

# THE FOOD QUALITY LABELS: AWARENESS AND WILLINGNESS TO PAY IN THE CONTEXT OF THE CZECH REPUBLIC

Šárka Velčovská<sup>1</sup>, Giacomo Del Chiappa<sup>2</sup>

<sup>1</sup> Department of Marketing and Business, Faculty of Economics, VSB – Technical University of Ostrava, 17. listopadu 15/2172, 708 33 Ostrava-Poruba, Czech Republic

<sup>2</sup> Department of Economics and Business, University of Sassari, Via Muroni 25, 071 00 Sassari, Italy

## Abstract

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The paper deals with quality labels utilization in the food products sector from consumer point of view and presents the results of research study which was conducted in the Czech Republic by interviewing a sample of 250 respondents selected by quota sampling methods. The study was aimed at analysing the consumers' awareness and perceived credibility of food quality labels, at revealing their willingness to pay a higher price for certified products, and at determining whether significant differences do exist in the way consumers perceive the food quality labels based on their socio-demographic characteristics. The findings revealed a low awareness of food quality labels. A higher level of recognition as well as perceived credibility was proven for national quality labels. As the main problem were identified a poor information about quality labels and lack of confidence that certified products have declared characteristics. Consumers show an interest in getting information about the topic, they also express a willingness to pay a slightly higher price for certified products if they trust them. Our findings confirmed that significant differences do exist between socio-demographic characteristics of respondents (gender, age, education, and responsibility for food purchases) and their attitudes toward the labels; no significant difference was found based on income.

Keywords: food quality, quality labels, consumers' awareness, consumers' perception, consumers' willingness to pay, survey, the Czech Republic

## INTRODUCTION

Central issue in today's food economics are food quality and safety. Consumers in European Union (EU) countries have become more critical in their food choices and they show growing interest in quality differentiation and quality labelling. Hence, more information and guarantees of food safety and quality has become necessary in order to satisfy consumers. As a consequence of this and in accordance with EU agricultural policy which integral part is effort to improve food quality and safety, many EU countries have developed consumer protection strategies involving the quality labels utilization.

Quality labels have become a central component of modern consumer policy. They are an important tool for companies willing to manage and

communicate a significant higher quality of their food products, in order to gain a competitive advantage in their market. The importance of quality labels has increased as a result of the crisis (e.g. BSE – Bovine Spongiform Encephalopathy) that have shaken the European food market over the past few years, leading to a decline in consumer confidence in the safety and quality of food products (Grunert, 2005; Jahn *et al.*, 2005).

In such a context, it could be argued that there is still a need to deepen investigate the extent to which the quality labels are important to consumers and if they are perceived as a guarantee of product safety and/or quality. Only if consumers will be aware with quality labels, if they will trust them and if they will prefer products certified with quality labels during purchases, the quality labels can fulfil their role,

they can work in effective way and bring benefits to both, producers as well as consumers.

The presented paper deals with food quality labels used in the Czech Republic and their impact on Czech consumers. It aims at investigating the consumers' awareness and perceptions of these labels, analysing the role of quality labels during purchases and consumers' willingness to pay more for certified products in comparison with non-labelled products. In the first part of the paper, the theoretical background of food quality and quality labels is discussed. The next section is devoted to methodology of marketing research focused on consumers' attitudes to food quality labels, followed by a discussion of research results. Summary and managerial implications are presented at the end of paper.

### Food Quality and Quality Labels

According to ISO 9000:2005, quality means "the degree to which a set of inherent characteristics fulfils requirements" (International Standards Office, 2012). Peri (2006) adds that quality can be described as a set of consumers' requirements necessary to satisfy the needs and expectations. Quality is perceived by combining a number of quality dimensions or characteristics of product, it is a multidimensional concept (Miškolci, 2011). Quality can also be understood as a fitness for use or, specifically for food, fitness for consumption.

It is also useful to consider how the concept of food quality is considered and interpreted by consumers. The consumer's perception of food quality is based on a number of characteristics rather than a single attribute of the product. The consumer food choice process is a complex preferences function of sensorial characteristics and non-sensorial factors, including expectations and attitudes, health aspects, price, ethical considerations and inner state (Miškolci, 2011). Van Rijswijk and Frewer (2008) conducted the research study in four European countries (Germany, France, Italy and Spain). They found that food quality is more frequently defined in terms of "taste", "good product", "natural/organic" and "freshness". Consumers indicated that they are primarily interested in these quality indicators when choosing products because they feel they have no way of assessing the safety level of a product, or, alternatively, because they have confidence that the safety of their food is guaranteed (Van Rijswijk and Frewer, 2008). For many people, safety represents one aspect of quality, and therefore finding a product that was of high quality also implies that it was safe. The reverse relationship does not necessarily hold (Grunert, 2005; Verbeke, 2005).

According to Grunert (2005), customer-oriented concept of food quality is based on adding value. Products with added value are perceived as better, as having higher quality. However, it is not easy to recognize more quality products. There is a lack of consumer-oriented information. Producers

offering products with the value-adding attributes should communicate them on the marketplace and highlight the product quality characteristics to consumers in relevant and understandable form. Among the broad range of applicable extrinsic cues that can be considered in the food sector as a possible quality indicators, quality labels are certainly important; specifically, they help consumers to reduce the uncertainty and their perceived difficulty to evaluate product quality. Hence, products labelling can be an important way of informing the consumer on the quality attributes of a product (Bernués, Olaizola and Corcoran, 2003).

