58	-0.59	0.09
	SN2	4.05	1.75	-0.33	-0.69	3.24	1.76	-0.06	-0.88	3.16	1.82	0.27	-0.99	4.49	1.58	-0.51	-0.03
	SN3	4.27	1.55	-0.39	-0.14	3.61	1.69	0.11	-1.03	3.60	1.72	-0.06	-0.8	4.62	1.44	-0.51	0.31
	SN4	4.95	1.32	-0.63	0.83	4.63	1.57	-0.14	-0.82	4.50	1.60	-0.49	-0.17	5.14	1.33	-0.61	0.39
Perceived Behaviour Control	PBC1	5.27	1.23	-0.30	-0.18	5.84	1.35	-0.51	0.01	5.22	1.62	-0.78	-0.01	5.41	1.32	-0.50	-0.25
	PBC2	4.98	1.26	-0.38	0.41	4.82	1.57	-1.19	1.15	4.27	1.80	-0.34	-0.73	5.26	1.31	-0.76	0.76
	PBC3	4.90	1.28	-0.32	0.09	4.75	1.59	-0.64	0.05	4.25	1.69	-0.24	-0.61	5.18	1.32	-0.64	0.47
Behavioural Intention	BI1	4.88	1.29	-0.37	0.24	4.48	1.68	-0.97	0.48	4.51	1.50	-0.47	0.17	5.29	1.33	-0.68	0.47
	BI2	4.84	1.39	-0.55	0.39	4.52	1.68	-0.47	-0.42	4.24	1.64	-0.32	-0.45	5.19	1.38	-0.72	0.40
	BI3	4.69	1.16	-0.07	0.06	4.37	1.35	-0.45	-0.36	4.42	1.23	-0.32	0.59	5.16	1.18	-0.36	0.36
Trust	T1	5.21	1.18	-0.57	0.61	4.86	1.46	-0.58	-0.05	5.10	1.40	-0.64	0.15	5.34	1.28	-0.91	1.28
	T2	5.09	1.24	-0.65	0.92	4.76	1.59	-0.79	0.70	5.02	1.41	-0.63	0.23	5.34	1.32	-1.07	1.77
	T3	5.00	1.27	-0.60	0.64	4.33	1.64	-0.82	0.41	4.74	1.57	-0.56	-0.21	5.19	1.40	-0.81	0.73

Country Food Quality Scheme 407		NO Organic 402				RS Organic 401				UK Organic 400			
	Statement	**Mean**	**S.D.**	**Skewness**	**Kurtosis**	**Mean**	**S.D.**	**Skewness**	**Kurtosis**	**Mean**	**S.D.**	**Skewness**	**Kurtosis**
Affective Attitude	AA1	4.96	1.47	-0.71	0.71	5.49	1.53	-1.15	0.96	5.23	1.35	-0.82	0.91
	AA2	4.80	1.45	-0.60	0.51	4.99	1.76	-0.75	-0.12	5.22	1.45	-0.91	0.75
	AA3	4.83	1.60	-0.56	0.11	5.13	1.86	-0.90	0.00	5.40	1.39	-0.94	0.98
Cognitive Attitude	CA1	4.66	1.75	-0.63	-0.03	4.98	1.85	-0.91	0.47	4.90	1.67	-0.69	-0.22
	CA2	4.80	1.57	-0.64	0.22	5.13	1.82	-1.03	0.78	5.32	1.28	-0.67	0.55
	CA3	4.41	1.74	-0.51	-0.62	5.06	1.82	-0.81	-0.25	4.80	1.73	-0.61	-0.33
Subjective Norm	SN1	3.06	1.73	0.13	-0.95	3.79	1.91	-0.37	-0.54	3.61	1.87	0.29	-1.07
	SN2	2.66	1.69	0.22	-1.06	3.05	1.84	-0.11	-0.86	3.22	1.88	0.04	-0.96
	SN3	3.20	1.56	-0.21	-0.56	2.86	1.70	-0.26	-0.27	3.46	1.77	-0.47	-0.02
	SN4	4.00	1.53	-0.47	-0.13	4.60	1.77	-0.76	0.15	4.46	1.55	-1.06	1.06
Perceived Behaviour Control	PBC1	5.92	1.44	-0.93	0.26	4.93	1.94	-0.90	0.15	5.73	1.35	-0.41	-0.39
	PBC2	4.66	1.65	-0.23	0.21	3.66	1.86	-0.38	-0.60	4.34	1.60	-0.40	-0.35
	PBC3	4.45	1.64	-0.17	0.45	3.66	1.80	-0.42	-0.46	4.28	1.60	0.29	-1.07
Behavioural Intention	BI1	3.54	1.86	-0.27	-0.63	3.95	1.77	-0.50	-0.30	3.80	1.87	-0.22	-1.01
	BI2	3.33	1.81	-0.08	-0.87	4.03	1.80	-0.48	-0.37	3.92	1.83	-0.15	-0.52
	BI3	3.73	1.37	-0.37	0.72	3.99	1.37	-0.03	0.17	3.88	1.55	-0.02	-1.10
Trust	T1	4.56	1.31	-0.01	0.56	4.91	1.59	-0.75	-0.01	4.84	1.38	-0.53	0.53
	T2	4.62	1.36	-0.24	0.06	4.75	1.69	-0.63	-0.15	4.72	1.44	-0.41	0.10
	T3	4.24	1.48	-0.21	0.51	4.40	1.81	-0.57	-0.56	4.42	1.57	-0.37	-0.14

6.2.3 Reliability test of SEM constructs

Cronbach's Alpha was computed to provide insights into the internal validity of the six constructs included in the study. This measure reveals how closely related the set of items of each behavioural constructs are. In Table 59, Cronbach's Alpha is presented for all constructs of the extended TPB model. In addition, we provide in Table A7 and Table A8 in the Appendix the factor loadings for all items as well as the Average Extracted Variance (AVE), its root square and the Composite Reliability (CR) for all six constructs for the original theoretical model and its adjustment (see below). Furthermore, for each construct the strongest correlation with the other factors is depicted.

The results reveal that internal construct reliability is in general given for all behavioural factors, except for Perceived Behavioural Control in some countries. More precisely, with the exception of the factor Perceived Behavioural Control, Cronbach's Alpha ranges between 0.82 and 0.95 for all constructs in all countries, thereby considerably exceeding the recommended threshold level of 0.7 for Cronbach's Alpha (see Table 59). However, we detect a lack of discriminant validity between affective and cognitive attitude as measured by the Fornell Larcker Criterion[45] in the cases of Germany and Norway. An easy solution to resolve this issue is to combine those two constructs into one Overall Attitude factor in all countries (see Table A8). Due to this aggregation, Cronbach's Alpha increases or remains equal in the cases of France and Hungary for the aggregated constructs compared with the two separate constructs Affective and Cognitive Attitude.

Compared with all other behavioural factors Cronbach's Alpha for Perceived Behaviour Control is lower in all countries, except Hungary and Italy, and falls below the recommended threshold level of 0.7 slightly in the case of Norway (0.66) and to a moderate extent in the case of the UK (0.58). Furthermore, discriminant validity is violated in France, Italy and Serbia with respect to the construct Perceived Behavioural Control relative to Behavioural Intention. In the case of Serbia, discriminant validity is also not secured between the constructs Social Norms and Behavioural Intention. Furthermore, some of the factor loadings did not exceed the required level of 0.7. However, as the CR and AVE surpass or almost reach (three cases) the requested threshold values (CR > 0.6; AVE > 0.5), the system was still

[45] The Fornell and Larcker criterion implies that for each construct the share of extracted variance should be higher than the standardized squared correlations with other latent variables (Fornell and Larcker, 1981)

regarded adequate. Thus, to allow for the same modelling structure in all countries this shortcoming was accepted.

Table 59. Cronbach's Alpha for the behavioural constructs for the seven countries

Country	Affective Attitude	Cognitive Attitude	Attitude Overall	Subjective Norm	Perceived Behaviour Control	Behavioural Intention	Trust
N	400	404	400	408	407	402	401
FR	0.87	0.82	0.87	0.86	0.76	0.89	0.91
DE	0.85	0.89	0.91	0.85	0.74	0.94	0.92
HU	0.84	0.85	0.85	0.90	0.83	0.91	0.92
IT	0.88	0.83	0.86	0.86	0.84	0.88	0.93
NO	0.90	0.83	0.91	0.86	0.66	0.92	0.90
RS	0.87	0.87	0.90	0.84	0.72	0.92	0.93
UK	0.92	0.90	0.93	0.90	0.58	0.95	0.93

6.2.4 Combining DCE and SEM models: The Integrated Choice and Latent Variable (ICLV) model

Finally, in this section the Integrated Choice and Latent Variable model is estimated that allows the DCE results to be integrated into the SEM. The structural model for respondents' purchase decision of food products promoted by FQS labels is depicted in Figure 22. The Figure provides information on the hypothesis 1 to 5 derived from the extension of the TPB. The standard estimation model for SEM that also holds for Integrated Choice and Latent Variable model is covariance-based Maximum Likelihood estimation of model parameters. Thus, in an iterative process the discrepancy between the observed variance-covariance matrix of measured indicators and the implied theoretically structured model is minimized. The results of the empirical model are summarized in Table 60.

