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Assessing the Role of the Young Farmer Scheme in the Export Orientation of Greek Agriculture

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Abstract: The present paper attempts to investigate whether the Sub-Measure 6.1 "Start-Up Aid for Young Farmers" payments of the 2014–2020 Rural Development Programme have a role to play in explaining Greek farms' export orientation and export performance through a statistical analysis of farm-level data. The results demonstrate considerable differences in farm structures between beneficiaries and non-beneficiaries and provide support for the contention that beneficiaries are more likely to operate more productive and economically efficient farms. However, the results also provide a sobering assessment of the role of the young-farmer-related subsidies in stimulating export orientation and export performance.

Keywords: common agricultural policy; subsidies; international trade; export orientation

1. Introduction

Over the last years, the number of young farmers in several European countries has decreased due to technological, social and economic changes [1,2]. As a consequence of the aforementioned fact, the European Union Common Agricultural Policy (EUCAP) has been more active in targeting generational renewal, providing member-countries with funding instruments to support young farmers in the setting up, viability and future sustainability of their activity [3]. The young farmer payment is given to farmers of no more than 40 years old who are setting up, for the first time, an agricultural holding and as head of the holding or who have already set up an agricultural holding during the 5 years prior to their first application to the scheme [4].

The main national priorities of young farmer schemes for Greece are the enhancement of farm viability and the competitiveness of all types of agriculture. Particularly, Sub-Measure 6.1, "Start-Up Aid for Young Farmers," of the 2014–2020 Greek Rural Development Programme targets the restructuring of the agricultural sector and the modernization of the rural population [5]. Unambiguously, the modernization of the industry is a key factor to attract the relatively higher-educated and skilled youth of future generations. For instance, it is more likely for higher-educated and skilled young farmers to adopt new technologies and innovative farming techniques (smart farming). Moreover, certain factors, such as access to finance, land and knowledge, in combination with higher-educated and skilled farmers can increase the so-called competitiveness of farms.

Several authors claim that competitiveness does not have a definition in economic theory [6,7]. There is a profusion of definitions, with studies often adopting their own definitions and choosing specific measurement methods. There is, however, more or less a consensus on which measures could be used to assess competitiveness. On the one hand, measurements can be made based on the neoclassical economics theory, which focuses on trade success and which measures competitiveness with comparative advantage indices and export or import indices. On the other hand, measurements can be made based on the strategic management school, which places an emphasis on a firm's structure and strategy. In the latter, competitiveness is defined as cost leadership and non-price supremacy, with cost competitiveness measured according to various cost indicators as well as productivity and economic efficiency [8]. While in theoretical papers, productivity and economic efficiency are recognized as components of competitiveness, in the empirical literature (at least for agriculture and the agri-food sector), only a few papers measuring productivity or efficiency claim that it is with the purpose of assessing competitiveness [9,10]. However, productivity and efficiency, in contrast to competitiveness, have precise definitions and consensuses on the methods available to measure them.

The existing literature has recognized productivity as one of the main determining factors of whether to export or not. There is widespread evidence of the hypothesis in which more-productive firms are more likely to enter the export market and export more of their output. The relevant literature concludes that exporters tend to be more productive than non-exporters, and more-productive firms serve export markets. However, the empirical literature is inconclusive about the impact of subsidies on productivity, although negative effects between subsidies and productivity prevail, at least in the EU context [11–13]. According to May et al. [14], several criticisms have been raised in relation to the effectiveness of these policy instruments. Matthews [15] pinpoints that subsidies can have a positive as well as negative impact on farm behaviour. On the one hand, subsidies can positively influence agricultural behaviour through the wealth effect. Farmers may be more willing to expand production through activities that they would consider too risky in the absence of guaranteed income from direct payments. On the other hand, they can negatively affect agricultural productivity by distorting the production structures of receiving farms. Moreover, subsidies can lead to technical inefficiency or a lack of effort to find ways to reduce farm costs. They can also result in slight budgetary constraints, which means that farmers could overinvest and thus inefficiently use resources.

In this context, this study aims to examine the effect of the financial support of Sub-Measure 6.1, "Start-up Aid for Young Farmers", on the performance of the beneficiaries with respect to being more export-oriented in comparison with non-beneficiaries, taking into consideration the differences in productivity levels. To the best of our knowledge, our study offers the first analysis on this issue. The analysis also provides useful insights by highlighting factors that could allow young farmers to grow their performance and take advantage of the various export opportunities that are available within the sector.