Quality labels can be identified as a graphic signs placed on products packaging. They inform consumers about the compliance of the product or the process to make the product with quality criteria determined in a corresponding certification system. (The European Committee for the Valve Industry, 2007; United Nations, 2007; Velčovská and Marhounová, 2005).

Labels may increase consumer welfare through providing better consumer protection. They should eliminate the misleading of consumers by non-genuine products, which may be of inferior quality. Further benefit lays in enabling choice to be better in line with consumer's preference (Krissoff *et al.*, 2004; Ward *et al.*, 2003). Quality labels can assist consumers inferring product quality and forming quality expectations, which in turn influence a whole range of attitudes and behaviours related to food purchasing (Brunso, Fjord and Grunert, 2002; Grunert, 2005). Consumers can weigh labels against other characteristics or attributes during their decision making process (Verbeke, 2005). Finally, with respect to their potential role to facilitate identification of food products with certified quality, labels can facilitate repeat purchases when satisfaction has occurred (Bredahl, 2004; Verbeke, 2005; Verbeke and Ward, 2006). To producers, quality labels give a legal protection of a product against imitation throughout the market, they can help producers obtain a premium price for their authentic products, and help them promote the product with certified quality (O'Connor and Company, 2005; Velčovská and Marhounová, 2005).

Quality labels can cover many different things. General labels address all product quality characteristics, while specific labels are focused only on particular quality characteristics. They can guarantee a quality, safety, place of product origin, organic origin, etc. In terms of their geographical scope, they can be divided into regional, national, international and global labels. Some of the labels are obligatory (determined by legal rules and compulsory for all products in a given product category), however many of them are voluntary, bringing competitive advantage for a product (Grunert, 2005; Velčovská, 2012; Velčovská and Marhounová, 2005).

Alongside the international labels (such as EU labels including the PDO, PGI and TSG, Fair

Trade), each country has also its own national and/or regional quality labels which are only relevant in given country. However, the national and regional quality labels can be useful also for foreign visitors of the country due to the certification of geographical origin of a product. These labels aim to provide consumers with clear information on the product origin or speciality character linked to the region, enabling them to make more informed purchases (Verbeke *et al.*, 2012). The image of the region of origin and the specific product characteristics create a unique identity for food products bringing in this way added value (Van Ittersum, Candel and Meulenberg, 2003).

## MATERIALS AND METHODS

The research was focused on food quality labels used in the Czech Republic and their impact on Czech consumers. The study was prompted by the need to find out the extent to which the quality labels are important to consumers. We also wanted to identify a potential consumers who are paying the attention to quality labels and make purchases of labelled products. This information can be then used by food products producers to set their marketing communication strategy, through which the food quality labels will be communicated to target group of consumers.

In this context, the study was carried out in order to investigate the consumers' attitudes towards these labels. Specifically the research study aims at analysing the consumers' awareness and perceived credibility of quality labels, at evaluating the extent to which they rely on food quality labels when buying food, at revealing their willingness to pay a higher price for certified products, and at assessing their interest in collecting information regarding the topic. Further, the study aims at determining whether significant differences do exist in the way consumers perceive the food quality labels based on their socio-demographic characteristics.

In accordance with the research questions and objectives, following research hypotheses was formulated:

- Null hypothesis  $H_{01}$ : There is no relationship between food quality labels awareness and respondents' responsibility for food purchases.
- Alternative hypothesis  $H_{11}$ : There is relationship between food quality labels awareness and respondents' responsibility for food purchases.
- Null hypothesis  $H_{02}$ : There is no relationship between perceived usefulness of food quality labels and respondents' responsibility for food purchases.
- Alternative hypothesis  $H_{12}$ : There is relationship between perceived usefulness of food quality labels and respondents' responsibility for food purchases.
- Null hypothesis  $H_{03}$ : The attention given to quality labels when buying food will not depend on gender of respondents.

- Alternative hypothesis  $H_{13}$ : The attention given to quality labels when buying food will depend on gender of respondents.
- Null hypothesis  $H_{04}$ : Willingness to pay a premium price for labelled products will not depend on income of respondents.
- Alternative hypothesis  $H_{14}$ : Willingness to pay a premium price for labelled products will depend on income of respondents.

For the research, we used ten different food quality labels, specifically four national, four European and two global labels. As regard to the national quality labels, we considered as follow:

- Klasa: indicates the best quality food and agricultural products from the Czech Republic. Label has been awarded by the Ministry of Agriculture Czech Republic from 2003. By 30<sup>th</sup> March 2014, with Klasa label were certified 1174 products from 222 Czech producers (Klasa, 2014a; Klasa, 2014b);
- Regional Food: food or agricultural product produced in the region, coming mainly from domestic sources. Regional food logo was introduced at 2010, can be used only on approval of the Ministry of Agriculture. By 30<sup>th</sup> March 2014, the label were awarded for 371 regional products from 295 producers (Ministerstvo zemědělství, 2014);
- Czech Product – guaranteed by Food Chamber of the Czech Republic: was introduced at 11<sup>th</sup> of May 2011. The number of products certified with the label is 1178 (by 30<sup>th</sup> March 2014) (Potravinářská komora České republiky, 2012);
- Czech Bio label: product of organic farming, from 2005 guaranteed by Ministry of Agriculture in participation with the Association of Organic Farmers PRO-BIO (Ministerstvo zemědělství, 2013).

