

CHAPTER 8

REGIONAL PATTERNS OF STRUCTURAL CHANGE IN ITALIAN AGRICULTURE

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ABSTRACT

This chapter highlights some features of the current structure of Italian agriculture by focusing on the regional patterns of agrarian change. These patterns are followed mainly by comparing the data of the 5th and 6th Census of Agriculture and the data of holdings registered to the Chambers of Commerce. The analysis confirms the Northern-Southern dichotomy of Italian agriculture as the physical and economic dimensions of Northern regions' holdings are appreciably higher than those in the South. Other traits of farms, not usually included in most traditional analyses, help explain that Northern-Southern dichotomy: the farmers' educational level and the ICT availability on farms. The agriculture of Southern regions has been affected less by the structural adjustment and has maintained some traits of more 'traditional' farming. However, important innovations, such as organic farming and direct selling to 'consumers in house', have been adopted more readily by Southern farms. The marked regional duality of Italian agriculture corresponds to the several ways in which

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farmers and their activities interconnect with territorial development models that have shown a deep regional differentiation.

Keywords: Structural adjustment; regional patterns; Italian agriculture; innovation

INTRODUCTION

The objective of this chapter is to highlight some features of the current structure of the Italian agriculture by focusing on the regional patterns of agrarian change.

The chapter consists of four parts. The first part provides a description of the traditional indicators of the current physical structure of Italian agriculture, mainly by making use of the data of the 6th Census of Agriculture, and of its evolution by comparing these data with data from the 5th Census of Agriculture. The aim is to analyse the dynamics of some aspects of farm structures in order to assess their capacity of attracting resources into the sector.

Next, a more detailed description of the immaterial resources used in the Italian agriculture is provided by focusing on farmers' human capital and on the use of ICT, which are inputs of the innovative capacity of farms. Following this section, a detailed analysis of the different types of innovations is presented, comprising official innovation definitions to include as well the diffusion of geographically based certifications, the expansion of organic farming and agritourism.

The fourth part tackles the relationships of farms with agro-industry and also with final consumers. The aim of this section is to assess the presence and the size of new types of chain integration at a regional level. The set of features compiled throughout the chapter are considered particularly relevant indicators of the competitiveness of Italian farms in light of the future lowering of direct public support to agriculture. Finally, remarkable conclusions on agrarian regional differentiation in Italy are highlighted.

ITALIAN FARMS: SIZE, LAND PROPERTY, LEGAL STATUS AND MIX ORIENTATION

According to the figures of the Census of Agriculture in Italy, 1,620,844 farms (Table 1) were active in 2010. These farms use 12.9 million hectares

Table 1. Farms, Utilised Agricultural Area and Total Area by Geographical Area^a in 2000 and 2010.

Area	Farms		Variation	UAA		Variation	Total Area		Variation
	2000	2010		2000	2010		2000	2010	
	Number		%	Ha		%	Ha		%
North-West	22,0145	14,5243	-34.0	2,243,193	209,6985	-6.5	3,127,737	2,745,985	-12.2
North-East	367,052	251,859	-31.4	2,632,288	2,471,852	-6.1	4,003,085	3,538,563	-11.6
Centre	423,085	252,012	-40.4	2,435,200	2,191,651	-10.0	3,898,892	3,349,801	-14.1
South	929,514	691,281	-25.6	3,571,517	3,554,349	-0.5	4,683,196	4,426,634	-5.5
Islands	456,478	280,489	-38.6	2,299,662	2,541,211	10.5	3,053,985	3,020,116	-1.1
Italy	2,396,274	1,620,884	-32.4	13,181,859	12,856,048	-2.5	18,766,895	17,081,099	-9.0

Source: Istat, 6th and 5th Census of Agriculture.

^aThe correspondence between regions and geographical areas is the following: North-West: Piemonte, Valle d'Aosta, Liguria and Lombardia; North-East: Trentino Alto Adige, Friuli Venezia Giulia, Veneto and Emilia Romagna; Centre: Toscana, Marche, Umbria and Lazio; South: Abruzzo, Molise, Campania, Puglia, Basilicata and Calabria; Islands: Sicilia and Sardegna. See also the map in Fig. 1.

of land (Utilised Agricultural Area, UAA) which is only the 43% of the national territory, while the total farm area amounts to 17.1 million hectares.

The number of farms has substantially decreased (−32.4%) compared to the number registered in the previous census (2000). However, the reduction in UAA and in total farm area – due to the non-agricultural use of land or to the land abandonment – has been modest; 2.5% in the former and 9% in the latter.

As a result, the average size of Italian farms has increased and is equal to 7.9 hectares of UAA. This value is closer to the average farm size in the European Union (EU), which in 2007, was equal to 12.6 (Greco & Di Cristofaro, 2011).

The observed decrease in the number of farms has been weaker in the South of Italy (25.6% compared to a national average of 32.4%), and consequently has resulted in a higher concentration of farms in this geographical area, compared to the past. In fact, in 2000, 39% of Italian farms were located in the South of Italy while in 2010, this percentage was 43%.

The main structural dynamics emerging from the Census data show a process of land concentration. In terms of farm size, the decrease in the number of farms has been strong among farms of small and medium size with less than 30 hectares of UAA (Table 2), while those with more than 30 hectares have increased their presence both in absolute and in relative terms. The number of farms with more than 10 hectares of UAA was 252,419 in 2010, while the number of farms with more than 30 hectares of UAA was 85,617 in the same year.

Table 2. Farms and UAA by UAA Class in 2000 and 2010.

UAA Classes (Ha)	Farms				UAA			
	2000		2010		2000		2010	
	Number		Number	%	Number	%	Number	%
Without UAA	3,113	5,294	0.1	0.3				
<2	1,466,484	819,358	61.2	50.6	1,138,212	726,994	8.6	5.7
2–10	677,996	543,813	28.3	33.6	2,955,282	2,415,142	22.4	18.8
10–30	175,453	166,802	7.3	10.3	2,910,315	2,792,463	22.1	21.7
30–50	36,688	40,915	1.5	2.5	1,395,351	1,556,922	10.6	12.1
50–100	23,944	29,214	1.0	1.8	1,634,060	1,994,065	12.4	15.5
>100	12,596	15,488	0.5	1.0	3,148,639	3,370,461	23.9	26.2
Total	2,396,274	1,620,884	100	100	13,181,859	12,856,048	100	100

Source: Istat, 6th and 5th Census of Agriculture.

The average size of the farms has grown in all regions. The largest increases are recorded in the Islands (+79.8%) and in the Centre of Italy (+51.1%), where the average size reaches respectively 9.1 and 8.7 hectares of UAA by farm. Nevertheless, farms in the North continue to have the largest average size (14.4 hectares of UAA by farm in the North-West and 9.8 in the North-East). The lowest value is reported in the South (5.1 hectares by farm), where the lowest relative increase over the past decade also is registered (+33.8%). Therefore, the size of the farms in the Centre of Italy and in the Islands is closer to that of farms in the North, while the gap in relation to the size of the Southern farms is increasing.

Fig. 1 reports the map of Italian regions.



Fig. 1. The Italian Regions.

The process of land concentration affects all regions, although to a different degree. In Sardegna, Sicilia, Puglia and Abruzzo (Table 3), a decrease of the number of production units corresponds to a positive change in the UAA. The remaining regions, however, are characterised by negative changes in both the number of farms and the UAA; the process of land concentration is mainly due to a change in the number of farms, which is more negative than that in the UAA.

Table 3 shows the average farm size by region: the lowest farm sizes are in Southern regions as a result of different co-determinants, such as better pedo-climatic conditions, a weaker economic system and a less urbanised and more land-owner population (see Table 4), whose link with small plots is still strong.