The study is organized as follows: Section 1 makes a brief introduction of the concept of the study. In the Section 2, Sub-Measure 6.1, "Start-up Aid for Young Farmers," is described. Section 3 refers to the methodology and the data. Section 4 presents the results. In Section 5, the limitations of the study are discussed. Lastly, Section 6 concludes the study.

2. Description of Sub-Measure 6.1, "Start-up Aid for Young Farmers"

The scarce presence of young farmers is considered one of the main weaknesses in the competitiveness of European agriculture. The competitiveness of the sector suffers from the lower investment and innovation propensities of older farmers [16]. The apparent shortage of young farmers occurs in countries where small-scale holdings are more prevalent, particularly in Portugal, Italy, Romania and Greece [17]. The ratio of young managers to elderly managers in Greece is one of the lowest in the EU. More detailed surveys show that the percentage of the farm managers aged over 55 years old in Greece exceeds 55% of

the total, while young farm managers aged <35 years old reach less than 6% of the total farmers [18].

In this context, the Young Farmers Aid Programme aims to enhance the competitiveness of agricultural holdings through age renewal and the creation of farmer entrepreneurs who, at the end of the support, will have adequate supplies and sustainable holdings. To this extent, Sub-Measure 6.1 of the 2014–2020 Rural Development Programme 2014–2020, aims to provide the key that can help unlock the access to finance, land and knowledge that the new generation requires when setting up and operating their businesses.

The key requirements for persons to be eligible for the Young Farmers Sub-Measure, as they are currently running (for the period of 2016–2021) [5], are the following:

- Be a permanent resident of the rural area for which the application is submitted.
- Be of legal capacity and be of age 18–40.
- Be registered to the Integrated Administration and Control System (IACS) of the Ministry of Rural Development and Food.
- Have a different occupation other than agriculture the last 5 years prior to the application for the call.
- Become a professional farmer within 18 months since accession to the sub-measure.
- Have adequate skills or obtain them within 36 months since accession to the sub-measure. No specialization is required for those who have middle education in majors related to agriculture or for those with a university degree and above.
- Submit a business plan (min. 3 years–max. 4 years) with economic goals and timelines.

The criteria for the levels of total financial aid available to young farmers are presented in the following table (Table 1):

Table 1. Criteria for the levels of financial aid available to young farmers.

Criteria		Amount (€)
Type of activity	Crop	17.000
	Livestock	19.500
	Mixed	17.000
Added amount according to the type of residence	Mountainous	2.500
	Disadvantaged	2.500
	Islands > 3.000 population	2.500
Total aid per applicant	Min	17.000
	Max	22.000

The level of total subsidy ranges from 17.000 to 22.000 euros, and it is differentiated according to the type of activity and the type of area of their residence. Particularly, the minimum subsidy of 17.000 euros could be increased to 19.500 euros in the case of exclusive livestock production or in the case where the permanent residence of the beneficiary is located in a mountainous and less-favoured area. In the circumstance that a beneficiary meets the aforementioned criteria in combination, they are granted the maximum level of 22.000 euros.

There are 13.905 beneficiaries of Sub-Measure 6.1 in Greece. Using non-public data derived from the applications for inclusion in Sub-Measure 6.1 by the 13.905 Young Farmers—provided by the Head of the Investment Unit in Agricultural Holdings of the Special Management Service of the 2014–2020 Rural Development Program—for the total number of beneficiaries, the average socioeconomic profile of beneficiaries has been synthesized. As it can be perceived from the table below (Table 2), the average beneficiary is a man (61%) who has graduated from high school. In addition, he has an agricultural holding at his disposal which is 5.2 hectares, and the type of his activity is mainly crop- or mixed-oriented. Lastly, he is grant-aided with an average subsidy level of 19.250 euros.

Table 2. Average socio-economic profile of beneficiaries of M6.1.

Profile/Characteristics	
Total number of beneficiaries	13.905
Age	AVG ≈ 28.5 years
Sex	About 2/3 are men (61%)
Unemployment (at the time of application)	AVG ≈ 17.5 months
Personal income (yearly at the time of application)	AVG ≈ 1300 €
Family income	AVG ≈ 5000 €
Level of education	- More than 80% are at least high school graduates - 11% are university degree holders
Type of activity	About 3/4 are crop- or mixed-oriented (78%)
Average size of agricultural holding	AVG ≈ 5.2 Ha
Grant	AVG ≈ 19.250 Euros

3. Materials and Methods

With the scope to assess whether or not the specific policy measure is motivational enough for the young farmers in growing export orientation, and considering the importance of a sample that is as representative as possible, we requested access to the non-public data provided by the beneficiaries of Sub-Measure 6.1 on their applications through the Ministry of Rural Development and Food and all the subsequent institutions of the Greek public sector and regional authorities. This fact allowed us to have a comprehensive picture of the real population of the beneficiaries.