Further, we took into account four the European quality labels (European Commission, 2014a):

- PDO (Protected Designation of Origin): it covers agricultural products and foodstuffs which are produced, processed and prepared in a given geographical area using recognised know-how;
- PGI (Protected Geographical Indication): it indicates a link of agricultural products and foodstuffs with the geographical area in at least one of the stages of production, processing or preparation;
- TSG (Traditional Speciality Guaranteed): it highlights traditional character of a product, either in the composition or means of production. In order to be "traditional", proven usage on the market during at least 30 years is required;
- EU Organic farming: it guarantees that the product is produced entirely in-line with the EU organic farming Regulation, or in the case of imported goods, an equivalent or identical strict set of rules.

By 30<sup>th</sup> October 2013, 32 Czech agro-food products (excluding the wine sector) obtained

PDO (6 products), PGI (22 products) and TSG labels (4 products). According to number of products certified with PDO, PGI and TSG label, the Czech Republic has 9<sup>th</sup> position among EU countries (the first position has Italy with 256 PDO, PGI and TSG products, the second is France with 201 certified products, the third is Spain with 160 certified products) and the second position among Visegrad group countries (the first position has Poland with 35 certified products). The most frequent in the Czech Republic is PGI label (68.75% of all products certified with PDO, PGI and TSG), followed by PDO (18.75%), and only 12.50% labels are TSG. The most certified product category in the Czech Republic is Beer (28.13% of all products certified), followed by Bread, pastry, cakes, confectionery, biscuits and other baker's wares (25.00%) and Meat products (12.50%) (Velčová and Sadílek, 2013; European Commission, 2014b).

Finally, as regard to the global quality labels we considered as follow:

- Fairtrade label: it certifies that products meet the social, economic and environmental standards set by Fairtrade. Buying Fairtrade products helps struggling producers from developing countries in Africa, Asia and Latin America to improve their lives (Fairtrade Labelling Organizations International e.V., 2011);
- Demeter (Products from Biodynamic Agriculture): it is the label used for organically produced food products. The holistic Demeter requirements exceed government mandated regulations. The use of synthetic fertilisers, chemical plant protection agents or artificial additives is excluded and very specific measures to strengthen the life processes in soil and foodstuffs are required (Demeter-International e.V., 2014).

The study was carried out in the period of March and April 2013. The population of interest consisted of inhabitants of the Czech Republic aged 20 to 69 (there is an assumption that they are usually buying foods for their households). Sample of 250 respondents was selected with quota sampling method, using the criteria of gender and age. The structure of respondents was determined in accordance with structure of the Czech population based on the Population and Housing Census in 2011, data came from the Czech Statistical Office, see Tab. I.

Survey method was based on a structured questionnaire that was divided into five sections. The first part comprised questions aimed on the importance of food selection criteria in consumers' daily life, the second part was related to the spontaneous and aided awareness of food quality labels, following part was concerned about measuring perceived credibility of the labels. In the fourth part, respondents were asked whether they would pay a higher price for labelled products. The last section was focused on socio-demographic characteristics of respondents. Data were coded and analysed with SPSS, version 21.0, using a series

I: Czech population aged 20–69 by gender and age groups

Criterion	Group	Abs.	%
Total	Population aged 20–69	7 252 023	100.00
Gender	Male	3 620 794	49.93
	Female	3 631 229	50.07
Age	20–29	1 392 780	19.21
	30–39	1 751 377	24.15
	40–49	1 391 747	19.19
	50–59	1 411 203	19.46
	60–69	1 304 916	17.99

Source: Czech Statistical Office (2014)

of descriptive statistics (Tymelová, 2013). There have been constructed contingency tables (based on gender, age, level of education, income and respondents' responsibility for food purchases) and counted Chi-square tests in order to confirm or disprove the relations between variables. With respect to the scope of the research, the main outcomes are presented in the following text. If statistical dependence between variables was confirmed, also the results of Chi-square test are shown.

## RESULTS AND DISCUSSION

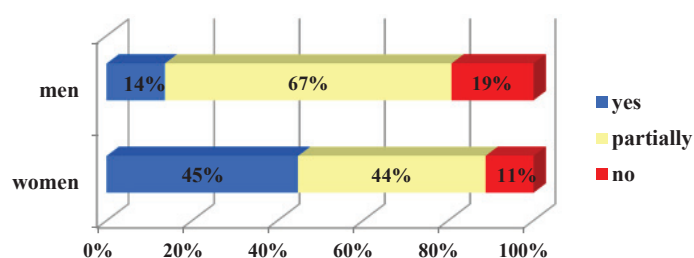
Tab. II presents the general profile of the sample population. Respondents were 50% of women and 50% of men, aged between 20 and 69 (quota sampling) with a significant number of respondents between 30 and 39 (24.0%). Real structure of respondents by gender and age is corresponding with the structure of the Czech population aged 20 to 69 (Tab. I). Regarding the level of education, the majority of people interviewed (54.8%) reported having a secondary school and 25.2% have a university degree. The most frequent types of respondents' occupation are administrative workers (54.0%), retired (12.0%), and freelance (10.8%). The most of respondents (32.0%) have annual net income between 16.000 and 23.999 CZK (i.e. 580–870 EUR), 24.8% have income from 24.000 to 31.999 CZK (i.e. 870–1160 EUR).

