The differences in the marketability of organic products in Greece and the Czech Republic

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Abstract: The paper is concerned with the marketability of organic products in Greece and the Czech Republic. We use marketing research in the form of a questionnaire survey to get an understanding of the organic-product shopping patterns in both countries. The data collected are then analysed by statistical methods and the differences presented between the marketability of organic products in Greece and the Czech Republic. In comparing the results, a chi-square test is used to test for their independence, further using a simple as well as multiple-sample testing of relative frequencies. Based on the results, there are then presented recommendations to producers and traders of organic products to support the popularity of this group of products and thereby to increase the marketability especially among the younger generation of consumers.

Key words: bio products (organic products), ecological agriculture, organic farming, shopping patterns, statistical data processing

“Do you put a lot of emphasis on bio-quality?” Are you convinced that, by consuming organic products, you protect your health while contributing to a more environment-friendly and healthy planet? Do you think that, by buying and consuming organic products, you can make life more pleasant for you and your family while preserving the quality of life for the future generations, too? Does bio-quality pay? (IAEI 2011; Organic world 2011).

Asking respondents from Greece and the Czech Republic questions like these, we tried to get some insight into their shopping patterns and their conviction about more healthy organic products.

Living an organic life has been a challenge in the neighbouring Western countries for many years. Although in this country this is not yet so, recently, there has been a sharp increase in the interest in healthy foods and organic products. People also enjoy organic lifestyle thanks to the farmers’ markets. The reason is simple; we have begun to think about what we eat and how we live (European Commission 2012a; Zámková and Blašková 2012).

RESEARCH OBJECTIVES

First, this paper aims at collecting facts about organic farming and foods, to explain and analyze them clearly. Next, a marketing research is conducted of the organic-product market in the Czech Republic and Greece. The results will then be processed using statistical methods and procedures. The paper’s main objective is, based on the results obtained, to set up marketing strategies for advertising, with young people (16 to 25 years of age) being the key target group. Next, statistical analysis is used to make recommendations to the producers of and merchants with organic products on how to enhance the appeal of these products to increase their sales.

Organic farming and foods

Organic farming has a long tradition and history. Already at the beginning of the last century, some great European thinkers such as Rudolf Steiner considered the use of artificial fertilizers unnatural and harmful. This is how the movement of organic farmers was created, which subsequently spread all over the world (Soil Association 2011).

Organic farming respects the natural cycles and relationships to produce foods of high quality and value. Its priority is the quality, not the quantity of production. It is based on the principles of a more ethical approach to the animals bred, the environment protection, saving the non-renewable energy resources, the protection of the population health as well as preserving farming jobs and maintaining biodiversity. It is one of the tools of sustainable development and, since 1994; it has been part of the EU farming policy.
Organic foods are the products of organic farming and have been gaining popularity with the consumers all over the world. They form one of the most rapidly developing segments of the food market (Hrabalová 2012).


The Czech Republic and Greece and their attitude towards organic farming

Situated in the Mediterranean, Greece is almost an island country. The Czech Republic, on the other hand, is a Central European country with a typical continental climate. Both countries have almost the same population. As compared with the Czech Republic, in Greece there is a large number of small farming businesses (Smissen 2010).

In the Czech Republic, the development of organic farming was only made possible by the democratic changes after 1989. Now the Czech Republic is among the first of the new EU countries, being in a foremost position in terms of the area of organically cultivated land (MA 2011c).

Figure 1 shows the situation of the selected countries in 2010. The countries organically cultivating less than 2.4% of the total land area are Ireland, Hungary, and Romania etc. Another group of countries organically cultivating about 2.5 to 3.3% of land includes France, the Netherlands, and Poland. The next group with organic farming on about 3.4 to 5.9% of the total land area includes such countries as Germany, Belgium, England, and Portugal. The group of countries organically cultivating about 6.0 to 8.4% of the total land area, including Spain, Finland, Denmark, and Greece is particularly numerous. More than 10% of the land area is cultivated organically in Austria, Sweden, Estonia and the Czech Republic (Association of Private Farming Czech Republic 2012; Eurostat 2012a, b).

