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Empowering partnering links as opportunities for development of the regions: can PPPs work in agriculture?

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Abstract

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Despite transformative economic processes of the Balkan countries agriculture continues to be an important sector. As in the region countries a problem for agriculture in Albania remains financing of production in new dynamics of demographics and demand for food. The problematics is particularly conditional by factors human capital and social capital, need for a new level regional incentives and presence of more institutions as well – and in this framework the presence of private public partnerships. *The study objective* is to provide an analytical presentation of *PPPs* impact along with typical factors – *human capital* and *social capital* for increasing *financing opportunities*, illustrated with the case of farmers-producers in greenhouses in the main agricultural production area of Albania – Lushnja region. The measurement procedure was carried out in the main area of greenhouse production by random choice within the area and *linear probability method* and *logit binary method* are used. Results proved that human capital is not affecting farmers' financing opportunities, while variable PPPs and social capital have significant implications for their increase. Study contributes theoretically to the comprehensive contemporary debate by analyzing financing in agriculture in the light of a new era developments at agri-industries with presence of economies of scale, highlighting the increase of PPPs in agriculture. The social capital and PPPs results with influence for increasing farmers' founding opportunities and the logit model reconfirm PPP's significance. The results can practically serve operators by proving the need for increased presence of new actors in the framework of regional policies.

Keywords: financing agriculture; human capital; PPP's; social capital; farmers; Albania

Introduction

Developments over the last decades have been transformative for the Balkan countries. The region countries have achieved comparatively high rates of economic growth over the years (Bartlett, 2008). However, despite volume increase of services in economy, the development of agriculture continues to be of economic and social importance for the countries and with the most extensive obligations during their EU accession process (Erjavec, 2008). The natural resource endowments, labor resources, favorable climate and proximity to the EU market suggest that the countries have potential as agricultural producers and regional exporters (Lampietti et al., 2009). Nevertheless, the regional agriculture faces old inherited problems, challenging processes and new developmental dialectics. Especially, the problem of financing and

adapting towards cost-efficient and market–oriented farming systems in the new demographic dynamic and food demand remains. In comparison to region countries agriculture in Albania is still an important source of farmers' income and employment (Kilic et al., 2008). Due to the geographical and Mediterranean position, the country is particularly distinguished for the horticulture, especially the vegetables production as high-value added sector. Throughout the years it is proved that the production of vegetables represents an economically justified alternative in Albania (Skreli & McCalla, 2013).

Among vegetable producers, farmers, producers in greenhouses, are distinguished in south west Albania, in the main agricultural region of the country in the area of Lushnja. In the most greenhouses concentrated in the area of Lushnja, well known for appropriate average annual climate, in Hysgjokaj live about 2 603 inhabitants and more than 300 ha of greenhouses are built there, offering an average production which varies about 16 000 t of vegetables (Zahoaliaj et al., 2017). The average of region greenhouses' production is realized by small surfaces (each greenhouses ~ 0.1 ha) and the unit base of production is the family farm. Under conditions of high geographical concentration, and the regionalization and specialization by decades this producers-group represents a well–consolidated agricultural industry. However, during recent years farmers already faced with the new and challenging specifics. Under the new developments, they face with concerns about presence of *human capital* and *social capital*, while the capacity of incentives provided by public agencies has remained limited. These factors have impacted generally the environment in which agricultural production is financed and has affected especially the opportunities for *agricultural financing* of area farmers-producers in greenhouses resulting in further complications for sustainable agricultural development at regional level.

The lack of sectoral incentives as opportunities for farms regional development, however can be justified through two objective limitations: on one hand it relates to the need for sectorial instruments regionally based and designed, which requires expertise and more resources for the research, and on the other hand it relates to the recognized difficulties for any state budget programs to provide new sectoral funds. Especially under the conditions of a complex transitional system and with multiple implications on the economic environment, and market institutions, and property rights etc., finding alternatives for agricultural financing represent a particularly complicated challenge. In transitional conditions of high institutional, market, and behavioral uncertainty, most of traditional agrarian investments also happen to be in a regime of high specificity and finding out an independent market investor to finance such assets have been quite expensive or even impossible (Bachev, 2002). If for instance, the private rights are not well defined, enforced, or are restricted, that would limit the intensification of exchange and the overall economic development (Bachev, 2009). The financial constraints for designing and implementing regional policies by sectors may be typical even for other countries with characteristics similar to Albania, which may have resources insufficiency despite the needs. From this point of view it would be reasonable to explore new opportunities for inclusion of more actors, and the public agencies and government levels – in order to mobilize more resources, enhancing partnerships and increasing cohesion among main factors for sustainable development of the regions. Against a background of limited government resources and the expertise, innovative partnerships that bring together business, government levels and civil society actors are increasingly being promoted as a mechanism for improving productivity and driving growth in agriculture around the world (Rankin et al., 2016). Partnerships in agriculture are benefiting from jointly designing research topics and tools, of linking up scientific results with local non-scientific knowledge and encouraging stakeholders (Prasac, 2009). Considering the lack of studies in this field and the new development trend of PPPs growth (public private partnerships) and their influence on agricultural sectors, the study objective is to provide an analytical presentation of *PPPs* impact along with typical factors, such as *human capital* and *social capital* for increasing farmers' *financing opportunities* – illustrating with the case of farmers-vegetable producers in greenhouses, in the main agricultural production region of Albania in southwest of the country, in Lushnje area.