The first part of the research study was focused on respondents' habits when buying food. **Responsibility for food purchases** is an interesting factor for the following analysis of consumers' attitudes to food quality labels. 29.2% of respondents were reported being fully responsible for food purchases, 55.6% were reported having particular responsibility and 15.2% declared that they have no responsibility for food purchases. Fig. 1 represents responsibility for food purchases with respect to gender of respondents. In the Czech Republic, the different role of women and men is significant. Women usually have full responsibility for food purchases, whereas men often have a partial responsibility. The Pearson's chi-square test of independence was used. Statistic



## II: Socio-demographic characteristics of the respondents (valid %)

Gender		Age	
Male	50.0	20–29 years	19.2
Female	50.0	30–39 years	24.0
<b>Level of education</b>		40–49 years	19.2
Below secondary school	15.2	50–59 years	19.6
Secondary school	54.8	60–69 years	18.0
Higher school	4.8	<b>Occupation</b>	
University degree	25.2	Administrative worker	54.0
<b>Annual net income (in CZK)</b>		Executive manager	7.2
< 8,000	12.0	Freelance	10.8
8,000–15,999	16.8	Retired	12.0
16,000–23,999	32.0	Seasonal worker	1.6
24,000–31,999	24.8	Unemployed	5.2
32,000–39,999	8.8	Student	6.8
40,000–49,999	4.4	Other	2.4
> 50,000	1.2		



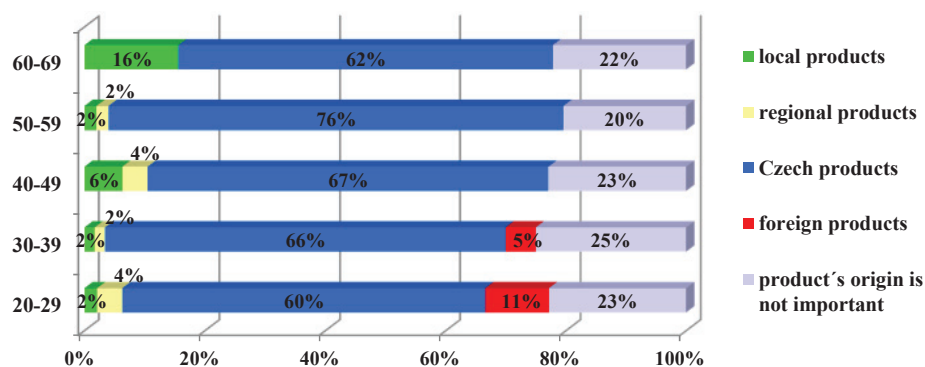
1: Responsibility for food purchases according to gender of respondents

## III: The importance of food selection criteria in consumers' daily life

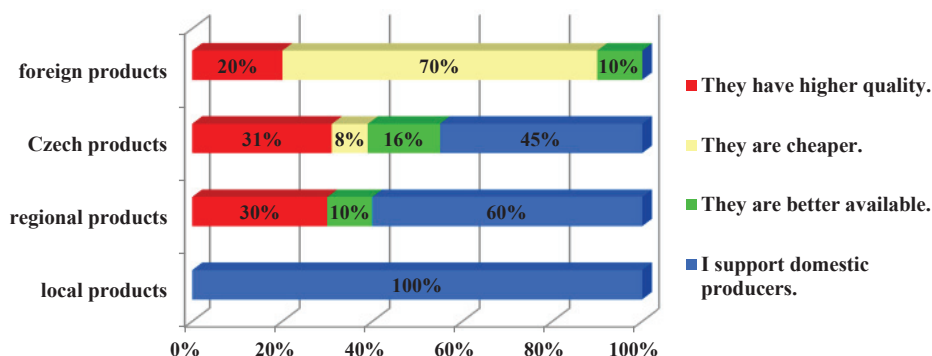
Attributes	Mean (M)	Standard deviation (SD)
Positive previous experience of the same product	4.28	1.139
Expiry date	3.93	1.095
Price	3.68	1.056
Positive word of mouth from relatives and friends	3.63	0.984
Priorities of my family	3.50	1.150
Benefits for my health	3.42	1.005
Brand of the product	3.38	0.990
Country of origin	3.37	1.253
Ingredients of the product	3.34	1.124
Promotions (discounts)	3.28	1.059
Aesthetics of the package	2.96	0.940
Presence of a quality label on the top of the package	2.90	0.991
Presence of nutritional information	2.83	1.340
Influence of advertising	2.48	0.989

testing has confirmed the dependence between gender of respondents and their responsibility for food purchases,  $\chi^2 (2, N = 250) = 29.518$ , Asymp. Sig. = 0.000,  $p < 0.05$ ; specifically women self-declared themselves as being more frequently responsible for food purchases than men.