Overall, the ICLV model reached a good to satisfactory fit to the empirical data for all countries except Hungary and Italy with a Comparative Fit Index (CFI) and a Tucker Lewis

Index (TLI) above 0.9 and a Root Mean Square Error of Approximation (RMSEA) smaller or equal to 0.8. The respective values for Hungary (CFI=0.88, TLI=0.86, RMSEA=0.09) and for Italy (CFI=0.87, TLI=0.85, RMSEA=0.09) point to a less satisfactory fit (Bagozzi and Yi, 1988; Brown, 2006).

Examining the results summarized in Table 60 reveals that for six of the seven countries (exception Italy) three of the five hypotheses can be confirmed: All three determinants of Behavioural Intention as suggested by the TPB - Attitude, Subjective Norms, and Perceived Behavioural Control - are found to have a positive significant influence on consumers' intention to buy products promoted by FQS labels. Furthermore, hypothesis 4 is supported in the case of Hungary and Italy indicating that a higher level of trust in e.g. the control system behind the label significantly increases consumers' intention to buy products promoted by the FQS label. Surprisingly, the opposite is true in the case of the UK. Finally, hypothesis 5 is confirmed in the case of France, Germany and Serbia. It reveals that consumers' intention to buy a product promoted by a FQS label has a positive significant influence on consumers' product choice as revealed by the DCE. However, also regarding this hypothesis, we find a counter-intuitive result. For Norway this relationship proves to be negative.

The results obtained up to this point need to be considered as preliminary. An extension of the analysis will consider first and foremost a more in-depth analysis of the DCE data based on logit simulations instead of count analysis. In addition, concerns regarding the internal consistency and the discriminant validity of the construct Perceived Behavioural Control were detected for several countries. This shortcoming could be circumvented by applying stricter rules for item-inclusion compared with those used in the present investigation. Furthermore, an extension of the framework by additional factors driving consumers' purchase decision of products promoted by FQS labels, such as moral norms, seems a promising avenue for better understanding consumers' behaviour. Finally, further including sociodemographic variables in the analysis or separating the sample into subgroups e.g. depending on the relevance of the product investigated in consumers' purchase decision could offer additional insight into the relevance of FQS labels for consumers.

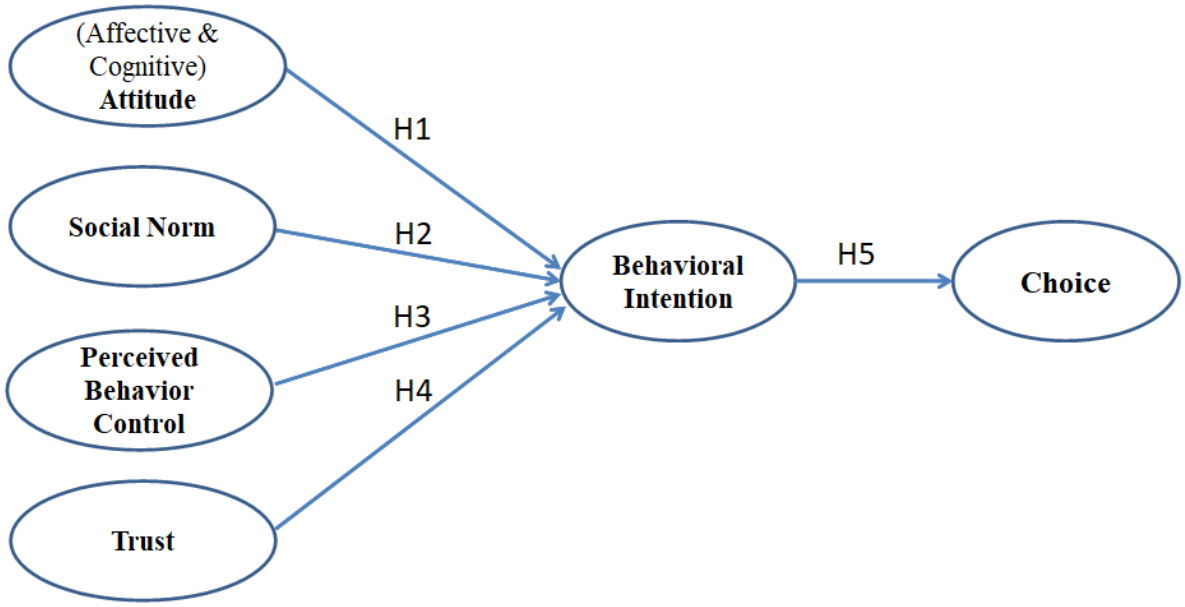

Figure 22. Structural model for consumers' purchase decision of food products promoted by FQS labels

Table 60. Fit of the Integrated Choice and Latent Variable (ICLV) model and significance levels for all seven countries

	N	RMSEA	CFI	TLI	H1	H2	H3	H4	H5
FR	400	0.07	0.92	0.90	(+) *	(+) **	(+) ***	(-)	(+) *
DE	404	0.07	0.93	0.91	(+) ***	(+) ***	(+) ***	(+)	(+) ***
HU	400	0.09	0.88	0.86	(+) ***	(+) ***	(+) ***	(+) **	(+)
IT	408	0.09	0.87	0.85	(-)	(+)	(+) ***	(+) *	(+)
NO	407	0.07	0.92	0.90	(+) ***	(+) ***	(+) ***	(-)	(-) *
RS	402	0.07	0.92	0.91	(+) ***	(+) ***	(+) ***	(+)	(+) **
UK	401	0.08	0.92	0.91	(+) ***	(+) ***	(+) ***	(-) **	(-)

*,**,***; $p < 0.05$, $p < 0.01$, $p<0.001$

6.3 Evidence on the effectiveness of a modification of the EU organic label

Labels aim to reduce information asymmetry on the side of consumers thereby supporting an informed choice especially in the case of experience and credence attributes. The attribute

"organic production" belongs to that group. For that reason, the EU organic logo was implemented in 2010. However, a label can only serve its purpose if consumers recognize, understand and trust the label. Despite the fact that the EU green-leaf logo was launched almost a decade ago public awareness, knowledge and trust of this label seem limited as revealed by our first consumer survey (see section 3.3.2.1). One reason for this may be the design of the EU green-leaf logo which is far from self-explanatory while at the same time a broad advertising campaign regarding this logo has never been launched. Against this background, we assessed the effectiveness of a policy measure - more specifically of a modification of the green-leaf logo - with respect to improving consumers' evaluation of the EU organic label.

To test consumers' evaluation of a modified EU organic logo, we concentrated on those consumers who took part in both pan-European consumer surveys and who stated in the first survey that they recognized the EU organic label (see also chapter 6.1). More specifically, in our first consumer survey, which was launched in Autumn 2017, participants were asked to evaluate the existing EU organic logo (refer to logo on the right side of Table 61). An evaluation of a modified EU organic label to which the text "BIO" or "ECO" had been added, according to the expressions used in the respective countries, inside the green-leaf (see left side of Table 61) was requested by the same respondents in the second consumer survey launched in Summer 2018. Thus, the sample used for the following analysis includes participants who completed both surveys.[46]

In both consumer surveys, the participants were requested to indicate their perception of the label on a 5-point Likert scale regarding the statements shown in Table 61. After matching the data of participants' responses for the first and the second survey, we conducted a paired samples t-test for each of the seven questions.

[46] The participants' identification code enabled us to track the same individual and match data across the two surveys.

Table 61. Policy adjustment – Original and modified EU Organic label

	Modified EU organic label tested in the 2nd consumer survey	Original EU organic label used in the 1st consumer survey
FR **DE** **HU**		
IT		
NO		
RS **UK**		

As the results of the first survey reveal (see Table 27 Chapter 3.3.2.1.3), the evaluation of the original EU organic logo is rather neutral. Consumers in the seven countries on average neither agree nor disagree with most of the statements. Especially in Norway and Serbia, the two Non-Member States of the EU, the evaluation of the original green-leaf is particularly low (see Table 27).

The results of the paired sample mean comparison are shown in Table 62. The results show that there are in most cases highly ($p<0.001$) statistically significant differences between the mean scores of the original EU green-leaf logo and the modified one. This holds for all seven statements and in all countries. The findings clearly indicate that the adjusted EU green-leaf logo would lead to a significant improvement in its clarity, trustworthiness and attractiveness as perceived by consumers. Table 62 also reveals some differences in the effectiveness of this

policy adjustment between countries. For instance, we find lower mean differences for the Norwegian and British respondents and higher ones for Serbia compared with the other four countries.

Further analysis will investigate the effectiveness of the label adjustment for subgroups. It seems especially of interest to investigate whether respondents with different levels of education benefit to a different degree from such a policy adjustment.

Therefore, our empirical findings provide evidence on the effectiveness of the EU organic logo modification. In the context of the CAP post-2020, and the arising opportunities associated with 'agri-environment-climate commitments', this research provides important policy implications aimed at increasing consumer confidence towards the organic labelling scheme and overall citizens' trust in good farming practices.