DATA PROCESSING METHODS USED

Relative frequencies were used when processing the questionnaire-survey data to test statistical hypotheses. Both single- and multistage sorting was used to test the various question combinations for independence. To test independence in a table, $\chi^2$ test is used. The testing statistic is

\[ \chi^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{(n_{ij} - n'_{ij})^2}{n'_{ij}} \]

With \((r - 1) \times (s - 1)\) degrees of freedom. If the value of this statistic calculated is greater than the critical quantile value, the independence hypothesis is rejected and the existence of a relationship may well be assumed. In addition to the \(\chi^2\), the paper also uses the simple and multiple-sample testing of relative frequencies. In both cases, the testing statistics

\[
U = \frac{p - c}{\sqrt{c(1-c)}} \quad \text{and} \quad \sqrt{n}
\]

\[
U = \frac{p_1 - p_2}{\sqrt{\frac{n_1 \times p_1 + n_2 \times p_2}{n-n_1 \times p_1 - n_2 \times p_2}}} \sqrt{n \times n_1 \times n_2}
\]

have the standardized normal distribution. In the event of a simple testing, the null hypothesis to be tested means that the relative frequency in question is equal to an assumed value while, in multiple-sample testing, it is about two relative frequencies being equal.

SURVEY RESULTS IN GREECE

The survey in Greece involved 100 respondents. Paper questionnaires were distributed for the respondents to check their answers.

In Greece, the numbers of male and female respondents were the same. The largest age bracket was 16 to 25 years with the 26–35 bracket being also numerous. Unfortunately, no respondent over 56 years of age could be found in Greece. Regarding the education, the respondents were mostly university students. This can also be seen in the answers to the question about the respondent’s occupation, which were "student".

About 56% of the Greek respondents buy organic food regularly or occasionally. The remaining 44% do not buy organic food at all. Of all the respondents, fifty percent are convinced that organic foods are tastier that the classical ones. More that 80% of the Greeks think that organic foods are healthier than the conventional ones.

Asked whether they would settle for higher prices of organic foods, more than one half of the Greek respondents answered in the positive. Only about 19% would not be satisfied with a higher price.

At a favourite shop of the Greek respondents, organic foods are not separated from other products on the shelves and, if asked, people unfortunately do not know whether they are of domestic or foreign produce.

Every time a respondent was asked to estimate how many organic food products were offered by his or her favourite shop, the most usual answer was “I don’t know”. Others estimated 25 different organic food products, which is not many.

The filled-in questionnaires returned indicate that most of the respondents are interested in organic farming in Greece. More that 80% of them are convinced that this interest in organic farming will continue to rise in the future, too.

The Greeks were not so communicative in open questions. Only half of the respondents answered the question Please, name the food chains of which you know that it offers organic food. The Vasilopoulos and Biokiklos food chains were among the most frequent answers. The Carrefour, which also used to operate in the Czech Republic, was also cited quite often.

When asked, more Greeks, about 80%, attempted to provide a definition of organic food with the results being not bad at all.

It follows from the combination sorting that men and women do have different opinions sometimes. Surprisingly, we learned the Greek male respondents buy organic food more often than women. However, the women are more interested in the issues relating to organic farming. Also remarkable were the more optimistic answers of the Greek male respondents to the question Are you convinced that the interest in organic farming will continue to rise in the future?

SURVEY RESULTS IN THE CZECH REPUBLIC

The Czech Republic survey involved 1122 respondents. They obtained and returned electronic questionnaires through the ReLa\(^2\). More women were engaged than men. The age of a typical respondent was 16 to 35 years. Regarding the education of the survey participants, they were mostly university students. Thus, the sample was not representative of the entire population. However, since the recommendations are supposed to be addressed to a group of people that are the best potential customers for organic products, a group in which young people prevail seems to be appropriate.

