FARM FAMILY BUSINESS: THE RELEVANCE OF DISTRICT-CONTEXTS IN THE CONSUMPTION OF RURAL DEVELOPMENT POLICIES*

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Abstract

Farm family business is the most relevant of the Italian agriculture. Recent rural development policies of the European Union aim at improving competitiveness of family farms and diversification of their economic activity in rural areas, by offering a set of financial opportunities. These opportunities are not always well exploited by family farms.

The purpose of this article is to verify the existence of a "district effect" in the consumption of rural development policies. To this end, the authors analyse demand and funding obtained by fruit and vegetable farms within an Italian region, distinguishing between district and off-district areas. A deepening of farms’ socio-demographic characteristics is proposed, to emphasize the district dimension in the access to rural development policies. The results confirm the existence of the district effect and call for a strengthening of relational asset within territories to improve policy access.

Key words: family farm business, agri-food districts, demand and consumption of rural development policies.

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INTRODUCTION

In many European countries, agricultural sector is largely organised on family farms. With the expression of “farm family business”, Errington and Gasson (1993) underline the close interdependence between the family and the farm. This link, more intense with respect to other family businesses, stems from the strong overlapping between the productive and the reproductive spheres.\(^1\)

The debate on the persistence of family farms operating within local systems of production\(^2\) is still current, as these systems show a high ability to compete in an increasingly global scenario. This is true even in the agro-food sector and in rural areas characterised by the presence of small companies territorially organized into agri-food districts (Iacoponi, 2002; Brunori, 2003; Fourcade, 2006).

In agri-food districts the presence of family farms is relevant: they show high capabilities of persistence, due to a set of relational assets, to the presence of social capital and a climate of trust that permit to reduce the limits of their structural dimension and generate a sensible reduction in transaction costs. A copious literature explained the persistence of local systems with weather the action of “atmospheric”, marshallian-like, phenomena, or the flexible organisation of production (Pyke and Sengenberger, 1992), or the presence of untraded interdependencies (Storper, 1997) and, consequently, with the significant reduction in transaction costs (Becker, 1981; Pollack, 1985; Ben-Porath, 1982).

Recent proposals of political economy for rural areas have stressed territorial dimension: rural development policies, in fact, propose ascending and bottom-up approaches, where the responsibility of territorial development is carried out by local actors, in a framework aimed at promoting endogenous development models. This policy ensures availability of resources that, if well exploited, can generate high opportunities for family farms and for local development. Rural development policy of the European Union is an example of this type of approach: the available resources intervene on two essential dimensions of rural development: by supporting the competitiveness of agricultural sector and through the promotion of an integrated and sustainable model of endogenous development (Shortall and Shucksmith, 1998; Van der Ploeg and Van Dijk, 1995). The full access to these opportunities requires the presence of “virtuous” family farms with presence of human and social capital to take advantage from all available options.

The access to economic policies for local development is a particularly interesting theme of analysis, which has not always been given the needed attention. Ex post analysis of the territorial impact of rural development policies seems more treated in recent literature (among others, see Shucksmith et al., 2005), while less attention was paid to the mechanisms governing the decision to apply for economic policies from the family farms. A number of variables and binding factors, sometimes result of “po-

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1 (...) any boundary between productive and reproductive work in the farm household is artificial (Errington, Gasson, 1993)

2 A local system of production is a territorially-based, endogenous model of development, where small family firms obtain adequate economic performance, due to the availability of tangible and, above all, intangible assets, which produce particular model of organisation, commonly called “districts” (Becattini, 2004).
itical markets” (Becker, 1983), or of bureaucracy (Ray, 2000) may often condition the possibility to exploit these opportunities. In this context the following question becomes relevant: family farm structure and territorially-based factors could influence (positively or negatively) both demand and consumption of rural development policies?

The aim of our paper is to answer this question: more precisely, the scope is to determine whether the presence of district-context produces territorial differences in the consumption of economic policies among the farms. Our hypothesis is that the geographical location in a district fosters a more intense consume of policy, through a series of factors, qualifying the district itself. This hypothesis finds its explanation in the theories of industrial districts and in the benefits firms found in district-like contexts: cooperation, trust among firms, strong support of locals institutions and high circulation of information generate a competitive advantage for local firms.

This competitive advantage stems from the presence of external economies, which are rooted in local institutions of base (Becattini, 2004), as school, family, etc. The presence of embeddedness (Granovetter, 1985) and of local networks (Murdoch, 2000) among family farms facilitates exchange of knowledge and learning processes that release social proximity and trust (Boschma, 2004; Chirico, 2007), so increasing social capital (Lee et al., 2005).