The origin of our sample is a target population of approximately 170.000 farmers aged from 18 to 40 years old. The sample is synthesized as follows: (a) Half of the sample includes young farmers—beneficiaries of Sub-Measure 6.1 selected over the total population of 13.905 beneficiaries in Greece. (b) The remainder of the sample originates from the approximately 156.000 non-beneficiaries (farmers who were not interested in participating or farmers who were interested in participating in Sub-Measure 6.1 but somehow did not proceed. (In many cases, there are not enough economic resources to cover the demand for involvement in the measures of the programs. For instance, this was the case of the last call for proposals of Sub-Measure 6.1 in the 2014–2020 Greek Rural Development Programme (RDP) in Greece. According to the beneficiary selection procedure, only one out of the three applications for membership will be a beneficiary of the policy in some rural regions of the country, such as Central Macedonia).

Furthermore, the sample of the beneficiaries had to be properly related to the size of 13 Greek regions according to NUTS 2 classification, taking into consideration the relevant sizes across regions. For instance, Central Macedonia has more than 3000 beneficiaries, and certain regions, such as Attica and the Ionian Islands, have less than 100 beneficiaries. Thus, the population is divided into 13 strata. Stratification is also used to increase the efficiency of a sample design with respect to estimator precision [19]. The non-beneficiaries are allocated in the sample in accordance with the allocation of the beneficiaries due to the fact that there are no detailed data for the spatial allocation of their population. For instance, a percentage of approximately 17.4% for beneficiaries and non-beneficiaries comes from the region of East Macedonia and Thrace (Table 3).

Table 3. Allocation of the population of beneficiaries among the 13 Greek NUTS 2 regions.

Region	Number of Beneficiaries	Percentage (%)
East Macedonia and Thrace	1.473	17.4
Central Macedonia	3.360	24.1
West Macedonia	944	6.8
Epirus	272	2
Thessaly	1.806	13
Ionian Islands	79	0.5
West Greece	1.691	12.1
Central Greece	693	5
Attica	74	0.5
Peloponnesus	1.252	9
North Aegean	574	4.1
South Aegean	138	1
Crete	1.721	12.4

The allocation of the population of beneficiaries among the 13 Greek regions according to NUTS 2 classification is presented in the following table.

The methodological approach which was applied for the needs of the study's scope was the following: First, we asked for participants—volunteers who met the spatial allocation criteria and were in accordance with the average socio-economic profile of beneficiaries (as presented in Tables 2 and 3) through private agricultural advisory and consulting-service offices in the whole Greek territory. Moreover, two additional criteria for the participant selection were to be 3 years minimum of professional farming and a willingness to participate in a questionnaire survey in a next stage. The communication resulted in the commitment of 8 private agricultural advisory and consulting-service offices for active facilitation of survey research needs and the provision of valuable financial and accounting data for beneficiaries and non-beneficiaries. (These have been provided in a way that it will not be possible to identify any specific applicant and have been managed in accordance with the General Regulation for the Protection of Personal Data). By using these data, economic performance indicators (a combination of sizes, labour units and monetary values generated) were calculated for each one of the agricultural holdings with the aim to highlight potential differences in farm structures between beneficiaries and non-beneficiaries of Sub-Measure 6.1.

Second, a questionnaire aiming to directly identify the satisfaction and perceptions of the same farmers in the study to assess whether or not the policy measure is motivational enough and helps the young farmers in the direction of export orientation was conducted. The questionnaire was distributed to beneficiaries and non-beneficiaries of the measure, and it is divided into 3 sections; (1) demographic and socioeconomic data are asked in the first section. (2) In the second section, there are questions related to the financial and accounting aspects of agricultural holdings. (3) As for the third section, there are questions about the young farmers' attitudes, beliefs and perceptions in the case of beneficiaries and non-beneficiaries of Sub-Measure 6.1, "Start-Up Aid for Young Farmers".

The primary survey was held from 1 September to 30 November 2021. Questionnaires were given to all 280 farmers that provided financial and accounting data, 272 of which were evaluated as reliable. Moreover, 72 questionnaires were excluded (although were evaluated as reliable) because respondents stated their unwillingness to engage in the export process even they were capable of doing it. Hence, the desire of farmers to participate in export markets was used as a prerequisite criterion for the selection of the final sample. Therefore, 200 questionnaires were used to constitute the final sample. The most significant part of

the questionnaire was made up of structured questions with pre-programmed answers to guarantee that all questions were asked in the same way and make it possible to analyse the data in a statistically sound way.

