

THE IMPACT OF THE COMMON AGRICULTURAL POLICY ON THE AGRITOURISM GROWTH IN ITALY

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Abstract

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Since the early 1970s, the diversification of farm's activities such as agritourism has represented a new typology of farm's use and socio-economic enhancement in rural Italian areas. The agricultural enterprise was able both to diversify the productive activity of Italian farms and also to improve the farmers' income, which has protected the agrarian landscape and the countryside against downsides such as the rural emigration and socio-economic marginalization. The purpose of this research was to assess by a multiple regression model the role of funds allocated by the European Union in promoting rural development throughout the agritourism in Italian countryside. The main findings have pointed out a direct correlation between the development of agritourism and financial subsidies allocated by the second pillar of the Common Agricultural Policy strengthening the pivotal role of financial subsidies disbursed by the EU in protecting the rural space.

Key words: panel data; rural development; second pillar; farm accountancy data network; multiple regression model

Introduction

After the end of the World War II, in the Italian countryside there has been a significant rural depopulation due to an intense rural out emigration towards industrial areas of northern Italy. The main effects of rural emigration have acted on the Italian agricultural landscape and on the territorial productive specialization (Sereni, 1996; INEA, 2000; Galluzzo, 2009a; Galluzzo, 2008; 2010a, 2010b). The national agrarian plans promulgated by the Italian government in the 1960s called *Piani Verdi* have strengthened the innovation process in capital investments and in labour saving techniques with a positive impact on farmer's incomes. The main downsides of the rural exodus in Italy were land degradation, an excessive fragmentation of agricultural land managed by elderly farmers and the feminization in the management of farms (De Stefano, 1985). All this has unfortunately strengthened the dualism between richer and poorer agricultural areas towards which a national

agricultural policy could have only had modest effects (Rossi-Doria, 1982; Vieri, 2001, 2012).

This mood of resignation about the modest role of national agricultural policy in solving the territorial and economic imbalances joined all six countries belonging to the European Economic Community (EEC). With the purpose of stabilizing the domestic market, reducing the rural depopulation and assuring also a food self-sufficiency to European citizens of the EEC, the European governments and the European Economic Community proposed a common governance in order to support farmers by specific direct payments and other structural measures addressed to the EEC primary sector (Vieri, 2001). In the European Economic Community, it made compulsory the implementation and activation of a unique, cohesive and common policy with a nexus to a homogeneous model of governance in the primary sector. The Common Agricultural Policy (CAP) ten years later, in accordance with proposals and suggestions of the European

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commissioner Sicco Mansholt, would have guaranteed an improvement of living conditions in the Italian countryside through direct payments and financial subsidies to farmers in the framework of coupled payments and other supportive policies towards farmers, agricultural enterprises and agrarian entrepreneurs working in the primary sector (Vieri, 1994).

During the 1970s and in the 1980s, the increase in cost of management, partially due to a rise of energy sources, have egged on farmers to diversify their agricultural activities (Van der Ploeg et al., 2002). The agritourism is a consequence of the diversification and it is also part of several adaptation strategies within the farm's broadening throughout an enlargement of agricultural activities carried out by a more efficient reallocation of input outside the farm focused in reducing the shrinking of farmer's income (Van der Ploeg and Roep, 2003; Van der Ploeg, 2006).

Nowadays, after a phase of exploitation of the countryside in order to produce only ag-commodities, which persisted until 2000, there was the discovery of a new role of the European agriculture. This later became one of the most important pillars in economic and social development in rural areas through a stance in favour of the neo-ruralization (Corti, 2007). According to this latter author, the rural space has assumed a pivotal role in stimulating a new revival of rural culture, a diversification of agricultural productions, through the agritourism, a rediscovery of rural traditions by the coming back of many people in the countryside which emigrates to urban space in the last century (Van der Ploeg, 2000). Sometimes this back to the countryside is a direct consequence of the economic recession which hit hard the tertiary sector in 2007-2008 in many European countries (Galluzzo, 2012, 2013a). Furthermore, the fundamental and disruptive factor connected to a rediscovery of a strategic role of rural areas in promoting a green and sustainable tourism, recreational and multifunctional aspects, in Italy and in the European Union as well, is due to the transition from a productivist model of agriculture to a post-productivist one (Ilbery, 1998).

