Analysis of the impact of decoupling on two Mediterranean regions

Lobianco, Antonello and Roberto, Esposti

IDEMA research project

September 2006

IDEMA

Analysis of the impact of decoupling on two Mediterranean regions

IDEMA DELIVERABLE No. 25 - SEPTEMBER 2006[1]

Antonello Lobianco and Roberto Esposti
Department of Economics, Polytechnic University of Marche
Piazzale Martelli 8, 60121 Ancona (Italy)
Phone: +39.071.2207106; +30.071.2207119
Fax: +39.071.2207102
E-mail: a.lobianco $a.t$ univpm.it r.esposti $a.t$ univpm.it

[1]This paper is part of the IDEMA research project ("The Impact of Decoupling and Modulation in the Enlarged Union: a sectoral and farm level assessment"), funded by European Commission under the 6th Research Programme.
An electronic version of this paper can be downloaded from the IDEMA website http://www.sli.lu.se/idema/idemahome.asp. We wish to thank Franco Sotte, Simone Severini, Kathrin Happe, Konrad Kellermann and Sahrbacher Christoph for providing suggestions and materials on several parts of this paper.
Authorship may be attributed as follows: sections 2 to 5 to Lobianco, sections 1 and 6 to Esposti.

Contents

Abstract

AgriPoliS is a multi-agent mixed integer linear programming (MIP) model, spatially explicit, developed in C++ language and suitable for long-term simulations of agricultural policies. Once extended to deal with typical characters of the Mediterranean agriculture, AgriPoliS is used in this paper to describe the implementation of alternative policy scenarios and to apply them to two regions located in Central and South Italy. Results suggest that the effects of decoupling policies in the Mediterranean agriculture, as implemented in the 2003 reform, are often dominated by effects of structural trends and only a "bond scheme" would substantially change the regional farm structures. In no scenario we observe remarkable agricultural land abandonment.

Keywords: Mediterranean Agriculture, Common Agricultural Policy, Multi-Agent Model

EconLit Classification*: Q120, Q180, C610*

1 Introduction

This paper is a result of Workpackage 7 ("Modelling Mediterranean agriculture") of the IDEMA research project and follows the paper already presenting AgriPoliSMed, the extension of the AgriPoliS model suited to study the Mediterranean agriculture. Our aim was to conduce regional-level analisis of the impact of decoupling policies on the Mediterranean agriculture [4]. The aim of the present paper is to conduce regional regional-level analysis of the impact of decoupling on the Mediterranean agriculture. To achieve this, we apply the model and generate simulations on two reigons with a different degree of Mediterranean characters.

Section 2 shortly introduces the model used to generate simulations. Section 3 is divided in three parts: subsection 3.1 describes the factors we took into consideration to choose the case-study regions; subsection 3.2 describes sources for model data and subsection 3.3 presents a comparison between the two real regions and the corresponding virtual regions we modelled. Section 4 describes the three policy scenarios for which simulations are carried. Simulation results are then prsented and commented in section 5, to compare the effects of decoupling on the two regions. Section 6 concludes.

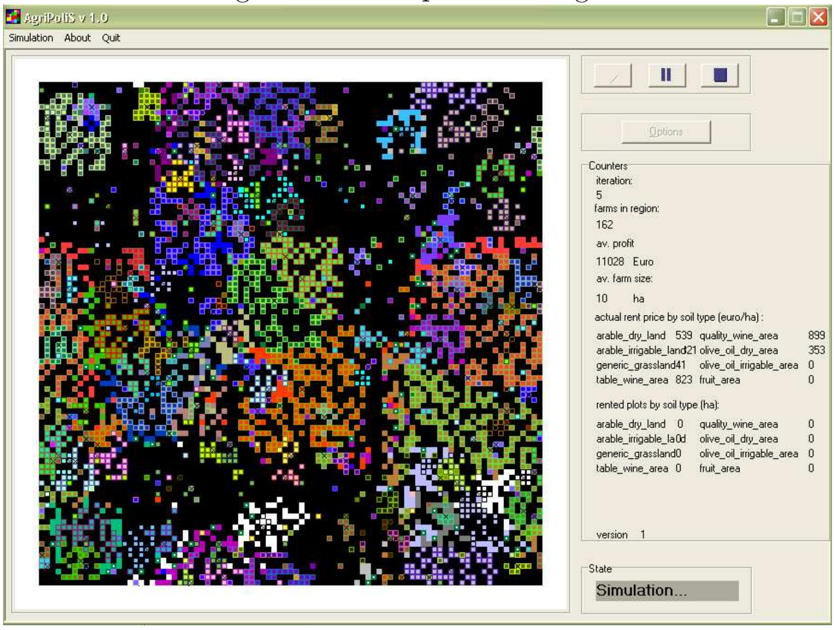
2 The AgriPoliSMed regional multi-agent model