Lastly, an X2 procedure was applied and several statistical tests of independence were performed to examine possible relationships between farmers' export orientations and variables, such as socio-economic characteristics of farmers, participation in M6.1, types of activity, levels of subsidy, types of residential areas as well as economic efficiency indicators of agricultural holdings. Furthermore, in order to examine the validity of the tests, the general rule that fewer than 20 per cent of the cells should have expected values of less than 5 and/or that the minimum expected frequency should be >1 was considered. Both criteria were met by the data in the present study.

4. Results

Considering that an attempt was made for each area to be represented equally in the research sample, the sample distribution among the 13 regions according to the NUTS 2 classification of Greek territory is quite satisfactory (details and figures are presented in the previous section). The sample is distributed equally between beneficiaries and non-beneficiaries. Regarding the sex percentage amongst the respondents in the study, most of the respondents are male (69%). This can be justified as farm managing is mostly male-oriented. In the whole sample, the mean age of the farmers is 34.31 years old. Concerning the educational level of the respondents, it is worth noting that most of them (67%) have finished high school, while 22% of them have received a technical education and 7% have received a higher education.

A percentage of 66% of beneficiaries stated that their farm was existent before their participation in Sub-Measure 6.1, and the great majority of them (89%) intended to continue farming after the finalization of the commitments of the measure. It could be considered an indication of how seriously they faced their role in the specific profession. For example, it is more likely for someone who will not continue farming after the finalization of the commitments of the measure to participate in it with the sole purpose of the subsidy premium to be indifferent to their future in the agricultural sector. The aim of these questions is to trace and limit, to the extent possible, the participation of this type of beneficiary in the study.

The statistical comparison indicates considerable differences in the structures of the agricultural holdings between the group of beneficiaries and the group of non-beneficiaries. Particularly, the economic efficiency of the beneficiaries' holdings is generally above that of the non-beneficiaries. This relationship was explored with the use of the available statistical indicators used in the Farm Structure Survey. Table 4 specifically shows that the beneficiaries' holdings are larger (their mean UAA (utilized agriculture area; it describes the area used for farming, and it includes the land categories arable land, permanent grassland, permanent crops and other agricultural land, such as a kitchen garden [20]) is more than 40.91% higher than the mean value of the non-beneficiaries), they utilise more labour units (their average Annual Work Unit (AWU; it corresponds to the work performed by one person who is occupied on an agricultural holding on a full-time basis; full-time means the minimum hours required by the relevant national provisions governing contracts of employment [20]) is more than 28.57% above the non-beneficiaries' average) and they generate a higher monetary value of their agricultural outputs (their average Standard Output (SO; it is the monetary value of the agricultural output at the farm-gate price in euros per hectare or per head of livestock [20]) is 49.73% above the non-beneficiaries' average). This performance results in increased productivity, indicated by a higher standard output per work unit (SO/AWU) and larger agricultural area managed per work unit (UAA/AWU) than in the case of farms held by non-beneficiaries of Sub-Measure 6.1.

Table 4. Comparative results of economic efficiency among beneficiaries and non-beneficiaries.

UAA	Mean	Median	Standard Dev.	Min.	Max
Beneficiaries	6.2	5.7	2.1	5	22
Non-beneficiaries	4.4	4.9	3.8	3.1	30
AWU					
Beneficiaries	0.9	0.8	0.1	0.7	1
Non-beneficiaries	0.7	0.5	0.2	0.5	1
SO					
Beneficiaries	19.167	16.138	5.812	11.000	100.000
Non-beneficiaries	12.801	9.999	4.726	6.600	72.000
UAA/AWU					
Beneficiaries	6.89	6.67	2.27	-	-
Non-beneficiaries	6.23	6.11	1.94	-	-
SO/AWU					
Beneficiaries	21.296	18.995	4.112	-	-
Non-beneficiaries	16.001	14.123	3.867	-	-