Table 62. Mean differences of scores regarding consumers' perception of the original EU organic label and the modified EU organic label

Mean comparison	FR			DE			HU			IT		
	N	Mean Diff.	Sig.	N	Mean Diff.	Sig.	N	Mean Diff.	Sig.	N	Mean Diff.	Sig.
The label is easy to understand	192	1.37	***	155	1.17	***	173	1.46	***	184	1.18	***
The label has a clear logo/symbol	192	1.09	***	152	0.63	***	176	1.46	***	183	0.83	***
The label is trustworthy	177	0.36	***	153	0.33	**	149	0.50	***	174	0.48	***
The text on the label is easy to read	168	1.24	***	123	1.44	***	131	1.51	***	164	1.30	***
The label helps me to make an informed choice	181	0.93	***	153	0.86	***	167	0.97	***	182	0.89	***
The label is more than just a means of advertising	177	0.79	***	149	0.45	***	166	0.65	***	178	0.73	***
The label is attractive	179	0.54	***	152	0.60	***	176	0.46	***	177	0.55	***

Table 62 continued

Mean Comparison	NO			RS			UK		
	N	Mean Diff.	Sig.	N	Mean Diff.	Sig.	N	Mean Diff.	Sig.
The label is easy to understand	102	1.61	***	165	0.82	***	105	0.80	***
The label has a clear logo/symbol	102	1.10	***	162	0.96	***	104	0.49	***
The label is trustworthy	88	0.64	***	155	1.08	***	96	0.39	**
The text on the label is easy to read	77	1.25	***	144	2.24	***	71	1.06	***
The label helps me to make an informed choice	94	0.95	***	155	1.24	***	98	0.76	***
The label is more than just a means of advertising	87	0.75	***	149	0.88	***	98	0.70	***
The label is attractive	100	0.23		158	0.70	***	104	0.37	***

,*; $p < 0.01$, $p<0.001$

1) Here are several statements concerning your perception of the label above. Please indicate on a scale from 1 to 5 your opinion on the following statements, 1 being "don't agree at all" and 5 being "completely agree". Respondents could also indicate 'Does not apply'. Respondents who ticked 'Does not apply' were not considered in the following analysis which explains that the N differs by statement.
2) Note that the "mean difference" is calculated by the mean value of consumers' evaluation with respect to the original EU organic label (first survey) subtracted from the mean value of consumers' evaluation with respect to the modified EU organic label (second survey).
3) The sample size (N) is based on participants who completed the two surveys with rating "does not apply" excluded.

6.4 Consumers' use of retail formats supporting short food supply chains

Chapter 3.2 revealed that from a multitude of product and process characteristics potentially relevant for consumers when buying food "knowing the producer" is in general of little importance. Thus, this advantage of many short food supply chains is obviously not a main driver for consumers. To shed further light on the relevance of mainstream retail channels such as supermarkets, discounters and hypermarkets compared with farmer markets and farmer shops we asked consumers in the first survey to select from a list of retail formats a maximum of three locations where they usually do their grocery shopping. In the second consumer survey participants were requested to indicate on a scale from 1 (Never) to 7 (Every time) how often they buy a specified product in farmer markets or farmer shops. The specified product differed between countries and was linked to the DCE carried out in the specific country in the second survey. In the following analysis we only included those respondents taking part in both surveys.

Table 68 reveals that, in all countries except Serbia, supermarkets are the most important retail channel for consumers. Between 69% of respondents in France and 89% of respondents in the UK state that supermarkets belong to the three locations where they normally do their grocery shopping. Even in Serbia, where supermarkets only take second place, the share is 77%. The second most popular shopping format are discounters in Germany (79%), Norway (68%) and the UK (33%) and hypermarkets in France (51%), Hungary (52%) and Italy (39%). With respect to farmers' markets and buying directly from farmers (most likely in farmers' shops) we see a considerable heterogeneity amongst the countries analyzed. Based on our results, Farmers' markets are the location most often ticked by respondents from Serbia (80%) while the respective share for all other countries is much lower (12% in Norway to 34% in Hungary). Furthermore, only 4% (UK) to 16% (Italy) of survey participants in the different countries state that buying directly from farmers is one of the three most dominant ways they do their grocery shopping.

Table 63. Relevance of different distribution channel for consumers' grocery shopping: Data from the 1st consumer survey

	FR (N=198)		DE (N=168)		HU (N=192)		IT (N=197)		NO (N=112)		RS (N=174)		UK (N=112)	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Supermarket	137	69.19	145	86.31	145	75.52	167	84.77	87	77.68	134	77.01	100	89.29
Discount Store	53	26.77	132	78.57	50	26.04	62	31.47	76	67.86	19	10.92	37	33.04
Convenience Store	39	19.70	7	4.17	70	36.46	20	10.15	1	0.89	83	47.70	18	16.07
Farmers' market	41	20.71	36	21.43	65	33.85	44	22.34	13	11.61	140	80.46	14	12.50
Department Store	12	6.06	8	4.76	42	21.88	12	6.09	27	24.11	5	2.87	8	7.14
Hypermarket	100	50.51	61	36.31	99	51.56	77	39.09	28	25.00	51	29.31	14	12.50
Organic Shop	39	19.70	18	10.71	7	3.65	25	12.69	0	0.00	25	14.37	3	2.68
Internet	13	6.57	5	2.98	5	2.60	10	5.08	3	2.68	1	0.57	15	13.39
Directly from farmer	20	10.10	18	10.71	20	10.42	32	16.24	8	7.14	11	6.32	4	3.57
Others	3	1.52	2	1.19	3	1.56	7	3.55	7	6.25	3	1.72	3	2.68

1) From the list of 10 potential shopping locations respondents could tick up to 3 locations where they usually go for their grocery shopping.
2) Only those participants are considered in this analysis that took part in the first and the second survey.
3) The yellow shed cells indicate the most frequent considered distributional channel by consumers when doing grocery shopping, where the green shed cells indicate the second most used distributional channel.

While in the first consumer survey we requested information on grocery shopping in general, in the second survey participants were directly asked how often they purchase one specific product in a farmers' market or at a farm shop/dairy shop/butcher. As indicated above, the product investigated differed between countries, which limit comparability between countries. Table 64 reveals that with a mean of 5.55 Serbian consumers buy their potatoes almost every time at the farmers' markets or a farm shops. This finding nicely supports the insights gained in the first survey. Based on the findings of the first survey farmers' markets in Hungary also play a larger role compared with all other countries except Serbia. The findings in Table 64 are in line with this result. Hungarians buy their sausage rather regularly at a farmers' market or at a butcher (Mean 4.01). Especially in Norway and the UK, farmers' markets and farm shops seem to be of little relevance when purchasing apples (Mean 2.13 and 2.80, respectively). Indeed, results from the first survey also point to the fact that those retail formats are of little importance in both countries. Finally, our findings show that for France, Germany and Italy short supply chains are of low to medium importance (Mean between 3.14 and 3.35) a conclusion which could have been already drawn from the first survey.

Though we measured the relevance of short food supply chains in the different countries using different questions and scales, we do see some consistency in the results. Short food supply chains are only of considerable importance in Serbia. They are of some, though minor, relevance in Hungary and to an even lesser extent in France, Germany and Italy. They seem to play hardly any role in the UK and Norway.

Table 64. Distribution channels 2nd survey (matched participants)

Question: Please tick the frequency that best describes your behaviour Answer from "Never" [1] to "Every time" [7]		**Mean**	**S.D.**
FR (N=198)	When you buy hard cheese, how often do you buy hard cheese at a farmers' market or a dairy shop?	3.32	1.63
DE (N=168)	When you buy apples, how often do you buy apples at a farmers' market or farm shop?	3.35	1.53
HU (N=192)	When you buy sausage, how often do you buy sausage at a farmers' market or butcher?	4.01	1.43
IT (N=197)	When you buy hard granular cheese, how often do you buy hard granular cheese at a farmers' market or dairy shop?	3.14	1.62
NO (N=112)	When you buy apples, how often do you buy apples at a farmers' market or farm shop?	2.13	1.23
RS (N=174)	When you buy potatoes, how often do you buy potatoes at a farmers' market or farm shop?	5.55	1.14
UK (N=112)	When you buy apples, how often do you buy apples at a farmers' market or farm shop?	2.80	1.67

Only those participants are considered in this analysis that took part in the first and the second survey.

7 SUMMARY AND CONCLUSIONS

Food Quality Scheme labels are an essential means of communicating food product and process characteristics thereby aiming at reducing information asymmetry on the side of consumers and supporting an informed choice. Such labels, however, can only serve its purpose if they are recognized, understood and trusted by consumers. This implies that also the competitiveness and growth of firms supplying food promoted by Food Quality Scheme (FQS) labels will depend on a thorough understanding of consumer demand. Based on such

insights possible tools for more effective policy measures or marketing of products with FQS can be identified.

The present report is divided into two parts. The objective of the first part is to provide insights regarding consumers' perceptions and valuation of EU and national/regional food quality schemes (FQS) across seven European countries (France, Germany, Hungary, Italy, Norway, Serbia and UK). Food quality labels intend to serve as a quality cue for attributes consumers cannot readily evaluate before their purchase. Thus, this part of the report, in addition, shows which product and process attributes are of relevance in consumers' purchase decisions. The analysis is based on an online survey launched in seven European countries in autumn 2017. In each country about 800 consumers took part in the survey.

The objective of the second part of this report is threefold. First, it provides for the same seven European countries investigated in the first part of the report a more in-depth understanding of the role of selected food quality schemes (FQS) in consumers' purchase decision thereby considering the extent to which cognitive and affective attitudes, trust, and social norms influence product choice. Second, we investigate consumers' evaluation of a policy measure, more specifically an adjustment of the EU organic label, on consumers' evaluation of this label. Third, we provide some insights into the relevance of different marketing channels in consumers' purchase decision in general and investigate the extent to which farmers' markets and farmers' shops play a role when buying specific products. The analysis of this second part of the report is based on responses of 400 participants per country taking part in an online survey launched in seven European countries in summer 2018.