Tab. III shows the mean values of the **importance** that consumers assess to 14 **attributes**, when **purchasing food** in their daily life. Above all, customers tend to pay more attention to the previous experience with the product ( $M = 4.28$ ;  $SD = 1.139$ ), the expiring date of the product ( $M = 3.93$ ;  $SD = 1.095$ ), the price ( $M = 3.68$ ;  $SD = 1.056$ ), and



2: Food products origin preference according to age of respondents



3: The reasons of food products origin preference

the positive word of mouth from relatives and friends ( $M = 3.63$ ;  $SD = 0.984$ ). The presence of a quality label on the package of a product is ranked as being not too important criteria ( $M = 2.90$ ;  $SD = 0.991$ ).

As it results from Tab. III, country of food product origin is perceived by consumers as a rather important criterion when choosing food products ( $M = 3.37$ ;  $SD = 1.253$ ). For this reason, respondents were asked about their **food products origin preference**. Only 3.2% consumers reported preference for foreign products, 74% prefer domestic products (66.4% national products, 5.2% local products and 2.4% regional products). The product's origin is not important for 22.8% consumers. Statistic testing has confirmed the dependence between gender of respondents and their food products origin preference,  $\chi^2(4, N = 250) = 12.579$ ,  $\text{Sig.} = 0.014$ ,  $p < 0.05$ . Women are more interested in food products origin and they have also stronger preference for local products than men.

Statistic testing has also confirmed the dependence between age of respondents and food products origin preference,  $\chi^2(16, N = 250) = 29.361$ ,  $\text{Sig.} = 0.022$ ,  $p < 0.05$ . Respondents aged 20 to 29 and 30 to 39 express their preference also for foreign products, while other age groups prefer only domestic products. Local products are the most preferred by respondents in the oldest category (60–69), see Fig. 2.

Further, the **reasons of food products origin preference** were analysed. National and regional products are preferred mainly for their higher perceived quality and respondents' interest to support the domestic producers. They are also better available than foreign products. Preference of local products has just one reason – support of the domestic production. Respondents favouring a foreign products think that they are cheaper or they have higher quality, see Fig. 3.

As regard to **spontaneous awareness**, 56.4% of respondents declared to remember the name of some of food quality labels, 43.6% were reported not having any knowledge. Statistic testing has confirmed the dependence between respondents' responsibility for food purchases and spontaneous awareness of labels,  $\chi^2(2, N = 250) = 24.673$ ,  $\text{Sig.} = 0.000$ ,  $p < 0.05$ . Consumers responsible for food purchases show a higher spontaneous awareness of quality labels (78.1%) than respondents with partial responsibility (51.8%) and without responsibility (31.6%). We can therefore conclude that on the significance level of 5% the null hypothesis  $H_{01}$  of the independence of the variables must be rejected and we accept the alternative hypothesis  $H_{11}$ . Consumers spontaneously mainly know the national food quality labels Klasa (48.8%) and Czech BIO label (17.2%).

Further, **aided awareness** of selected food quality labels were analysed, i.e. not only logo awareness, but also awareness of the meaning of

## IV: Spontaneous and aided awareness of food quality labels (valid %)

	Spontaneous awareness	Aided awareness
Klasa	48.8	58.8
Czech Bio label	17.2	52.8
Fair Trade	4.8	16.4
Czech Product – guaranteed by Food Chamber of the Czech Republic	3.2	18.0
Healthy Choice	2.4	not included
Regional Food	1.2	15.2
EU Organic farming	0.0	9.6
PDO	0.0	2.4
PGI	0.0	1.6
TSG	0.0	4.0
Demeter	0.0	0.0

## V: Perception of food quality labels credibility

	Mean (M)	Variance (V)	Standard deviation (SD)	Not able to answer (% of respondents)
Klasa	3.78	1.166	1.080	0.0
Czech Product	3.73	1.088	1.043	38.8
Czech Bio label	3.56	1.278	1.130	24.0
Fair Trade	3.49	1.628	1.276	70.4
Regional Food	3.45	0.767	0.876	38.4
PGI	3.22	0.898	0.948	78.0
EU Organic farming	3.20	0.993	0.996	64.4
PDO	3.10	0.817	0.904	76.8
TSG	3.09	1.194	1.093	70.4

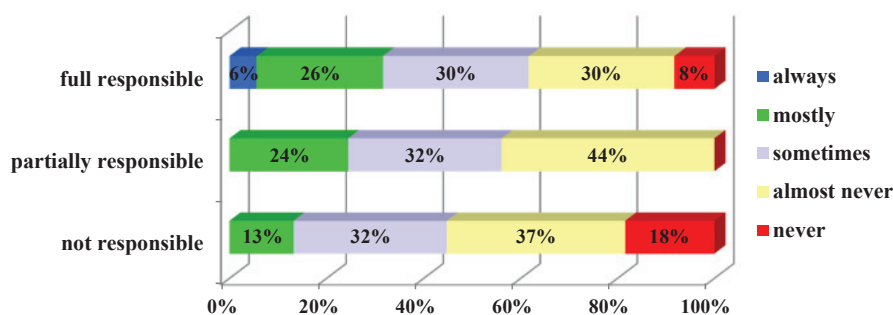
the label. The national labels Klasa (58.8%) and Czech Bio label (52.8%) are well recognized among the respondents, followed by Czech Product – guaranteed by Food Chamber of the Czech Republic (18.0%) and Regional Food (15.2%). Respondents are not so well aware with EU quality scheme including the PDO, PGI and TSG labels. The label EU Organic farming is known only for 9.6% of respondents. The best-known foreign label is Fair Trade (16.4%). The comparison of spontaneous and aided awareness is presented in Tab. IV.