The farm becomes a subject able to offer externalities or rather public goods fundamental in protecting the environment and rural citizens (Galluzzo, 2013a, 2013b). Towards farmers has been attributed a new role in the mosaic of socio-economic development in rural areas by a greater level of their involvement in lots of decision-making processes and governance correlated to an endogenous rural development process (Van der Ploeg, 2006; Galluzzo, 2010a; Galluzzo, 2010b; Tubaro et al., 2006). However, the territorial and cohesive approach has prompted the European Union to enhance the quality of agricultural productions rather than quantity throughout traditional food, certified quality food

and organic food by a significant growth of rural districts and agri-food quality districts as well (Galluzzo, 2010b). The structural changes brought about the CAP by Agenda 2000 and by Mid-Term Review in 2003 have stimulated new typologies of economic incentives towards less favoured rural areas at risk of marginalization by multifunctionality and a diversification in farms activities which produce public goods and other intangible positive externalities in a perspective of holistic territorial approach (Henke, 2004).

Agritourist activities, since the seventies of the last century, in some Italian regions, such as Trentino Alto Adige and Tuscany, represented a new form of farm's use and enhancement of the rural area. All this has caused an increase of farms able to offer a new type of rural tourism and accommodation facilities in farm ascribed as a first draft of agritourism able to improve farmer's income and to lessen the socio-economic marginalization in rural areas. The socio-economic growth and a sustainable development in the Italian countryside have allowed by the agritourism a proper greater socio-economic sustainability of rural areas, reducing a bulk of inequalities between different rural realities which are rooted on cultural and landscape identities of rural areas (Contini et al., 2009; Sonnino, 2004).

The diversification of farms activities by the agritourism was able to ensure a high level of heterogeneity in an environmental point of view. The green management of farms by agritourism has been pivotal for making more modern and competitive the agrarian enterprises throughout a low environmental footprint allowing also a rediscovery of places and folk traditions typical of the Italian countryside (Van der Ploeg, 2014). According to this author, agritourism has combined material codified resources and socio-cultural assets, helping to strengthen many relationships among the natural environment and the real needs of an urban population ever more demanding towards the protection of rural areas and more attentive to the production of positive externalities that the countryside is able to put forward (Van der Ploeg, 2014).

Aim of the paper

The objective of this research was to assess, through a quantitative analysis, using the multiple regression model, the role of the subsidies and other financial payments allocated by the European Union in order to promote rural development, on the growth of agritourism in the Italian countryside on a sample of representative farms part of the Farm Account Data Network (FADN) dataset. The main purpose of this research was to assess whether financial subsidies and direct payments allocated by the Common Agricultural Policy has acted on the diffusion of Italian agritourism.

Methodology

To assess effects, consequences and economic impacts of actions of direct and indirect payments and financial supports allocated by the Common Agricultural Policy on agricultural enterprises, since the late 1960s, the European Union has set up an annual survey on a sample of farms in all member countries called Farm Accountancy Data Network (FADN).

The FADN dataset is a network of statistical information carried out on a sample of farms representative of the wide kaleidoscopic European agricultural mosaic that characterizes the European Union, which is the most important method to assess the impact of the Common Agricultural Policy decisions and financial impact of actions connected to rural development towards a sample of 78 000 European farmers.

In this paper one has used a multiple regression model to estimate by the regression method of Ordinary Least Square (OLS), in all Italian farms part of the sample FADN, some parameters and relationships between the dependent variable, numbers of agritourism, and others independent variables consist of the farm net income, direct payments allocated by the EU to support rural development and financial aids aimed at ensuring the generation turnover in agriculture, which are a financial direct support in the framework of the second pillar of the CAP.

In order to assess the parameters in the multiple regression model and their significant relationships this research has used the open source software GRETL. Regressors were estimated by the Ordinary Least Square (OLS) and furthermore to assess the possible heteroscedasticity of the errors in the model it has utilized White's test on the terms of errors or residuals (Gujarati, 2003; Baltagi, 2011).

The multiple regression model, in which were included the independent and dependent variables in its algebraic form of the matrix can be written in the following formula (Verbeek, 2006; Baltagi, 2011; Gujarati, 2003):

$$y = \mathbf{X}\beta + u_i,$$

where y and u_i are the vectors with n -dimensional, and \mathbf{X} is a matrix with dimension $n \times k$, and β is a set of regressors or estimated parameters and u is the statistical error obtained using the basic assumptions of the multiple regression model (Verbeek, 2006; Baltagi, 2011; Gujarati, 2003):

- a) the statistical error u_i has null conditional mean given X_i , that is $E(u_i|X_i) = 0$;
- b) (X_i, Y_i) , $i = 1, \dots, n$ are extracted independently and identically distributed (i.i.d.) from their joined distribution;
- c) (X_i, u_i) have finite fourth moments which are not zero;

d) there is no correlation between the regressors and random noise hence, the value between β expected and β estimated is identical.