While for the importance of human and social capital in the agriculture and impacts on farmers' finances there is an extensive literature, about the PPPs and the agriculture implications evidences refer mainly to the recent years. By Roehrich et al. (2014), governments around the world, but especially in Europe, have increasingly used private sector involvement in developing, financing through the public private partnerships. Rhodes (1996) emphasizes that this new model of governance should be viewed as new system of self-organizing networks or governing in the absence of a central authority – arguing that these networks complement markets and hierarchies of the governing structures for authoritatively allocating recourses, exercising control and coordination. Rankin et al. (2016), referred to the PPPs noted that these initiatives and their application in the agriculture sector is relatively new and for improving understanding of potential benefits and challenges of the

agricultural PPPs, FAO has gathered case studies from 15 deferent developing countries making a ranking of investigated typologies (Table 1).

Table 1. Typology of PPPs investigated in agriculture

From the 70 cases investigated by FAO a typology of agri-PPPs was identified:
• Partnerships that aim to develop agricultural value chains.
• Partnerships for joint agricultural research, innovation and technology transfer.
• Partnerships for building and upgrading market infrastructure.
• Partnerships for the delivery of business development services to farmers and small enterprises.

Source: Rankin et al, 2016

Boland (2012), explain that by methodical point of view contextualizing of PPPs in agriculture can serve to examine the differences between vertical concept of governing through the state and the horizontal concept of the governance through heterogeneous networks. Boettiger (2011) finds that purpose of the value-chain PPPs is to link local developing world farmers to the distribution systems for both inputs and outputs. Rankin et al. (2016), suggest that PPPs can be used to design a set of market incentives to encourage private-sector participation in activities that would be with high value or risk. Ferroni (2010), emphasizing importance of PPPs in agriculture argues that beneficiary's are both the public institutions and the private institutions, resulting with decrease of costs especially for organized-farmers-groups. McKinsey and Company (2013), argue that the new vision for the agriculture partnerships as mechanisms for mobilizing investments, innovation and collaboration needed to achieve the vision at the country level.

Florida (2002), linking impact of the new paradigm of innovation with the economic growth underlines human capital as an important factor – calling them creative 'special people' that should be on leading edge of technological and organizational change. Becker (1994) evidenced the importance of the human capital for development of the agriculture and farmers' welfare. Ostrom (1990), implying the importance of social capital points out that the infamous 'tragedy of the commons' based on purely individualistic behavior under open access. Narayan and Pritchett (1999), identified social capital as an important factor finds a number of theoretically plausible proximate mechanisms where social capital affects farmers' individual income, showed that associational relationships and social norms of rural villages are both capital and social; and that largely missing of social capital affects the dimension of farmers' income and poverty analysis.

Objectives and Hypothesis

Main hypothesis:

Increasing access of the economic and social factors, affects to the increase of opportunities for financing farmers, producers in greenhouses, in the Lushnja region at southwestern Albania.

Other hypothesis:

• H 1 – Increasing access of the human capital, affects increase of opportunities for farmers' financing;

• H 2 – Increasing access of the PPPs in agriculture, affects increase of opportunities for farmers' financing;

• H 3 – Increasing access of the social capital, affects increase of opportunities for farmers' financing.

Procedure and Methods

The research is based on studies and references of the impact of economic and social factors about agricultural financing in the Balkan countries and EU and the world. A quantitative measurement was applied to test linkages of variables and their impact to the financing opportunities of farmers-producers in greenhouses at southwestern Albania, in Lushnja region. A questionnaire was designed in order to achieve a widely database and was previously tested on a focus–group and after adjustments was implemented. The size of used simple was at optimum level of 220 interviewed farmers' of study area. In the category of the area farmers there are no striations (each greenhouse ~ 0.1 ha). By the procedural point of view was considered – the main area of farmers-producers in greenhouses and also the random choice within the studied area.