This makes it necessary to investigate socioeconomic characteristics of family farms involved in policy-demand processes. The focus on family farms is due to the high importance this type of farm has in the Italian agriculture: more than 90% of Italian farms are family-type; the analysis of the access to policy on behalf of family farms evident in fostering their persistency.

In our opinion the paper contributes to literature on family farms under two different points of view: firstly, by showing the influence of territories with district characteristics in performing the farm’s activity; secondly, literature on family farms has generally given little importance to the mechanisms governing the decision by companies to apply for policies; in our opinion, the propensity to consume policy highly depends on farms’ socio-structural characteristics and on territorial contexts. Then, some data on the access to policies, classified by on the basis of characteristics and "virtues" of family farm businesses will be analysed.

To this end extend, after a brief methodological note, the work continues proposing the differences in demand of rural development policies, articulated on the family structure and relational asset. Some synthetic conclusions will end the paper.
METHODOLOGY

The analysis is proposed for the fruit and vegetable sector of the Lazio region. This region presents inside a fruit and vegetable district in the province of Latina, already identified in other studies and officially recognized by the Region.

Given the regional context of the rural development plans, the reference to rural development policies makes it necessary to compare intraregional areas (Terluin and Vanema, 2003).

To compare the access to rural policies, the following three municipal clusters will be considered:

√ A: district area (specialized by definition);
√ B: not district but specialized area;
√ C: other areas, but with the presence of some fruit and vegetables crops.

Figure 1 shows the district area³.

Figure 1. District area.

The programming for the period 2000-06 in Lazio region (recently concluded) will be taken as a reference. In particular, measures of the first and second axis are taken into account, specifically involving the farms themselves (table 1):

³ Specialised areas have been identified by calculating a coefficient of localisation, which measures the relative incidence of fruit and vegetable sector in every municipalities of Lazio region.
Table 1. Measures considered for analysing consume of rural development policy.

<table>
<thead>
<tr>
<th>Axis I</th>
<th>Axis II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modernisation of farms (A)</td>
<td>Economic diversification of farm (P)</td>
</tr>
<tr>
<td>Intergenerational exchange (B)</td>
<td></td>
</tr>
<tr>
<td>Processing and distribution of agricultural products (G)</td>
<td></td>
</tr>
</tbody>
</table>

For each type of funding policy application, only the family farms with conditions and eligibility requirements for access have been extracted from the regional database. It has been possible to identify the sample’s structural characteristics from the 2000 Italian Census of Agriculture, in particular the socio-economic structure of the family and the equipment of relational assets.

The socioeconomic structure of the family farms has been derived from a recent study by Bartoli and Palombo (Bartoli and Palombo, 2006), which define these types through a multivariate analysis. The extracted and used typologies are following:

1. single-active couples families (old couples without children, full-time employed) – COMO;
2. mature in transition families (numerous on average families, in the mature life cycle-phase, children with off-farm job) – MATR;
3. nuclear professional families (generally couples with children, or extended families, with possibility of generational turnover and good economic performances) – NUPR;
4. narrow pluriactive families – (couples without sons and single-personal families, with part-time farming) NAPL;
5. single exclusive families (old families, with a full-time job in the farm) - MOES
6. young dynamic families (young families, with children and possibility to integrate farm income with off-farm job) – YODY.

Each family type defines farms family business with different strategic perspectives, affected by the household composition, the presence of possible successors in the farm and the positioning along the life cycle of the family.

The relational asset takes into account two aspects defining the so-called “farm virtues” (individual and social virtues), whose importance has been underlined in recent studies about the impact of cultural factors in economic development (Marini, 2000).

Individual virtues refer to the concept of “efficiency push” (McCleland, 1961) and consider the entrepreneurial stimulus to improve farm performance. In this context, the measurement of this variable is made by reference both to the farmer’s cultural and professional training and his computer equipment. Social virtues (Inglehart, 1977) are translated here as entrepreneurial skills to enable or take part to territorial network. Participation to associations or cooperatives, presence of technical and management

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4 The first ones concern the age of the conductor, that have not to be higher than 65 years; the requisites make reference to the profitability (RN) for work units (ULU). In the farms with almost one ULU, the share RN/ULU cannot be less than the 50% of the income of reference (income of reference = € 19.657,38 for 1999) as annually determined by the ISTAT. If the firm does not absorb as a minimum one ULU, RN cannot be less than € 6.713,94.

www.jyu.fi/econ/ejfbs
assistance, valorisation of agricultural products in the territory are here used as synthetic variables of those virtues.