Our simulations are generated using AgriPoliSMed which is an improvement of AgriPoliS, a multi-agent, spatially explicit simulation framework.[2] AgriPoliS allows to model heterogeneous farms behaviours under various external situations (typically, under different policy scenarios) and observe regional results by aggregating these micro-level behaviours.

AgriPoliS uses a mixed integer linear programming approach to simulate each agent behaviour. On the one hand, this approach is very flexible, as it can cover the whole range of farm activities, from growing specific crops to

[2] Detailed information on AgriPoliS can be found on [2], [3] or [6], while [4] describes AgriPoliSMed, that is the adaptation of AgriPoliS to Mediterranean regions.

Figure 1: Example of an AgriPoliS Screenshot



investing in new machinery or hiring new labour units. Furthermore, it is simple to add new regional-specific activities. On the other hand, however, linear programming techniques require a long calibration phase to assure a balanced choice of farm activities, avoiding unrealistic outcomes.

Any farmer in the model is a real farmer whose data are taken from the FADN dataset and explicitly associated to a spatial location. Due to privacy-protection regulations, however, we don't have access to the real farm localisation. Therefore, we have to distribute farms randomly in the virtual region. Space (i.e. location) is important in the model because it influences transport costs and indirectly makes the farmers interact each other, e.g. by competing for the same land plots. Figure 1 is a screenshot of a simulation carried out Marche region data where each pixel is a plot of the "virtual region" and each "colour" identifies a distinct farm, black being "not agricultural area".

3 The regional adaptation

3.1 Region selection

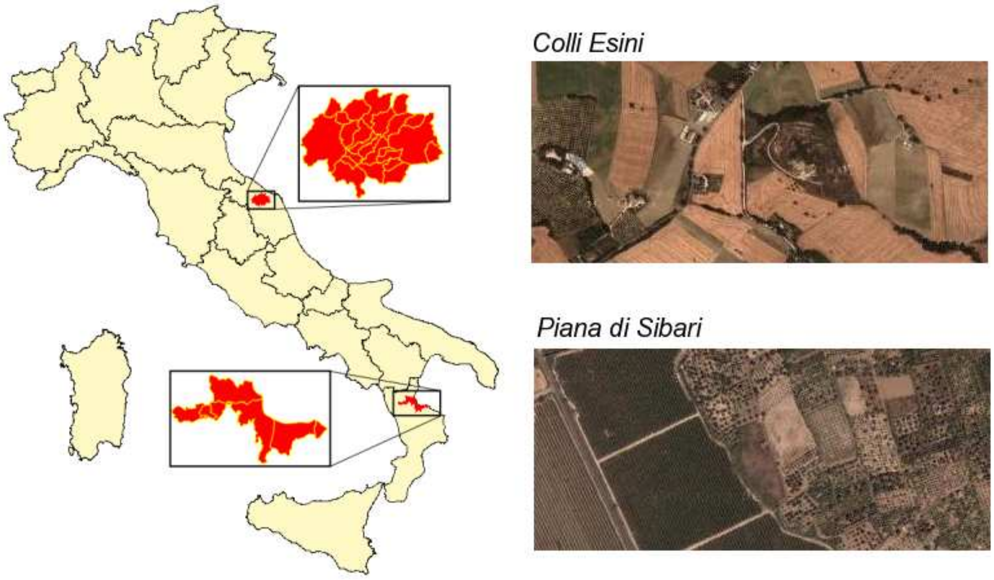
As the main goal AgriPoliSMed is to adapt AgriPoliS to the Mediterranean agriculture to capture the effects of decoupling policies on that specific context, we first need to investigate the relevant characteristics of *Mediterranean* agriculture. [4] provides detailed statistical evidence about countries bordering the Mediterranean sea, both in terms of strictly agricultural production that in terms of the overall socio-economical situation. We can here report the main characteristics emerging from that analysis:

- highly heterogeneous natural conditions that lead to heterogeneous set of products and quality differentiations
- vegetable-oriented agricultural production: (-) livestock, dairy and cereals, (+) vegetable, horticulture, olives and grapes
- labour intensive productions
- very high land fragmentation, leading to many small, part-time managed farms
- elderly farmers, on average

To better represent the differentiated effects of decoupling, we work in parallel on two regions, to capture a gradient of these characteristics. One region should have just "partial" Mediterranean characters, whereas the second one presents these characteristics more extremely.

