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**DATA NEEDS FOR THE RURAL ECONOMY TO ESTABLISH  
A MICRO-MACRO LINK IN AGRICULTURAL POLICY ANALYSIS:  
THE ISMEA EXPERIENCE**

Supporting paper submitted by Italy\*\*

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## 1. INTRODUCTION

The economic growth experienced by the EU member states in the last decades and the CAP have produced deep economic and social changes in the EU farming sector. The economic change has taken the form of an adjustment in farm structures and production levels. Examples of such changes are the reduction of the agricultural workforce accompanied by a more intensified use of industrial inputs and the growing concentration of production on larger specialized farms accompanied by the growing marginalisation of small-scale farming. At the same time, the increase of part-time farming and pluriactivities have increased the variation in the social organization of farms. As a result, it is no longer possible to define the farming sector in terms of structural dualism with large and efficient capitalist farms on one hand and small and inefficient family farms on the other. In fact, within the family farms there are wide differences in terms of efficiency in production, as well as in survival strategies -- depending on the resource base of the farm household and on the economic and social environment in which the farm operates<sup>†</sup> -- and, as a consequence, in family incomes and quality of life.

The traditional agricultural programs do not usually take into account these differences. It follows that as the “recipe” which is usually proposed is uniform both in terms of targets to be aimed at, and in terms of policy instruments such as the commodity programs. The experience of the last decades has shown the limitations of such an intervention. Some of these shortcomings have already been widely discussed, for example in relation to the decoupled nature of some interventions; some other limitations related to the flexibility and equity implications of the programs have started to be discussed only recently.

For example, the OECD is now giving high priority to these problems. It is also committed to identifying the relevant operational criteria for future agricultural policy reforms (OECD, 2000). They are: a) *transparency* in the sense of easily identifiable policy objectives, costs, benefits and beneficiaries, b) *finalization* with respect to policies that should be targeted to specific outcomes, c) *flexibility* with the objective of capturing the diversity of agricultural situations and strengthening the capacity of changing objectives and priorities as local situations need, and d) *equity*

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<sup>†</sup> The development of new technologies, which allow greater flexibility in the on-farm labor use, has been spreading pluriactivities in all of the industrialized countries. In particular, pluriactivities lever on the exploitation of alternative income resources to the agricultural outputs (e.g. agri-tourism), and on part-time off-farm labor where local job market opportunities do exist.

in order to take into account the distributive effects of the support schemes across farmers, regions and sectors and to evaluate whether the subsidies reach effectively the ones who are most in need. By adopting these criteria it is possible to make a policy intervention which is specific to the most diverse socio-economic environment and can be easily monitored and evaluated.

Further, Agenda 2000 clearly states that public intervention in agriculture should contemplate also new objectives such as higher competitiveness of the agricultural sector, the creation of new jobs along with the availability of alternative income sources for the rural household, higher food safety and quality, and higher respect for the environment. The data on farm-household incomes recently made available by Hill (1995) shows that, at least in areas where a diverse rural economy exists, the support and stabilization of agricultural incomes may not be the main problem to be targeted. Part time farming has been a winning strategy adopted by the household in order to increase the level of household income while decreasing the variability generated by the aleatory nature of farming. Those families where farm income is a supplement of the main off-farm income source may not be eligible for public help based on direct payments or crop insurance. On the other hand, a rural policy based on the provision of basic services, such as health care, education and transportation, might also overlap with public welfare policies ensuring a minimum standard of living to rural households. In many rural regions, in fact, the quality of life is insufficient even where the rural economy can guarantee a sustainable and decent standard of living for all household members. This is the case of many peripheral areas, such as the Italian *Mezzogiorno*, where the low population density, amongst other institutional factors, leads to higher costs for service provision and to a lack of specialized services. In this situation, focussing the attention on maintaining or increasing employment in the farm sector and in the related industries might be both reductive and insufficient.

This kind of considerations makes clear that a new rural and farm policy can be better identified after a better understanding of the possible objectives and intended beneficiaries is granted. In this respect the most important problem to be solved is the lack of data. The statistical data presently available have been designed in order to provide the information needed to run and monitor the traditional farm programs, and specifically the commodity programs. As a consequence the available statistics are of little help when the intervention moves towards the social area, such as in the case of

programs based on the concept of ensuring some minimum standard of living to the inhabitants of rural areas. ISMEA has recently designed and collected data on the socio-economic conditions of Italian agricultural households and their incomes with the objective to meet the more qualified demand for information requested by the design and implementation of rural policies.

## **2. THE RESEARCH PROGRAM AT THE BASIS OF THE QUESTIONNAIRE DESIGN**

The elementary unit of the rural economy is the farm-household considered as a joint center of economic activity. Rural economists are interested in knowing the strategies adopted to obtain an adequate level of household income and level of well-being, the levels of poverty and inequality along with the standards of living of the people living in the country and in the urban peripheries, the rules governing the allocation of both farm and household resources on the different activities undertaken on and off both the farm and the family, and the links explaining the relationship between the growth process of the rural economy and the environmental sustainability.