Table 3. Percentual Variation in the Farms' Average UAA, Number of Farms and UAA by Italian Region (2010/2000).

Regions	Farms' Average UAA			Farms	UAA
	2000	2010	Var.	Var	Var
	Ha		%	%	%
Piemonte	10.1	15.1	49.6	-36.8	-5.4
Valle d'Aosta	12.0	15.6	30.3	-40.0	-21.8
Liguria	1.7	2.2	24.0	-45.4	-31.4
Lombardia	14.6	18.2	25.6	-23.5	-5.1
Trentino Alto Adige	8.1	10.3	27.3	-28.3	-8.8
Veneto	4.8	6.8	41.1	-32.4	-4.6
Friuli Venezia Giulia	7.2	9.8	36.1	-32.5	-8.2
Emilia Romagna	10.6	14.5	36.1	-30.8	-5.8
Toscana	7.1	10.4	47.0	-40.0	-11.8
Umbria	7.1	9.0	27.3	-29.9	-10.8
Marche	8.1	10.5	29.6	-26.1	-4.2
Lazio	3.8	6.5	71.0	-48.2	-11.4
Abruzzo	5.6	6.8	20.7	-12.8	5.2
Molise	6.8	7.5	10.5	-16.7	-8.0
Campania	2.5	4.0	60.6	-41.6	-6.2
Puglia	3.7	4.7	27.6	-19.3	3.0
Basilicata	7.1	10.0	41.7	-31.8	-3.4
Calabria	3.2	4.0	25.3	-21.0	-1.0
Sicilia	3.7	6.3	72.3	-37.1	8.4
Sardegna	9.5	19.0	99.8	-43.4	13.1

Source: Istat, 5th and 6th Census of Agriculture.

Table 4. The Percentage of UAA by Type of Land Property Deed in Italian Regions (2000 and 2010).

Regions	Only Ownership		Only Rent		Only Free Use		All Combinations	
	2000	2010	2000	2010	2000	2010	2000	2010
Piemonte	28	17	3	6	1	1	68	76
Valle d'Aosta	17	5	7	19	1	1	76	75
Liguria	40	28	3	6	4	2	53	65
Lombardia	23	17	8	12	1	1	67	70
Trentino Alto Adige	43	39	0	1	2	3	54	58
Veneto	36	26	4	5	1	6	59	63
Friuli Venezia Giulia	29	23	3	6	1	1	67	70
Emilia Romagna	30	24	7	9	0	0	62	66
Toscana	37	29	5	6	2	6	57	59
Umbria	38	30	4	10	1	0	57	60
Marche	35	25	5	8	1	4	60	62
Lazio	43	33	2	7	1	1	54	59
Abruzzo	42	33	2	5	1	1	55	62
Molise	36	29	2	3	2	3	60	64
Campania	40	30	2	7	2	2	56	62
Puglia	43	35	2	4	1	3	54	58
Basilicata	41	32	2	5	2	2	56	61
Calabria	44	37	2	4	3	2	52	57
Sicilia	43	31	2	7	1	3	54	59
Sardegna	34	26	4	8	2	2	60	64
North-West	26	17	6	9	1	1	68	73
North-East	34	27	5	6	1	3	60	64
Centre	38	29	4	8	1	3	56	60
South	42	33	2	5	2	2	55	60
Islands	39	29	3	7	2	2	56	61
Italy	37	28	4	7	1	2	58	63

Source: Istat, 5th and 6th Census of Agriculture.

Small economic farm sizes generally correspond to small physical farm sizes, but average economic results are very different at a regional level. Information on economic sizes are available from the EU FADN sample which reports the number of Italian farms by region and by standard production.¹ The universe is represented by the Italian farms which have a standard production higher than 4,000 €: there were 833,552 such farms in 2010.

Among these, the number of small farms, defined as the class of 4,000–25,000 th.s € of standard production, is quite high: 70% of the EU universe

of Italian farms in 2010. Even if small farms, as defined above, are more than two-thirds of total farms, they realise only one-third of the total value added. The highest percentage of small farms is observed in Calabria and the lowest in Piemonte.

Furthermore, small-sized farms have different farm family income²; on average, farm family income of the Italian small farms is 9,560 € in 2010, but it is more than twice this value for Valle d'Aosta (23,137 €) and Liguria (21,312 €). The lowest family farm income is observed in small farms in Emilia Romagna (5,004 €).

On the other hand, the higher regional percentage of large farms (>500 th.s € of standard production) is observed in Lombardia and Emilia Romagna; nevertheless, in many regions of Italy large farms are not even present (Valle d'Aosta, Liguria, Trentino Alto Adige and all Southern regions).

The correlation between the regional average farm size, reported in Table 3, and the regional average farm family income, derived from the FADN data, is quite high (around 0.60 in 2010).

Large-sized farms gather distinct farm resources through more modern and flexible contracts. This is the case of land because the percentage of sole property, as land property deed, has decreased in the last decade (Table 4), particularly in the North. All the other forms of land property deed have increased, and particularly sole rent has increased as a consequence of rent agreements which have been more flexible in length and rental fees (Greco & Di Cristofaro, 2011). 'Only ownership' is not diffused in Valle d'Aosta and Lombardia where only around 40% of farms follow this regime, while it is widespread in Calabria and Puglia, where more than 80% of holdings are only ownership.

A similar kind of reasoning can be conducted for farm capital as corporate management also is more widespread than in the past (Table 5): among the 859,808 Italian farms, registered to the provincial Chambers of Commerce in 2010,³ sole proprietorship is still the prevalent form, but corporations and cooperatives (or other partnership associations) are more widespread than in the past. The regions where corporations and cooperatives have grown more in terms of UAA are Valle d'Aosta (12%), Lombardia (11%), Emilia Romagna (11%) and Friuli Venezia Giulia (10%).

The regions where 'sole proprietorships' are less diffused among the holdings are Lombardia and Emilia Romagna.

Mix orientation has not substantially changed compared to the past (Greco & Di Cristofaro, 2011), confirming the process of geographical productive specialisation at a regional level, which is summarised in

Table 5. The Percentage of Farms by Legal Status in Italian Regions (2000 and 2010).

Regions	Corporations		Partnership Associations		Sole Proprietorships		Other Legal Forms	
	2000	2010	2000	2010	2000	2010	2000	2010
Piemonte	0.4	0.7	5.2	7.1	94	91	0.7	0.8
Valle d'Aosta	0.2	0.4	1.3	6.0	97	92	1.2	1.5
Liguria	0.5	0.7	2.4	4.6	96	93	1.3	2.0
Lombardia	1.9	2.8	17.6	19.1	79	77	1.4	1.2
Trentino Alto Adige	0.1	0.4	1.6	2.4	97	96	1.2	0.9
Veneto	0.5	1.3	7.2	11.2	92	87	0.7	1.0
Friuli Venezia Giulia	0.6	1.2	5.1	9.3	93	88	1.0	1.3
Emilia Romagna	0.8	1.4	9.8	13.9	88	84	1.2	1.2
Toscana	1.7	3.1	8.1	10.1	89	85	1.3	1.4
Umbria	1.1	1.9	7.1	10.4	91	86	1.1	1.3
Marche	0.4	0.9	6.2	8.9	93	89	0.9	1.0
Lazio	2.4	3.8	3.2	5.1	92	89	2.1	2.4
Abruzzo	0.5	0.9	1.7	2.9	97	95	1.0	1.1
Molise	0.2	0.5	0.9	1.3	98	97	0.8	0.9
Campania	0.7	1.7	1.0	1.5	96	95	2.0	2.1
Puglia	0.4	1.2	0.9	2.3	98	95	1.1	1.9
Basilicata	0.5	1.0	1.1	1.6	97	96	1.8	1.7
Calabria	0.7	1.2	2.3	2.2	94	93	2.7	3.5
Sicilia	0.5	1.1	1.5	2.8	95	92	2.6	3.9
Sardegna	0.4	0.9	3.7	6.1	95	91	1.3	1.9
North-West	1.0	1.6	9.6	11.7	88	86	1.0	1.1
North-East	0.6	1.2	7.2	10.6	91	87	1.0	1.1
Centre	1.5	2.7	5.9	8.2	91	88	1.4	1.6
South	0.5	1.3	1.2	2.0	97	95	1.5	2.0
Islands	0.5	1.0	2.0	3.7	95	92	2.3	3.4
Italy	0.8	1.5	4.8	6.7	93	90	1.4	1.8

Source: Unioncamere – Movimprese (www.infocamere.it/movimprese).