Apart from labels awareness, respondents were asked if they perceive the food quality labels as credible; **credibility** was measured by using a 5-point Likert scale (1 = completely untrustworthy; 5 = completely trustworthy). Tab. V shows mean, variance and standard deviation for the perception of food quality labels credibility. In the last column of table, the percentage of respondents not evaluating the credibility of each label is shown. These respondents were not familiar with the label and therefore they did not answer. Demeter label is not included in the table, since no respondent knows the label. The most credible for Czech respondents are national labels Klasa (M = 3.78; SD = 1.080), Czech Product (M = 3.73; SD = 1.043) and Czech Bio label (M = 3.56; SD = 1.130). Perceived credibility of EU and global labels are lower, however there is a high

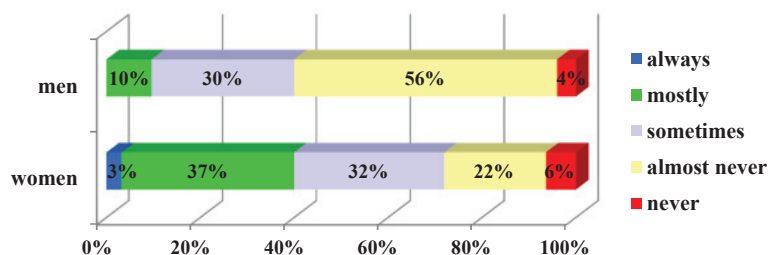
percentage respondents unfamiliar with these labels and therefore they was not able to answer.

Statistic testing has confirmed the dependence between respondent's responsibility for food purchases and perceived credibility of some labels. Dependence testing was performed only for labels whose credibility was evaluated at least of 50% of respondents. There was confirmed the dependence between respondent's responsibility for food purchases and perceived credibility of Klasa label,  $\chi^2(8, N = 250) = 38.905$ , Sig. = 0.000,  $p < 0.05$ , Czech BIO label,  $\chi^2(10, N = 250) = 30.908$ , Sig. = 0.001,  $p < 0.05$ , Czech Product,  $\chi^2(10, N = 250) = 41.106$ , Sig. = 0.004,  $p < 0.05$ , and also Regional Food label,  $\chi^2(10, N = 250) = 40.285$ , Sig. = 0.000,  $p < 0.05$ . Respondents with full or partial responsibility evaluated the labels as more credible than respondents who are not responsible for food purchases for their family.

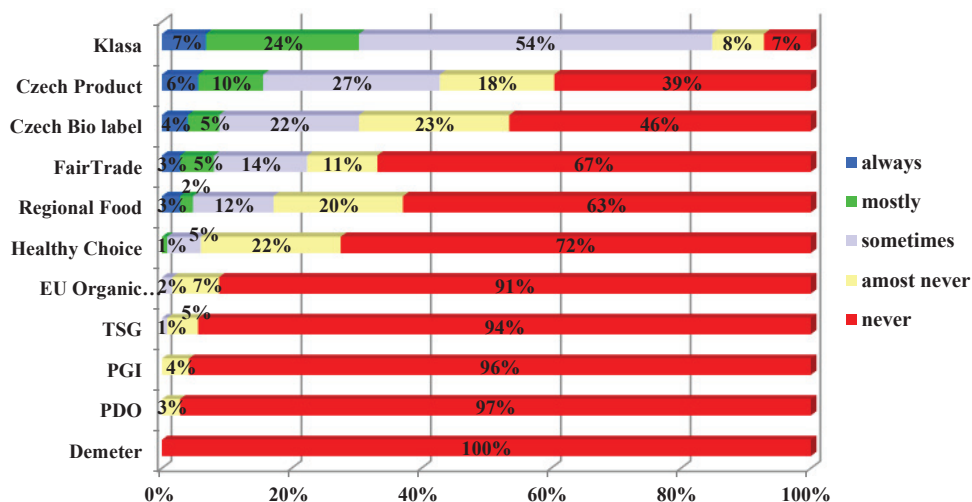
Respondents were also asked whether they see a **quality labels as useful** and if they would be interested in information regarding this topic. Most of them (57.6%) perceive the labels as partially useful, 21.2% as rather useful and 21.2% consider the quality labels as useless. Statistic testing has confirmed the dependence between respondents' responsibility for food purchases and their perception of food quality labels usefulness,  $\chi^2(6, N = 250) = 21.381$ , Sig. = 0.002,  $p < 0.05$ .



