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The Importance of the Role of Agricultural Cooperatives in the Development of the Agricultural Sector: The Case of Greece

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ABSTRACT

Background: The subject of the study in the present work was the correlation of the development of the agricultural sector with the operation of agricultural cooperatives. Considering the importance of the agricultural sector with its big and small problems, the role of agricultural cooperatives in the development of this sector is identified. As it was found from the Greek literature, the agricultural cooperatives in Greece, offered technical and material assistance to the Greek farmers, helped in the economic recovery of the local communities, helped significantly in the operation of the agricultural products market, undertook activities of utilization of agricultural production and in many cases also competed with private companies.

Methods: The model chosen for the analysis is the input-output analysis method which measures the economic impact that companies have on their local economies. In this case it concerns the change of production from the various companies belonging to the cooperatives to a financial contribution to the whole economy.

Result: The results of the theoretical and empirical analysis clearly showed that the cooperative organizations in Greece, despite the chronic problems they face, contribute positively and satisfactorily to the entire economy of the country. This contribution is made not only by the services they offer to their members but also through the financial activities they undertake with their cooperative enterprises.

Key words: Agricultural cooperatives, Agricultural sector, Cooperative enterprises.

INTRODUCTION

The role of the agricultural sector in economic development is a main object of study for scientists, ie whether the agricultural sector contributes to the economic development of developing countries and especially to the development of the poor. And there is a paradox in this role of the agricultural sector in economic development. While the contribution of the agricultural sector to the GDP of the countries decreases over time, at the same time the productivity of the crops improves (e.g. cereals and other crops). This is of course explained by the fact that, although the agricultural sector is becoming more productive, its importance is declining in the economy due to the stronger development of other sectors of the economy (Meijerink, and Roza, 2007; Ohunye et al. 2020).

Over the last 60 years, the global agricultural sector has shown a significant increase in the production of agricultural products. This increase was based on the improvement of productivity in the agricultural sector which contributes to economic growth, in the following ways: (1) Economic growth is affected by a significant increase in spending on agricultural products, to meet the growth rate of demand. This means an increase in economic activity. Failure to expand food production in line with the growth rate of demand can severely hamper economic growth. (2) The expansion of agricultural exports has proved to be one of the most important economic activities to increase income and foreign exchange earnings, especially in the early stages of development. (3) By employing a significant number of workers for the processing of agricultural products into food, but also through other developing sectors of the economy

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that usually depend on the agricultural sector. (4) The agricultural sector, as the dominant sector in a developed economy, usually contributes the capital required in various forms for general investment and secondary industry expansion is an important element for economic development. (5) The significant increase in the net incomes of the populations of all countries with the development of the agricultural sector was an important impetus for industrial expansion (Johnston and Mellor 1961).

The transformation of the agricultural sector from a dominant economic sector in poor countries to a very small sector in richer countries is a central feature of economic development. Given the social significance of this phenomenon due to identifying causes and consequences, due to the appropriate important policies that have been adopted, economic forces are contributing to the reduction of the agricultural sector. The reasons for the decline in the

agricultural sector are not generally policy variables, but economic policies for the agricultural sector and industry, sectors that have a significant impact on product prices in these sectors and in developing countries usually have a negative impact on agricultural production (Rachana and Vineel, 2019, Kašparová *et al.* 2019, Krueger *et al.*, 1988).

Agricultural cooperatives have played an important role in the development of the agricultural sector in countries with a large agricultural sector but also in industrialized countries as suppliers of agricultural supplies and as traders for agricultural products and the provision of services such as storage and transportation of agricultural products. It is a fact that many of the agricultural cooperatives adapt very quickly to market functions in a changing economic environment characterized by technological change, the industrialization of the agricultural sector and individual farming. In the past, the success of agricultural cooperatives was because they acted as consultants and executors of agricultural marketing. Small-scale farmers in some countries have set up agricultural cooperatives but have not survived mainly due to mismanagement, lack of training, member disputes and lack of funds. The high cost of supporting farmers' businesses was also unsustainable (Ortmann and King, 2007).