In response to this major change about what is important to understand about the behavior of both rural households and enterprises in the context of the specific local economies, ISMEA has undertaken in 1995 a socioeconomic survey of Italian agriculture designed on a reference theoretical model at the micro level, i.e. the farm household general equilibrium micro economy, which allows one to establish links between the micro and macro levels of the economic and policy analysis not previously explored. The corresponding model at the macro level is the general equilibrium model of the macro economy designed with strict micro foundations. The exploitation of this micro-macro mirror image allows the policy analyst to «zoom» the policy and welfare impacts of agricultural, rural and welfare policies «in and out» without loss of relevant information.

The design of the ISMEA survey has been developed using a theoretical model of the farm-household (Caiumi and Perali 1997) micro simulated using a mathematical programming technique. The aim is to gather statistical information on the behavior of each family member and on the sharing of public and private resources within the household that would permit the empirical analysis of the

household decision process. In general, the problems of production decisions, consumption decisions and labor supply decisions are usually analyzed separately in terms of the behavior of producers, consumers, and workers respectively. Rural households integrate all these decision units in a single institution. Therefore, it is natural to analyze the linkage between full income, consumption and labor supply of rural households jointly.

Each household can be seen as a household-enterprise producing domestic public goods by transforming factors which are in part nonmarket goods, and therefore not easily measurable. Unlike an urban family, the members of a rural household can allocate their working time with certainty between household and agricultural production activities. For both household types, the value of labor not employed outside the family is implicit. However, only in the case of agricultural activities the value of labor is objectively deducible from the value of the marginal product, since the prices of agricultural output and inputs are determined by the market, while the value of household production is unknown and the value of labor allocated must be implicitly determined.

It is important to emphasize that the model presented here is not specific to the farm households but describes all households involved also in any sort of entrepreneurial activities. Therefore, it can be more properly seen as a «farm/firm» household model. This is the most general model since embeds the case for urban households when farming or other household entrepreneurial activities are not undertaken. The «farm/firm» model is a miniature general equilibrium model where the farm/firm household fully reproduces the characteristics of a macro society at the micro level. In our context, both farming and general household production are marketable domestic goods. In fact, we value household products and inputs using the market approach valuing the different household activities or products at the opportunity cost (Jenkins and O'Leary 1994, 1995, 1996).

The general equilibrium model of the farm household that served as a basis for the survey design, assumes that a household obtains utility from leisure consumption  $l$  and from a set of goods  $\bar{x}^* = \{x_z, z_x(x_{zz})\}$  formed by a subset of  $N$  purchased goods consumed directly  $x_z$  and an aggregate good  $z_x$  produced *at home* using a household production technology  $z_x(x_{zz}, h; \beta): \mathfrak{R}_+^N \rightarrow \mathfrak{R}$ , where  $x_{zz}$  is the set of  $V$  goods purchased in the market as inputs to the household production function,  $h$  is time spent in household production activities, and  $\beta$  is a set of parameters defining the production

relationship. The set of market goods is given by  $x = \{x_z, x_{zz}\} = (x^1 + x^2) = \{x_z^1, x_{zz}^1\} + \{x_z^2, x_{zz}^2\}$ , where the superscript 1 and 2 refer to husband and wife, respectively. Assume further that each member of the household maximizes egoistic preferences, assumed as regular, as shown by the following program:

$$(1) \quad \begin{aligned} & \text{Max}\{U^1(x_z^1, z_x l^1; d, \mathbf{g}) | U^2(x_z^2, z_x l^2; d, \mathbf{g}) \geq u_2\} \text{ or} \\ & \text{Max}\{\mathbf{m}U^1(x_z^1, z_x l^1; d, \mathbf{g}) + (1 - \mathbf{m})U^2(x_z^2, z_x l^2; d, \mathbf{g}) \geq u_2\} \end{aligned}$$

subject to the following additional constraints:

$$\sum_i^{1,2} \sum_{j=1}^N p_z x_{z_j}^i + \sum_i^{1,2} \sum_{k=1}^V p_{zz} x_{zz_k}^i \leq \sum_i^{1,2} w_i o_i + \sum_i^{1,2} \mathbf{r}_i \mathbf{p}_f(p, r) + \sum_i^{1,2} y_i = Y, \quad \text{budget constraint}$$

$$l_i = \bar{T} - o_i - h_i - f_i, \quad i = 1, 2 \quad \text{time constraint}$$

$$z_x = g(x_{zz}^i, h_i; d_h), \quad i = 1, 2 \quad \text{household technology constraint}$$

$$q = \phi(F, f_i; d_f), \quad i = 1, 2 \quad \text{farm technology constraint}$$