PART I:

The importance of different product and process attributes was investigated in each country for three different products. Selection criteria were the importance of the respective product category in consumers' diet in the respective country, the relevance of process characteristics and labels for the respective product category and the coverage of a diverse set of processed and fresh products over the seven countries included in the research. In addition, we ensured that each product category selected was examined by at least two countries. Cheese was determined to be the product category to be investigated in all countries. In addition, fresh

meat was investigated in France and the UK, processed meat in Hungary and Serbia, fresh fish in Norway and the UK, fresh vegetables in Germany, Hungary, and Italy, and processed vegetables in Germany and Serbia.

The main findings can be summarized as follows. First, taste is of crucial importance in consumers' food purchase decisions. For many products in most countries it is the major or among the major attributes that influence food purchase. Thus, even if consumers do care for e.g. sustainable attributes such as animal-friendly production or organic production, they do not want to compromise taste. Second, knowing the producer is in general of little importance to consumers in the countries and for the products considered in this study. Third, our results demonstrate that the relevance of most other attributes depends on the product type and the country.

By and large, freshness/best before date is (one of) the most important attributes for fresh and thus perishable products such as fresh meat or fresh fruits and vegetables. However, not surprisingly, this attribute is of little relevance for processed products such as cheese, especially if we refer to hard cheese. Tables 4a and 4b, however, reveal that in the case of cheese best before dates are of higher importance in Hungary and Serbia compared with the other countries. This can be explained by the fact that in those two countries, in contrast with e.g. France and Germany, a large proportion of cheese is "young" soft cheese, which in general has a more limited shelf life than hard cheese. This finding also shows that differences in attribute relevance for a product category (e.g. cheese) can be explained by a different composition of the product category (e.g. soft versus hard cheese) in the different countries.

Country and region of origin are process attributes with a relatively high relevance for consumers in Italy and France when buying food but prove to be of minor relevance in countries such as Serbia, UK, Norway and Hungary. Considerable heterogeneity also exists regarding the attribute GMO free which is one of the most important attributes in consumers' food purchase decisions in Serbia while being of relatively low importance in countries such as the UK or Norway. The same was true for animal welfare-friendly products which play a minor role in Serbia and Hungary and are of especially high relevance in Germany. The attribute price is an interesting case as in most countries and for most products its share in the most important counts is relatively high but in countries such as Italy and France the respective shares in the least important counts is similarly high, leading to a low positive or in

some cases even to a negative net value. This result indicates that there is considerable heterogeneity in the sample in consumers' preferences which will receive attention in further analysis of the data. Finally, for some countries more general conclusions can be drawn. Whatever the food product is, the respondents from France are more sensitive to its hedonic attributes such as taste, freshness and traditional food-processing method, rather than more abstract and ethical ones, such as animal welfare, environment-friendly production, or fair trade.

Besides, the analysis of consumers' evaluation of different food attributes, the first consumer survey also investigates consumers' awareness and valuation of four EU food quality labels (Organic, PGI, PDO, and TSG) as well as 14 national/regional labels (two for each country). Our analysis revealed similarities and differences among countries regarding their recognition, use, barriers to use, perception and knowledge of those labels which again differ depending on the label considered. Focusing first on the EU labels we found that recognition is on average highest for the EU organic label closely followed by the PGI label. The PDO label has a much lower and the TSG label has the lowest level of recognition. The order reflects the differences of the number of products with the respective label in the market which is by far the lowest for the TSG label and the highest for the organic label. Recognition of EU labels varies considerably between countries; e.g. in the case of the organic label with a low of only 16.4% recognition in the UK and a high of about 50% recognition in France, Germany and Italy. In line with those differences we also observe that the share of organic products in total retail sales differs considerably amongst those countries, reaching 5.1%, 3.5%, 3.0% in Germany, France and Italy, respectively and only 1.5% in the UK (Lernoud and Willers, 2018).

Differences in recognition of labels can also be observed for national labels. While several national labels are recognized by almost all respondents in the samples (recognition above 95% for five of the 14 labels) others are unknown by the majority or in some cases almost all respondents. The latter is true for the Norwegian PGI label, which is recognized by only 8.3% of the survey participants from Norway. On average, however, national labels receive a higher level of recognition compared to the EU FQS labels.

In accordance with our results in section 3.2, where the attributes region and country of origin proved to be especially important in France and Italy, we found that recognition of the PGI

and PDO labels in those two countries by far exceeds recognition of the corresponding labels in the other countries. Our results also demonstrate that recognition is the crucial step to its use. In our study we could show that the majority (in general around 70%) of consumers recognizing a label, also state that they make use of the label at least sometimes when doing their grocery shopping. This reveals the importance of increasing awareness regarding food quality labels for increasing the market relevance of products promoted by those labels.

The reasons why consumers who recognize the label do not use the label differ between labels and countries but one reason dominates: consumers indicate that they just do not pay attention to product labels while doing their grocery shopping. Other reasons mentioned by a large share of respondents are that the products are too expensive and have a lack of availability.

Amongst the EU labels, perception of the organic label is the least favourable and only receives a neutral score on average. The other three EU labels are more favourably perceived although less compared to the national/regional labels. Trust is the characteristic of a label perceived by consumers to be most important; however, the level of trust is, while positive for all labels, not very high. In general regarding all FQS labels and countries, we see that those consumers who recognize a label in general have a more positive perception of this label compared to those who do not. Usage of a label further improves consumers' label perception.

In addition, we also investigated consumers' knowledge with respect to the EU and national/regional food quality labels. Our results show that knowledge is relatively low for all considered labels. Perceived knowledge increases for those recognizing and using the label, though this does not always correspond to factual knowledge. However, if consumers do not know what the label represents and whether it is third party-certified, the label cannot help them to make an informed choice. In fact, in their evaluation of the labels, the statement 'this label helps me to make an informed choice' receives for most labels a comparatively low rating.

PART II

In the second part of the report we first investigate the role of selected FQS in consumers' purchase decision across seven European countries considering the extent to which cognitive and affective attitudes, trust, and social norms influence product choice by applying an

Integrated Choice and Latent Variable (ICLV) model. Selection criteria for the FQS in each of the seven countries were e.g. the recognition of the FQS in the respective country as revealed in the first survey. In addition, the decision on the FQS investigated was done in a way to allow for some comparison between countries. Thus, in most cases we examined the same FQS for the same (e.g. apples) or a similar product (semi-hard versus hard cheese) between two or more countries. The respective products and labels investigated are as follows: (Semi)Hard Cheese promoted by a PDO label in France and Italy, Sausage promoted by a PGI label in Hungary, Apples promoted by the EU organic label in Germany, Norway and the UK and potatoes promoted by national organic labels in Serbia.

The analysis of the DCE data is based on the so-called count analysis which allows for a good first impression of the main effects regarding the different attribute levels and is an intuitive way to summarize consumers' preferences with respect to the different attributes and attribute level investigated in a DCE. The results of the count data analysis reveal that respondents in all countries show the expected price reaction. Thus, in line with a negative price elasticity of demand, product choice declines with an increase in price. The results provide, in addition, some indication that respondents' price sensitivity considerably differs between the countries being especially high in Norway and the UK.

Divergences between different countries also exist with respect to consumers' appreciation of EU and national quality schemes. For France and Italy – both surveys investigate the FQS label PDO for cheese, compared with no label or a combined label PDO + Bio in the case of France and PDO + Mountain label in the case of Italy – we see that the combined label is most preferred by consumers, though the sole PDO label also receives a higher relative purchase frequency compared with products with no label. For other countries we see that some FQS labels are not able to raise consumers' interest in the product. This holds for the EU organic label in the case of Germany, Norway and the UK and for one of the national organic labels in the case of Serbia. In fact, the data for Norway and the UK reveal that products carrying the EU organic label are slightly less preferred to products without any FQS label. Interestingly, however, it seems not to be organic production methods, which are of little interest to the consumers, but the specific label. For Germany for example, consumers reveal a high preference for products that carry besides the EU organic label also the national organic label. These results confirm the insights generated in Part 1 of the report. The national

organic label receives not only a much higher recognition in Germany but is in addition also much better evaluated (see section 3.3.2). Also, in Norway and the UK, products carrying the national organic label are more likely to be purchased compared with those without a label or with the EU organic label. For Serbia, we see that one national organic label is not favoured by consumers while another is. The Hungarian DCE investigates consumers' preference of the PGI label with the example of sausage. The results reveal that consumers have a preference for PGI-labelled sausage which is higher than the one for sausage of the brand PICK and much higher than for sausage without any label/brand.

Comparing the relevance of the FQS label attribute to the second attribute considered in the DCE we observe considerable differences between the countries investigated. In France and Italy, the FQS attribute is of higher importance in consumers' purchase decision compared with the second attribute 'brand'. This result is in line with the finding generated in the first part of the report (see section 3.2). For Germany, Norway and Serbia, region/country of origin is much more important and for the UK it is somewhat more important than the FQS attribute 'organic'. Finally, for Hungary Taste (Spiciness) and the FQS are of about equal relevance for consumers' purchase decision.

