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STOWARZYSZENIE EKONOMISTÓW ROLNICTWA I AGROBIZNESU
Roczniki Naukowe ● tom XVI ● zeszyt 4

Anna Sieczko

Warsaw University of Life Sciences – SGGW, Poland

MULTIDIMENSIONAL ANALYSIS OF THE PROCUREMENT OF FUNDS BY EUROPEAN UNION MEMBER STATES UNDER MEASURE 133. "INFORMATION AND PROMOTION ACTIVITIES"

WIELOWYMIAROWA ANALIZA POZYSKIWANIA ŚRODKÓW FINANSOWYCH PRZEZ KRAJE UNII EUROPEJSKIEJ Z DZIAŁANIA 133. „DZIAŁANIA INFORMACYJNE I PROMOCYJNE"

Key words: agricultural producer groups, RDP, food quality scheme, Measure 133.
Słowa kluczowe: *grupy producentów rolnych, PROW, system jakości żywności, działanie 133.*

Abstract. Ensuring high quality and safety of food has become one of the priorities of the Common Agricultural Policy pursued both at the level of the European Union and individual Member States, including Poland. Consequently, among the measures in the Rural Development Programme for 2007-2013 was Measure 133 'Information and promotion activities' designed to make consumers aware of the specificity of high-quality food products and to point out the benefits of consuming them. Its goal was to increase the demand for agricultural products and foodstuffs covered by food quality schemes and to broaden consumers' knowledge of both the quality mechanisms and the advantages of the products covered by them. The article presents the results of a multidimensional analysis of financial support, which reveal the level of activity of agricultural producer groups in various Member States in procuring funds under Measure 133.

Introduction

Consumers in the countries of the European Union are increasingly looking for high-quality food products that are free from chemical additives such as preservatives, artificial colourings and flavour enhancers. In response to the demand for such food, organically produced food as well as regional and traditional food products have appeared on the market. This kind of food is not only free from chemical additives but also serves as a means of passing on cuisine-related traditions and culture to future generations. Food dishes and the way of serving and preserving them are a very important dimension of the culture of every nation.

The actions of both the European Union and individual Member States encourage the development of a market of high-quality food. One of the support measures in the Rural Development Programme (RDP) for 2007-2013 was Measure 133. "Information and promotion activities" addressed to producer groups who were holders of EU certificates (of Protected Geographical Indication, Protected Designation of Origin, Traditional Specialty Guaranteed, and of food produced in accordance with organic farming standards) and national quality certificates. The Measure was designed to facilitate promotion and information campaigns on the benefits of agricultural and food products produced under particular quality schemes.

Material and methods

The aim of the study was to analyze the financial support made available to food producer associations of any legal status. The analysis covered the applications submitted under Measure 133. of the RDP for 2007-2013 in different EU Member States in terms of quantity and value. The research material consisted of data from the European Network for Rural Development (ENRD)[1]

[1] ENRD was established in 2008 by the Directorate-General for Agriculture and Rural Development (DG AGRI) of the European Commission. Its fundamental role is to collect and disseminate examples of projects that demonstrate different ways of using EAFRD (the European Agricultural Fund for Rural Development) across Europe [Peters 2008].

from February 2014. In addition, the analysis took into account the products registered under the EU quality schemes of traditional specialties guaranteed, protected designations of origin, and protected geographical indications. For this purpose, data from the Agriculture and Rural Development website were used.