The dependent variable *financing opportunities (Y^6 – fin_opp)* it was dummy measured (1 = increase; 2 = decrease), and the independent variable *human capital (X^1 – hum_cap)* is ordinally measured (1 = without primary school; 2 = with primary school; 3 = with high school; 4 = with college/institute; 5 = with university; 6 = master degree; 7 = phd degree). Other independent variable *PPPs (X^2 – ppp)* is dummy measured (1 = yes; 2 = I don't know; 3 = no) and variable *social capital (X^3 – soc_cap)* was ordinarily measured by 1–5 (1 = organizer; 2 = very active; 3 = active; 4 = partially active; 5 = not active). For testing impact of variables a linear method and a logit binary method are used. Following are presented the variables tested by linear method (Table 2).

Results of Measurement

The measurement results suggest a representation of *social structure* in which the agricultural production in greenhouses

Table 2. Measured variables by linear methods

Model 1: Heteroskedasticity–corrected, using observations 1–220 (n = 218), Missing or incomplete observations dropped: 2, Dependent variable: Y[6]

	Coefficient	Std. Error	t-ratio	p-value	
const	0.931491	0.248221	3.7527	0.00023	***
X[1]	-0.0250068	0.0521337	-0.4797	0.63195	
X[2]	0.0914322	0.047952	1.9067	0.05789	*
X[3]	0.177103	0.0697145	2.5404	0.01178	**

Statistics based on the weighted data

Sum squared resid	232.2509	S.E. of regression	1.041770
R-squared	0.042655	Adjusted R-squared	0.029234
F(3, 214)	3.178259	P-value(F)	0.024980
Log-likelihood	-316.2308	Akaike criterion	640.4617
Schwarz criterion	653.9997	Hannan-Quinn	645.9299

Statistics based on the original data

Mean dependent var	1.527523	S.D. dependent var	0.500391
Sum squared resid	53.06696	S.E. of regression	0.497972

Fin._opp. = 0.931 – 0.0250*Educ. + 0.0914*PPP + 0.177*Soc_Cap.
(0.248) (0.0521) (0.0480) (0.0697)

Variance Inflation Factors: Minimum possible value = 1.0, Values > 10.0 may indicate a collinearity problem; Education – 1.001, PPP – 1.000, Social Capital – 1.001
VIF(j) = 1/(1 – R(j)^2), where R(j) is the multiple correlation coefficient between variable j and the other independent variables
Tested variables by logit binary method:
Fin._opp. = + 0.782*Soc._Cap. + 0.367*PPP – 0.106*Educ. + 2.52*cut1
(0.635) (0.208) (0.205) (1.98)
n = 218, loglikelihood = –148
(standard errors in parentheses)
Source: Data proceeded by authors

is realized. The basic unit of agricultural production in greenhouses is the family farm where 50% are family with 4–5 members and around 36% have over 5 members and around 13% have 2–3 members – and only around 1% are families with 1 member (Table 3.). From total of farmers interviewed around 98% are men and around 2% are women. Among them: about 48% have secondary education, 45% have primary education and about 6% have no education – and only around 1% of them have university degree diploma (Fig. 1).

Table 3. Share by number of members in family and gender

Number of members in family	Gender		
	Female	Male	Total
1		2	2
2–3	1	28	29
4–5	4	106	110
Over 5		79	79
Total	5	215	220

Source: Data proceeded by authors

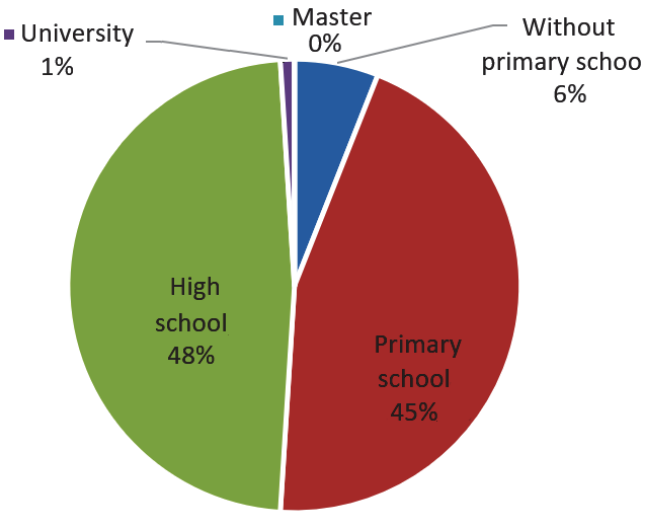

Fig. 1. Sample of interviewed farmers by level of education
Source: Data proceeded by authors

Table 4. Share by number of members in family and main employment

Number of members in family	Main employment				Total
	1	2	3	5	
1	2				2
2	29				29
3	107	1	1	1	110
4	79				79
Total	217	1	1	1	220

Source: Data proceeded by authors

It is also noted that most farmers interviewed, about 98.6% are self-employed in their farms (Table 4) demonstrating the strength of this agricultural industry, while that none of them is employed in the public sector. Among them 50% are representatives of families with 4–5 members, about 36% of families with 5 and more members, about 13% of families with 2–3 members and only about 1% of farmer's interviewed are representatives of one-member households.