$$x_{z_j}^i \leq x; x_{zz_k}^i \leq x; x \geq 0; l_i \geq 0; f_i \geq 0; h_i \geq 0; z_x \geq 0; y_i \geq 0; Y \geq 0; \text{capacity and non-negativity constr.}$$

where  $u_2$  is the level of utility of member 2 before decisions are made by member 1 that must be maintained to ensure Pareto efficiency;  $d = \{d_h, d_f\}$  is the set of exogenous characteristics pertaining to the household  $d_h$  and to the farm  $d_f$ ;  $\gamma$  is the shifting parameter of the household welfare function affecting the decision process but not preferences;  $p_{x_z}$  is the price of market goods  $x_z$ ,  $p_{x_{zz}}$  is the price of purchased goods used as inputs of the household technology  $x_{zz}$ ,  $p_z$  is the shadow price of the domestically produced good,  $w_i$  is the exogenous market wage differentiated by gender;  $o_i$  is labor supply (in hours) differentiated by gender;  $\pi(p, r)$  is farm gross profit including also the remuneration for the household farm labor, obtained at the price  $p$  for the joint single output and prices  $r$  for the  $F$  vector of  $J$  inputs indexed by  $j=1, \dots, J$ ;  $y$  is non labor income;  $g(\cdot)$  is the household production technology,  $h$  is the time spent in household production activities;  $\phi(\cdot)$  is the farm production technology producing agricultural output  $q$  at price  $p_q$  using  $F$ , the  $J$  vector of  $j=1, \dots, J$  production inputs, and  $f$ , corresponding to the hours of time devoted to farm activities by the household members;  $\bullet = T - \hat{I}$  where  $\hat{I}_i$  is time devoted to rest specific to each

household member, and  $T$  is total time. The parameter  $\mu$  is the Lagrange multiplier associated to the Pareto constraint included in the first maximand. Here, the multiplier can be interpreted as the implicit weight of each member egoistic utility in the collective decision process (Chiappori 1992) and as an indicator of the level of intra-household inequality. Note that if there is no farm production  $q(\cdot)$ , then  $\pi(\cdot)=0$  and  $f_i=0$  and the rural model reduces to the urban one. Individual full income  $Y_i$  is given by the sum of income obtained from labor supplied outside the household, non wage income  $y_i$  specific for each agent and farm profits assigned to each member according to the amount of labor provided:  $\rho_1=f_1/(f_1+f_2)$  and  $\rho_2=(1-\rho_1)$ . This assumption implies that the value of the marginal product of labor is equal for husband and wife.

It is interesting to note that the budget constraint can be rewritten as follows:

$$(3) \quad \sum_i^{1,2} w_i^l l_i + p_z z_x + \sum_i \sum_{j=1}^N p_x x_{z_j}^i + \sum_i \sum_{k=1}^V p_{x_{zz}} x_{zz}^i = w \bar{T} + \sum_i \rho_i \pi_f(p, r, w_i^f) + \pi_h(x_{zz}, h_i) + \sum_i y_i.$$

The right hand side of the budget equality can be expanded as:

$$\sum_i^{1,2} w_i^l l_i + \sum_i^{1,2} w_i^f f_i + \sum_i^{1,2} w_i^o o_i + \sum_i^{1,2} w_i^h h_i + \left( p_q q - \sum_{j=1}^J r_j F_j - \sum_i^{1,2} w_i f_i \right) + \left( p_z z_x - \sum_i^{1,2} w_i h_i \right) + \sum_i^{1,2} y_i.$$

Then, considering that profits from household non-market activities are assumed to be zero, further arrangements with the left hand side of the budget equality in (3) lead to:

$$\begin{aligned} \sum_i^{1,2} w_i^f f_i + \sum_i^{1,2} w_i^o o_i + \sum_i^{1,2} \mathbf{r}_i \mathbf{p}_f(p, r, w_i^f) + \sum_i^{1,2} y_i &= \\ = \sum_i^{1,2} w_i^o o_i + \sum_i^{1,2} \mathbf{r}_i \mathbf{p}_f(p, r) + \sum_i^{1,2} y_i, \end{aligned}$$

as in the budget constraint of program (1). Note that wages differ by gender  $i$  whether time is employed in activities on farm, off-farm and off-household, on-household, and on leisure as summarized by the set of wages  $\underline{w}_i = \{w_i^l, w_i^f, w_i^o, w_i^h\}$ . This formulation of the disposable income -- available to acquire market goods for direct consumption, market intermediate goods to be used as inputs of the household production function, to consume leisure and to consume household products -- takes into explicit account labor income from farming in the agricultural profit function and includes the profit function related to household activities. In our set up we assume that all household production is sold in the home market at an implicit price.