Although the economic efficiency and productivity levels of beneficiaries' farms were estimated to be signally higher than the relevant sizes of non-beneficiaries, this predominance did not translate into an increasing export orientation (it should be stressed that the total of 200 respondents expressed their desire to participate in foreign markets). As it can be perceived in the following graph (Figure 1), there is no evidence that participation in Sub-Measure 6.1 produces export benefits for beneficiaries. Particularly, the number of farmers who engaged in the export process is larger in the case of non-beneficiaries. Moreover, results indicate that the two groups of farmers who participated in the survey appear to have almost the same diversification across the way through which they engaged in the export process (direct exports, agricultural cooperatives, producer groups and joint ventures).
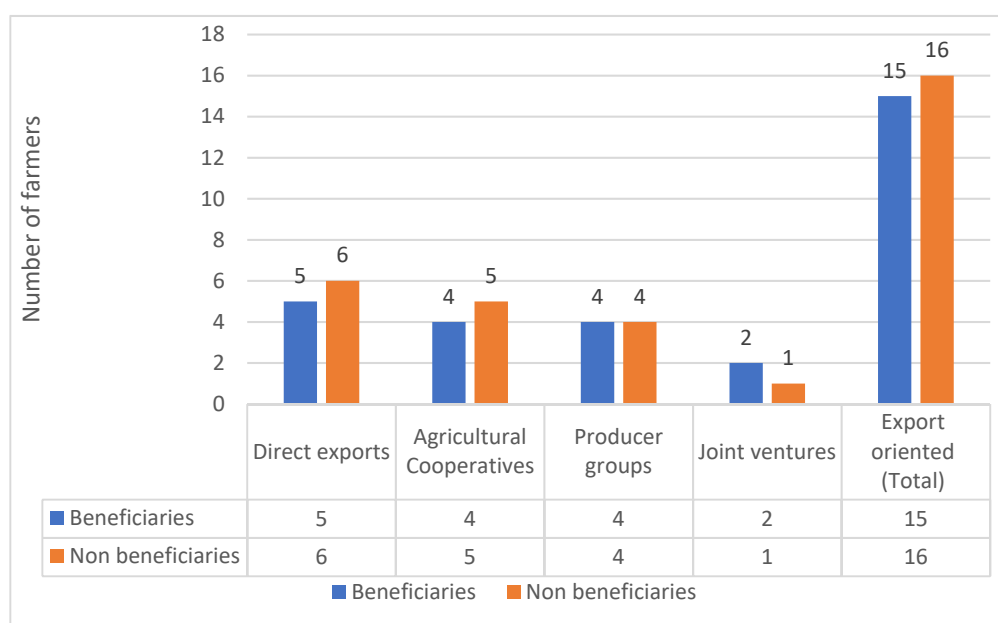

	Direct exports	Agricultural Cooperatives	Producer groups	Joint ventures	Export oriented (Total)
Beneficiaries	5	4	4	2	15
Non beneficiaries	6	5	4	1	16

Figure 1. Differences in export orientation between beneficiaries and non-beneficiaries.

A difference between beneficiaries and non-beneficiaries was indicated regarding the export intensity (export intensity was defined as the share of foreign sales). The average share of foreign sales in total sales for the beneficiaries ranges from 20% to 30%, whereas the relevant size for non-beneficiaries ranges from 10% to 20% (Figure 2a). Additionally, concerning the spatial concentration of exports, information on exporters' foreign target markets indicates that beneficiaries display a greater geographical distribution of their agricultural exports in contrast with the non-beneficiaries, who sell their products mainly in only one foreign country (Figure 2b). This increased diversification of export markets could be translated into a lower commercial risk. The measure of export intensity, as well as the measure of the diversification of export markets, can be considered indicators of agricultural holdings' dependency on the domestic market and vulnerability to the external economic conditions of particular markets.
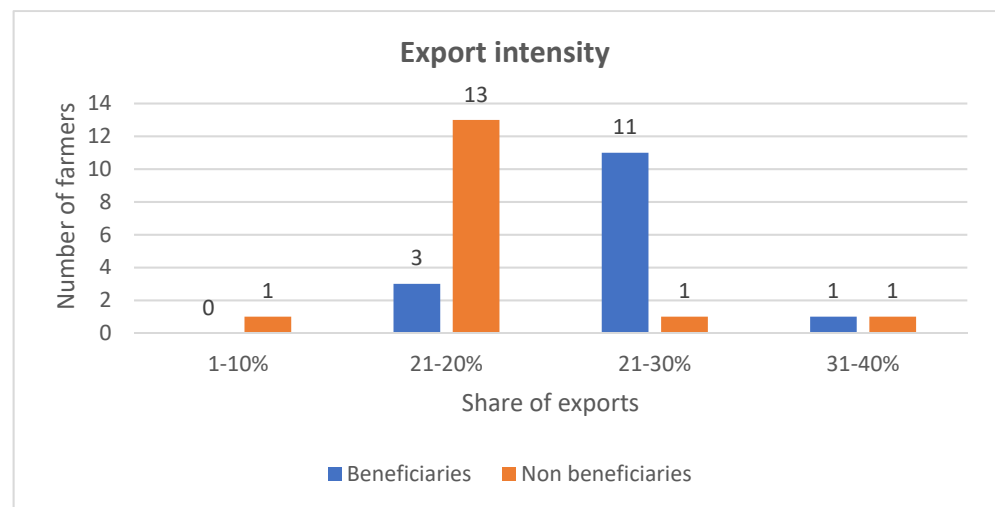
(**a**)
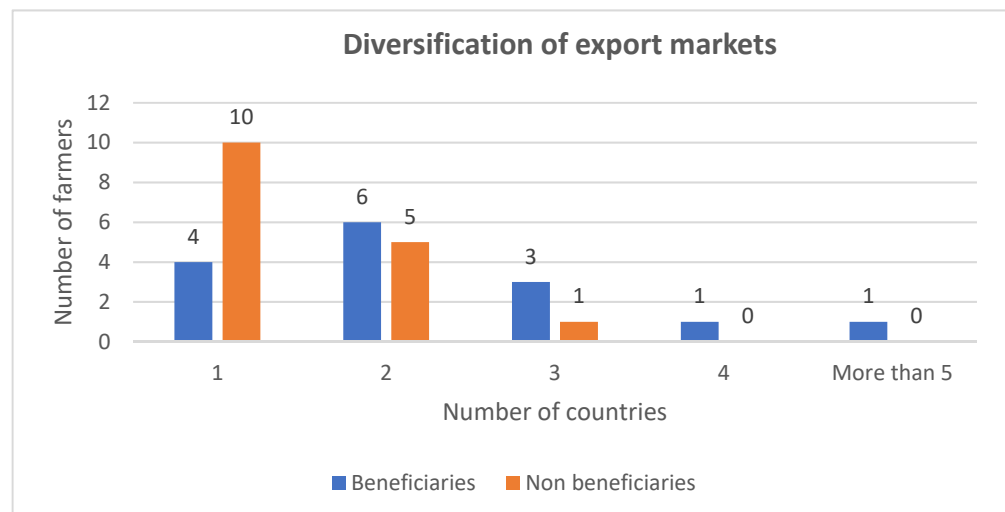
(**b**)