4: Attention given to quality labels during purchases according to responsibility for purchases



5: Attention given to quality labels during purchases according to gender of respondents



6: Purchases of products certified with quality labels

Higher usefulness of quality labels perceive people with responsibility for food purchases. The null hypothesis  $H_{02}$  of the independence of the variables is rejected and we accept the alternative hypothesis  $H_{12}$ .

As regard a consumers' interest in getting information about the labels, 80% of respondents are interested in this topic. However, only 1.6% of respondents always give the **attention to food quality labels when buying food**, 23.2% mostly perceive the labels and 31.2% sometimes. 38.8% almost never and 5.2% never give the attention to the certification of a products with quality labels. Statistic testing has confirmed the dependence between respondents' responsibility for food purchases and perception of labels during

purchases,  $\chi^2 (8, N = 250) = 35.392$ , Sig. = 0.000,  $p < 0.05$ . The attention given to quality labels is increasing with responsibility, see Fig. 4.

Statistic testing has also confirmed the dependence between gender of respondents and the attention given to quality labels during purchases,  $\chi^2 (4, N = 250) = 43.736$ , Sig. = 0.000,  $p < 0.05$ . Women give a higher attention to quality labels than men, see Fig. 5. Therefore we reject the null hypothesis  $H_{03}$  of the independence of the variables and accept the alternative hypothesis  $H_{13}$ .

Since the most of quality labels are not known, there is only a very small percentage of Czech consumers buying products certified with some of quality labels. The most popular and purchased are products with national label Klasa (54.4% of



respondents sometimes, 23.6% mostly and 6.8% always buy these products), followed by other national quality labels (Czech Product and Czech Bio label). Among EU and global food quality labels, only Fair Trade products (14.4% of respondents sometimes, 5.2% mostly and 2.8% always buy these products) and products with EU Organic farming (7.2% of respondents sometimes and 1.6% sometimes buy EU organic food products) are purchased. More than 94% respondents don't buy products certified with PDO, PGI and TSG labels, no one buys Demeter products. The results are presented in Fig. 6.

With reference to above-mentioned results, respondents were asked to indicate the **reasons why they do not buy labelled products**. They evaluated eight statements, using 5-point scale of agreement (1 – absolutely disagree, 5 – absolutely agree). Tab. VI shows mean, variance and standard deviation for the reasons why respondents do not buy labelled products. As the main reasons were proven a lack of information about the labels and lack of confidence that certified products have declared characteristics.

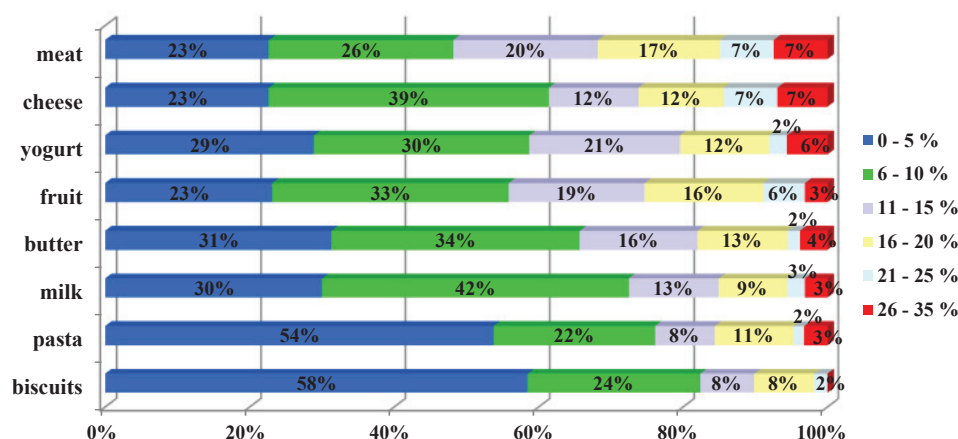
When asked to assess customers' **willingness to pay a premium price for products with quality labels**, the majority (63.2%) of respondents stated they would pay more, while 36.8% wouldn't. Significant differences do exist between

respondents' responsibility for food purchases and their willingness to pay higher price for labelled products,  $\chi^2(2, N = 250) = 8.345$ , Sig. = 0.015,  $p < 0.05$ . Respondents full responsible for food purchases are more willing to pay a premium price (72.6%) than respondents with partial responsibility (63.3%) or without responsibility (44.7%).

Statistic testing has confirmed the dependence between age of respondents and their willingness to pay higher price for labelled products,  $\chi^2(4, N = 250) = 13.058$ , Sig. = 0.011,  $p < 0.05$ . The willingness to pay is decreasing with higher age of respondents. Statistic testing has also confirmed the dependence between respondents' education and their willingness to pay a premium price for labelled products,  $\chi^2(2, N = 250) = 9.276$ , Sig. = 0.010,  $p < 0.05$ . Respondents with university degree reported higher willingness to pay a premium price for certified products than respondents with lower level of education. The dependence between income of respondents and their willingness to pay a higher price for labelled products was not confirmed, although it was expected. When applying the chi-square test on the significance level of 5%, the null hypothesis  $H_{04}$  of the independence of the variables was confirmed.