Chiappori (1992) shows that the program in (1) is equivalent to the following sharing rule interpretation representing the maximization problem of a single household member facing the own budget constraint:

$$\{U^1(x_z^1, z_x, l^1; d, \mathbf{g})\}$$

$$\sum_i^{1,2} \sum_{j=1}^N p_{xz} x_{zj}^i + \sum_i^{1,2} \sum_{k=1}^V p_{xzs} x_{zsk}^i \leq w_i^o + \mathbf{j}(w_1, w_2, y_1, y_2)$$

s.t. set of time and technology constraints in (1)

where  $\ddot{o}_i(\cdot)$  is the sharing rule in reduced form and as such it is a function only of exogenous variables. This result is a direct consequence of the Second Welfare Theorem. As pointed out by Chiappori (1992), the sharing function  $\ddot{o}_i(\cdot)$  may be negative or greater than total full income  $Y$  when one member demands more than available in the shared income so that transfers from other components of the full income have to occur.

The solution of (1) or (2) yields the following reduced form system:

Production Side	Consumption Side
$q = \tilde{\mathbf{J}}_f(F_j, f_i, d_h, d_f)$	$x_i = \tilde{x}_i(P_i, \mathbf{J}_i(w_1, w_2, y_1, y_2; d_h, d_f, \mathbf{g}), d)$
$F_j = \tilde{F}_j(p, r, w_i; d_h, d_f)$	$z_i = \tilde{z}_i(P_i, \mathbf{J}_i(w_1, w_2, y_1, y_2; d_h, d_f, \mathbf{g}), d)$
$f_i = \tilde{f}_i(p, r, w_i; d_h, d_f)$	$l_i = \tilde{l}_i(P_i, \mathbf{J}_i(w_1, w_2, y_1, y_2; d_h, d_f, \mathbf{g}), d)$
$o_i = \tilde{o}_i(p, r, w_i; d_h, d_f)$	
$h_i = \bar{T} - o_i(\cdot) - l_i(\cdot) - f_i(\cdot)$	

where  $P_i = (p_x, p_z, \underline{w}_i)$ . The production and consumption sides of the farm/firm household economy illustrate the general equilibrium structure of the model. The exogenous characteristics of both the household and the farm affect both sides of the micro economy. Within the theory of the farm-household this is an interesting feature since it permits testing of the separability hypothesis between consumption and production decisions (Benjamin 1992, Udry 1996).

### 3. THE 1995 ISMEA SURVEY ON THE SOCIO ECONOMIC CONDITIONS OF ITALIAN AGRICULTURE

The ISMEA 1995 survey is a nationwide farm household survey of 2000 farm-households. The sampling has been based on the last Agricultural Census conducted in 1992 by the Italian National Statistical Institute (ISTAT) censored at the cut-off point of farms with an economic dimension greater than 4 UDE. This criterion has been adopted with the aim of excluding those enterprises where the agricultural activity is either marginal or dismissed. The survey combines information about



farm budgets, compatible with the European RICA standard, household and farm characteristics, time use, off-farm money income, governmental and intra-household transfers, consumption, and information about the degree of autonomy in decision making by household members. The survey is organized in the following sections:

*Section I* : «General information about the household:» it collects information related to farm characteristics such as size, altitude, legal status, and farm management.

*Section II*: «Characteristics of the households and labor organization:» it collects information on hours of labor worked, farm and non-farm wages, and professional characteristics of workers.

*Section III*: «Commercialization:» it collects information on product marketing and institutional arrangements both for the acquisition of inputs and product sales.

*Section IV*: «Production:» it collects information on quantities produced, self-employed products, stocks, prices, premiums and other sources of farm income.

*Section V*: «Factor use:» it collects information at a high level of detail the levels of factors used in each productive activity.

*Section VI*: «Investments and financial activities:» it collects information on land capital and farm credits, debts and loans.

*Section VII*: «The Household:» it collects information on a) household characteristic, b) housing characteristics, c) time use on activities such as on and off-farm work, household work, child care and pure leisure time using a stylized format, d) the consumption of food, self-consumption recording both quantities and prices, and both semi durables and durable goods distinguishing between children and adult goods, e) the decision making process for both farm and household decisions, f) the savings and bond and stocks ownership and g) subjective measures about the risk associated to future investments in agriculture and intentions about the future development of the farm.

The information related to the rural household collected in the ISMEA survey depicts the socio-economic conditions, the structural characteristics and habits of the rural Italian household of the 1990s. We used this information to estimate the level of economic well-being of the rural household and to make comparisons between the rural and urban household type. In particular, we want to learn about the differences in consumption habits, levels of economic well-being, living standards and

inequality, human capital, and the role of the woman within the management of the household enterprise.

#### **4. THE RURAL PORTRAIT OF ITALIAN AGRICULTURE ACCORDING TO THE ISMEA SURVEY**

##### **4.1 Differences among farm types**

The collected information on farms has been grouped in 7 farm typologies<sup>‡</sup> described in table 1. These groups are comparable to those used by the USDA's Economic Research Service (Hoppe, Perry and Banker, 1999). The proposed typologies are intended to capture the diversity of agriculture, any group taking in account not only the economic dimension of the farm, but also if farming is the primary occupation of the operator.