To better understand the drivers of consumers' purchase decision we investigated consumers' Attitude, Social Norms, Perceived Behavioural Control, Trust and Purchase Intention regarding products promoted by FQS labels. The mean values for the items making up those constructs are in general higher in France and Italy and especially low in Norway and the UK. Based on an ICLV we can show for six of the seven countries (exception Italy) that the three determinants of Behavioural Intention as suggested by the TPB - Attitude, Subjective Norms, and Perceived Behavioural Control - have a positive significant influence on consumers' intention to buy products promoted by FQS labels. Furthermore, for Hungary and Italy a higher level of trust in e.g. the control system behind the label significantly increases consumers' intention to buy products promoted by the FQS label. Finally, for France, Germany and Serbia we can show that consumers' intention to buy a product promoted by a FQS label has a significant positive influence on consumers' product choice as revealed by the DCE.

Besides better understanding of the role of FQS labels in consumers' purchase decision, a second objective of the second survey was also to investigate whether policy adjustment can improve the perception of a FQS label. To do so, we assess the effectiveness of the green-leaf logo

modification in improving consumers' evaluation of the EU organic label. Adjustments of the EU organic label were carried out by adding the text "BIO" or "ECO", according to the expressions used in the respective countries, inside the green-leaf. Our findings clearly indicate that this rather small modification of the EU organic label would significantly improve its clarity, trustworthiness and attractiveness.

LIMITATIONS AND FURTHER ANALYSIS

As with all empirical studies, some limitations of this study must be acknowledged. Firstly, the sample structure with respect to some characteristics deviates from the respective structure of the overall population in some countries. This holds for both surveys (Part I and Part II of the report). Accordingly, conclusions based on our analysis cannot in all cases be considered representative for the whole country. Further analysis based on the survey data will control for those characteristics. Second, the first part of the report is primarily a descriptive study providing detailed information regarding consumers' preferences for product and process attributes across products as well as countries and regarding consumers' awareness, use, perception and knowledge with respect to a total of 18 food quality labels. Further analysis based on the obtained survey data is still to come that investigates causalities, e.g. the influence of consumers' trust in a label on label use. Regarding the second part of the study, results obtained need to be considered as preliminary. An extension of the analysis will consider first and foremost a more in-depth analysis of the DCE data based on logit simulations. In addition, concerns regarding the internal consistency and the discriminant validity of the construct Perceived Behavioural Control were detected for several countries. This shortcoming could possibly be solved by applying stricter rules for item-inclusion compared with the ones used in the present investigation. Furthermore, an extension of the framework by additional factors driving consumers' purchase decision of products promoted by FQS labels, such as moral norms, seems a promising avenue for better understanding consumers' behaviour. Finally, including further sociodemographic variables in the analysis or separating the sample into subgroups e.g. depending on the relevance of the product investigated in consumers' purchase decision could offer additional insight into the relevance of FQS labels for consumers.

MAIN CONTRIBUTION TO THE LITERATURE

The contribution of this report to the literature is as follows. First, our study is the first investigating the relevance of a large number of food attributes across different countries and products using BWS. Previous studies use rating scales, though easy for respondents to answer, may ineffectually discriminate between rating statements (Hein et al., 2008). This is the case because respondents are not forced to make a choice between items, allowing them to rate multiple items as being of equally high importance. In addition, it is difficult interpreting what the rating scale values actually mean (Flynn and Marley, 2014). This is true especially in the case of cross-country studies. Second, no previous study has compared consumers' recognition/ adoption/ perception/ knowledge of the four main EU food quality labels, with varied governmental-regulated national and regional labels concurrently in a multi-country setting. This allows a comparison between EU and national labels of similar or identical standards, but also amongst national labels between different countries. Third, our research is the first to simultaneously investigate the role of FQS in consumers' purchase decisions across seven European countries. Fourth, by doing so this research provides insights into how much cognitive and affective attitudes, trust, and social norms influence product choice by applying an Integrated Choice and Latent Variable (ICLV) model. Finally, to our knowledge there is no study revealing the impact of a modification of the EU organic label on consumers' perception.

POLICY RECOMMENDATIONS

Though further in-depth analysis of the data is still to come, our results point to the need for actions by policy makers and actors in the food value chain. EU and national/regional food quality schemes and their respective logos were introduced to serve as a quality cue for consumers, thereby reducing consumers' uncertainty when purchasing food with respect to desired experience and credence attributes such as taste or production methods. Our results indicate that so far most FQS fulfil their key function only to a limited extent: Awareness of the EU labels and for the majority of the investigated national/regional labels is low. Awareness, however, is a necessary condition for labels to serve as quality cues. But even if awareness exists, a label can only perform its role as a decision-aid supporting consumers in

choosing food products according to their preferences if consumers know what the label stands for and have trust in the label. Thus, knowledge and trust are the sufficient conditions for a label to perform its function. However, regarding the former our results also reveal a rather disappointing picture. Factual knowledge on what the label actual stands for is rather low, and this holds true even for those being aware and making use of the label when doing their grocery shopping. Trust in labels differs between FQS and is higher for national compared with EU labels.

Based on our study, we can show that an ICLV model is suitable to identify the determinants affecting consumers' decision in favour of products promoted by FQS labels in a choice experimental. Our findings suggest that consumers can be expected to be more likely to (have the intention to) purchase products carrying a FQS label when they have a favourable attitude towards the FQS, they experience a certain normative pressure regarding buying such products, they feel they have control over their choice of buying those products, and for some countries if they trust that the FQS holds what it promises. Consequently, recommendations for policy makers can be derived from these and the previous findings. Communication strategies promoting FQS should refer to consumers' feeling as well as their cognitive perception with respect to FQS labels. Furthermore, personal constraints of finding and deciding in favour of products carrying a FQS label need to be addressed. This holds as well with respect to perceived external constraints such as low availability of products with a FQS label. Communication campaigns that, in addition, provide information on the control system behind the label could help to increase confidence in the credibility and trust of the FQS.

However, first and foremost well-designed communication campaigns could serve as a tool to raise awareness and consumer knowledge. Particularly for labels such as the EU organic one, which is far from self-explanatory, smart campaigns are needed. Our empirical findings provide evidence on the effectiveness of a slight modification of the EU organic logo. As our analysis reveals, such a modification can considerably increase consumers' understanding and trust in the EU organic labelling scheme. Such adjustments of labels should also be tested for other EU FQS labels.

APPENDIX

Table A1. Empirical measurement related to the construct Affective Attitude

Country	Label focus in SEM	Product category	Affective Attitude (AA)	
	Please move the slider to the number that best reflects your opinion:			
General	-3 -2 -1 0 1 2 3 Unsatisfied ... Satisfied			**[Code: AA1]**
	Unhappy ... Happy			**[Code: AA2]**
	Bad ... Good			**[Code: AA3]**
FR		**Cheese**	Imagine, you are grocery shopping and think about buying hard cheese with a PDO label such as the PDO Comté instead of hard cheese without such a label. Buying PDO labelled hard cheese instead of hard cheese without such a label would make me feel...	
DE		**Apple**	Imagine, you are grocery shopping and think about buying organic apples instead of conventionally produced apples. Buying organic apples instead of conventionally produced apples would make me feel…	
HU		**Sausage**	Imagine that you are grocery shopping and think about buying sausage with a PGI label such as the Gyulai kolbász instead of sausage without such a label. Buying PGI labelled sausage instead of sausage without such a label would make me feel…	
IT		**Cheese**	Imagine, you are grocery shopping and think about buying hard granular cheese with a PDO label such as the Parmigiano Reggiano instead of hard granular cheese without such a label. Buying PDO labelled hard granular cheese instead of hard granular cheese without such a label would make me feel...	
NO		**Apple**	Imagine, you are grocery shopping and think about buying organic apples instead of conventionally produced apples. Buying organic apples instead of conventionally produced apples would make me feel…	
RS		**Potatoes**	Imagine, you are grocery shopping and think about buying organic potatoes instead of conventionally produced potatoes. Buying organic potatoes instead of conventionally produced potatoes would make me feel...	
UK		**Apple**	Imagine, you are grocery shopping and think about buying organic apples instead of conventionally produced apples. Buying organic apples instead of conventionally produced apples would make me feel...	