Table 6. Geographical productive specialisation is very marked and even sub-regional: for example, more than the 50% of national cows' milk production is realised in the the provinces of Lodi, Cremona, Mantova (Lombardia) and Parma, Reggio Emilia and Modena (Emilia Romagna). It is mainly devoted to the production of the PDO (Protected Designation of Origin) cheeses Grana Padano and Parmigiano-Reggiano. In the same provinces, pork production is concentrated, while poultry production is

Table 6. Regional Productive Specialisation.

Production	Regions
Common wheat	Piemonte, Emilia Romagna
Durum wheat	Puglia, Sicilia, Basilicata
Tomato	Emilia Romagna, Campania, Puglia
Flowers	Liguria, Toscana, Campamia
Apple	Trentino Alto Adige
Apricot	Campania
Peach	Emilia Romagna
Olive groves	Southern regions
Citrus trees	Southern regions
Table grapes	Puglia
Wine grapes	Sicilia, Puglia, Piemonte, Friuli Venezia Giulia, Veneto
Cow's milk	Lombardia, Emilia Romagna
Buffalo farming	Lazio, Campania
Pig meat	Lombardia, Emilia Romagna
Poultry	Veneto, Emilia Romagna
Ewe farming	Sardegna, Lazio
Goat farming	Sardegna, Calabria, Basilicata

Source: Fanfani (2009), Messori and Ferretti (2010).

concentrated around two processing poles: Verona (Veneto) and Forlì-Cesena (Emilia Romagna). Durum wheat is produced in the provinces of Foggia (Puglia), Caltanissetta (Sicilia) and Matera (Basilicata), while common wheat mainly is produced in the provinces of Alessandria (Piemonte) and Bologna (Emilia Romagna). Tomatoes mainly are produced in the provinces of Parma, Piacenza (Emilia Romagna), and Salerno (Campania) (Fanfani, 2009; Messori & Ferretti, 2010). At any rate, some new territorial specialisations are emerging from the Census data as energy crops are concentrated in the North.

This specialisation in process has been accompanied by the productive intensification in plains and an even more marked territorial concentration in the food and drink industry, giving birth to agro-food districts whose relevance, in some cases, is not limited to the local economy. In 2010, exports of four agro-food districts overcome 500 million €, three of them (wines from Langhe, Roero & Monferrato, Alba & Cuneo Confectionary, and Verona Wines) are located in the North of Italy and one (Processed Crops of Nocera Inferiore) in the South of Italy (Intesa San Poalo, 2011).

HUMAN CAPITAL AND ICT INVESTMENTS IN ITALIAN AGRICULTURE

Human Capital

Economic literature recognises human capital as a key factor of productivity growth. The existence of an efficient agricultural education system is crucial for an internationally competitive agriculture. In a knowledge-based and globalised economy, countries have to be fast in the adoption of new technologies, in order to gain competitiveness and be able to exploit national comparative advantages. In the food and agricultural sector, new technologies cannot be imported fully because country-specific natural conditions require country-specific education and research to adapt new technologies (Csaki, 1999).

The level of human capital in EU agriculture can be tackled by using as a proxy variable the percentages of farms' managers with full agricultural training, sourced from the Eurostat Farm Structure Survey conducted in 2005.

Table 7 reports the percentage of farmers with basic or full agricultural training for the EU-27 countries. The Italian rank is very low: it is the 21st country for the level of the variable.

Table 7. The Percentage of Farmers with Basic or Full Agricultural Training in 2005 in EU Countries.

Countries	% Farmers	Countries	% Farmers
Belgium	47.7	Luxembourg	55.9
Bulgaria	5.3	Hungary	13.4
Czech Republic	44.7	Malta	0.4
Denmark	44.5	Netherlands	71.5
Germany	68.5	Austria	48.1
Estonia	32.9	Poland	38.5
Ireland	30.7	Portugal	11.8
Greece	5.4	Romania	7.4
Spain	10.5	Slovenia	28.0
France	54.3	Slovakia	14.6
Italy	11.2	Finland	40.6
Cyprus	6.4	Sweden	33.6
Latvia	34.1	United Kingdom	23.2
Lithuania	30.9	EU-27	20.0

Source: Eurostat, Farm Structure Survey 2005.

A first explanation of this sharp difference is the different demand for higher skills in the national labour market and the way in which the degree and qualification structures are organised within countries. Some countries have not introduced the differentiation into two kinds of tertiary qualifications (OECD, 2003): qualifications at the tertiary-type B level (ISCED 5B) and qualifications at the tertiary-type A level (ISCED 5A). Tertiary-type A programmes are largely theoretically based and designed to provide qualifications for entry to advanced research programmes and professions with high skill requirements. Countries differ in the length and in the way in which tertiary type A studies are organised. This means that the percentage of farmers with tertiary education is not completely comparable between countries because the shares of the two kinds of tertiary qualification are different in the EU nations,⁴ and a low level of the tertiary graduates could mainly reflect a higher presence of the tertiary-type A level, to which correspond a higher number of education years. Countries like Germany, for example have a practical and agricultural-specific school programme for those who intend to become a farm manager. A second explanation is the effect of different farm structures and farm size distributions: big farms are more likely to be endowed by a high level of farmer's human capital but also, in a strongly polarised farm size distribution, any increase in the level of human capital in the few professional farms is hidden by the absence of increase or by the low increase in the level of human capital in the numerous marginal farms.

Table 8 reports the percentages of farmers by education levels and by regions in Italy in 2000 and 2010. The first observation is that the level of human capital has improved in 10 years. In 2010, 92,693 farmers have a bachelor qualification, of whom 11,528 are agricultural-specific and 81,165 not specific, and the percentage of farmers with a bachelor qualification has increased from 3.5% in 2000 to 6% in 2010.

However, by and large, the level of human capital is still low: as generally for Italy, the tertiary qualifications, both agricultural and non-agricultural bachelors, are not so diffused. The percentages of farmers with an agricultural-specific tertiary qualification in 2010 are higher in Lombardia, Emilia Romagna and Umbria. In Campania, this percentage has even decreased from 0.7% in 2000 to 0.4% in 2010.

A second observation is that Italian agricultural education system is not efficient as agricultural schools, at any level, are not attractive for farmers, and the percentages of farmers with a non-agricultural qualification are much higher than the percentage of farmers with an agricultural-specific qualification of the same level. The reasons of this low efficiency are

Table 8. The Percentages of Farms' Managers by Region and by Education Level in Italian Regions.