As shown in Graph 1 the most important groups in the sample are those referred to the medium and large commercial family farms both in terms of number of farms (respectively 40.14% and 26.10%) and of hectares of land (respectively 33.25 and 46.84% of the total land in the sample). The relative importance within the sample of these two groups, and especially of the small farms group, lowers when we look the quota of gross output produced by each typology: the group of the large family farms is still the most import (40.50%) but it is followed by the nonfamily farm that produce the 36.81% of the sample gross output on only the 8.15% of the sample land, while the group of the medium family farms produce only the 8.23% of the gross output on the 33.25% of total land. The large and medium family farms group place first again in the ranking by farm income (respectively 67.54 and 19.03%), followed by nonfamily farms (8.70%). The relative importance of the other typologies is always very low either in terms of number of farms, land, production and farm income.

It is also interesting to note that most of the large and nonfamily farms are located in the north of Italy, while the *Mezzogiorno* is the area in which almost 50% of the small farms and more of the 70% of the limited resource family farms are located (Graph 2).

Finally Graph 3 shows how important are farm labor, off-farm labor income and non-labor income in the global family income. On average in the sample farm

income is by far the most important component of the global family income (60%), followed by non-labor (pensions, transfers, financial rents, etc.), while off-farm income accounts only for the 10% of global family income. In addition it is interesting to note that, with respect to the adopted typology groups, farm income represents the most important source of income for the family only in the case of the medium and large farms, as a consequence these two are the groups of family farms which would benefit more by agricultural programs based on instruments such as crop insurance and direct payments, that is to say these are the farms for which a “safety net” is still important.

In the other farm types the off-farm and non-labor income are greater than farm income, but great variations in composition can be observed. In the residential group there is not such a big difference in the weight of the three components, the farms belonging to this group are most likely located in rural areas where a diverse rural economy exists and where part time farming can be adopted by the household in order to increase the level of household income while decreasing the variability of global family income generated by the aleatory nature of farming. For this kind of families the provision of essential services –such as for instance better transportation, or child care – might be more effective respect to the increase of the well being than a scheme of direct payments could be.

Even retirement and small family farms, whose global incomes heavily depend on non labor income, would most likely be interested in increasing the effort in the rural policy area more than in that of agricultural policy.

Finally in the case of limited resource farms off-farm income provide only a marginal contribution to the global farm household income. In consideration of the fact that 70% of these farms are located in the *Mezzogiorno* -- that is in an area still suffering from structural disadvantages and where there are very few alternatives to agriculture -- and that this group of farms is responsible only for the 2% of the sample gross production the attention of the policy maker interested to increase the well-being of these families should focus more on the provision of rural than of agricultural programs.

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‡ a detailed description of the multidimensional criteria used to identify the farm typology groups is provided in Bernardi, Castagnini, Perali, Tommasi (2000).

#### **4.2 Standard of living of rural households**

As shown in graphs 4 and 5, the comparison of the ISTAT and ISMEA household budgets reveals that food expenditures of rural households are higher than the food expenditure of the urban households both in the geographic areas and at the aggregate level. It is interesting to note that the difference between the food shares of rural and urban households in the North is twice the difference of the shares of rural and urban households in the Center and in the South of Italy. This evidence is in part explained by the fact that rural households in the North are larger in size than urban households.

We infer about the relative standard of living of urban and rural households using a simple Engel curve analysis linking consumption and well-being. Graph 5 shows the nonparametric kernel estimates of the Engel curves associated to 32000 household budgets collected by ISTAT in the year 1995 and the ISMEA rural household budgets for the same year. The food share is higher for the rural households independently of the level of total expenditure. If the food share is a reliable indicator of welfare, then we may conclude that the level of well-being of the Italian rural household is lower than the level of well-being of a urban household. This evidence points to a distinctive characteristic of the rural household which is particularly important for the implementation of welfare policies coupled to rural and agricultural public interventions.

Table 2 compares the quality of life between the Italian rural and urban households. It reports the empirical probability of finding a bathroom, drinkable water, a telephone, a video cassette player, an air conditioner and a personal computer in the households sampled by ISMEA and ISTAT. In general, there are no statistically significant differences in the access to the selected goods between the rural and the urban household. A notable exception is that the probability to find a personal computer in the rural household is twice as high as the probability to find a computer in the urban household. This can be interpreted as an evidence of the degree of interrelations between the household and the farm. Interestingly, this interlocked situation works both in the household to farm direction and viceversa, as it is the case of the presence of personal computers in the household that are mainly used for the farm business.