The following abbreviations were used in the analysis: AMT – the total amount of money used under Measure 133. by a given Member State; AMTp – the amount of money planned for Measure 133. in a given country; AMTpc – the percentage utilization of the amount planned; NPG – the number of food producer groups in a given country which submitted applications for support under Measure 133.; NPGp – the number of food producer groups planned to participate in the Measure; NPGpc – the number of food producer groups which submitted applications (i.e. participating) as a percentage of the number planned; NQP – the number of registered products with an EU certificate in a given country. In addition, based on the original variables, four indices were determined:

– Index 1 (IDX-1 = AMTpc/NPGpc = IDX-3/IDX-4) is the quotient of the percentage utilization of the amount planned for Measure 133. (AMTpc) and the percentage of the number of food producer groups which actually applied for support (NPGpc); this index shows the level of utilization of funds under the Measure in relation to the popularity of this Measure among food producer groups in each country,
– Index 2 (IDX-2 = NPGpc/AMTpc = IDX-4/IDX-3), which is the inverse of the ratio used in Index 1, represents the percentage of food producer groups which applied for support (NPGpc) in relation to the percentage utilization of the amount planned for Measure 133 (AMTpc)
– Index 3 (IDX-3 = AMT/NPG) is the quotient of the total amount of money actually used (AMT) and the number of participating food producer groups (NPG); this index is expressed in euros per group, thus representing the average amount of subsidies received by one producer group in a given country,
– Index 4 (IDX-4 = AMTp/NPGp) is the quotient of the amount planned (AMTp) for Measure 133. in a given country and the number of food producer groups planned to participate in the Measure (NPGp). This index can be interpreted as the average amount in euros planned for one group that could take part in the Measure.

The division of countries into separate homogeneous groups was based on a multivariate hierarchical cluster analysis according to Ward's method in which the measure of distance (dissimilarity) was the squared Euclidean distance on standardized variables. Reduction in the dimensions of the 11 traits studied was performed with principal component analysis (PCA) and the use of a Varimax rotation.

Financial support to producers of high-quality food under Measure 133. "Information and promotion activities"

The task of the European Union is to take care of the territory and population of each Member State. Of particular importance is to ensure that all the EU citizens have equal access to financial assistance and support. The agricultural policy being implemented in all Member States has been reflected in the proposals to support producers of high-quality food. One of the measures included in the Rural Development Programme for 2007-2013 approved by the European Commission was Measure 133. "Information and promotion activities" under Axis 1. "Improving the competitiveness of the agricultural and forestry sector". Financial resources had been allocated to raise awareness of the products participating in food quality schemes and to promote them on the European Union market. The measure results from the fact that quality certified food products are not yet sufficiently known and appreciated, especially in the new EU countries. Neither consumers nor producers have sufficient knowledge or information on the Community and national schemes for the production of high-quality food products. As a result there persists both a low demand for and low supply of these products [Winawer 2013]. The activities under Measure 133. were to be directed at consumers in order to make them aware of the specificity of high-quality food

products and to point out the benefits of consuming such products. This was to contribute to an increase in the demand for agricultural products and foodstuffs covered by food quality schemes and to broaden the knowledge of consumers of both the quality mechanisms and the advantages of the products participating in those schemes. Financial support, therefore, was available to those food producer groups whose members participated in food quality schemes. In Poland, the support took the form of a refund, which was 70% of net eligible costs (actually incurred to finance the relevant activities) [Materiał informacyjny… 2012]. Applications for support for the activities of a promotional nature could only be made in the case of products participating in food quality schemes. They included regional and traditional products [Leoniak 2010] covered by the Community certification schemes and organic farming methods meeting the requirements of EU regulations. In Poland, the products also included those produced in the so-called integrated production systems and under schemes approved by the Ministry of Agriculture and Rural Development, and administered by the Polish Chamber of Regional and Local Products, which had received the "Quality and Tradition" certificate, and as of 11 August 2012 also products produced under the "Quality Meat Programme" administered by the Polish Association of Beef Cattle Producers [Kieljan 2011].

Financial support could be obtained for conducting activities in the fields of public relations, promotion and advertising, participation in trade fairs, and sales promotions. This could be a single activity or a coherent set of activities implemented for no longer than two years, but in Polish conditions no later than 30 June 2015 [*Działania informacyjne…* 2010]. The range of activities eligible for support included dissemination of information about those characteristics or special properties of food products that formed the basis for their protection, especially their quality and production methods. In the case of products covered by the schemes notable for environmentally-friendly production methods, the relevant elements of production were to be emphasized.