Figure 2. (**a**,**b**). Differences in the export structures between beneficiaries and non-beneficiaries.

The questionnaire also provided answers to specific questions about farmers' perceptions and beliefs regarding the ability of Sub-Measure 6.1 to be motivational enough to help the young farmers in the direction of export orientation. The views of the farmers were coded in a way that 1 meant a strong disagreement and 10 meant a strong agreement and

are presented below in a comparative form between the beneficiaries and non-beneficiaries of Sub-Measure 6.1.

As it can be seen from the following figure (Figure 3), beneficiaries strongly believe that the young farmer payment could lead to the improvement of the productivity of their farms and that it could also enhance the competitiveness of their farms. This view is less believed by non-beneficiaries. Moreover, beneficiaries consider that the relevant payment is not sufficient to allow them to participate in foreign markets as well as to stimulate the export performance of those who are engaged in the export process. Non-beneficiaries have the same views about the aforementioned facts. Furthermore, behavioural questions are included, aiming at the assessment of Sub-Measure 6.1 as a motivational factor, which could indirectly affect the desire of farmers to serve in foreign markets. Differences are observed in the views, beliefs and perceptions between beneficiaries and non-beneficiaries on this issue. Particularly, according to beneficiaries' perceptions, the young farmer payment would increase their motivation to succeed in the farming industry, would encourage a greater variety of cropping and stocking and would make them feel more secure in their role. In contrast, non-beneficiaries stated their disagreement with these statements.
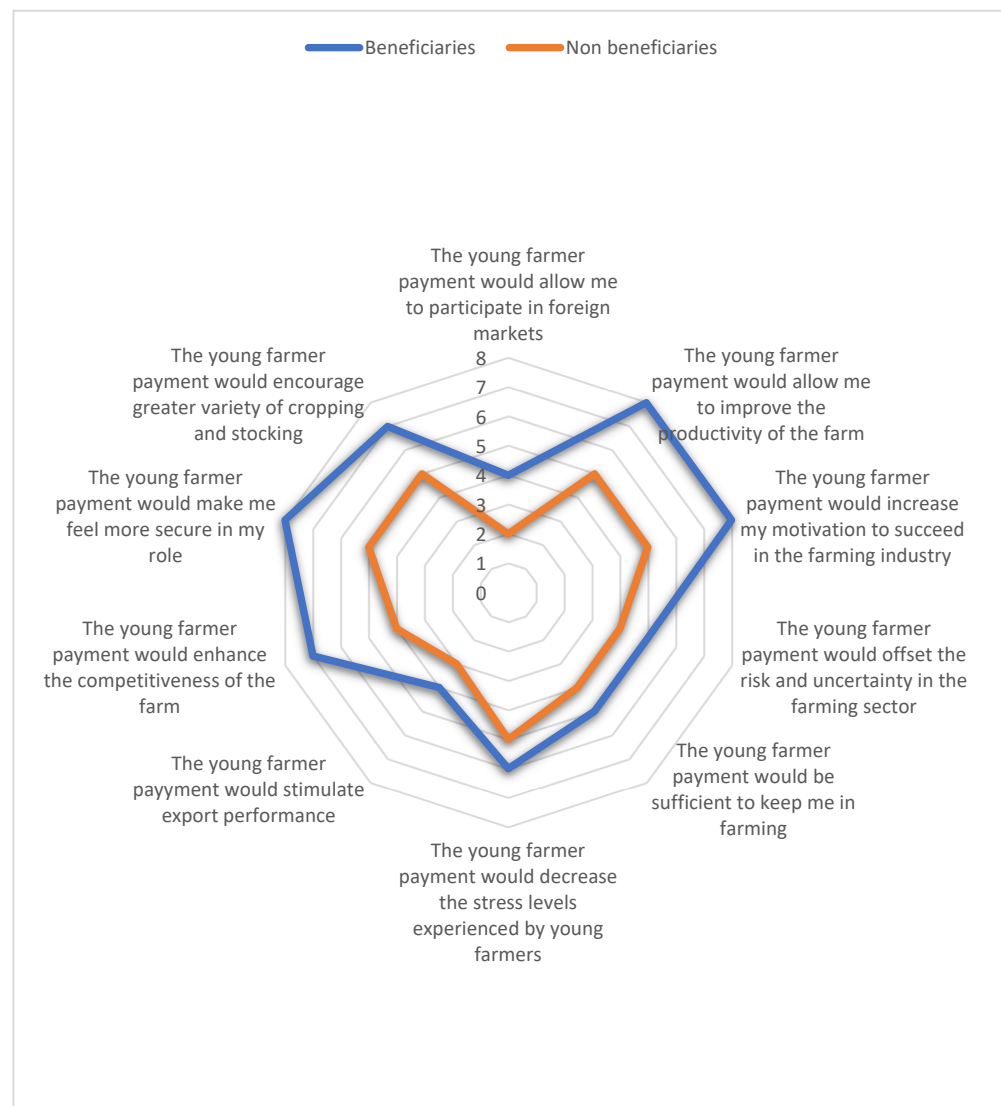

Figure 3. Farmers' beliefs and perceptions regarding Sub-Measure 6.1, "Start-Up Aid for Young Farmers".