Table 3 presents a gross estimate of the stock of human capital of which urban and rural Italian households are endowed expressed in terms of the intergenerational

mobility of education levels. The rural household unequivocally shows a higher propensity to invest in education than the urban households. Inspection of table 3 reveals that only 6% of children more than 14 years old belonging to households with parents having an primary educational level, being the 39% of the sample, also maintain the same education status of the parents. The opposite is true for the urban household. Interestingly, almost 47% of rural children in working age have a secondary level of education. This proportion is almost 4 times as high as the one of their parents. The urban household presents a reverse pattern. In the rural households where at least one of the parents holds a university degree there is at least one child who is attending the university. This correspondence is lost in the cities, where only in 1/5 of the cases we can find a child with a university degree. These facts about the relative propensity to invest in child education between rural and urban households will play a critical role in ensuring a sustainable development of the rural areas.

## 5. CONCLUSIONS

The holistic approach to the rural and agricultural political economy adopted by ISMEA, based on the interpretation of the farm-household as a joint unit of both agricultural production and consumption, is in line with the objective of offering equal growth opportunities to the agricultural enterprise, as compared to the enterprises of the other sectors of the economy, and equal opportunities to reach an adequate level of well-being and human development to the rural households as compared to the urban households. We believe that the ISMEA holistic approach, as described by the evidence proposed in this study, can be very helpful in designing rural programs that use public resources efficiently by targeting the initiatives to those farm-households effectively in need.

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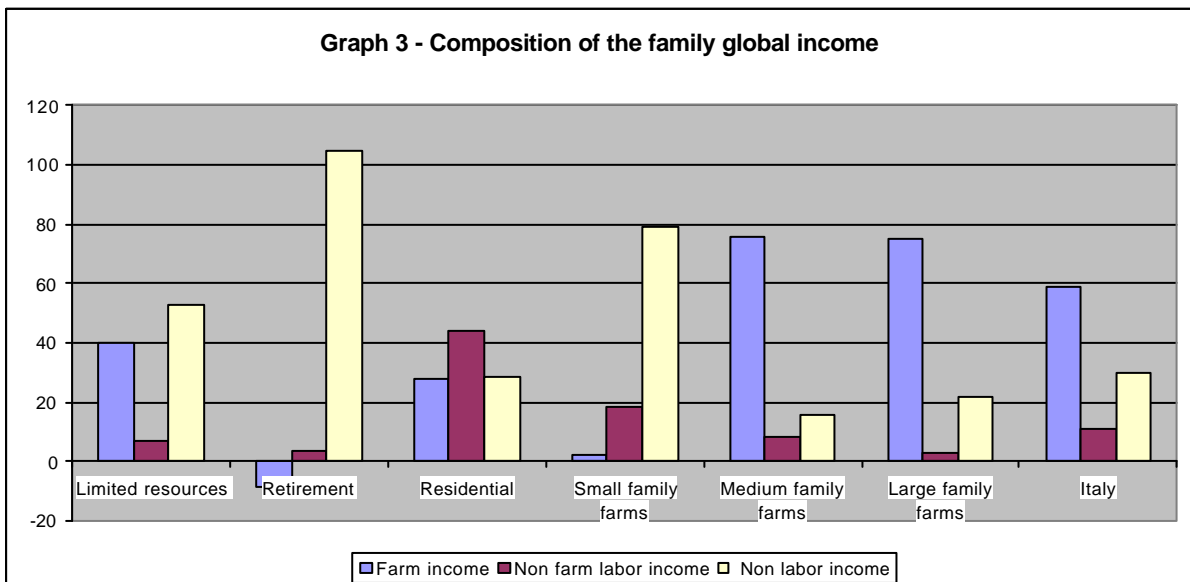
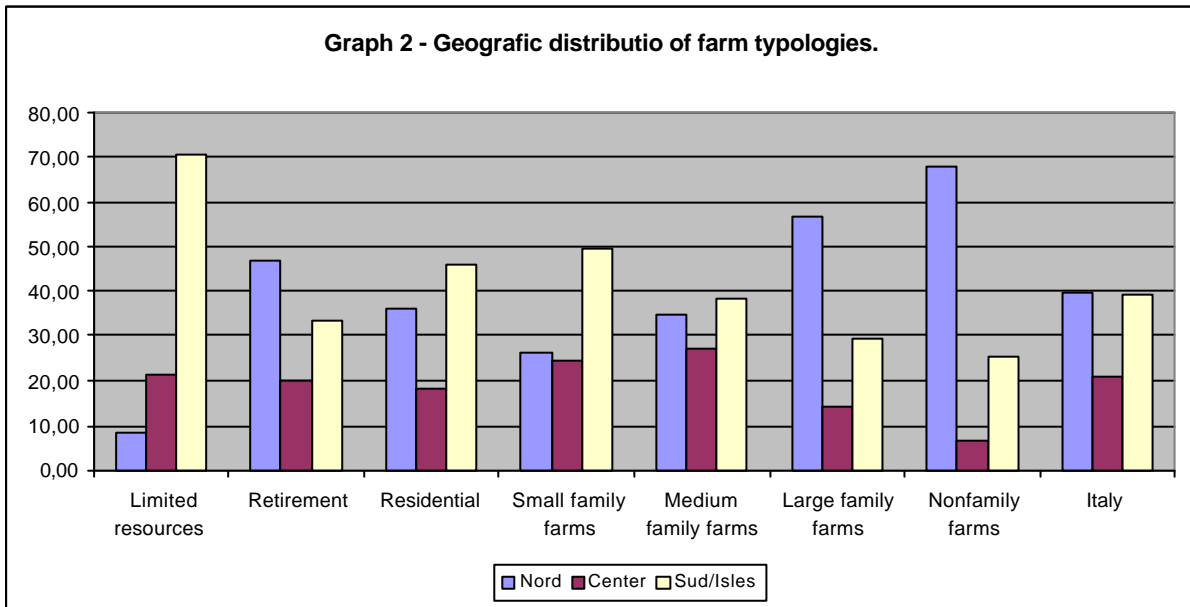
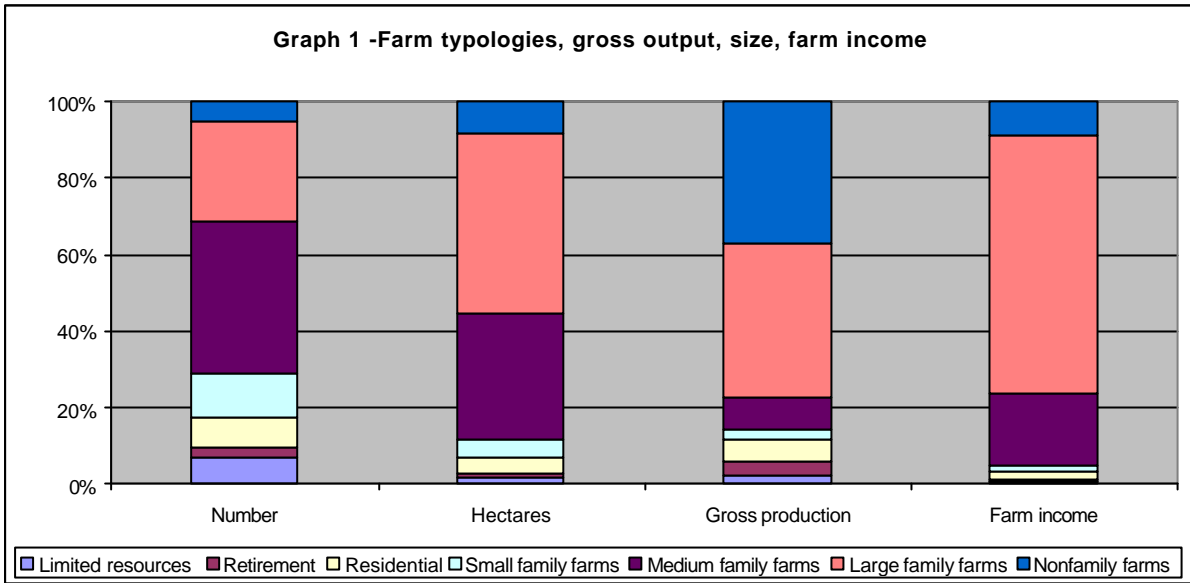
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## Tables and Graphs