The estimators that are assessed by the Ordinary Least Square can be summarized as:

$$Y_i = \beta_0 + \beta_1 X_i + u_i \text{ with } i = 1, \dots, n$$

Y_i is the dependent variable to evaluate the objective function, β_0 is the constant, β_1 is the coefficient estimated by the model, X_i is the independent variable, u_i is the error term

In order to compare the evolution in different Italian regions over the time of study, it has used a multiple regression model through the method of panel data.

A panel data is a set of two-dimensional data combining the characteristics of cross-sectional data with those of a time series, with the consequence that each unit (n) is analysed for several years (t), generating a balanced panel or rather a panel with all completed data sets (Verbeek, 2006).

In this paper observation units are made by the Italian regions over a twelve-year time 2000 to 2011, generating a dataset of longitudinal panel data which have been analysed with two methods of regression such as fixed effects method (FE) and random effects method (RE). The choice if the fixed effects model or random effects one fits best to the aim of analysis is based on the findings in the Hausman test, which measures the difference between the outcomes of two estimators comparing FE against RE. If the null hypothesis of no correlation between the regressors identified in the model and the individual effects is accepted, the two models tend to be very similar to each other otherwise it is better to use the fixed effects model (Verbeek, 2006; Gujarati, 2003). The use of panel data allows evaluating the unobserved heterogeneity between units then the different aspects that characterize them.

In the fixed effects model, the formula to estimate the parameters is (Greene, 2011):

$$Y_{it} = \alpha_i + u_{it} + \beta_1 X_{it}$$

α_i ($i = 1 \dots n$) is the intercept for each entity in the model (n entity-specific intercepts), Y_{it} is the dependent variables considered in the time t per unit of investigation n , X_{it} is an independent variable, β_1 is the coefficient for the independent variable or parameter, u_{it} is the error term

There are several reasons to assume that differences between Italian regions might imply variable effects on the dependent variable hence, the panel model with random effects is the best adaptation in this analysis even if the Hausman test is the best statistical tool to discriminate between the choices FE or RE regression models. The advantage of the random effects panel data model is intrinsic in its time

invariant property, which allows including variables in it (Greene, 2011).

Results and Discussion

In Italy, in the last fifty years there has been a sharply decline in the total agricultural surface and in arable areas. As a consequence of the GATT agreement and afterwards World Trade Organization (WTO) adhesion in the 1990s, the European Union throughout the CAP has strongly reduced the direct payments to farmers correlated to the yield. In fact, the MacSharry reform of the Common Agricultural Policy implied a significant decrease in arable land because of a different exploitation and a different use of the usable agrarian area through the set-aside of cultivated lands and a reforestation of many plane plots co-financed by the European Union. The purpose of the MacSharry reform was in on side to shrink the surplus in ag-commodities and in other side to financially support farmers in protecting the environment in rural territories by a low use of pesticide and chemical products.

The regression model on panel dataset assessed by an estimation of parameter using OLS underlined that the development of Italian agritourism has been correlated in a direct way with the total amount of subsidies paid in the second pillar of the CAP (Table 1). Focusing the analysis in depth, investigating the impact of some financial subsidies, findings have strengthened the role and function of payments addressed in stimulating a generational turnover in agriculture. By contrast, the farm's net income has had a direct effect on the development of agritourism hence, higher is the level of income for farmers higher is the development agritourist enterprises which corroborates the hypothesis according to

which the expansion of agritourism has been sensitive to the level of richness of farmers.

Using the balanced panel data on all farms included in the FADN dataset it has been possible to expand the investigated variables with the purpose to assess some of them acting on the development of agritourism. In this case the regression model has been estimated with fixed effects model comparing it to the multiple regression models whose parameters have been estimated by the OLS. The choice of fairness between the fixed effects model, random effects panel data and OLS was obtained using the Hausman test.