As can be perceived by considering the following table (Table 5), there were no statistically significant linkages between the participants' export orientations and participation in Sub-Measure 6.1, types of residence, levels of subsidy, types of activity, UAAs or socioeconomic variables, such as age, gender and income. At the same time, it is interesting that statistically significant linkages were found between the education levels and export orientation. Regarding the latter, various studies indicate that the higher the level of managers' and workers' education, the more successful a firm is in export performance [21–23]. Most of them analyzed the effects of education on exports based on the production function approach. For example, educated persons can adapt themselves more rapidly with sophisticated technologies and fast production changes, which are requisites for competitiveness in foreign markets.

Table 5. Independence tests.

	Age		Income		Educational Level	
	Pearson χ^2	Two-tailed *p*-value	Pearson χ^2	Two-tailed *p*-value	Pearson χ^2	Two-tailed *p*-value
	8809	Not significant $p > 0.10$, 0.624	0.456	Not significant $p > 0.10$, 0.198	54,500	Significant $p > 0.10$, 0.002
	Gender		Participation in M6.1 or not		Type of residence	
	Pearson χ^2	Two-tailed *p*-value	Pearson χ^2	Two-tailed *p*-value	Pearson χ^2	Two-tailed *p*-value
Export orientation	3391	Not significant $p > 0.10$, 0.495	18,656	Not significant $p > 0.10$, 0.544	41,851	Not significant $p > 0.10$, 0.606
	Type of activity		Level of subsidy		UAA	
	Pearson χ^2	Two-tailed *p*-value	Pearson χ^2	Two-tailed *p*-value	Pearson χ^2	Two-tailed *p*-value
	26,042	Not significant $p > 0.10$, 0.164	14,301	Not significant $p > 0.10$, 0.503	1163	Not significant $p > 0.10$, 0.884
	SO		UAA/AWU		SO/AWU	
	Pearson χ^2	Two-tailed *p*-value	Pearson χ^2	Two-tailed *p*-value	Pearson χ^2	Two-tailed *p*-value
	45,389	Significant $p > 0.10$, 0.001	1538	Not significant $p > 0.10$, 0.957	76,926	Significant $p > 0.10$, 0.000