By considering the two virtues, four types of relational assets originate:

- absence of relational goods (NoV)
- endowment of just individual virtues (IV)
- endowment of just social virtues (SV)
- full endowment of relational goods (SV + IV)

On the basis of family and relational dimensions, performance in market policies will be analysed. Finally, the benefits of localisation in the district area will be estimated through logistic regression aimed at testing the statistical probability of consuming rural development policies.

RESULTS

Data processed show a very high share of funds that fall in the specialised territories (district and extra-district): 84.7% of the funding allocated to regional fruit and vegetable farms lies in the municipalities defined as specialised. The percentage is the result of an average between the various measures analysed, with similar percentages for the first axis measures, and much lower rates for measures of economic diversification, included in the II axis.

To get an homogeneous comparison, the following analysis will focus only on specialised municipalities, differentiating those falling in the fruit and vegetable district (13 municipalities, with 2789 farms) from all other specialised municipalities (57 municipalities, with 3815 farms).

A first interesting information can be drawn by comparing percentages of fruit and vegetables farms falling in the district and not-district areas, with those of funded farms and the average value of the contribution obtained in the two territorial contexts. The result is shown in table 2.

Table 2. Consumption of rural development policies.

<table>
<thead>
<tr>
<th></th>
<th>district</th>
<th>off-district</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farms</td>
<td>42.2</td>
<td>57.8</td>
</tr>
<tr>
<td>Funded farms</td>
<td>58.2</td>
<td>41.8</td>
</tr>
<tr>
<td>Contribution</td>
<td>68.2</td>
<td>31.8</td>
</tr>
</tbody>
</table>

Source: Region Lazio

Specialised farms falling in the district represent 42.2% of the total, compared to a percentage of 57.8% held by specialized companies that operate outside the district. However, observing the percentage of funded farms and the total contribution, a dramatic change emerges: 58.2% of funded farms fall in the district, where under 42% is located outside. If the expenditure data paid for projects funding are considered, difference between the two territories is even more marked; the share in favour of district farms rises to 68.2%, while outside the district absorbs a residual share of 31.8%. The
difference between the average value of funds received inside and outside districts areas is also statistically tested through a T-test on the difference between means. The result of the t-test confirms the statistically significance of the difference between the mean value of the amount of funds received by the firms localized inside, from that of the farms localized outside the district context. The test results are the following (table 3):

**Table 3. T-Test on the difference between mean values.**

<table>
<thead>
<tr>
<th>Statistics</th>
<th>district</th>
<th>off-district</th>
<th>difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>29507</td>
<td>18840</td>
<td>-19599</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>47810</td>
<td>28297</td>
<td>41607</td>
</tr>
<tr>
<td>Std. Err.</td>
<td>2814.5</td>
<td>1990.1</td>
<td>3724.7</td>
</tr>
<tr>
<td>Pr &gt;</td>
<td>t</td>
<td></td>
<td>0.0004</td>
</tr>
</tbody>
</table>

Source: Region Lazio

As the first result of the T-test is the rejection of the null hypothesis of equal vari-ances, according to the Satterthwaite’s (1946) T-test calculation, also the null hy-pothesis of equal means is rejected. In other words, the two average values of the funds received by the farms of the studied groups are statistically different.

As confirmed by the test, a significant minority of farms operating in a fruit and vegetables district can therefore have a relatively greater access, in terms of number of funded farms and obtained contribution. This “district effect” is graphically presented in Figure 2.

![Figure 2. District effect (%).](www.jyu.fi/econ/ejfbs)
aspects.

FARM CHARACTERISTICS AND POLICIES APPLICATION

Composition of the family farm and access to policies
Family farms cover a percentage equal to about 98% of total fruit and vegetable regional companies. These are distributed in the regional territory as set out in table 4.

Table 4. Fruit and vegetable family farms composition.

<table>
<thead>
<tr>
<th></th>
<th>NUPR</th>
<th>COMO</th>
<th>MOES</th>
<th>NAPL</th>
<th>MATR</th>
<th>YODY</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>District</td>
<td>14.3</td>
<td>13.9</td>
<td>6.3</td>
<td>6.5</td>
<td>26.2</td>
<td>32.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Off-district</td>
<td>3.9</td>
<td>13.8</td>
<td>7.8</td>
<td>15.4</td>
<td>25.9</td>
<td>33.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>8.3</td>
<td>13.9</td>
<td>7.2</td>
<td>11.7</td>
<td>26.0</td>
<td>33.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Region Lazio and Istat

The types are equally distributed in the two areas, with the relevant exception of nuclear professional and restricted pluriactive. Farms with high professionalism and economic performance, which account for reduced quotas on family farm businesses, fall for a higher percentage in the district, with a share of 14.3%, compared to 4% outside the district. As a result, a greater ability of family farms persistence in the district comes out. Then the eventual higher propensity to demand and policy consumption in the district area has been measured within the same typology of family farms. Figure 3 summarizes the results of this effort, supporting the impression that the district family farms, not only show a greater degree of professionalism but on equal type, show greater performance in consumption of rural development policies.