Regions	2000					2010				
	Primary	Agr. secondary	Secondary	Agr. bachelor	Bachelor	Primary	Agr. secondary	Secondary	Agr. bachelor	Bachelor
Piemonte	82.3	2.4	13.0	0.4	1.9	71.3	5.2	19.4	0.9	3.2
Valle d'Aosta	83.1	1.7	13.9	0.2	1.1	71.7	4.6	21.0	0.6	2.1
Liguria	79.0	2.0	16.2	0.3	2.5	63.7	2.7	28.0	0.5	5.1
Lombardia	77.7	4.4	14.5	0.9	2.5	65.1	7.9	21.1	1.5	4.5
Trentino Alto Adige	85.5	3.0	9.1	0.4	2.0	56.2	15.1	25.1	0.7	2.8
Veneto	80.7	3.5	13.6	0.4	1.9	77.8	4.4	14.6	0.6	2.5
Friuli Venezia Giulia	84.5	2.8	11.0	0.4	1.3	70.9	5.9	19.6	0.8	2.8
Emilia Romagna	77.0	5.0	13.8	1.1	3.1	68.6	7.2	18.3	1.4	4.5
Toscana	77.1	2.0	15.4	0.6	4.8	68.0	2.8	20.8	0.9	7.5
Umbria	73.6	1.7	18.8	0.7	5.2	62.4	2.8	25.8	1.2	7.8
Marche	79.9	2.0	14.1	0.5	3.5	76.0	2.7	15.5	0.7	5.0
Lazio	79.1	1.7	16.0	0.4	2.7	70.3	1.7	22.5	0.4	5.0
Abruzzo	83.4	2.2	11.6	0.4	2.4	71.7	2.4	20.6	0.5	4.8
Molise	83.0	1.4	12.8	0.3	2.5	73.7	2.6	17.9	0.6	5.3
Campania	83.8	1.8	11.3	0.7	2.4	73.7	1.7	19.1	0.4	5.1
Puglia	80.2	1.9	14.5	0.4	3.1	75.3	2.0	16.4	0.6	5.7
Basilicata	83.4	2.1	11.9	0.4	2.2	72.6	2.9	19.0	0.7	4.8
Calabria	79.9	1.7	15.1	0.4	2.9	73.5	2.6	17.8	0.6	5.5
Sicilia	79.9	1.7	13.7	0.5	4.1	70.4	2.3	18.7	1.0	7.7
Sardegna	85.6	1.8	10.2	0.5	2.0	78.8	3.2	13.5	0.9	3.6
Italy	80.6	2.2	13.7	0.5	3.0	72.1	3.3	18.6	0.7	5.3

Source: Own elaboration on Istat – 5th and 6th Census of Agriculture data.

several: substantially, the programmes of the agricultural-specific secondary schools have not been targeted to the training of a modern farmer and the competences supplied have not been perceived as sufficient and adequate (Maietta, 2004; Se.Ri.Fo., 2010). More recently, agricultural schools also have been affected by the general cutting of public expenditure for education.

A further relevant aspect of human capital relates to the age and the gender of farm managers and, for corporations or cooperatives, to the composition, in terms of age and of gender, of the corporate governance bodies (Table 9).

The percentage of women is still low but it has increased in all positions relevant for firm management in the Italian agriculture; on the contrary, the percentage of people 50 years old or more has not decreased in the decade.

More precisely, according to the Census data, in the intercensus period some improvement has been observed in the age class distribution of farm

Table 9. Age and Gender of Italian Farm Managers and Similar Positions in 2000 and 2010.

Position	2000	2010
<i>Male</i>		
Main owners	78.1	73.4
Co-op members/Other owners	6.1	7.8
Directors	10.6	15.0
Others	5.3	3.8
Total	100.0	100.0
<i>Female</i>		
Main owners	29.1	31.0
Co-op members/Other owners	30.5	33.1
Directors	15.1	19.0
Others	15.6	17.2
<i>Less than 30 years old</i>		
Main owners	4.2	3.7
Co-op members/Other owners	8.1	5.4
Directors	6.1	4.7
Others	6.4	1.3
<i>50 years old or more</i>		
Main owners	63.7	63.7
Co-op members/Other owners	46.4	51.6
Directors	46.6	51.7
Others	41.4	51.7

Source: Unioncamere – Movimprese.

managers as the percentage of farm managers in the age class 'less than 30 years old' is stable (2.1%) and the percentages of farm managers in the age classes '30 to 34' and '35 to 39' have increased (respectively, from 2.9% to 3.2% and from 4.9% to 5.5%). The reason for this improvement can be found in the effect of the public aids for young farmers, defined as less than 40 years old. The percentage of young farmers increased from 9.9% in 2000 to 10.9% in 2010 as a consequence of two effects: an increase in the entry of farms held by young farmers, and a lower exit of farms with the same characteristics.⁵

The presence of young farmers is higher in the Southern regions: [Pierri \(2013\)](#) analyses the percentage of youth-run farms from Movimprese source in 2012. More particularly, Movimprese defines a business as 'youth-run' when the percentage of persons 35 years old or less in the corporate governance bodies is more than 50%. The percentage of youth-run farms in the Italian agriculture was 6.7% in 2012 but this percentage was around 14% to 15%, in decreasing order, in Calabria, Campania, Sicilia and Puglia due to a younger population and to the weaker economic situation.

Information and Communication Technology (ICT) Investments in Italian Agriculture

ICT investment in the Italian agriculture, even if increased compared with the last census ([Cioffi & Gorgitano, 1998](#)), is still very low: only 60,945 farms own ICT in 2010. They represent the 3.8% of total farms.

Generally, the ICT use is multi-purpose (see Table 10), in any case the three motivations are, in decreasing order: administrative duties, crop management and livestock management; 26,254 Italian farms use ICT for electronical sales (selling and purchasing).

The number of ICT-owning farms is higher in the North-West (10.9%) and very low in the South (1.3%). Twenty-five per cent of Italian holdings with Information and Communication Technology (ICT) are in only two regions: Lombardia and Emilia Romagna. In particular, Lombardia is the region with the highest number of farms owning ICT for administrative duties, livestock management and e-commerce, and Emilia Romagna is the region with the highest number of ICT-owning farms for crop management.

Toscana is the region with the highest number of farms using ICT for a farm homepage (due to the huge presence of agritourism farms), for electronical selling and simply for Internet use.

Table 10. The Number of Italian ICT-Owning and ICT-Using Farms by Region in 2010.

	With ICT	With ICT for			Using Internet	With Homepage	Electronic Selling	Electronic Purchasing
		Administrative duties	Crop management	Livestock management				
Piemonte	5994	4638	2031	1475	1599	2572	808	1313
Valle d'Aosta	259	222	55	58	137	92	51	126
Liguria	1205	1038	423	57	527	648	253	425
Lombardia	8322	5833	2521	3401	1747	2568	806	1472
Trentino Alto Adige	4889	3098	2214	721	1356	2325	793	795
Veneto	6493	4797	2452	1707	1288	2807	704	1037
Friuli Venezia Giulia	1946	1517	826	465	527	802	261	443
Emilia Romagna	7084	4994	3130	1521	1670	2252	833	1368
Toscana	4292	3650	1490	450	2141	4559	1515	1433
Umbria	1384	1160	567	273	675	1071	472	481
Marche	1472	1153	563	262	520	1097	334	388
Lazio	3005	2203	1347	580	1387	1283	728	1200
Abruzzo	898	726	349	183	446	577	260	377
Molise	385	289	144	95	168	264	63	142
Campania	2585	2140	1058	512	880	1201	519	740
Puglia	2798	2317	1153	277	997	1535	596	773
Basilicata	856	688	374	219	365	340	178	327
Calabria	1391	1219	598	226	585	600	348	520
Sicilia	3709	3132	1447	531	1401	1581	881	1128
Sardegna	1978	1502	720	551	1041	869	462	901
North-West	15780	11731	5030	4991	4010	5880	1918	3336
North-East	20412	14406	8622	4414	4841	8186	2591	3643
Centre	10153	8166	3967	1565	4723	8010	3049	3502
South	8913	7379	3676	1512	3441	4517	1964	2879
Islands	5687	4634	2167	1082	2442	2450	1343	2029
Italy	60945	46316	23462	13564	19457	29043	10865	15389

Source: Istat, 6th Census of Agriculture.