The survey questions also included the household size and income to test whether the income affects the amount of organic food bought. In most cases,
organic food is more expensive than the ordinary food, which means that the income might be a significant factor in deciding whether to buy organic food or not. The most frequent monthly household income declared was 20,000 to 40,000 CZK with most of the respondents living in a four-member household. The majority of the respondents were living in a town with a population of over 200,000.

When buying food, the respondents prefer quality and price with the look of the food being also a significant factor. The availability and the place of origin are not so important for the respondents, and least of all, the product maker.

About 44% of the respondents buy organic food often or from time to time. The remaining 56% do not buy organic food at all or do not notice whether the food they want to buy is organic. Part of these respondents not buying organic food are not satisfied with its higher price while part thinks there is no point in doing so. From other open questions, it may be concluded that the respondents do not trust the retailers that what they sell is really organic food.

Those buying organic food do so mostly because they believe that it is healthier and tastier. Most often, organic food is shopped in hypermarkets and supermarkets with specialised shops being visited quite often too. There is also a large number of respondents who grow their own organic foods.

Although the respondents trust that organic food is healthier and tastier, most of them do not feel that it is more attractive. Only 27% of the respondents think that the quality of organic foods is significantly better than that of the classical ones. Surprisingly, about 45% of them are convinced that organic foods are better in some aspects and worse in others than the classical foods.

Most of the respondents are willing to accept the higher price with 10% increase being acceptable for them. In the respondents’ favourite shops, organic food is sold as a part of the range of products offered. However, if these do not offer them, the respondents would welcome this in the future.

Many respondents think that organic food is well discernible in their favourite shop even if there is also a relatively large number (22%) of those who are of a different opinion. The respondents’ range of organic foods available usually contains the domestic produce. In the moment when the respondents were to estimate how much they pay for organic food per year, the most frequent answer was less than 500 CZK.

About half of the respondents think that organic products are well advertised. This means that those who think that organic food is poorly advertised are very large in number.

The survey also revealed that more than one half of the respondents do not care about organic farming. They admitted, however, that they had heard something about these issues. Only about six percent are greatly interested in the environment-friendly farming, which is alarming. Nevertheless, most of the respondents think that the interest in organic foods is going to rise in the future.

For another open question, it may be concluded that most respondents know where organic foods can be bought and many even listed several chains offering organic products. The Tesco was the most frequent option.

We learned many interesting observations from answers to an open question asking about a definition of organic food. The Czechs proved that they do understand the notion of organic food being able to define and naming the key differences form the classical food. There were, however, some individuals who expressed their mistrust to organic food not trusting its better quality and being grown without the use of artificial fertilisers, chemical spraying, and genetically modified organisms and products on their basis.

The combination sorting clearly shows that the respondents do not quite trust organic foods as the most frequent answer to the question about their quality was that organic products are better in some aspects and worse in others. Thus, the mistrust can be caused by the quicker decay of organic foods. The next combination sorting revealed that the respondents do not feel that organic foods are more attractive.

Regarding other relationships, we tried to find out whether the respondents prefer shopping organic food in hypermarkets and supermarkets. The research showed that of the total number of 489 respondents who buy organic food regularly or from time to time, 393 buy organic products in hypermarkets and supermarkets. Specialised shops are visited only by 236 respondents.

COMPARISON OF THE RESULTS

The information found on the Internet and, particularly, the EUROSTAT data indicate that the area of organic farming cultivation and the number of organic farms and organic food producers is constantly increasing both in the Czech Republic and Greece. Around 2003, the Czech Republic was still lagging behind Greece regarding the percentage of the area cultivated by organic farming. Over the recent years, however, this country has been able to use the EU
grants and framework programmes offered to fuel an organic farming boom. Today, the Czech Republic is among the countries that cultivate by organic farming about 12% of their total land area such as Austria, Sweden, and Estonia. Today, 8.5% of the Greek land area is farmed organically.