Analysis of the utilization of funds under Measure 133.

The EU Rural Development Policy is implemented by each Member State within the framework of its own RDP. Each country chooses those measures that most fully meet the needs of the rural areas on its territory. Those measures are then included in the relevant national or regional RDPs. The extent of the European Union's involvement in the financing of individual measures depends on the measure chosen and the region. Each Member State had thus the opportunity to decide which measures under Axis 1 to include in its own RDP. With this in mind, only those countries that had implemented Measure 133. were selected for analysis. Also omitted were the countries which despite implementing Measure 133 had not provided financial data. As a result of these limitations, the following countries were included in the analysis: Austria, Cyprus, Denmark, France, Spain, Poland, Portugal, Slovenia, and Italy.

The figures below (Fig. 1 and 2) show for each country the amount of money (in euros) planned and actually used for Measure 133. and the number of food producer groups participating in this Measure. Among the countries surveyed, the largest amounts of money available under Measure 133 were used by Italy (53 285 581 euros), Spain (36 725 181 euros) and France (24 132 479 euros). The highest number of beneficiaries of this Measure was in Spain (3 754). Poland used 1 425 591 euros through 3 producer groups. Denmark used 78.1% of the planned amount zthrough 33.3% of the planned food producer groups, Spain 68.7%, respectively, but through 207% of the groups planned. Poland used 14.3% of the planned funding through only 0.2% of the groups planned. The four specially devised indices allow a more accurate analysis of the procurement of funds under Measure 133. of the RDP for 2007-2013.

Index 1 (IDX-1, Fig. 4) represents the size of the funds procured by the participating entities in relation to the percentage of the number of participants in the measure. The highest value of this index was reached by Poland (71.5). As reported above, very few Polish entities participated in Measure 133., but in total they received a large part of the funds available to this country. The lowest value of Index 1 was obtained for Spain (0.33) because, in contrast to Poland, a lot

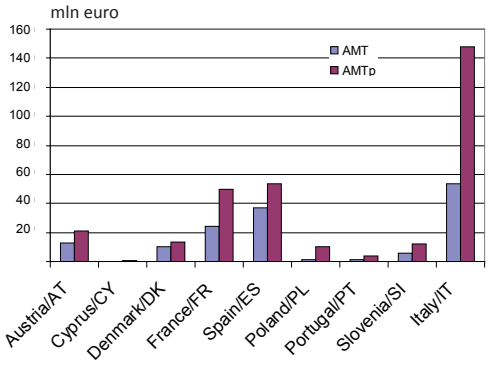

Figure 1. Values of the amount used (AMT) and the amount planned (AMTp) in the countries participating in Measure 133.
Rysunek 1. Wartość kwot wykorzystanych (AMT) oraz kwot zaplanowanych (AMTp) w krajach biorących udział w działaniu 133.
Source: own study
Źródło: opracowanie własne

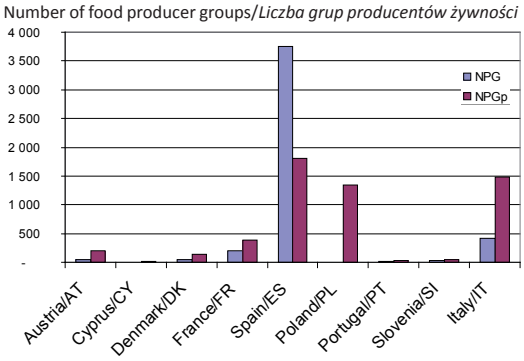

Figure 2. Number of participating food producer groups (NPG) and the number of planned groups (NPGp) in the countries involved in Measure 133.
Rysunek 2. Liczba grup producentów żywności (NPG) i liczba zaplanowanych grup (NPGp) w krajach biorących udział w działaniu 133.
Source: own study
Źródło: opracowanie własne