Expanding the variables used in the quantitative analysis, the multiple regression model showed that the development of agritourism is correlated in a direct way with the variable farm net income, revenues from agritourism and total subsidies allocated by the second pillar of the CAP aimed at stimulating the generational turnover and in turn the development of young farms in agriculture. A negative correlation has been found out between the dependent variable growth of Italian agritourism and independent variables linked to the farm's input and to the total costs and expenses pivotal to carry out the farm and the total management costs.

The estimation of parameters in the regression approach by a balanced fixed effects panel data model showed that the development of agritourism has been positively influenced by independent variables such as net income of farmers, allocation of financial funds and subsidies fundamental in promoting the turnover of young people in agriculture and revenues from the agritourist activities (Table 2). Negative correlations were observed between the development of agritourism and variables directly joined to the agritourism's management such as overall costs which in a direct and indirect way are in connection with the farm's income and its inputs.

Table 1

Main findings in the multiple regression model assessed using OLS. Dependent variable active agritourisms

(Source: elaboration on data FADN published by Council for Agricultural Research and Analysis of Agricultural Economics CREA ex National Institute Agricultural Economics INEA Rome Italy)

Independent variable	Coefficient	Standard error	t value	significance
Constant	0.4500	4.9197	0.09	n.s.
Farm Net Income	0.0011	0.0004	2.54	**
Subsidies allocated by pillar II of the CAP	- 0.0008	0.0004	- 2.06	**
Subsidies for rural development	0.0005	0.0002	2.14	**
Subsidies for generational turnover	0.0008	0.0002	3.75	***
Agritourism revenue	0.0020	0.0003	6.61	***
Agritourism input	- 0.0073	0.0012	- 6.09	***
Agritourism expenditures	- 0.0023	0.0006	- 3.92	***
Farm Total costs	- 0.0006	0.0003	- 2.23	**

*10%; ** 5%; *** < 1%

Table 2

Main results of the multiple regression model estimated with Fixed Effect panel data, Dependent variable agritourisms
(Source: elaboration on data FADN published by Council for Agricultural Research and Analysis of Agricultural Economics CREA ex National Institute Agricultural Economics INEA Rome Italy)

Independent variable	Coefficient	Standard error	t value	significance
Constant	- 12.13	8.87	- 1.36	n.s.
Farm Net Income	0.0013	0.0006	2.37	**
Subsidies allocated by pillar II of the CAP	- 0.0003	0.00037	- 0.8	n.s.
Subsidies for rural development	0.0004	0.00033	1.24	n.s.
Subsidies for generational turnover	0.0010	0.0004	2.83	***
Agritourism revenue	0.0020	0.0003	5.84	***
Agritourism input	- 0.0051	0.0015	- 3.33	***
Agritourism expenditures	- 0.0022	0.0006	- 3.29	***
Farm Total costs	- 0.0007	0.0003	- 2.12	**

*10%; ** 5%; *** < 1%

Summing up, the Hausman test has strengthened the hypothesis according to which the fixed effects panel model is more adequate than the random effect even if the pooled OLS regression model is as appropriate as fixed effects panel data, in analysing the Italian FADN time series.

Conclusions

A crucial role has been carried out by the financial aids and direct payments disbursed by the European Union to promote a generational turnover in the countryside by a significant inclusion of young farmers in agriculture which has lessened the ageing in the Italian rural areas. These new generation of young farmers has been able to implement some efforts in favour of the neoruralism which is a consequence of the transition from a productivist model towards a post-productivist one. In favour of Italian farms there has been a new discovery of their role and function in countryside protection and in terms of endogenous driver of economic and employment development useful to protect the rural space against the marginalization, rural depopulation and the out emigration.

The quantitative analysis of the FADN time series has highlighted the strategic importance of funds allocated by the pillar II of the CAP in the framework of different Italian regional Rural Development Plans in order to set up measures and actions addressed towards a diversification and a development of agricultural enterprises. However, quantitative models have demonstrated the need to implement financial payments with the aim to increase a generational turnover in agriculture which can enhance the role of the active farmer as identified by the Rural Development Programmes over the time 2014-2020 in preserving and protecting the

countryside against environmental negative externalities.

The purpose of financial payments allocated by the second pillar of the Common Agricultural Policy is to enhance the role of farmer as a pro-active environmental dweller of the countryside which is an idyllic place where the farm is the main bastion in contrasting the environmental degradation by the multifunctionality that is an interstitial element between rural areas and the urbanized space.

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