Figure 3. Average contribution for families farms (€).
In this context the average contribution received by district farms is much higher than other outside, which confirms the improved capabilities and willingness to access policies.

**Relational equipment and access to policy**

Table 5 shows the data expressed as a cumulated percentage relating to the consumption of rural development policies based on relational endowment. Some considerations emerge: a marginal percentage of farms holds a full relational equipment, with district area slightly predominant with respect to off-district area (respectively, 18.4% and 16.9%). However, looking at the data in terms of funded farms and contribution, the percentages rise respectively:

- 44% and 56.7% in the district
- 42.9% and 44.8% off district.

**Table 5. Access to RDP on the basis of relational assets (cumulated %).**

<table>
<thead>
<tr>
<th></th>
<th>DISTRICT</th>
<th></th>
<th></th>
<th>OFF-DISTRICT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>farms</td>
<td>funded farms</td>
<td>contributions</td>
<td>farms</td>
<td>funded farms</td>
</tr>
<tr>
<td>SV+IV</td>
<td>18.4</td>
<td>44.0</td>
<td>56.7</td>
<td>16.9</td>
<td>42.9</td>
</tr>
<tr>
<td>IV</td>
<td>35.4</td>
<td>62.6</td>
<td>74.2</td>
<td>35.3</td>
<td>61.7</td>
</tr>
<tr>
<td>SV</td>
<td>60.2</td>
<td>82.0</td>
<td>86.9</td>
<td>66.0</td>
<td>85.4</td>
</tr>
<tr>
<td>NoV</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Region Lazio and Istat

As clear from the graph, a relational density supports a greater possibility of funding. Moreover, the relational asset appears much more productive and effective in the district than outside. In fact, each typology of relational asset generates higher levels of funding for district farms. Participation in regional and institutional territorial networks engenders a flow of information, skills and entrepreneurship and a climate of knowledge able to increase social capital and to foster a greater ability to enter policy markets. Besides, data on the contribution allowed also stress the district farms capabilities, whose projects receive much higher funding. Essentially, the same relational asset translates into an higher ability to get access from district farms, as it emerges from the values for the average contribution (fig. 4).
With the exception of no “equipped” farms, all other types of farms operating in the
district get access to a greater funding level. In a district context the relational en-
dowment quality is more performing with respect to not district areas.

The probability of access to policies

On the basis of the above considerations it seems useful to empirically test the higher
probability to gain access to rural development policy on the basis of localisation in-
side or outside the district area. To this end, a binomial logistic regression with poli-
cotomic explanatory variables has been applied (Knoke and Burke, 1980). This meth-
oodology is based on the assumption that the probability for the dependent variable Y
to be equal to 1 is a function of the considered explanatory variables.

The explanatory variable is categorical and it expresses the farm’s localization in one of the three
territorial contexts previously identified (A, B, C). Since these variables are poli-
chotomous (belonging to one of the types of that particular issue), they are treated as
if each mode is in turn an explanatory dichotomous variable that helps to increase or
decrease the success probability of the dependent variable. The function studied by
the model is the following:

\[ Y = \log \frac{p}{1-p} = \ln \left( \frac{\text{odds}(x)}{} \right) = \beta_0 + \beta_1 x_1 + \ldots + \beta_k x_k. \]

Where: Y is the dichotomous dependent variable “application for policies” that holds
1 for companies that have applied for funding and 0 for those that have not submitted
any fund request. The estimation function measures the success probability related to
each modality of the independent variable ranging from 1 to 3 compared to the last
one. In other words, for each modality, the probability to apply for fund request is es-
timated with respect to the C modality.

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5 The value is equal to 1 for farms that get access to funds and 0 for farms that do not.
The model is based on the concept that the odd logarithm (logit) is a linear function of each regressor’s parameters. Table 6 shows the results obtained from the model, comparing the likelihood of access among district and not district areas.

Table 6. Logistic regression results.

<table>
<thead>
<tr>
<th>Area</th>
<th>Beta</th>
<th>P-value</th>
<th>Odd ratios estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>District (A)</td>
<td>0.9078</td>
<td>&lt;.0001</td>
<td>2.479</td>
</tr>
<tr>
<td>Off-district (B)</td>
<td>0.4587</td>
<td>0.0001</td>
<td>1.582</td>
</tr>
<tr>
<td>Others (C)</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The regression coefficient is positive for both A and B areas, but, as hypothesised, the probability of consumption is much higher in the district than outside.