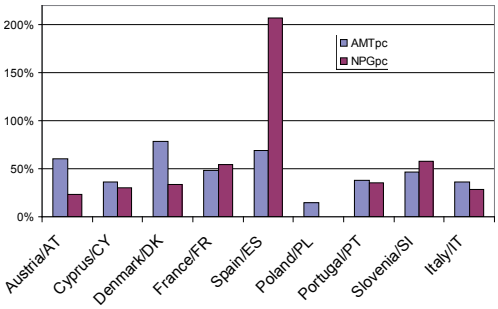

Figure 3. Percentage utilization of the amount planned (AMTpc) and the percentage of food producer groups which applied for support (NPGpc) in the countries participating in Measure 133.
Rysunek 3. Procent wykorzystania kwoty zaplanowanej (AMTpc) oraz procent grup producentów żywności, którzy złożyli wnioski z liczby zaplanowanej (NPGpc) w krajach biorących udział w działaniu 133.
Source: own study
Źródło: opracowanie własne

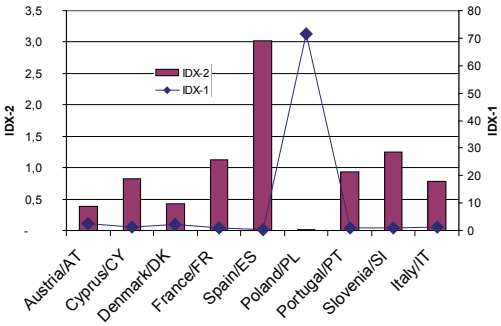

Figure 4. Values of Index 1 (IDX-1) and Index 2 (IDX-2) determined for each country involved in Measure 133.
Rysunek 4. Wartości wskaźnika 1 (IDX-1) i 2 (IDX-2) wyznaczone dla poszczególnych krajów biorących udział w działaniu 133.
Source: own study
Źródło: opracowanie własne

more beneficiaries there participated in Measure 133. than had originally been planned. Index 2 (IDX-2, Fig. 4) indicates the extent of fragmentation in the distribution of funds. It amounts to 0.01 for Poland and 3.01 for Spain. With well-planned amounts of money and the number of participants, both Index 1 and Index 2 should fluctuate around the value of 1. The closest to this value, and thus most accurate in planning, were: Portugal (1.07, 0.93, respectively), France (0.89, 1.12), Slovenia (0.80, 1.25), Cyprus (1.22, 0.82), and Italy (1.27, 0.79).

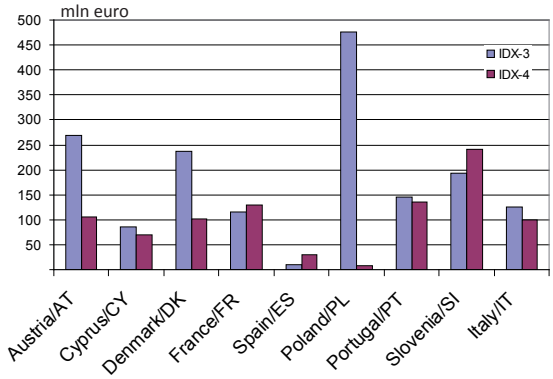

Figure 5. Values of Index 3 (IDX-3) and Index 4 (IDX-4) in euros determined for each country involved in Measure 133.
Rysunek 5. Wartości wskaźnika 3 (IDX-3) i 4 (IDX-4) w euro wyznaczone dla poszczególnych krajów biorących udział w działaniu 133.
Source: own study
Źródło: opracowanie własne

Index 3 (IDX-3, Fig. 5) represents the average amount of money in euros used by one group of food producers. The highest average amount per individual beneficiary can be observed in Poland (475 197 euros), followed by Austria (269 306 euros) and Denmark (237 310 euros). By contrast, the lowest average amounts were in Spain (9782 euros) and Cyprus (85 229 euros). Index 4 (IDX-4, Fig. 5) represents the average planned amount in euros per one group of agricultural producers (of all those planned to participate). The highest average amount had been planned by Slovenia (241 924 euros), the lowest by Poland (7 407 euros) and Spain (29 485 euros). Figure 5 clearly shows the difference between the amount planned (IDX-4) and the amount actually paid out (IDX-3) on average per food producer group.