The development of agricultural cooperatives in Greece

Greece is among the three pioneering countries for the creation of modern forms of cooperatives France (1750), Greece (1780, Ambelakia in Thessaly) and Austria (1794) and other countries as mentioned in Jack Shaffer's dictionary "Historical Dictionary the Cooperative Movement" (Shaffer, 1999). Since then, in Greece began a significant increase in the creation of new agricultural cooperatives, as shown in the relevant literature, but with many variations from time to time. The first organized cooperatives appeared in the 18th century and were associated with the agricultural sector, as the main goal of the new institution was to help farmers develop mutual aid relations (Vavritsa, 2010). Then the role of agricultural cooperatives and their harmonization with the regulations governing the Common Agricultural Policy and the Common Market Organization, will be decisive for the development and resilience of the Greek agricultural sector in the context of intensifying intra-Community and international competition (Sergaki, 2006). Unfortunately, the cooperative movement in Greece lags behind the other countries of the European Union (Patronis and Mavreas 2004, COGECA, 2010). This is due to the fact that among the EU Member States, Greece has the highest number of agricultural cooperatives, but the lowest value produced per cooperative. Of course, the number of active agricultural cooperatives is much smaller than the official statistics mentioned, which justifies the low value produced per cooperative (Iliopoulos and Valentinov 2012).

Greek agriculture and the rural population from a very early age consolidated the spirit of cooperation and at a very fast pace created cooperatives, on which the

development of the agricultural sector was based. A special feature of the development of cooperatives is that while until 1913 there were 87 agricultural cooperatives, in 1915 when the law 602 "on cooperatives" was published a total of 152 were established (Kaminari - Klimi, 2003). In other words, it seems that the legislation on cooperatives increased the growth rate of cooperatives in Greece and shortly before the Second World War the number reached 3,967 cooperatives (Avdelidis, 1986). During this period, the contribution of the Agricultural Bank was great, which undertook the geotechnical support of the agricultural cooperatives but also their credit support. At the same time, the establishment of PASEGES (1935) helped to guide this development (Daoutopoulos, 2006, Papageorgiou, 2015).

The agricultural cooperatives in Greece developed various activities which corresponded to the special needs of their members while at the same time each activity aimed at their developmental dimension. For this reason, different types of primary cooperatives were defined depending on their activity. The distinction in productive concerns agricultural cooperatives that were engaged in the joint cultivation and production of agricultural products and various other cooperatives that are related to the production process, such as land improvement, insurance, land rental or purchase of fields, the distinction in suppliers concerns suppliers. whose main purpose is to supply agricultural and livestock supplies to their members, such as fertilizers, pesticides, seeds, animal feed, *etc.*, from the industries, importers or wholesalers that produce, import, or distribute these supplies in bulk and distribute them to producers at affordable prices, to commercial cooperatives undertaking the sale of agricultural products (Johnston and Mellor, 1961, Majee and Hoyt, 2009, Damianos and Vlachos 2014).

The entry of agricultural cooperatives into the production activities of final products for the market contributed greatly to the utilization of primary production, to the improvement of the quality of agricultural products produced, to the increase in the quantity of sales of agricultural products and to their sale at better prices. The higher prices on agricultural products produced by member producers result from the significant added value added to the final product. This increases the sales and revenues of cooperatives, the income of producers, the distribution and the return to members of surpluses. At the same time, these activities of cooperatives are a very important source of jobs and therefore we have an increase in employment at the local level which is theoretically the main economic benefit (Mitsiou, 2006 andrianesi and Drivakou 2010, Karypidis 2015, IFAD 2013, Hasen and Mekonnen, 2017).

In addition to the above, agricultural cooperatives with the economic activities they carry out in rural areas, offer not only economic benefits but also social and cultural benefits to both their members and society. (Mitsiou, 2006, Bretos and Marcuello, 2016) The contribution of agricultural cooperatives in the absorption of primates is important agricultural products by all independent producer producers,

the total and non-selective product market, fair prices, equal treatment of members, the production and supply of pure and unadulterated products, the fairer distribution of national income among citizens, the financial support for sick and poor families and the continuous supply and guaranteed quality of products to consumers (Sexton, 1990; Sergaki, 2010; Sergaki and Nastis, 2011, Mitsiou, 2006).