It is clear that Italian farmers do not use ICT as a tool for communication, as more traditional tools are prevalent. A possible and partial explanation is the presence of bad infrastructure in rural areas (Se.Ri.Fo., 2010).

INNOVATIVE CAPACITY OF ITALIAN FARMS

Innovation in Italian Agriculture

Information on the number of Italian innovative farms is scarce. The 'Osservatorio sull'innovazione nelle imprese agricole' of Agrisole2000 in Bologna collects information on this subject through a sample of farms defined as professional. The criterion is that the farmer is full-time (2,220 hours per year) and earns, after social security pro-rata payments and without public subsidies, at least the gross compensation of a manager in the food and drink industry (which is at minimum 35,000 €). In 2010, the farms defined as such have been estimated by 'Osservatorio sull'innovazione nelle imprese agricole' to be around 120,000 and represent 14% of Italian farms registered with the local Chambers of Commerce. Farms able to become professional are estimated to be one-third of Italian farms, registered with the local Chambers of Commerce, while the remaining ones are considered marginal by the 'Osservatorio sull'innovazione nelle imprese agricole'; they are one-half of the farms registered to the local Chambers of Commerce.

The survey in 2010 of a sample of 1,200 farms, revealed that 29% of farms introduced innovation in that year. This percentage was 61% in 2007, 38% in 2008 and 35% in 2009.

Fig. 2 reports the kind of innovation introduced by the Italian professional farms in 2010. Most of them still innovate through the introduction of new machinery, equipment and plants. Agro-energy, particularly photovoltaic energy, is the second important source of innovation for Italian professional farms.

The source of finance for innovation is represented by banks. In 2009, 83% of innovative farms have been financed by banks, 72% of them have a debt with a bank, the amount of which is higher than half of the investment. Among the other finance sources used for the rest of the investment, 40% of farms self-finance it, 30% use public aids, particularly from the Rural Development Plans, 26% use both self-financing and public aids, and the remaining 4% are financed totally by banks (Agrisole2000, 2009a, 2009b).

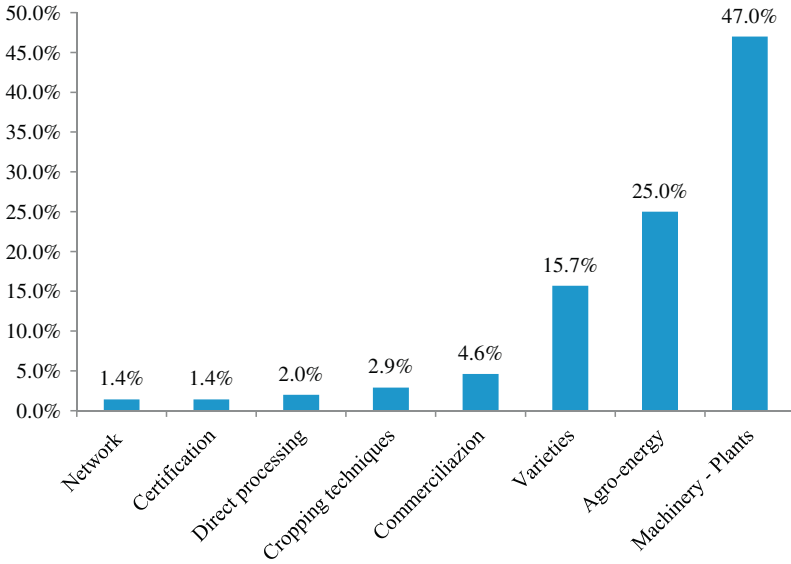


Fig. 2. The Innovation Adopted by Italian Professional Farms in 2010. *Source: Gardini and Lazzarin (2011).*

Farms which have not introduced innovation declare that it was their deliberate choice not to innovate (45%) or they encountered problems for credit rationing (28%), market instability (18%) or bureaucracy burden (6%).

The networks useful for innovation are still traditional (De Devitiis, Lopolito, Maietta, & Sisto, 2009): only 28% of farms state that they have stable relationships with other firms, universities or public research labs. Even the ties with cooperatives are weak: among the farm members of cooperatives, only 15% know whether their own cooperative has introduced initiatives to increase its own and its members' profitability.

In synthesis, the percentage of innovative farms in 2010 was equal to 4% of the total number of Italian farms, registered to the Chambers of Commerce, and to 2% of the total number of Italian farms, reported by the Census of Agriculture.

A low percentage of innovative farms of the total number generally is justified by the consideration that agricultural firms are less dynamic than those of the other sectors. For example, Becattini (2000) states that the

benefits stemming from innovation are less appropriable in agriculture because production occurs outdoors and can be witnessed publicly, and the dynamics of the decomposition of productive process into very specialised and separate phases, which can be quickly converted towards the market-driven direction, is slowed in agriculture by technical and socio-cultural peculiarities. The socio-cultural determinants of lower dynamism in agriculture are: the habit to a less-quickly changing demand, the sense of belonging to an area, the major role of hierarchic relationships with respect to market relationships, the constraint of land property which blocks social and professional mobility within an area and prevents land consolidation. Spatio-temporal analysis confirms the presence of neighbourhood effects on the adoption of innovation in agriculture (Nyblom, Borgatti, Roslakka, & Salo, 2003). Pilati (2006) emphasises that the immobility of farm fixed assets implies a very high firm-specific investment in human capital which prevents plant delocalisation and transfer of the firm with its knowledge stock. Workers' skills are firm-specific because of the spatial dispersion of agricultural activities and of the seasonal diversification of tasks during the year.

All these factors, which can be used to explain a low presence of over-technologised farms, also could represent the determinants of the choice of other innovative patterns, linked to the local specificity of the new rural economy and accessible to small-sized farms (Brunori, Rossi, Cerruti, & Guidi, 2009).

The Italian Products of Designated and Guaranteed Origin

By and large, Italian foodstuffs have been associated with high-quality products worldwide. As Parrott, Wilson, and Murdoch (2002) identified, Italy is a clear example of South European food culture and agricultural production, which strongly associates quality with place, artisanal elaboration and tradition. Italy is the EU country with the greatest number of products of certified origin (Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI)). Generally speaking, it can be said that the local culture of food is very strong and still represents the basis of regional identification as a consequence of the historical fragmentation of the Italian territory, where the cities have always been important markets for the peri-urban farm production (Dickie, 2007). This strong food culture is reflected in the birth of important citizen movements, like

Slow Food, the Solidarity Purchasing Groups (in Italian, Gruppi di Acquisto Solidale or GAS) or Libera, a non-profit association which contributes to the diffusion of a culture of legality in agricultural areas, fallen prey to organised crime, through the reuse with social aims of land belonging to criminal organisations after its confiscation (Ascione & Scornaienghi, 2009).

In this regard, many academic works have tackled the qualification process of Italian agrarian production from different perspectives. From the production side, many studies have tackled how farmers embed their products in specific territorial attributes and build up direct relationships with consumers through short food supply chains (Brunori & Rossi, 2000; Ventura & Milone, 2000). These analyses have mostly contributed to expand and underpin formulations on the new rural development paradigm (Kanemasu & Sonnino, 2009; Van der Ploeg, 2000, 2008). More recent works have tackled the consumption side, being particularly focused on the innovative Solidarity Purchasing Groups (Brunori, Rossi, & Guidi, 2012; Fonte, Eboli, Maietta, Pinto, & Salvioni, 2011). In a more comprehensive study, the importance of food in Italian identity has been shown through the analysis of the evolution of food discourse in Italy, showing the progressive integration of long-established food quality meanings with the food security framework (Brunori, Favilli, & Rossi, 2013).