The primary data for this research have been collected in a questionnaire survey conducted in both countries. Despite the data being collected at different times, they can still be compared. This is thanks to the fact that, during the time the data were collected in Greece, almost no awareness existed about organic food and their sales were very low. It is only now that one can say that the Czech Republic has caught up with Greece at that time. This is mostly because the Czech Republic has used the EU grants and framework programmes offered to start its organic farming so that today, according to the EUROSTAT, in the Czech Republic several thousands more acres of land are farmed organically than in Greece. Thus, a comparison can be made at times at which the awareness of organic farming is about the same in both countries.

We tested the hypothesis that organic foods are equally favoured in the Czech Republic and Greece. From the value of the testing statistic

\[ U = \frac{0.56 - 0.445}{\sqrt{\frac{(56 + 499) \times (1222 - 56 - 499)}{1222 \times 100 \times 1122}}} = 2.22 \]

and the quantile of the standardized normal distribution, this hypothesis must be rejected at a significance level of 5%. It can be therefore maintained that there is a bigger preference of organic food in Greece.

The research also shows that 53% of the Czech respondents are willing to put up with the higher price of organic products and around 56% accepting a price increased by about 10%. Asking the Greek respondents, we learned that more than half of them agree with a higher price. And only about 19% of the Greek respondents are not satisfied with a higher price.

A large part of the Czech respondents think that organic foods are well discernible in their favourite shop, but there is also a considerable part (22%) of those who do not share this opinion. The idea that organic products receive a sufficient promotion is shared by about one half of the population. Thus, there is a considerable number of respondents who believe that organic foods do not receive a sufficient promotion. If the Czech respondents were to estimate how much they spent on organic foods per year, most of them answered less than 500 CZK.

According to the FiBL, the average annual per capita consumption of organic food is even only around 150 CZK (approximately 6 EUR) in the Czech Republic (figure from 2010). It is therefore unfortunately a relatively modest amount. E.g. in Switzerland, the annual per capita consumption of organic food is 153 EUR. The situation is similar in other Scandinavian and Alpine countries, Denmark (142 EUR), Luxembourg (127 EUR), Austria (118 EUR), see per capita consumption Figure 2. On the contrary, consumers in Southern, Central and Eastern Europe spend much less for organic food. E.g. an average annual consumption per capita in Hungary is 3 EUR, in Poland and in Slovakia 2 EUR.

When comparing the opinions of the Czech and Greek respondents, we formulated a hypothesis that, in both countries, there is an approximately same proportion of people thinking that the popularity of organic foods is going to grow. From the survey, it is clear that most of the respondents are interested in organic farming in Greece. Less than a half of the Czech respondents are interested in organic farming. They did, however, admit hearing something of the related issues. Only about 6% have any considerable interest in organic farming, which is alarming. However, most of the respondents

![Figure 2. Europe – 10 countries with the highest annual per capita consumption of organic food (EUR) 2010](source: FiBL (2012))
think that the interest in organic farming is going to increase.

When comparing the opinions of the Czech and Greek respondents, we formulated a hypothesis that, in both countries, there is an approximately same proportion of people thinking that the popularity of organic foods is going to grow. From the value of the testing statistic \((U = 0.04)\), it can be concluded that both nations think that organic foods are going to be more popular.

About 80% Greeks returned a definition of organic food. This was clearly also caused by the fact that they filled in the questionnaire manually. But if they did answer this question, the results were quite satisfactory. Almost all the Czechs gave these answers showing that they can define organic food and know in which organic foods differ from the traditional ones. Here, it should be noted that the Czechs sent in their answers electronically, thus being able to check with the Internet. This is after all good for the cause if they learned this new piece of information.

Looking at the answers by the Czechs such as that an organic food is the traditional one “in a better packing” or a “farmer using fertilizers at night” or “a usual food receiving a very good marketing support with a significantly higher price made possible by using the word organic, which is magic and in at present as the people have a feeling that they do something for nature or for themselves”, one can conclude that there is still a considerable percentage of those who do not trust organic foods and something should be done with this.