CONCLUDING REMARKS

The analysis has focused on a subject of particular importance for the sustainability of family farms operating within local agri-food systems, linked to the exploitation of funding opportunities for farms operating in the agricultural and rural world.

Our paper is to be considered as a starting point: it is then necessary deepening in further research the eventual policy effect on farms, in terms of higher capability of sales, competitiveness, under the same hypothesis of different territorial contexts. That means not only district contexts foster access to policy, but also produce high efficacy and efficiency in terms of expenditures on rural development.

In the present work, the ability to access policy has been analysed differentiating access to market opportunities in district and not-district contexts. The information acquired permit to validate the hypothesis of existence of a “district-effect”, which promotes access to the regional policies for rural development. This effect is justified in the light of the characteristics of a local system, as cognitive laboratory for family business, in which tacit and codified knowledge merge and are revised to promote new innovative solutions to experiment, select and accumulate (Becattini and Rullani, 1993; Chirico, 2007). The new solutions find financial support in policies for rural development. Therefore, the intensity of different consumption policies can be explained according to district literature, focusing attention on one of the functional areas of the firm activity, the space of socialization, which entails the external economies typical of the district (Bramanti and Senn, 1997). In this space, specific resources (Colletis-Wahl and Pecqueur, 2001) act to stimulate policy access. These act along three guidelines:

1. the first concerns the information market: the provision of economic policies is not always known and informative barriers often prevent entrepreneurs from accumulating knowledge about working opportunities. On the other hand, in district-like territorial systems, the flow of information appears smooth, thanks to the presence of untraded interdependencies (Storper, 1997); then, the access cost to market information...
is relatively small. For family farms, the communicative competence, resulting from favourable preconditions to local information exchange, thus generates a greater propensity to consume policy.

2. the second refers to entrepreneurship and relational dimension of business. From this perspective, entrepreneurial networking in district areas appears more profitable and virtuous in two visual angles: firstly, information networks (Johannisson et al., 1994) bring out the district entrepreneur in relatively favourable conditions. At the same time, the entrepreneurial alertness (Kirzner, 1973) is higher and places local farmer in a useful position to exploit the opportunities offered by the rural development plans. It follows an ability to learn how to learn (Hudson, 1999) even in the policy markets for spatial development. Secondly, with an equal access aptitude among different territories, district areas show higher project capabilities and get access to relatively higher funds. This makes district entrepreneur more prepared to evolve and to adapt (Amin and Hausner, 1997);

3. the third guideline concerns institutional dimension, related to the presence of efficient institutions which link the productive apparatus and the district community (Becattini, 2000; 2004; Fanfani, 1994). Recent studies have underlined the necessity for institutional innovation to really accomplish rural development policies (Dwyer et al., 2007; Douglas, 2005). As a consequence, access to policy encounters few bureaucratic and administrative obstacles. As know from literature, these obstacles often take the form of improper charges and hidden fees to entrepreneurs who, although willing, waive to demand policy to avoid such obstacles (conscious not-consumption). In this way, the formal institutional support completes a virtuous scenario that encourages demand in districts and supply to come across and maximizes the consumption of rural development policies.

The contemplation in the analysis of family farms’ characteristics has permitted to draw a large articulation of the access to policies not only on at territorial level (in-district/off-district), but also between different family farms. From this point of view, the work highlights the need to consider the socio-demographic characteristics of the family, which may influence their strategic behaviour. However, not always the offer of economic policies for agriculture and rural development takes into account the differences between family types, designing intervention policies aimed almost solely to the production and structural dimension.

The analysis confirms the goodness and timeliness of the district approach to explain the persistence of family farms. That calls for a strengthening of the district elements within agro-food territorial systems. The empirical investigation in Lazio region has showed large differences within the same region but between different territorial contexts with different relational density: that’s why a relational planning should become a relevant tool to stimulate territorial development (Camagni, 2001). It is not a case if the new EU programming for rural development in the period 2007-2013 aims at upgrading local capabilities in terms of human capital, strategic planning and partnership.

This springs some final recommendations related to the need to maintain the high level of entrepreneurial ability and propensity to activate networking processes on behalf of the farmer, but above all, to maintain a positive differential in terms of collec-
tive intelligence rooted on the territory (Rullani, 2003). The relevance of the processes of political market’s social construction underlines the urgent need for policies to connect and to promote the mobilisation and effective cooperation between local actors.

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