The above activities of agricultural cooperatives signal the interest of each cooperative for the community in which they operate and are a confirmation of the implementation of the 7th cooperative principle, interest for the community, ie serving the economic, social and cultural needs and aspirations of society as a whole. to ensure sustainable development. The direction of sustainable development means taking care of the protection of natural resources, so that resources are not spent in the interest of one generation to the detriment of future generations. At the same time, the cooperatives offer cultural work by promoting education to all their members with seminars, lectures and training programs, protect the environment, maintain cleanliness in their places of residence, support financial conferences and provide scholarships to children of their family members, always in in the context of their aspirations according to the 5th basic Cooperative Principle (Mitsiou, 2006, Papageorgiou 2015).

MATERIALS AND METHODS

The focus and purpose of this research is to assess the overall contribution of agricultural cooperatives to the rural development of the country and, consequently, their contribution to the national economy. In addition, the analysis of the financial contribution of agricultural cooperatives allows the direct activity of the cooperative sector, as well as the value of financial ties with other businesses, households and the overall economy of the country.

The agricultural cooperative is an important institution, as it offers benefits not only to producers but also to workers and rural communities. Agricultural cooperatives are important employers in many countries, as well as in Greece. Therefore, Agricultural Cooperatives play a set of roles in market economies, based on cooperative values and principles that are rarely noted in the financial literature. Essentially, in this analysis, the size of the business activity carried out by the agricultural cooperatives must be measured. This is a useful starting point, to identify the unique contributions of cooperatives, in relation to other forms of business organization. In an effort to identify ways in which these "deeper effects" can be quantified, a number of international publications provide important insights into how the contribution of agricultural cooperatives to the local and national economy can be reliably measured (Vladislav, 2007; Bernard, *et al* 2008; Deler *et al.* 2009; Ahmed and Mesfin, 2017).

To investigate the importance of agricultural cooperatives in the development of Greek agriculture, no direct way was used, but their important activity in the rural

area was used. Specifically, the creation of successful cooperative enterprises for the absorption, processing and utilization of agricultural production, is considered a very important contribution to the development of Greek agriculture. Through their actions, these companies have greatly contributed to the development of the agricultural sector, contributing to the increase of the added value of agricultural production, employment in rural areas, the creation of additional incomes and the creation of state revenues.

To estimate this contribution in the above sectors and to highlight the importance of agricultural cooperatives in the agricultural sector, the multipliers were estimated using the input-output method.

The input-output analysis method measures the financial contribution that companies have to their local economies and in this case concerns the change of production by the various companies that belong to the cooperatives. The effects of this change can be described as direct, indirect and induced. These direct, indirect and induced effects are defined as follows (Folsom, 2003; Miller, 2017):

- a) The immediate results are due to the actions and the action of the cooperative enterprise as a result of the change in the supply and consequently in the final demand.
- b) The indirect effects are created in the regional economy under study, by the markets and by the cooperative enterprise in order to face the change in the final demand. An example would be the inputs purchased by the company in response to the change in production to meet the new final demand.
- c) The consequent effects are changes in local household expenditures from changes in income (mainly wages) as a result of the direct and indirect effects of changes in demand.

These effects are expressed in the form of multipliers. The multiplier summarizes the total impact or contribution that can be expected from the change in a given economic activity.

Four multiplication factors are commonly used to estimate the effects of a change such as a change in production, a change in employment in the sector, a change in income and a change in the total income of the sector (Adelman and Robinson, 1986; Thorbecke, 2000; Folsom, 2003; Round, 2003, Miller and Blair, 2009, Miller, 2017, Deller, 2019).

The total economic impact is the sum of the direct, indirect and indirect effects. These direct, indirect and induced results are defined as follows: The direct results are due to the actions of a company and in this case to agricultural cooperatives, as a result of the change in final demand. The indirect effects are created, in the regional economy studied by the markets, by the company to face the change in the final demand.

The advantages of the input-output model are the relatively limited data requirements and the relatively simple

Table 1: The contribution of the economic activity of Cooperative enterprises to the various financial figures through the multipliers (2018).