Statistical linkages were also identified between the farmers' export orientation and productivities as well as their economic efficiency indicators. Wagner's [24] survey reviews the findings of studies that use micro data at the firm level to investigate the causal relationship between export activities and productivities empirically. Wagner concludes that the more productive firms self-select into export markets. Export activities constitute a higher "efficiency hurdle" [25] than domestic sales. Thus, firms with higher efficiencies are more likely to export. Similarly to Bernard et al. [25], Melitz [26] developed a monopolistically competitive model of trade with a firm heterogeneity. According to his model, only more productive firms are engaged in the export process.

5. Limitations—Discussion

This study has several limitations that should be acknowledged. First, it goes without saying that the productivity measures in this study are not as complete as, for example, the multi-factor productivity (MFP) or total-factor productivity (TFP) measures could be. However, the former used measures have an advantage over the two latter measures with reference to their calculation and interpretation at the farm level. Additionally, the labour productivity-based measures, such as the standard output per work unit (SO/AWU)

and the agricultural area managed per work unit (UAA/AWU), which are calculated and used in the present study, are tailor-made (among other productivity measures) for the agricultural sector since the specific sector is considered a labour-intense sector by nature [27].

A second limitation is related to the extent to which the findings of the study can be interpreted for policy purposes since the study does not take into consideration other factors affecting a farm's export decisions and its export performance (the level of invested capital, such as the machinery equipment or the values of fixed assets, the farm's age and the farmers' cumulative experience and the farmers' personalities, behavioural characteristics and management and marketing skills, etc.). Thus, our study cannot fully claim that it demonstrates causality between the young farmer schemes and the export performance of farmers. Additionally, the findings of the study should be interpreted cautiously given the limited size of the dataset.

Third, in the current study, the export intensity measure was defined as the share of foreign sales in total sales, and the relevant results are expressed as percentages and not in absolute numbers of values or quantities. Detailed micro-level data on the prices, export quantities and characteristics of products could allow for the adoption of modelling approaches and techniques, such as the Generalized Propensity Score Matching method, and hence more useful conclusions could be drawn, but either we hardly had access to these data or we could not at best assure their reliability.

Lastly, the adopted methodology is incapable of capturing the ability of the specific rural development instrument to generate potential future positive effects on beneficiaries' export orientations and export performance. In this context, the recurrence of the survey in the future is suggested in order to evaluate the impact of Sub-Measure 6.1 as well as to confirm the findings in the long term.

6. Conclusions

The current study attempts to provide the first evidence in almost non-existent literature on the interconnection between the young farmer schemes and the export orientation of farmers through "indirect" impacts on the competitiveness of agricultural holdings. To this end, we use a farm-level data set for the Greek agricultural sector. The results indicate that this type of premium can act positively on the productivity and economic efficiency of agricultural holdings. However, the estimation results provide a sobering assessment of the role of young-farmer-related subsidies in stimulating export orientation as well as export performance.

Despite the potential importance of support processes in encouraging farms to export, there are no empirical studies investigating this issue. The role of young-farmer-related subsidies in stimulating export orientation could be a crucial issue in the evaluation of this kind of policy measure, and from a policy point of view, the results could be used as guidance for policy recommendations aiming at the improvement of the overall performance of Sub-Measure 6.1.

Since the primary objective of the Young Farmers Aid Program is the stimulation of the competitiveness of agricultural holdings mainly through the increasement of their productivity, it is important to recognize that the relationship between export volume and productivity is inextricable. Particularly, this relationship can be considered a vicious circle where, on the one hand, the more-productive farms serve export markets and, on the other hand, the openness to export markets increases the productivity levels of the farms. For instance, it is commonly accepted that there are additional costs of selling goods in foreign countries, which include transportation costs, distribution or marketing costs or production costs in modifying current domestic products for foreign consumption. These costs provide entry barriers that less-successful farms cannot overcome. Moreover, participation in foreign markets may have a positive impact on agricultural holdings, and a sector's productivity in general, through various channels, such as the economies of scale, market competition effects and the better allocation of resources. In this context, a

combined approach of the aforementioned "mechanisms" is needed, which could lead to the creation of multiplier effects towards the agricultural competitiveness enhancement direction and, by extension, to the assurance of the sustainability of the agricultural sector.

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