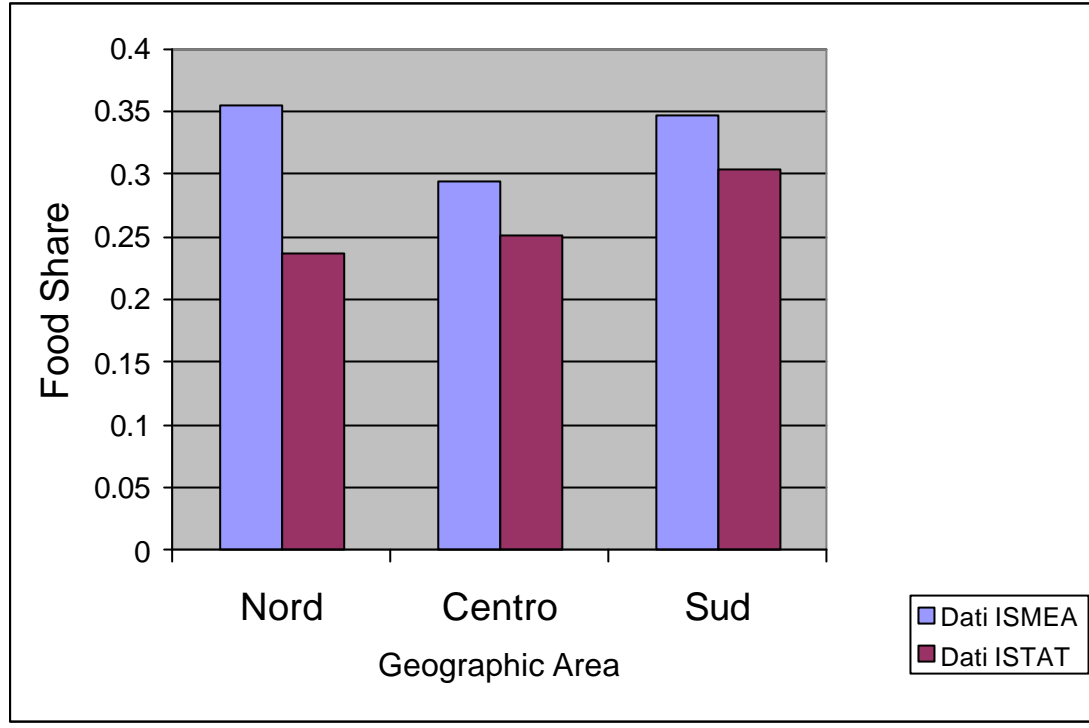
**Table 1. Definition of the Farm Typologies**