The products of designated and guaranteed origin are not equally geographically distributed in the EU because the countries bordering the Mediterranean Sea have a clear advantage in terms of product number and variety. In fact, five countries (Italy, France, Spain, Portugal and Greece) account for nearly 80% of European PDO and PGI. In particular, Italy, with a total of 246 PDO and PGI, holds the record. Most are fruit, vegetables and cereals, cheese, oils and fats and prepared meats (Table 11).

Italian geographical indications are concentrated in few Italian regions: 47% of PDO and PGI are in five regions (Veneto, Emilia Romagna, Lombardia, Sicilia, and Toscana) with a different product specialisation. Cheeses are found in mostly Lombardia, Piemonte and Veneto, prepared meats in Emilia Romagna and Lombardia, oils and fats in Sicilia, Toscana, Campania and Puglia while fruit, vegetables and cereals are particularly present in Veneto, Sicilia, Campania and Emilia Romagna.

From an economic point of view, concentration is even stronger as 62% of turnover, evaluated at production prices, realised for PDO and PGI products in 2010, is due to two PDO cheeses (Grana Padano and

Table 11. Number of PDO and PGI Products, DOCG^a, DOC^a and IGT^a Wines by Italian Region.

Regions	PDO – PGI ^b						DOCG ^d	DOC ^d	IGT ^d
	Fruit vegetables and cereals	Oils and fats	Cheese	Prepared meats	Other products ^c	Total	Wines		
Piemonte	5		9	4	1	19	16	40	
Valle d'Aosta	0		2	2		4		1	
Liguria	1	1			1	3		8	4
Lombardia	2	2	12	10		26	5	21	15
Trentino Alto Adige	3	1	5	2	0	11		10	5
Veneto	17	2	8	7	1	35	14	26	8
Friuli Venezia Giulia	1	1	1	3		6	4	10	3
Emilia Romagna	11	2	5	12	5	35	2	17	9
Toscana	8	5	2	4	5	24	11	36	5
Umbria	2	1	1	2	1	7	2	12	6
Marche	2	1	2	4	1	10	5	15	1
Lazio	7	4	3	4	5	23	3	26	6
Abruzzo	2	3		1	2	8	1	6	7
Molise	0	1	2	1	2	6		4	2
Campania	11	5	3		2	21	4	15	9
Puglia	6	5	3		2	16	4	22	5
Basilicata	4	1	3		1	9	1	3	1
Calabria	5	3	1	4	2	15		9	9
Sicilia	14	6	4	1	2	27	1	20	7
Sardegna	1	1	3		2	7	1	15	15
Italy ^b	98	43	44	36	25	246	73	330	118

Source: MIPAAF, 15 December 2012.

^aSituation updated to July 2012.

^bSome products belong to more than one region, therefore, the sum of the DOP/IGP by regions does not match the total for Italy.

^cBread, honey, cheese, spices, vinegars, meats, fish, and non-food products.

^dThe national totals for DOC and IGT wines are lower than the sum of the regional totals because some wines are inter-regional.

Parmigiano Reggiano) and to two PDO hams (Prosciutto di Parma and Prosciutto San Daniele) (Vieri, 2012).

Italy is second in the EU, after France, for the number of PDO wines (Italian DOCG and DOC) and PGI (Italian IGT) and it is third, after Spain and France, for area cultivated with PDO and PGI vineyards.

The area under PDO in Italy was 272,433 ha in 2010, nearly 40% of the total area planted with vineyards. By adding the area cultivated with PDO and PGI vineyards, the share of quality grape is growing by more than 70%, still far from Spain and France, whose PDO and PGI vineyards' area reaches and exceeds 90% of total vineyards' surface area (Inea, 2012).

Italy is the second leading wine producer in the world, after France. The production of wine labelled with a PDO amounted to 15.743 million hectolitres, which represents almost 34% of the total wine produced in Italy in 2011 (Inea, 2012). Wine is the most important item of the Italian agrifood trade balance; in the years 2009 and 2010, Italian wine exports were respectively 3.6 and 4 billion € (Vieri, 2012).

PDO wines (especially red) represented more than half of the wine exports' value, with a total value of over 2 billion € realised in 2011 (Inea, 2012). In terms of hectolitres, the first PDO wine producers in 2010 in Italy have been, in decreasing order, Veneto, Piemonte and Toscana. The first PGI wine producers have been, in decreasing order, Veneto, Emilia Romagna and Sicilia (Vieri, 2012).

Both for wines as for other designated and guaranteed origin items, the productive concentration in the Northern regions is strong.

Other typical Italian food and beverage products are the ones labelled under the *Prodotto agroalimentare tradizionale (PAT)* scheme, which is only applicable within Italy and varies from one region to another, as summarised in Table 12.

These products are not protected through a trademark, as the previous ones, but simply are listed by the Ministry of Agriculture, through the information supplied by the regional administrations. The first classification, made in 2000, registered 2000 PAT. The aim of the classification is to preserve the knowledge of the local production techniques. In decreasing order, the most represented PAT are the bread and bakery products, the vegetable products, the meat products and the cheese. Some PATs are produced in the Slow Food Presidia (Fonte, 2006; Petrini, 2009), which are small producers' associations whose aim is to preserve traditional production techniques, biodiversity, local culture and identity, which are at risk of disappearing. In Italy, they are 223 of a total of 400 all over the world in 2012 (Slow Food, 2012).

Table 12. Number of Traditional Food and Beverage Products (PAT) by Italian Region in 2012.

Regions	
Piemonte	363
Valle d'Aosta	32
Liguria	295
Lombardia	242
Trentino Alto Adige	201
Veneto	370
Friuli Venezia Giulia	150
Emilia Romagna	285
Toscana	465
Umbria	69
Marche	150
Lazio	383
Abruzzo	147
Molise	159
Campania	370
Puglia	231
Basilicata	77
Calabria	269
Sicilia	234
Sardegna	178
Italy	4606

Source: MIPAAF, National List of Traditional Agro-food Products, 12th revision 17 June 2012.

Organic Farming in Italy

While production of designated and guaranteed origin products is concentrated in the North of Italy, the organic production is concentrated in the Southern regions.

In 2010, 37 million hectares of land were devoted to organic farming in the world. Italy covers 3.4% of this land, representing one of the top 10 producers in the world and is the leader in Europe, after Spain.

According to the 6th Census of Agriculture (Table 13), organic farmland has assumed a growing share in the Italian agriculture in the last decade, from 7.9% of UAA in 2000 to 9.7% in 2010. The number of organic farms accounted for 2.8% of total farms in 2010, as compared to 2.1% 10 years earlier.

Sicilia, with 229,204 organically cultivated hectares and Puglia, with 158,366 hectares, continue to be the regions most involved in this method

Table 13. Organic Farming as Share of Total Farms and Total UAA by Region, 2010.

Regions	Farms	UAA
Piemonte	3.0	4.4
Valle d'Aosta	2.1	3.3
Lombardia	1.9	8.9
Liguria	1.7	2.5
Trentino Alto Adige	2.9	2.3
Veneto	0.9	2.8
Friuli Venezia Giulia	1.3	2.5
Emilia Romagna	3.7	9.5
Toscana	3.4	10.3
Umbria	3.5	11.8
Marche	4.2	11.1
Lazio	2.8	12.5
Abruzzo	2.2	7.9
Molise	0.7	2.5
Campania	1.3	3.5
Puglia	1.9	12.3
Basilicata	6.2	20.3
Calabria	4.9	24.0
Sicily	3.6	16.5
Sardegna	2.6	9.1
Italy	2.8	9.7

Source: Istat, 6th Census of Agriculture.

of production. However, in Calabria, Basilicata, Lazio and Sardegna, the share of land involved in organic farming of total regional UAA is more important in relative terms. The territorial specialisation of the Southern regions in organic farming production can be explained by the regional public support given to this kind of production (Zanoli, 2007), by independent private initiatives (Milone, 2004) and by better climatic conditions.