Table A2. Empirical measurement related to the construct Cognitive Attitude

Country	Label focus in SEM	Product category	Cognitive Attitude (CA)	
	Please move the slider to the number that best reflects your opinion: -3 -2 -1 0 1 2 3			
General	Meaningless ... Meaningful			**[Code: CA1]**
	Harmful ... Beneficial			**[Code: CA2]**
	Unimportant ... Important			**[Code: CA3]**
FR		**Cheese**	I think that buying PDO labelled hard cheese instead of hard cheese without such a label is...	
DE		**Apple**	I think that buying organic apples instead of conventionally produced apples is…	
HU		**Sausage**	I think that buying PGI labelled sausage instead of sausage without such a label is…	
IT		**Cheese**	I think that buying PDO labelled hard granular cheese instead of hard granular cheese without such a label is...	
NO		**Apple**	I think that buying organic apples instead of conventionally produced apples is…	
RS		**Potatoes**	I think that buying organic potatoes instead of conventionally produced potatoes is…	
UK		**Apple**	I think that buying organic apples instead of conventionally produced apples is…	

Table A3. Empirical measurement related to the construct Subjective Norm

Country	Label focus in SEM	Product category	Subjective Norm (SN)
General			**For each of the following statements please indicate on a scale from 1 (false) to 7 (true) whether you perceive the statement to be true or false: (Answer from "False" [1] to "True" [7])**
FR		**Cheese**	1. Most people who are important to me would like me to buy PDO labelled hard cheese instead of hard cheese without such a label. **[Code: SN1]** 2. My close friends and family expect me to buy PDO labelled hard cheese instead of hard cheese without such a label. **[Code: SN2]** 3. Most of my close friends and family generally buy PDO labelled hard cheese instead of hard cheese without such a label. **[Code: SN3]** 4. Nowadays, PDO labelled hard cheese is widely regarded as a better alternative to hard cheese without such a label. **[Code: SN4]**
DE		**Apple**	1. Most people who are important to me would like me to buy organic apples instead of conventionally produced apples. **[Code: SN1]** 2. My close friends and family expect me to buy organic apples instead of conventionally produced apples. [**Code: SN2]** 3. Most of my close friends and family generally buy organic apples instead of conventionally produced apples. **[Code: SN3]** 4. Nowadays, organic apples are widely regarded as a better alternative to conventionally produced apples. **[Code: SN4]**
HU		**Sausage**	1. Most people who are important to me would like me to buy PGI labelled sausage instead of sausage without such a label. **[Code: SN1]** 2. My close friends and family expect me to buy PGI labelled sausage instead of sausage without such a label. **[Code: SN2]** 3. Most of my close friends and family generally buy PGI labelled sausage instead of sausage without such a label. **[Code: SN3]** 4. Nowadays, PGI labelled sausage is widely regarded as

			a better alternative to sausage without such a label. **[Code: SN4]**
IT		**Cheese**	1. Most people who are important to me would like me to buy PDO labelled hard granular cheese instead of hard granular cheese without such a label. **[Code: SN1]** 2. My close friends and family expect me to buy PDO labelled hard granular cheese instead of hard granular cheese without such a label. **[Code: SN2]** 3. Most of my close friends and family generally buy PDO labelled hard granular cheese instead of hard granular cheese without such a label. **[Code: SN3]** 4. Nowadays, PDO labelled hard granular cheese is widely regarded as a better alternative to hard granular cheese without such a label. **[Code: SN4]**
NO		**Apple**	1. Most people who are important to me would like me to buy organic apples instead of conventionally produced apples. **[Code: SN1]** 2. My close friends and family expect me to buy organic apples instead of conventionally produced apples. **[Code: SN2]** 3. Most of my close friends and family generally buy organic apples instead of conventionally produced apples. **[Code: SN3]** 4. Nowadays, organic apples are widely regarded as a better alternative to conventionally produced apples. **[Code: SN4]**
RS		**Potatoes**	1. Most people who are important to me would like me to buy organic potatoes instead of conventionally produced potatoes. **[Code: SN1]** 2. My close friends and family expect me to buy organic potatoes instead of conventionally produced potatoes. **[Code: SN2]** 3. Most of my close friends and family generally buy organic potatoes instead of conventionally produced potatoes. **[Code: SN3]** 4. Nowadays, organic potatoes are widely regarded as a better alternative to conventionally produced potatoes. **[Code: SN4]**

UK	**Apple**	5. Most people who are important to me would like me to buy organic apples instead of conventionally produced apples. **[Code: SN1]** 6. My close friends and family expect me to buy organic apples instead of conventionally produced apples. **[Code: SN2]** 7. Most of my close friends and family generally buy organic apples instead of conventionally produced apples. **[Code: SN3]** 8. Nowadays, organic apples are widely regarded as a better alternative to conventionally produced apples. **[Code: SN4]**

Table A4. Empirical measurement related to the construct Perceived Behavior Control

Country	Label focus in SEM	Product category	Perceived Behavior Control (PBC)
General			**Please indicate on a scale from 1 (strongly disagree) to 7 (strongly agree) your strength of agreement with the following statements: (Answer: "Strongly disagree" [1] to "Strongly agree" [7])**
FR		**Cheese**	1. Whether or not I buy PDO labelled hard cheese instead of hard cheese without such a label on a regular basis is completely up to me. **[Code: PBC1]** 2. I am confident that I can buy PDO labelled hard cheese instead of hard cheese without such a label on a regular basis. **[Code: PBC2]** 3. For me, buying PDO labelled hard cheese instead of hard cheese without such a label on a regular basis is easy. **[Code: PBC3]**
DE		**Apple**	1. Whether or not I buy organic apples instead of conventionally produced ones on a regular basis is completely up to me. **[Code: PBC1]** 2. I am confident that I can buy organic apples instead of conventionally produced ones on a regular basis. **[Code: PBC2]** 3. For me buying organic apples instead of conventionally produced ones on a regular basis is easy. **[Code: PBC3]**
HU		**Sausage**	1. Whether or not I buy PGI labelled sausage instead of sausage without such a label on a regular basis is completely up to me. **[Code: PBC1]** 2. I am confident that I can buy PGI labelled sausage instead of sausage without such a label on a regular basis. **[Code: PBC2]** 3. For me, buying PGI labelled sausage instead of sausage without such a label on a regular basis is easy. **[Code: PBC3]**
IT		**Cheese**	1. Whether or not I buy PDO labelled hard granular cheese instead of hard granular cheese without such a label on a regular basis is completely up to me. **[Code: PBC1]** 2. I am confident that I can buy PDO labelled hard granular cheese instead of hard granular cheese without such a label on a regular basis. **[Code: PBC2]**

			3. For me, buying PDO labelled hard granular cheese instead of hard granular cheese without such a label on a regular basis is easy. **[Code: PBC3]**
NO		**Apple**	1. Whether or not I buy organic apples instead of conventionally produced ones on a regular basis is completely up to me. **[Code: PBC1]** 2. I am confident that I can buy organic apples instead of conventionally produced ones on a regular basis. **[Code: PBC2]** 3. For me buying organic apples instead of conventionally produced ones on a regular basis is easy. **[Code: PBC3]**
RS		**Potatoes**	1. Whether or not I buy organic potatoes instead of conventionally produced ones on a regular basis is completely up to me. **[Code: PBC1]** 2. I am confident that I can buy organic potatoes instead of conventionally produced ones on a regular basis. **[Code: PBC2]** 3. For me buying organic potatoes instead of conventionally produced ones on a regular basis is easy. **[Code: PBC3]**
UK		**Apple**	4. Whether or not I buy organic apples instead of conventionally produced ones on a regular basis is completely up to me. **[Code: PBC1]** 5. I am confident that I can buy organic apples instead of conventionally produced ones on a regular basis. **[Code: PBC2]** 6. For me buying organic apples instead of conventionally produced ones on a regular basis is easy. **[Code: PBC3]**

Table A5. Empirical measurement related to the construct Behavioral Intention

Country	Label focus in SEM	Product category	Behavioral Intention (BI)
General			**a. Please rate on a scale from 1 (extremely unlikely) to 7 (extremely likely) how likely it is that you have the following intention: (Answer: "Extremely unlikely" [1] to "Extremely likely" [7])** **b. Please rate on a scale from 1 (strongly disagree) to 7 (strongly agree) how likely it is that you have the following intention: (Answer: "strongly disagree" [1] to "strongly agree" [7])** **c. Please tick the frequency that best describes your future behavior: (Answer: Never/ Almost never/ Seldom/ Sometimes/ Often/ Almost every time/ Every time)**
FR		**Cheese**	a. I intend to buy PDO labelled hard cheese instead of hard cheese without such a label on a regular basis. **[CODE: BI1]** b. I will make an effort to buy PDO labelled hard cheese instead of hard cheese without such a label on a regular basis. **[CODE: BI2]** c. In the future when you buy hard cheese how often will you buy PDO labelled hard cheese? **[CODE: BI3]**
DE		**Apple**	a. I intend to buy organic apples instead of conventionally produced apples on a regular basis. **[CODE: BI1]** b. I will make an effort to buy organic apples instead of conventionally produced apples on a regular basis. **[CODE: BI2]** c. In the future when you buy apples how often will you buy organic apples? **[CODE: BI3]**
HU		**Sausage**	a. I intend to buy PGI labelled sausage instead of sausage without such a label on a regular basis. **[CODE: BI1]** b. I will make an effort to buy PGI labelled sausage instead of sausage without such a label on a regular basis. **[CODE: BI2]** c. In the future when you buy sausage how often will you buy PGI labelled sausage? **[CODE: BI3]**
IT		**Cheese**	a. I intend to buy PDO labelled hard granular cheese instead of hard granular cheese without such a label on a regular basis. **[CODE: BI1]** b. I will make an effort to buy PDO labelled hard granular cheese instead of hard granular cheese without such a

			label on a regular basis. **[CODE: BI2]** c. In the future when you buy hard granular cheese how often will you buy PDO labelled hard granular cheese? **[CODE: BI3]**
NO		**Apple**	a. I intend to buy organic apples instead of conventionally produced apples on a regular basis. **[CODE: BI1]** b. I will make an effort to buy organic apples instead of conventionally produced apples on a regular basis. **[CODE: BI2]** c. In the future when you buy apples how often will you buy organic apples? **[CODE: BI3]**
RS		**Potatoes**	a. I intend to buy organic potatoes instead of conventionally produced potatoes on a regular basis. **[CODE: BI1]** b. I will make an effort to buy organic potatoes instead of conventionally produced potatoes on a regular basis. **[CODE: BI2]** c. In the future when you buy potatoes how often will you buy organic potatoes? **[CODE: BI3]**
UK		**Apple**	a. I intend to buy organic apples instead of conventionally produced apples on a regular basis. **[CODE: BI1]** b. I will make an effort to buy organic apples instead of conventionally produced apples on a regular basis. **[CODE: BI2]** c. In the future when you buy apples how often will you buy organic apples? **[CODE: BI3]**