Conclusions and Discussions

The paper in accordance with the study objective offered an analytical presentation of the impact of hypothesized variables, such as human capital, public–private–partnerships and social capital, and their impact on farmers' funding opportunities – illustrated with the case of producers in greenhouses in the main agricultural production area in Albania, in region of Lushnja.

Human capital (X^1measured as hum_cap), does not affect the financing opportunities of farmers-producers in greenhouses. However, referring to the facts this is not a surprise. The data illustrate the low presence of human capital (1% have university degree diploma, Fig. 1). Education in villages is a route to more lucrative employment outside of agriculture (Walker et al., 1990). The production in greenhouses represents a 'labor intensive' activity and that requires specifically skills and often it develops under difficult conditions (timetables, high temperatures). Farmers' in countries with traditional economies are among the least educated members of the labor force and education is of little use in agriculture because farming methods and knowledge is readily (Becker, 1994). Knowing consequences of the migration and the mobility of the labor forces and the new dynamics due to rapid urbanization – this finding constitutes an argument that requires a special attention. Migration, notably the movement of farm people made necessary by the dynamics of economic progress, requires substantial investments (Schultz, 1961). There is accumulated empirical evidence that schooling plays a very important role in occupational choice – increasing the probability of working outside of agriculture and migration because more educated individuals have greater geographic mobility out of rural areas (Huffman, 1999).

Private-public-partnerships (X^2 measured as ppp), results with significant impact on farmers' financing opportunities. In terms of the concentration by decades and specialization of production, farmers have over-utilized the tools and resources available and are interested in the new developments and sector modernization at regional and national level. PPPs are multi-stakeholder partnership platforms created to promote very large-scale investments in agriculture in low and middle-income economies (Rankin et al., 2016). This finding supports farmers need for inputs and market expansion. The objective of PPPs at value-chain is to link local developing world farmers into global distribution systems for both inputs and outputs (Boettiger, 2011). PPPs are 'innovation brokers', because they create linkages between developers and users of technology and provide the physical nucleus of heterogeneous configured networks (Klerkx et al., 2009). The smallholders farmers group consolidated evidenced also the presence of elements of economies of scale, and this go along with principles over which PPPs work. Development of clusters of firms and industries lead to the development of national and regional economies of scale (Porter, 1990). The logit model confirms that participation in PPPs impacts significantly for increasing founding opportunities in the case of farmers-producers in greenhouses by more than 1.4 times (~ 1.43).

Social capital (X^3measured as soc_cap), as is hypothesized affect significantly (Table 2) on financing opportunities of farmers' producers in greenhouses and this is supported also by literature. Production in greenhouses represents a high added value activity and due to the concentrated regionalization and the presence of elements of economies of scale, farmers every day try to find individual solutions to the common challenges. They discuss the new problems and old related inputs and the output and this is a process that fed themselves and has been enriched over the years, what it has resulted with increase of mutual trust between community members. Zepeda (2001) emphasizes that social capital is the stock of personal relationships and knowledge that an individual has which affects the individual's access to risk minimizing inputs. The presence of social capital under the high specialization and their impact it is explicable and furthermore it goes along with farmers' consensual tendency for growing partnerships. Hall (2006), it links the social capital with PPPs highlights that constraints to building partnerships is institutional in nature i.e. it relates to habits, practices and patterns of trust. Ahlerup et al. (2007), arguing the important

effect of social capital on economic growth, as well as on the investment rate, showing especially that social capital matters the most when formal institutions are weak.

The study contributes theoretically to the comprehensive contemporary debate of the agricultural financing and the role of new institutional partnerships and complementary role of social capital. The paper analyzes the problem of agricultural sector financing and the influence of factors in the light of the new developments era even demographics, evidencing especially the increased impact of new factors, such as new public-private-partnerships in agricultural activities. The results practically serve operators and agencies offering a new developmental perspective demonstrating the need for more presence of institutions and new actors in agri–industries with high added value and in this context a qualitatively new developmental level by framework of regional policies.

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