Agritourism in Italy

Agritourism in Italy has experienced rapid growth and is different from the rural tourism widespread in other European countries because the link with the agricultural activities is prevalent: actually, agricultural activities must be predominant in respect to the tourism activities in order to receive public, national and regional, aids for this initiative.

The first Italian initiatives in the field of agritourism date back to the 1960s: the first and the largest national agritourism organisation in Italy, Agritourist, was created in 1965, but it is only during the 1980s that these initiatives became widespread, particularly in Trentino Alto Adige and Toscana. In these regions, which display the highest number of agritourism farms (36% of Italian agritourism holdings in 2010), their presence is capillary and historically rooted: in 1973 the Autonomous Province of Trento passed the first law in favour of agritourism farms.

From the supply side (Table 14), distinctive local diversity in farm and rural cultures and the entrepreneurship of Italian farmers have been cited as the determinants of agritourism development in Italy (Ohe & Ciani, 2012). From the demand side, the crisis of the mass-tourism demand, the choice of alternative locations and the emergence of new markets segments (i.e. educational services provided to school pupils) have worked towards the development of the agritourism market.

Table 14. Number of Agrotourism Farms in Italian Regions by Year.

Regions	1998	2001	2003	2004	2005	2006	2007	2010
Piemonte	180	515	515	619	761	772	882	1068
Valle d'Aosta	49	53	53	54	56	58	57	59
Liguria	288	279	279	347	339	361	368	488
Lombardia	907	914	914	1021	990	1050	1064	1412
Trentino Alto Adige	3944	3639	3639	3797	3816	3259	3071	3517
Veneto	766	914	914	962	1044	1148	1198	1120
Friuli Venezia Giulia	245	365	365	391	423	450	443	516
Emilia Romagna	927	880	880	932	1069	761	809	1005
Toscana	1512	3111	3111	3383	3527	4009	3977	3487
Umbria	440	672	672	656	890	952	1026	1229
Marche	312	431	431	516	537	681	747	683
Lazio	231	877	877	890	487	666	552	747
Campania	132	608	608	666	729	753	750	849
Abruzzo	311	458	458	526	459	535	600	540
Molise	21	68	68	74	78	82	82	97
Puglia	302	203	203	203	207	265	257	390
Basilicata	238	270	270	259	249	240	236	257
Calabria	113	266	266	299	313	330	461	488
Sicilia	155	323	323	332	342	396	422	679
Sardegna	385	567	567	593	393	656	718	673
Italy	11458	15413	15413	16520	16709	17424	17720	19304

Source: Istat (2008, 2009) and 6th Census of Agriculture.

Agritourism farms are mostly located in hills and in mountains, and only 15% of the total are in plains.

More than one-third of agritourism farmers are women, and are particularly concentrated in Toscana, where 25% of Italian female agritourism managers can be found.

Farms that offer rooms or apartments are concentrated in the North and in the Centre of Italy, while farms with restaurants are mainly located in the North and in the South of Italy (ISTAT, 2012).

THE SUPPLY CHAIN OF ITALIAN AGRICULTURAL PRODUCTS

According to the 6th Census data, 1,037,211 Italian farms sell their production in 2010, while 583,673 farms (36% of total farms) do not sell but self-consume their production.

The prevalent channels of product sale for Italian farms is still represented by wholesalers and farmers' associations or cooperatives, used respectively by 33% and 24% of Italian farms (see Table 15). Associations or co-ops are the prevailing channel in the North-East, where co-ops are historically more widespread.

New channels are emerging: 22% of Italian farms sell directly to consumers, in-house or in farmers' markets, particularly in the Centre and in the South of Italy. The regions where direct selling to 'consumers in house' are higher are Calabria, Campania, Liguria, Abruzzo and Toscana.

Recent short supply chains are those realised through the 'citizens-consumers' organised in Solidarity Purchasing Groups, which buy food products directly from farms. The number of these groups registered to the 'retegas' network⁶ were only two in 1994, while their current number is 909 (Fig. 3).

According to the figures of [Biobank \(2012\)](#), the regions, with a higher number of GAS, are Lombardia (273), Toscana (110), Emilia Romagna (87), Veneto (82) and Lazio (76), which represent two-thirds of the total number of GAS, registered in 2011.

The scarce presence of GAS in the Southern regions can be explained by their lower urbanisation and their higher presence of consumers, buying directly and individually from farms.

Taking into account that the average annual purchase per group for the Solidarity Purchasing Groups interviewed in Rome was 31,000 € in 2010

Table 15. The Percentage of Farms by Channel of Products Sales in Italian Regions in 2010.

Regions	Other Farms	Associations Co-ops	Consumers in Markets	Consumers in House	Manufactures	Wholesalers
Piemonte	16	17	7	12	10	37
Valle d'Aosta	36	28	3	12	5	16
Liguria	7	13	9	26	7	37
Lombardia	22	16	6	16	13	27
Trentino Alto Adige	6	64	3	8	7	13
Veneto	14	34	2	6	7	36
Friuli Venezia Giulia	12	40	3	10	3	32
Emilia Romagna	19	38	3	9	9	22
Toscana	12	31	7	24	4	21
Umbria	12	25	7	22	6	28
Marche	11	22	5	16	7	39
Lazio	14	24	9	21	9	22
Abruzzo	14	22	7	25	4	29
Molise	15	13	6	11	12	44
Campania	15	9	6	27	8	34
Puglia	7	28	5	6	18	36
Basilicata	10	21	7	13	5	44
Calabria	5	6	12	45	9	23
Sicilia	9	19	10	10	7	45
Sardegna	9	21	8	16	19	27
North-West	18	17	7	15	11	33
North-East	14	40	3	8	7	28
Centre	12	26	7	21	7	27
South	10	18	7	20	12	33
Islands	9	19	9	11	10	41
Italy	12	24	7	15	10	33

Source: Istat, 6th Census of Agriculture.

(Fonte et al., 2011), the economic size of these groups can be considered to be of some relevance.

Also, farmers' markets have become successful in Italy only in the last few years, mostly by the initiative of Coldiretti, the main association of Italian farmers. Similar initiatives are organised by organic farmers: the 'bio' markets (213 in 2011, according to Biobank), particularly present in the North and in the Centre of Italy.⁷

Figs. 4 and 5 report the number of Coldiretti's farmers markets by regions and by category of products sold in 2012. The farmers' markets are

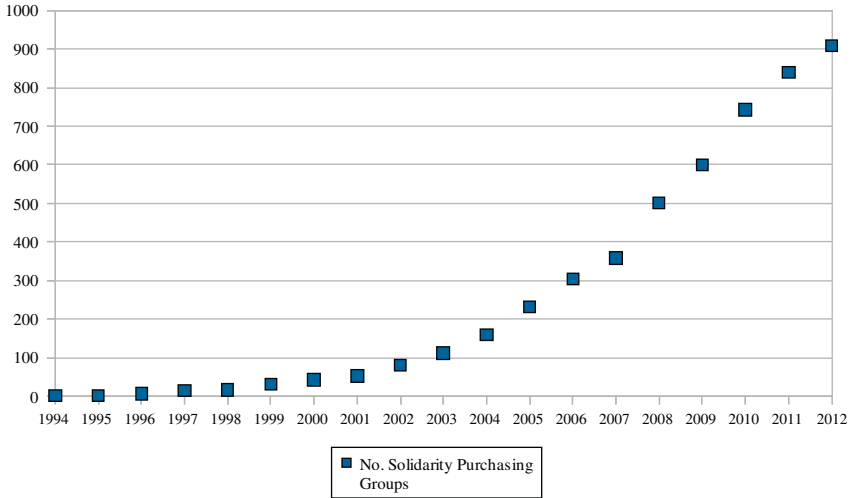


Fig. 3. The Evolution of Solidarity Purchasing Groups in Italy.