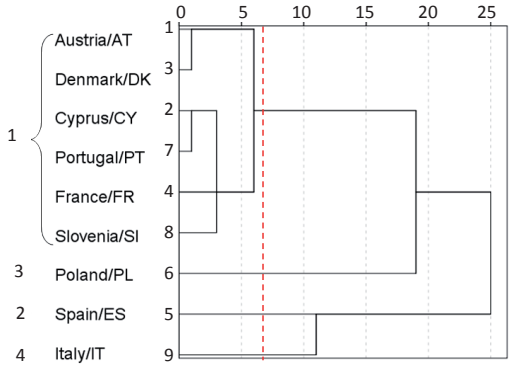

Figure 6. Dendrogram showing the division of 9 countries into 4 groups using Ward's method and the squared Euclidean distance
Rysunek 6. Dendrogram podziału 9 krajów na 4 grupy z użyciem metody Warda i kwadratu odległości Euklidesowej
Source: own study
Źródło: opracowanie własne

The hierarchical cluster analysis by Ward's method allowed the surveyed countries to be divided into four separate groups. The cluster analysis together with PCA allows a synthesis of the study and interpretation of the results for the countries and groups in a two-dimensional space of the first two principal components.

In Figure 7, the traits studied (marked '+') are arranged in the PC1 and PC2 system of coordinates. The higher the correlation coefficient of a trait, the further away its position is from point 0 (the intersection of the coordinates), and the closer it is to the value of 1. Group 2, consisting only of Spain, is located furthest along the PC1 axis, which allows the inference that the traits that are most strongly correlated with component 1 (PC1), such as NPGpc, AMTpc, IDX-2 and NPG, have the greatest influence on separating out this country into a homogeneous group. Positively correlated with component PC2 are AMTp, NQP, AMT and NPGp. Group 4, composed only of Italy, was separated out as a homogeneous group, with a large contribution of component 2 (PC2). Poland (Group 3) can be found in the sector of negative values for PC1 and PC2, and thus it can be described as a country with opposite values relative to Spain (strongly correlated with PC1) and Italy (strongly correlated with PC2). The traits negatively correlated with PC1 are Index 1 (IDX-1) and Index 3 (IDX-3), and so we can infer a high influence of these traits on the separation of Poland into a homogeneous group. Group 1, consisting of the remaining countries analyzed in the study, does not have any traits clearly correlated with PC1 or PC2, which could differentiate

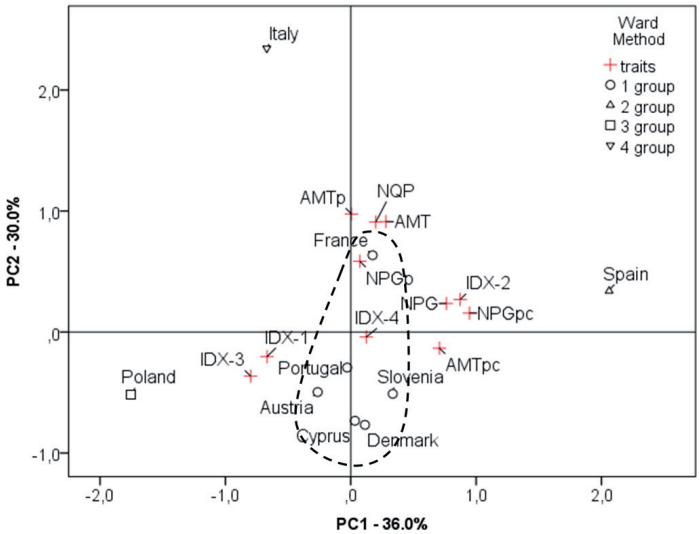

Figure 7. PCA graph for the first and second principal component for the traits assessed (marked ‚+'), together with the countries divided into four groups by Ward's method