Farm typology	Description
Limited-resource	Any small farm with global family income, gross sales and total farm asset less the first quartile of the <i>respective</i> distribution
Retirement	Small farms whose operators report they are retired
Residential	Small farms whose operators are not retired and report a major occupation other than farming
Small family farms	Small farms with gross sales less than the first quartile of the distribution and whose operators report farming as their major occupation.
Medium family farms	Any farm with gross sales less than the third quartile of the distribution and whose operators report farming as their major occupation.
Large family farms	Any farm with gross sales over the third quartile of the distribution
Nonfamily farms	Any farm organized as nonfamily corporations or cooperatives, or operated by hired managers.





**Graph 4. Engel Curves - Food Consumption and Welfare - a rural/urban comparison**



**Graph 5. Food Engel Curves: a rural/urban comparison**

(dashed line=rural sample / solid line=urban sample)

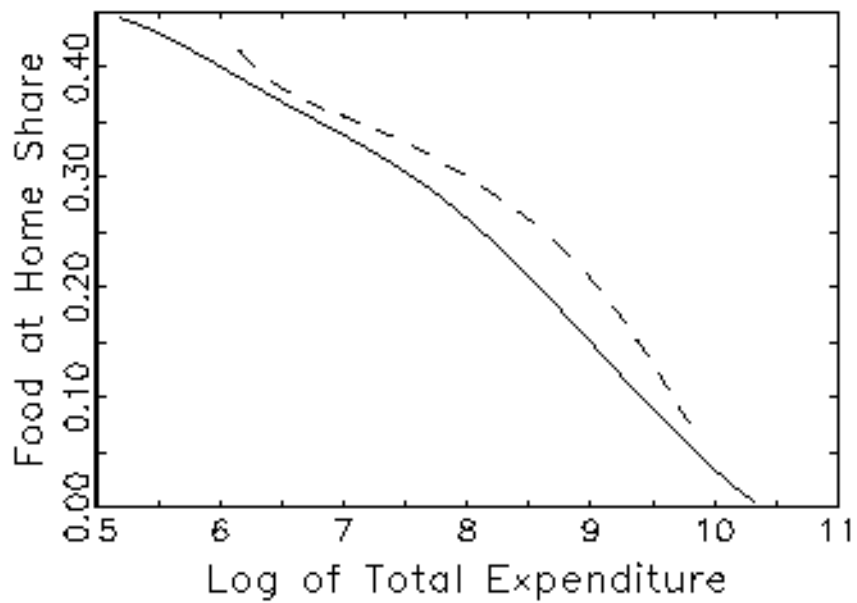


Table 2. Quality of Life

Household availability		Rural	Urban
Bath	Yes	98.58	98.73
		1.42	1.27
Potable Water	Yes	97.61	99.03
		2.39	0.97
Telephone	Yes	98.24	89.2
		1.76	10.8
VCR	Yes	51.81	47.95
		48.19	52.05
Air Conditioning	Yes	4.8	3.41
		95.2	96.59
Personal computer	Yes	19.08	10.84
		80.92	89.16
<b>Data Source</b>		<b>ISMEA</b>	<b>ISTAT</b>

Table 3 – Human Capital – Intergenerational Mobility of Educational levels

	Rural		Urban	
	Parents %	Child 14-25 %	Parents %	Child 14-25 %
Illiterate	1.30	0	9.38	0.41
No Education	8.48	0.88	33.28	3.43
Primary Education	39.22	6.18	26.44	47.23
Secondary Education	36.02	43.82	4.01	5.57
High School	12.67	46.76	19.98	41.98
Bachelor	2.32	2.35	6.91	1.39
<b>Data Source</b>	<b>ISMEA</b>		<b>Bank of Italy</b>	