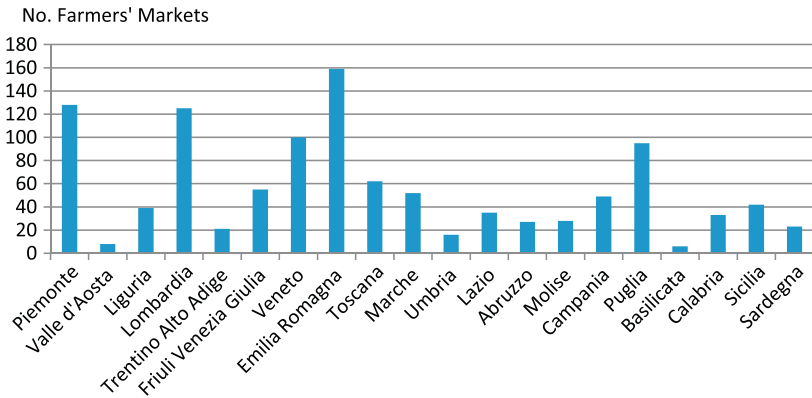


Fig. 4. The Number of Coldiretti Farmers' Markets by Italian Region in 2012.
Source: Coldiretti.

widespread, particularly in the big cities and in the North, and the categories of most sold products are fruit and vegetables, cheese, wine and vinegar. The main consumer motivations of the purchase at the farmers markets are freshness, quality and price (Vecchio, 2009, 2010).

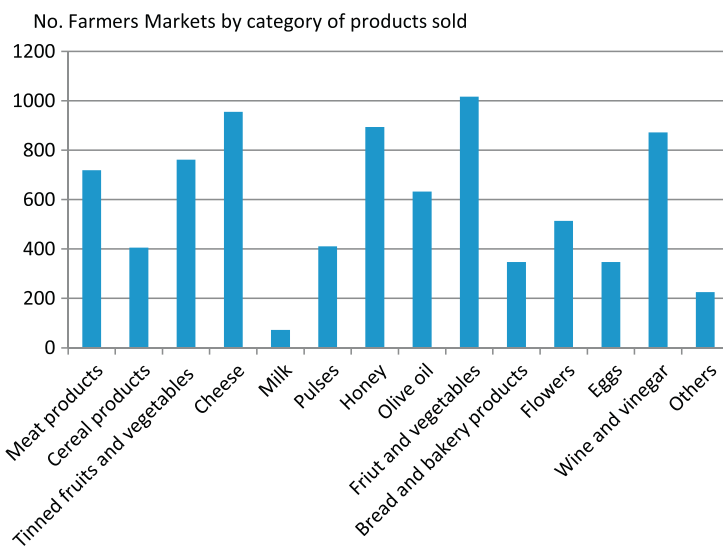


Fig. 5. Number of Coldiretti Farmers' Markets by Category of Products Sold in 2012. *Source:* Coldiretti.

CONCLUDING REMARKS

The 6th Census of Agriculture of 2010 confirms the Northern-Southern dichotomy of Italian agriculture. In addition, the differences become more accentuated due to the considerable structural adjustment that has led to the disappearance of almost one-third of holdings in the period 2000 to 2010.

Northern regions' holdings continue to have physical and economic dimensions appreciably higher than those from the South (e.g. 18.2 hectares UAA in Lombardia and only 4.0 hectares in Calabria or Campania). They show more diffusion of land renting and of mixed tenancy regimes. 'Only ownership' particularly decreases in Valle d'Aosta and Lombardia, where only around 40% of farms are sole property. Other forms of legal status – corporations and associations (21.9% of Lombardia's holdings and 15.3% of Emilia Romagna's ones) also are more diffused.

Globally, the agriculture of Southern regions has been less affected by the adjustment (reduction of 25% of farms and UAA stable) and maintains some traits of more 'traditional' farming; that is to say, smaller farms, lower diffusion of land renting (e.g. in Calabria and Puglia more than 80% of holdings own land by only ownership) and of legal status forms other than

sole proprietorship. However, youth-run farms are relatively more diffused in Southern regions.

Central regions, which show intermediate values for that set of structural characteristics, are precisely where the adjustment has been more intense in the inter-census period: 40% of farms have disappeared and the UAA has dropped 10%. This more accentuated process could be due to the mountainous character of these regions.

Also, other traits of farms, not always included in most traditional analyses, explain that Northern-Southern dichotomy. This is the case of farmers' educational levels (defined as the percentage of holders having beyond primary level), that reaches the highest values in Northern and Central Regions (in decreasing order: Trentino Alto Adige, Umbria, Liguria, Lombardia, Toscana and Emilia Romagna). In addition, ICT availability in farms is more frequent in the North (25% of Italian holdings with ICT are in only two regions: Lombardia and Emilia Romagna).

Regarding the quality designations (PDO and PGI), although they are found in all the regions, they are more frequent and economically larger (in terms of turnover) in the North and Centre of Italy, where they are located in important agrifood clusters. Another element of innovation and diversification of holdings, agritourism, is growing in the whole country, but again only two regions (Trentino Alto Adige and Toscana, where these initiatives stemmed earlier) concentrated 36% of agritourism holdings in 2010 (48% in 1998).

On the contrary, Southern regions lead in two examples of innovation in farming practices. On the one hand, two regions from the South (Calabria and Basilicata) lead in organic farming, with more than 20% of UAA enrolled in this productive model, while in absolute terms and in decreasing order, Sicilia, Puglia, Calabria, Sardegna and Basilicata have more hectares cultivated thusly in Italy. The other comparatively strong point of Southern regions is the development of short food supply chains, particularly in the case of direct selling to 'consumers in house' (45% of Calabria's farms used this channel, followed by Campania (27%) and Abruzzo (25%)). Other forms of direct selling (like the farmers' markets organised by Coldiretti) are more extended in the North (Emilia Romagna, Lombardia and Piemonte).

The analysis carried out in this paper has tried to show the interconnectedness among some structural characteristics of Italian agrarian holdings, the penetration of several forms of innovation and some elements related to commercialisation and product differentiation. This interconnectedness has been shown to be complex and requires further research to identify clearly the nature of the relationships among those and other

variables. Furthermore, the marked regional duality of Italian agriculture responds to several ways in which farmers and their activities inter-connect with territorial development models that also show a clear regional differentiation.

NOTES

1. It is used to measure economic size since 2010.
2. Farm family income is defined as the value of farm net value added less the total external costs for wages, rent and interest paid.
3. The registration with the Chambers of Commerce is necessary in order to be exempted from agricultural fuel taxes. Generally, small farms are not registered: in 2010, the Italian farms registered to the provincial Chambers of Commerce were 53% of the farms registered by the Census of Agriculture.
4. For example, the share of the tertiary-type A level graduates on the total tertiary graduates in Agricultural Sciences was equal to 36% in Germany and to 82% in Spain (OECD, 2003).
5. The correlation between the number of farms, registered to the Chambers of Commerce during the 2000–2010 period, with the dummy ‘farm manager less than 40 years old’ is 0.42 while the correlation between the number of farms, cancelled from the Chambers of Commerce during the same period, with the dummy ‘farm manager less than 40 years old’ is -0.37 .
6. <http://www.retegas.org>
7. 36 in Emilia Romagna, 35 in Lombardia, 30 in Veneto and 24 in Toscana.

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