Rysunek 7. Wykres pierwszej i drugiej składowej dla badanych cech (oznaczono ‚+') wraz z krajami i ich podziałem na cztery grupy z użyciem metody Warda

Source: own study

Źródło: opracowanie własne

them. The location of these countries along the PC1 and PC2 axes is central and oscillates near the value of zero, which indicates a lack of strong correlations with the variables assigned to the first two components. The dissimilarity between these countries can be more accurately traced on the dendrogram (Fig. 6).

Conclusions

The financial analysis of Measure 133. "Information and promotion activities" addressed to food producer groups participating in the EU food quality schemes, organic farming, and national solutions specific to the individual Member States, has made it possible to formulate the following conclusions:

1. The largest amounts of money (in euros) under Measure 133. were used by Italy, Spain and France. These are countries that are famous, both in Europe and the world, for traditional and regional food. Their cuisines are commonly known worldwide, and products such as the famous Burgundy wines produced from the grape variety Pinot Noir (France), the chorizo sausage (Spain), or the Parma ham (Italy) are generally appreciated and recognized by consumers across the European Union. Those countries also have the highest number of registered products with an EU certificate of Protected Geographical Indication, Protected Designation of Origin, or Traditional Specialty Guaranteed (Italy 263, France 209, Spain 176).
2. Portugal, France, Slovenia, Cyprus and Italy were the countries in which both the amount of money allocated to Measure 133. and the number of prospective beneficiaries were planned most accurately. In Spain, far more beneficiaries participated in the Measure than originally planned (207%), whereas in Poland the least – only 0.2% of the planned food producer groups.
3. Among the countries surveyed, Poland used the least amount of money available under Measure 133. However, in terms of per one producer group the amount of money procured was the highest, i.e. 475,197 euros. Poland has 35 registered products and ranks fifth among the countries surveyed. It would be good if under this measure for the period 2014-2020 the available funds were used by more groups of producers of such food because consumers in Poland have little knowledge about high-quality food, and the market for such food in this country is just being created.
4. The multidimensional cluster analysis of the traits studied allowed the surveyed countries to be divided into four homogeneous groups. Poland, Spain, and Italy formed separate groups, which allow drawing conclusions about the diversity of each of them in light of the traits studied; the other six countries were in one homogeneous group.

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Streszczenie

Zapewnienie wysokiej jakości i bezpieczeństwa żywności stało się jednym z priorytetów wspólnej polityki rolnej prowadzonej zarówno na poziomie Unii Europejskiej, jak i poszczególnych państw do niej wchodzących, w tym Polski. W związku z tym w Programie Rozwoju Obszarów Wiejskich na lata 2007-2013 zostało zaproponowane działanie 133. mające zapoznać konsumentów ze specyfiką produktów wysoko jakościowych i wskazać korzyści wynikające z ich spożycia. Jego celem było zwiększenie popytu na produkty rolne i środki spożywcze objęte mechanizmami jakości żywności oraz pogłębienie wiedzy konsumentów zarówno dotyczącej mechanizmów jakościowych, jak i zalet produktów objętych tymi systemami. Wykorzystano wielowymiarową analizę wsparcia finansowego pozwalającą poznać aktywność grup producentów rolnych w poszczególnych krajach członkowskich realizujących działanie 133. „Działania informacyjne i promocyjne".

Correspondence address
dr Anna Sieczko
Warsaw University of Life Sciences
Faculty of Economic Science
Department of Education Economics, Communication and Counselling
Nowoursynowska 166 St.
02-787 Warsaw, Poland
e-mail: anna_sieczko@sggw.pl