DISCUSSION AND CONCLUSION

In the first place, this paper aimed to gather knowledge on the concepts like organic farming, and organic food, analyzing and interpreting them in a clear way. Next, the aim was to conduct a marketing research in Greece and the Czech Republic. Subsequently, collecting data and analyzing them using statistical methods and making comments on them. Based on the results obtained, the goal was to characterise the differences between the organic food markets in the Czech Republic and Greece. Next, using the survey to set up marketing strategies for advertising targeted mostly on the young generation. These include recommendations to organic food producers and traders of promoting the organic product attractiveness and increasing their sales.

The partial goal of this paper is to formulate some recommendations based on a questionnaire survey and its subsequent analysis. First, we would like to point out the mistrust of a relatively large number of respondents regarding organic foods. This may be concluded from many reactions and answers of the following type: (The question was what an organic food is.)

- Marketing trick to attract customers.
- A traditional food in a better packing.
- The farmer is using fertiliser at night not to be seen.
- A usual food receiving a very good marketing support with a significantly higher price made possible by using the word organic, which is magic and in at present as the people have a feeling that they do something for nature or for themselves.

Thus, it is necessary to better stress the quality of organic foods to the potential customers. To win their trust which can be done by better informing them of the quality tests conducted. Next, stressing that there is really a point in buying organic foods, showing their advantages and the disadvantages of traditional foods containing unhealthy chemical additives. We recommend campaigns for a healthier food, thus stressing that there is a point in buying organic products.

In any case, customers have to be attracted as it is clear from the survey that organic products are not sufficiently attractive for the respondents, the more so if the respondents buying organic foods only admitted spending less that 500 CZK per year, which is really little. It is clear that this sector underestimates advertising. About 50% of the respondents even think that organic foods do not receive a sufficient advertising. One cannot see such advertising in the TV, in magazines or on the billboards. It is certainly necessary to change things and use advertising to inform the customers on the quality and advantages of organic foods. Since it is also clear that organic foods are not attractive for the customers, we recommend thinking of a better packaging of organic products. A nice coloured packaging will certainly attract more customers and increase sales. Therefore, we recommend using a suitable packaging to distinguish organic foods from the traditional ones.

We would aim advertising at stressing the strengths of organic products targeting at families with children. The research has shown that few multi-member households buy organic foods. This is again an opportunity to increase the sales by addressing this group. By better informing, it may be possible to attract also those of the respondents who do not care about the food they are buying being organic or not, as they do not know the advantages and disadvantages of organic products.

Also, sample tasting of organic foods would certainly attract customers informing them about their
quality and the quality tests conducted. During such sample tasting events, customers could try and taste the organic foods. The most appropriate place for such events would be hypermarkets and supermarkets where the respondents go shopping most.

Then we would recommend a better placement of organic products in shops. They should be more distinguished from the traditional foods. Although the survey indicated that the respondents mostly answered that organic products are well discernible in their favourite shops, there are still some who do not think so.

The price of organic foods is certainly another factor. The data collected indicate that the respondents are willing to accept a price about by 10% higher than that of traditional foods, but as already pointed out; they spend less than 500 CZK yearly on organic food. Nevertheless, mostly young people were addressed. The healthy life style should be a priority for them. They could be thus expected to invest their resources in the ever more popular health food and they will spend more than 500 CZK on organic food per year. Let us realize that also older respondents are included in the national average (the average annual per capita consumption of organic food is 150 CZK in the Czech Republic). The greater part of their expenditure is spent on housing and they cannot therefore afford the organic food due to its higher price. Thus we recommend first discount sales to attract customers and hope that they find organic products interesting respecting even a higher price in the future because of the experience they have made.

From the textual answers, there can be uniquely seen that customers like to buy organic vegetables in the marketplaces in town centres. Therefore, we recommend to small organic farmers selling their products right in such marketplaces. From the questionnaires, it is obvious that the customers trust organic vegetables sold in this way more than the organic products in supermarkets.

REFERENCES


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