Table A6. Empirical measurement related to the construct Trust

Country	Label focus in SEM	Product category	Trust (T)
General			**Please indicate on a scale from 1 (strongly disagree) to 7 (strongly agree) your strength of agreement with the following statements: (Answer: "Strongly disagree" [1] to "Strongly agree" [7])**
FR		**Cheese**	1. Products with the EU PDO label fulfil strict rules. **[Code: T1]** 2. The EU PDO label guarantees that the products are of a higher quality. **[Code: T2]** 3. I have great trust in the control system behind the EU PDO label. **[Code: T3]**
DE		**Apple**	1. Products with the EU organic label fulfil strict rules. **[Code: T1]** 2. The EU label for organic products guarantees that the products are really organic. **[Code: T2]** 3. I have great trust in the control system behind the EU-organic label. **[Code: T3]**
HU		**Sausage**	1. Products with the EU PGI label fulfil strict rules. **[Code: T1]** 2. The EU label for PGI guarantees the close link between a product and a place or region. **[Code: T2]** 3. I have great trust in the control system behind the EU PGI label. **[Code: T3]**
IT		**Cheese**	1. Products with the EU PDO label fulfil strict rules. **[Code: T1]** 2. The EU PDO label guarantees that the products are of a higher quality. **[Code: T2]** 3. I have great trust in the control system behind the EU PDO label. **[Code: T3]**
NO		**Apple**	1. Products with the EU organic label fulfil strict rules. **[Code: T1]** 2. The EU label for organic products guarantees that the products are really organic. **[Code: T2]** 3. I have great trust in the control system behind the EU-organic label. **[Code: T3]**

RS		**Potatoes**	1. Products with the Serbian organic label fulfil strict rules. **[Code: T1]** 2. The Serbian label for organic products guarantees that the products are really organic. **[Code: T2]** 3. I have great trust in the control system behind the Serbian organic label. **[Code: T3]**
UK		**Apple**	4. Products with the EU organic label fulfil strict rules. **[Code: T1]** 5. The EU logo for organic products guarantees that the products are really organic. **[Code: T2]** 6. I have great trust in the control system behind the EU-organic logo. **[Code: T3]**

A7. Measurement model indices of SEM model specification: affective attitude and cognitive attitude loaded in separated constructs

Country	Focused Product	Factors	Cronbach's alpha	Items	Std. Factor loadings	Composite reliability	AVE	Sqrt. of AVE	Highest correlation coef. With other construct	Correlated relationship
France	Cheese	Affective Attitude	0.87	AA1	0.65	0.88	0.70	0.84	0.63	Cognitive attitude→affective attitude
				AA2	0.92					
				AA3	0.93					
		Cognitive attitude	0.82	CA1	0.76	0.87	0.63	0.79	0.70	Cognitive attitude→affective attitude
				CA2	0.74					
				CA3	0.85					
		Subjective Norm	0.86	SN1	0.89	0.87	0.63	0.79	0.67	Subjective norm→ behavioral intention
				SN2	0.92					
				SN3	0.77					
				SN4	0.56					
		PBC	0.76	PBC1	0.50	0.77	0.53	0.73	0.89	Behavioral intention→ PBC
				PBC2	0.86					
				PBC3	0.78					
		Behavioral intention	0.89	BI1	0.87	0.89	0.73	0.85	0.89	Behavioral intention→ PBC
				BI2	0.82					
				BI3	0.88					
		Trust	0.91	T1	0.91	0.91	0.76	0.87	0.56	Trust → behavioral intention
				T2	0.87					
				T3	0.87					
Germany	Apple	Affective Attitude	0.85	AA1	0.88	0.85	0.66	0.81	0.82	Affective attitude→ cognitive attitude
				AA2	0.78					
				AA3	0.77					
		Cognitive	0.89	CA1	0.90	0.90	0.75	0.87	0.82	Affective attitude→

		attitude		CA2	0.76					cognitive attitude
				CA3	0.92					
		Subjective Norm	0.85	SN1	0.87	0.86	0.61	0.78	0.69	Subjective norm→ behavioral intention
				SN2	0.82					
				SN3	0.79					
				SN4	0.60					
		PBC	0.74	PBC1	0.36	0.76	0.54	0.73	0.64	Behavioral intention→ PBC
				PBC2	0.89					
				PBC3	0.84					
		Behavioral intention	0.94	BI1	0.96	0.94	0.85	0.92	0.76	Behavioral intention→ cognitive attitude
				BI2	0.92					
				BI3	0.89					
		Trust	0.92	T1	0.91	0.95	0.86	0.93	0.68	Trust → cognitive attitude
				T2	0.94					
				T3	0.94					
Hungary	Sausage	Affective Attitude	0.84	AA1	0.80	0.85	0.65	0.81	0.57	Affective attitude→ cognitive attitude
				AA2	0.82					
				AA3	0.79					
		Cognitive attitude	0.85	CA1	0.88	0.86	0.67	0.82	0.58	Cognitive attitude→ behavioral intention
				CA2	0.73					
				CA3	0.84					
		Subjective Norm	0.9	SN1	0.88	0.91	0.71	0.84	0.57	Subjective norm→ behavioral intention
				SN2	0.87					
				SN3	0.88					
				SN4	0.73					
		PBC	0.83	PBC1	0.55	0.84	0.64	0.80	0.80	Behavioral intention→

				PBC2	0.92					PBC
				PBC3	0.88					
		Behavioral intention	0.91	BI1	0.89	0.91	0.78	0.88	0.80	Behavioral intention→ subjective norm
				BI2	0.92					
				BI3	0.84					
		Trust	0.92	T1	0.90	0.94	0.85	0.92	0.34	Trust→ behavioral intention
				T2	0.92					
				T3	0.94					
Italy	Cheese	Affective Attitude	0.88	AA1	0.73	0.89	0.73	0.85	0.53	Cognitive attitude→ affective attitude
				AA2	0.93					
				AA3	0.89					
		Cognitive attitude	0.83	CA1	0.83	0.84	0.63	0.79	0.53	Cognitive attitude→ affective attitude
				CA2	0.85					
				CA3	0.71					
		Subjective Norm	0.86	SN1	0.88	0.87	0.62	0.79	0.70	Subjective norm→ PBC
				SN2	0.86					
				SN3	0.74					
				SN4	0.66					
		PBC	0.84	PBC1	0.69	0.84	0.63	0.79	0.90	Behavioral intention→ PBC
				PBC2	0.87					
				PBC3	0.81					
		Behavioral intention	0.88	BI1	0.85	0.88	0.71	0.84	0.90	Behavioral intention→ PBC
				BI2	0.88					
				BI3	0.80					
		Trust	0.93	T1	0.90	0.94	0.82	0.91	0.45	Behavioral intention→ trust
				T2	0.91					

				T3	0.93					
Norway	Apple	Affective Attitude	0.9	AA1	0.89	0.91	0.77	0.88	0.85	Cognitive attitude→ affective attitude
				AA2	0.93					
				AA3	0.81					
		Cognitive attitude	0.83	CA1	0.91	0.85	0.66	0.81	0.85	Cognitive attitude→ affective attitude
				CA2	0.61					
				CA3	0.87					
		Subjective Norm	0.86	SN1	0.86	0.86	0.62	0.79	0.73	Subjective norm→ behavioral intention
				SN2	0.86					
				SN3	0.80					
				SN4	0.60					
		PBC	0.66	PBC1	0.31	0.69	0.47	0.69	0.44	Behavioral intention→ PBC
				PBC2	1.01					
				PBC3	0.55					
		Behavioral intention	0.92	BI1	0.92	0.92	0.80	0.89	0.73	Cognitive attitude→ behavioral intention
				BI2	0.90					
				BI3	0.87					
		Trust	0.9	T1	0.86	0.90	0.76	0.87	0.35	Cognitive attitude→behavioral intention
				T2	0.92					
				T3	0.84					
Serbia	Potatoes	Affective Attitude	0.87	AA1	0.79	0.88	0.70	0.84	0.79	Cognitive attitude→ affective attitude
				AA2	0.89					
				AA3	0.84					
		Cognitive attitude	0.87	CA1	0.77	0.87	0.69	0.83	0.79	Cognitive attitude→ affective attitude
				CA2	0.83					
				CA3	0.88					