Sectors of the economy	Cooperative enterprises - Multipliers											
	I ₁ *	I ₂ *	I ₃ *	I ₄ *	I ₅ *	I ₆ *	I ₇ *	I ₈ *	I ₉ *	I ₁₀ *	I ₁₁ *	Average
Total production	1.13	1.42	1.46	1.60	1.91	1.64	2.2	1.31	1.31	1.38	1.16	1.50
Employment	1.33	1.64	2.01	1.32	1.58	1.19	1.16	1.09	1.05	1.08	1.40	1.35
Labor income	1.30	1.44	1.26	1.10	1.55	1.50	2.0	1.51	1.51	1.39	1.37	1.45
Total income	1.39	1.07	1.96	1.23	1.28	1.27	1.11	1.36	1.05	1.19	1.69	1.33
Average	1.29	1.39	1.49	1.31	1.58	1.40	1.62	1.32	1.23	1.26	1.41	1.40

* Cooperative enterprises.

application and presentation of the results. It also facilitates the comparability of results between sectors and countries. The main disadvantage of the method is the delivery that the supply of inputs is completely flexible and infinite (Folsom, 2003; Deller *et al.*, 2009; Uzea, 2014).

For the estimation of the multipliers in the cooperative enterprises, data were obtained from the published balance sheets of the year 2018 of eleven (11) important Cooperative enterprises. Multipliers were estimated by a simple reason as expressed by Folsom, (2003) Miller (2017):

$$\text{Multiplier Type II} = \frac{\text{(Direct, indirect and induced effects)}}{\text{(Direct effects)}}$$

RESULTS AND DISCUSSION

The following Table 1 presents the multipliers estimated for each cooperative enterprise.

As the estimated multipliers for each Cooperative enterprise show, their contribution to the agricultural economy of the country is positive. In none of the studied companies the multipliers were found to be smaller than the unit. Otherwise, the company would contribute negatively to the overall economy. The largest contribution of cooperatives, as shown by the estimated multipliers, seems to be in production and income from work, while their contribution to the other sectors examined is not significantly behind. In particular, multipliers show a significant contribution to employment and the final economic result.

The following Table 2 is an indicative and comparative table with results of analysis and evaluation of the multipliers, three Private enterprises with objects of employment agricultural products. The method of analysis applied is the same as that applied to cooperatives. If a comparison is made of the multipliers of these private enterprises, which is possible since they are pure numbers, with those of the cooperative enterprises, it will be found that the differences are significant to large. Of course, the contribution of each Private enterprise to the total financial benefit from their operation is different but it seems that the total contribution is greater than that of the cooperative enterprises.

The data in Table 2 are like and close to the data in Table 1. In particular, the multipliers concerning the overall economic activity of the country were found to be quite high in relation to the multipliers of private enterprises and even higher than the multipliers of cooperative enterprises.

Table 2: The contribution of the economic activity of Private enterprises to the various financial figures through the multipliers (2018).

Sectors of the economy	Privet agricultural enterprises-Multipliers			Average
	I _A *	I _B *	I _Γ *	
Total production	1.54	1.70	1.48	1.57
Employment	1.30	1.32	1.96	1.53
Labor income	1.38	1.57	1.58	1.51
Total income	2.0	1.24	1.14	1.46
Average	1.56	1.46	1.54	1.52

*Privet agricultural enterprises.

The above finding is first justified by the fact that, in the case of the total economic activity of the state, all forms of high-yield activity are included in the contribution to the overall economy.

Private companies have the advantage of better organization and the main purpose of higher profits resulting in larger multipliers.

Finally, cooperatives as social and economic units, generally show lower returns and therefore result in smaller multipliers. Nevertheless, the results show a positive contribution to the development of the agricultural sector and a significant contribution to the national economy, specifically in the areas of production, employment, labor income and total income.

CONCLUSION

The aim of this paper is to examine the contribution of agricultural cooperatives in the development of the agricultural sector of Greece and the overall economy of the country, while a significant effort was made to quantify this contribution in important areas of operation of the economy. The selection of agricultural cooperatives for this research was based on the particular mode of operation and organization that cooperatives have from their appearance, but also on their goals that must on the one hand combine social sensitivity with economic efficiency. However, for the purposes of the research, while an important theoretical presentation was made of all aspects of the contribution of agricultural cooperatives to the development of the global agricultural economy and the development of the agricultural sector in Greece, for empirical analysis only secondary companies used

agricultural cooperatives and tertiary cooperatives in order to address mainly practical issues such as data availability. The most important results of the analysis are the importance of agricultural cooperatives for the functioning of the state economy worldwide, the great contribution to the development of the global agricultural economy and the great assistance of agricultural cooperatives to member farmers. In Greece, it seems that with their activities, they contribute to a large extent to the agricultural economy but also to the national economy in parallel with private companies.

Conflict of interest: None.

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