VI: Reasons why respondents do not buy labelled products

	Mean (M)	Variance (V)	Standard deviation (SD)
Organic food may not be always healthier than standard products.	3.92	1.287	1.135
I do not have enough information about quality labels and their meaning.	3.69	1.031	1.015
Products have not such characteristics that they should have according to quality labels.	3.43	0.845	0.919
I do not know these labels.	3.39	1.477	1.216
Price/quality ratio is not appropriate.	3.22	0.657	0.811
Products with quality labels are too expensive.	3.16	1.009	1.005
Products with or without quality labels have the same quality.	2.94	0.960	0.980
Products with quality labels are difficult to find on the market.	2.88	0.866	0.930



7: Willingness to pay a higher price for selected categories of products certified with quality labels

Respondents willing to pay more were asked **how much more they would pay for eight selected categories of products certified with quality label.**

If price is higher up to 10%, respondents are less sensitive to price change. If price is higher over

20%, respondents react in price very sensitively. Respondents tend to pay a premium price mainly for biscuits and pasta (but most of respondents prefer the price higher maximum up to 5%), followed by butter and milk (up to 10% more), see Fig. 7.

## CONCLUSION

The perceived quality of food is a key element in influencing and driving consumer behaviour. In such a context, quality labels exert a pivotal role in communicating high product quality to the end consumers and in reassuring their decisions. Our study was aimed at analysing the Czech consumers' attitudes towards food quality labels.

The findings are significant for both researchers and practitioners. First, our findings revealed that respondents have a low awareness of quality labels, poor information about the topic, minimum promotion of some labels, especially EU labels. Further, consumers are not able to fully use the labels for their purchase decisions and some of quality labels are not credible for them. Our results also revealed that Czech consumers tend to prefer national or regional products rather than foreign products, with women being responsible for buying food more often than men; the reason is their interest in support of Czech producers or higher perceived quality of domestic products. These findings are relevant in term of economic development of the national economy. Indeed, during the last years policy makers have been hugely recognized the importance of local and typical food products as a leverage to promote the authenticity, identity and economy of their region/country (e.g. Presenza and Del Chiappa, 2013). Most of Czech consumers perceive a quality labels as useful and they show an interest in getting information regarding the topic. Perceived usefulness of quality labels and the attention given to quality labels when buying food is increasing with responsibility of respondent for food purchases. Considering a gender of respondents, women pay a higher attention to quality labels than men.

As regard spontaneous and aided awareness of quality labels, findings are more positive for national food quality labels than for EU and global labels. The national labels are better recognized and perceived (with higher perceived credibility) than European and global labels. Awareness and perception of labels is depending on respondents' responsibility for food purchases. Consumers responsible for food purchases show a better awareness of quality labels and they perceive labels as more credible than respondents without responsibility. Respondents react to the quality labels logos, but they don't know accurate meaning of the labels. Sometimes they purchase products labelled with national quality labels or Fair Trade products. The reasons why products certified with quality labels are not purchased are lack of information, distrust, and ignorance (or minimum awareness) of quality labels. Respondents are willing to pay a premium price (63%) for products with certified quality, but the price should be higher maximum up to 10%. Significant differences were observed between the willingness to pay a premium price for labelled products and respondents' responsibility for food purchases, their age, and education. The willingness to pay is increasing with responsibility for food purchases and decreasing with higher age of respondents. A higher willingness to pay a premium price for certified products reported respondents with university degree. No significant difference was found based on income.

Quality labels have potential to communicate with consumers and facilitate their food purchases. However, to use this potential, it is necessary to improve promotion of quality labels by giving more information about the labels meaning and benefits and to highlight the credibility of labels. Quality labels should be perceived by customers not only as stick on the packages, they should give valuable information in effective way. It would facilitate the differentiation of product with certified quality from the others and make easier consumers' choice and purchase decision. Subsequently, it could bring benefits for producers in the form of higher sales, better image or stronger competitive position on the market. From a marketing perspective, findings of this paper provide producers of certified foods with information that can be useful to deepen their understanding about the issues related to consumers' perception and consumption behaviour of food quality labels, thus providing useful knowledge to support their marketing strategy. Specifically, they underline a need to carried promotion and communication activities in order to increase the consumers' awareness and credibility of quality labels (especially the ones at the European level) and/or to increase the value that they give to them, so that they will be able willing to pay a premium price (especially for older people, those with lower level of education).

Aside from the theoretical and managerial contribution of the study, there are some limitations. First the present study adopt quite basic statistics (i.e.: descriptive statistics and chi-square tests). Future research could run a cluster analysis to profile Czech consumers' attitude toward national and European quality labels and their willingness to pay a premium price based on their socio-

demographic characteristics. This could be done using the same sample or, even better, managing new data collection; this could help to monitor whether the consumers' awareness and attitudes towards quality labels change or not. Further the present study is highly specific (i.e. it was conducted in just one country). In the future, the study could be carried out also in other countries in order to compare consumers' attitudes and verify whether differences based on the cultural background do exist. Finally, it would be interesting to move forward with this study also to other markets and analyse quality labels used for certification of other categories of products.

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#### Contact information

Šárka Velčovská: [sarka.velcovska@vsb.cz](mailto:sarka.velcovska@vsb.cz)  
 Giacomo Del Chiappa: [gdelchiappa@unis.it](mailto:gdelchiappa@unis.it)