		Subjective Norm	0.84	SN1	0.79	0.84	0.57	0.75	0.76	Subjective norm→ behavioral intention
				SN2	0.83					
				SN3	0.77					
				SN4	0.62					
		PBC	0.72	PBC1	0.39	0.73	0.50	0.71	0.76	Behavioral intention→ PBC
				PBC2	0.90					
				PBC3	0.74					
		Behavioral intention	0.92	BI1	0.90	0.93	0.82	0.91	0.76	Behavioral intention →subjective norm
				BI2	0.91					
				BI3	0.90					
		Trust	0.93	T1	0.91	93.00	0.81	0.90	0.41	Behavioral intention →trust
				T2	0.91					
				T3	0.88					
UK	Apple	Affective Attitude	0.92	AA1	0.90	0.92	0.80	0.89	0.84	Cognitive attitude→ affective attitude
				AA2	0.92					
				AA3	0.87					
		Cognitive attitude	0.9	CA1	0.90	0.91	0.77	0.88	0.84	Cognitive attitude→ affective attitude
				CA2	0.79					
				CA3	0.93					
		Subjective Norm	0.9	SN1	0.90	0.90	0.71	0.84	0.87	Subjective norm→ behavioral intention
				SN2	0.90					
				SN3	0.87					
				SN4	0.68					
		PBC	0.58	PBC1	0.05	0.66	0.48	0.69	0.78	Behavioral intention→ PBC
				PBC2	0.88					
				PBC3	0.81					
		Behavioral	0.95	BI1	0.95	0.95	0.86	0.93	0.87	Subjective norm→

		intention		BI2	0.93				behavioral intention
				BI3	0.91				
		Trust	0.93	T1	0.89	0.93	0.82	0.91	0.54	Cognitive attitude→trust
				T2	0.92				
				T3	0.91				

A8. Measurement model indices of SEM model specification: affective attitude and cognitive attitude loaded in one construct

Country	**Focused Product**	**Factors**	**Cronbach's alpha**	**Items**	**Std. Factor loadings**	**Composite reliability**	**AVE**	**Sqrt. of AVE**	**Highest correlation coef. With other construct**	**relationship**
France	Cheese	Attitude	0.87	AA1	0.69	0.86	0.52	0.72	0.47	Behavioral intention → attitude
				AA2	0.88					
				AA3	0.89					
				CA1	0.54					
				CA2	0.64					
				CA3	0.61					
		Subjective Norm	0.86	SN1	0.89	0.87	0.63	0.79	0.67	Subjective norm →behavioral intention
				SN2	0.92					
				SN3	0.77					
				SN4	0.56					
		PBC	0.76	PBC1	0.50	0.77	0.54	0.73	0.88	Behavioral intention → PBC
				PBC2	0.86					
				PBC3	0.79					

		Behavioral intention	0.89	BI1	0.87	0.89	0.73	0.85	0.88	Behavioral intention → PBC
				BI2	0.81					
				BI3	0.89					
		Trust	0.91	T1	0.91	0.91	0.78	0.88	0.56	PBC → trust
				T2	0.87					
				T3	0.87					
Germany	Apple	Attitude	0.91	AA1	0.79	0.91	0.62	0.79	0.78	Behavioral intention → attitude
				AA2	0.70					
				AA3	0.69					
				CA1	0.89					
				CA2	0.76					
				CA3	0.89					
		Subjective Norm	0.85	SN1	0.87	0.86	0.60	0.77	0.69	subjective norm &behavioral intention
				SN2	0.82					
				SN3	0.79					
				SN4	0.60					
		PBC	0.74	PBC1	0.36	0.76	0.55	0.74	0.72	Behavioral intention → PBC
				PBC2	0.90					
				PBC3	0.84					
		Behavioral intention	0.94	BI1	0.96	0.94	0.85	0.92	0.72	Behavioral intention → PBC
				BI2	0.92					
				BI3	0.89					
		Trust	0.92	T1	0.91	0.95	0.86	0.93	0.69	attitude → trust
				T2	0.94					
				T3	0.94					
Hungary	Sausage	Attitude	0.85	AA1	0.70	0.85	0.50	0.71	0.58	behavioral intention →

				AA2	0.60				attiude
				AA3	0.54				
				CA1	0.81				
				CA2	0.75				
				CA3	0.79				
		Subjective Norm	0.9	SN1	0.88	0.91	0.71	0.84	0.80	subjective norm &behavioral intention
				SN2	0.87				
				SN3	0.88				
				SN4	0.73				
		PBC	0.83	PBC1	0.55	0.84	0.64	0.80	0.67	Behavioral intention → PBC
				PBC2	0.92				
				PBC3	0.88				
		Behavioral intention	0.91	BI1	0.89	0.91	0.78	0.88	0.67	Behavioral intention → PBC
				BI2	0.92				
				BI3	0.84				
		Trust	0.92	T1	0.90	0.95	0.85	0.92	0.34	behavioral intention → trust
				T2	0.92				
				T3	0.95				
Italy	Cheese	Attitude	0.86	AA1	0.73	0.84	0.49	0.70	0.27	Attitude → trust
				AA2	0.90				
				AA3	0.89				
				CA1	0.50				
				CA2	0.53				
				CA3	0.50				
		Subjective Norm	0.86	SN1	0.88	0.87	0.62	0.79	0.70	Subjective norm → PBC
				SN2	0.86				

				SN3	0.74					
				SN4	0.66					
		PBC	0.84	PBC1	0.69	0.84	0.63	0.79	0.90	Behavioral intention → PBC
				PBC2	0.87					
				PBC3	0.81					
		Behavioral intention	0.88	BI1	0.84	0.88	0.71	0.84	0.90	Behavioral intention → PBC
				BI2	0.88					
				BI3	0.80					
		Trust	0.93	T1	0.90	0.94	0.83	0.91	0.45	Behavioral intention → trust
				T2	0.91					
				T3	0.92					
Norway	Apple	Attitude	0.91	AA1	0.88	0.92	0.65	0.81	0.72	Behavioral intention → attitude
				AA2	0.88					
				AA3	0.78					
				CA1	0.86					
				CA2	0.61					
				CA3	0.81					
		Subjective Norm	0.86	SN1	0.86	0.86	0.62	0.79	0.73	Subjective norm → behavioral intention
				SN2	0.86					
				SN3	0.80					
				SN4	0.61					
		PBC	0.66	PBC1	0.32	0.67	0.47	0.69	0.44	Behavioral intention → PBC
				PBC2	1.00					
				PBC3	0.55					
		Behavioral intention	0.92	BI1	0.92	0.92	0.80	0.89	0.73	Subjective norm → behavioral intention
				BI2	0.90					

				BI3	0.87				
		Trust	0.9	T1	0.86	0.90	0.77	0.88	0.36	Trust → attitude
				T2	0.92				
				T3	0.84				
Serbia	Potatoes	Attitude	0.9	AA1	0.80	0.91	0.62	0.79	0.53	Behavioral intention → attitude
				AA2	0.79				
				AA3	0.76				
				CA1	0.72				
				CA2	0.83				
				CA3	0.80				
		Subjective Norm	0.84	SN1	0.79	0.84	0.57	0.75	0.76	Subjective norm → behavioral intention
				SN2	0.83				
				SN3	0.77				
				SN4	0.63				
		PBC	0.72	PBC1	0.39	0.73	0.50	0.71	0.76	Behavioral intention → PBC
				PBC2	0.90				
				PBC3	0.74				
		Behavioral intention	0.92	BI1	0.90	0.93	0.82	0.91	0.76	subjective normal & behavioral intention
				BI2	0.91				
				BI3	0.90				
		Trust	0.93	T1	0.91	0.93	0.81	0.90	0.41	trust → behavioral intention
				T2	0.91				
				T3	0.88				
UK	Apple	Attitude	0.93	AA1	0.87	0.94	0.71	0.84	0.79	attitude → behavioral intention
				AA2	0.84				
				AA3	0.82				

		CA1	0.87				
		CA2	0.77				
		CA3	0.88				
Subjective Norm	0.9	SN1	0.90	0.90	0.71	0.84	0.87	subjective norm → behavioral intention
		SN2	0.90				
		SN3	0.87				
		SN4	0.68				
PBC	0.58	PBC1	0.05	0.66	0.47	0.69	0.78	behavioral intention → PBC
		PBC2	0.88				
		PBC3	0.81				
Behavioral intention	0.95	BI1	0.95	0.95	0.86	0.93	0.87	subjective norm → behavioral intention
		BI2	0.93				
		BI3	0.91				
Trust	0.93	T1	0.89	0.93	0.82	0.91	0.55	trust → attitude
		T2	0.92				
		T3	0.91				

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The Strength2Food project in a nutshell

Strength2Food is a five-year, €6.9 million project to improve the effectiveness of EU food quality schemes (FQS), public sector food procurement (PSFP) and to stimulate Short Food Supply Chains (SFSC) through research, innovation and demonstration activities. The 30-partner consortium representing 11 EU and four non-EU countries combines academic, communication, SMEs and stakeholder organisations to ensure a multi-actor approach. It will undertake case study-based quantitative research to measure economic, environmental and social impacts of FQS, PSFP and SFSC. The impact of PSFP policies on nutrition in school meals will also be assessed. Primary research will be complemented by econometric analysis of existing datasets to determine impacts of FQS and SFSC participation on farm performance, as well as understand price transmission and trade patterns. Consumer knowledge, confidence in, valuation and use of FQS labels and products will be assessed via survey, ethnographic and virtual supermarket-based research. Lessons from the research will be applied and verified in 6 pilot initiatives which bring together academic and non-academic partners. Impact will be maximised through a knowledge exchange platform, hybrid forums, educational resources and a Massive Open Online Course.

www.strength2food.eu