After having investigated agricultural productions, farm structure and FADN data availability of various Italian regions, we selected the "Colli Esini" area, a portion of Marche region, as the "intermediate" Mediterranean case, and "Piana di Sibari", a portion of Calabria region, as the extreme Mediterranean one. The geographical location of the two regions is reported in Figure 2.

Figure 2: Geographical location of Colli Esini and Piana di Sibari regions



Several figures clearly show this gradient of Mediterranean characteristics between Marche and Calabria: the share of agricultural GDP of Mediterranean crops is around 40% on Marche and reach 65% for Calabria[3]. At the same time the average farm size (UAA) is 8.4 ha for Marche and just 3.7 ha for Calabria. Finally, land rent price is not very much different in the two regions; however, the rented land share is more than double in Marche (26% and 11%, respectively).

Within Marche region, the Colli Esini area was chosen for being a quite homogeneous area with enough FADN farms (159, according to 2001 dataset). It is made by 24 municipalities (LAU2[4]) for a total of around 50,0000 UAA hectares. These municipalities belong to the same labour-district, following ISTAT classification, though this is not identified by an official administrative border.

[3]By "Mediterranean crops" we mean wine, olive oil, durum wheat, citrus fruits, vegetables. Data elaborated from Eurostat

[4]LAU stand for *Local Administrative Units*. LAU1 were formally know as NUTS4 and LAU2 as NUTS5

Colli Esini is a hilly area located between the coast and the inner mountainous part of the region. It contains about 6000 farms, with an average size comparable with the whole Marche region. The high majority (89%) of these farms are exclusively based on family labour. Area is mostly cultivated with arable crops (87%), with a significant permanent crops' area (9%, mainly vineyards) and a very limited grassland area (2%). Finally, animal productions are occasional with the only significant production being pig meat (7900 pigs over 50 kg).

Piana di Sibari is a geographically well delimited flat area (the word "piana" in Italian means "flat") that overlooks the Ionian sea on east and is surrounded by mountains in all other directions, protecting it from strong winds and leading to a dry climate (it rains less than 600mm/year, mainly in winter). The region is actually smaller than Colli Esini (29,000 UAA ha) and it consist of only 7 large municipalities LAU2; FADN records are only 134 (in 2001 dataset).

Considering census data, thus including all farms, Piana di Sibari presents a surprisingly high number of farms (10626), leading to an average size of only 2.75 UAA ha/farm. Most of these farms, however, does not carry out any real commercial activity. In modelling the virtual region, we dropped a large portion of these very small farms also considering that, comprehensibly, no FADN data were available for them. Thus, we limited the attention to the remaining 4631 farms, the majority of which still does not use extra-family labour (76%). Actually, we could expect even higher share of family labour, but most farm activities in this area are highly labour intensive: in the region we have only 30% of arable land, while the rest is devoted to labour intensive permanent crops (65%, mainly citrus crops and olive trees), with a residual share of grassland (5%). Animal productions are scarce, with just around 2000 dairy cows and 1350 pigs in the whole area.

More details about the modelled regions are reported in the Appendix, as well as in [1] especially with respect to landscape and environmental aspects.

3.2 Data sources

3.2.1 Regional level

We used real regional data to define our virtual regions. The primary source for data at the regional level is the ISTAT 2000 agricultural Census reporting the following variables:

- Farm dimension: total farms, average area and farm distribution on several size classes;
- Labour: total farm and family labour and farm distribution by share of family labour;
- Agricultural land use: land usage by each crop (then aggregated by land type);
- Animals: distribution of animals by type, age and size.

However, in Census all economic information about the farms are missing. Furthermore, as we do not have access to single-farm data on the Census dataset, we are also unable to assign each farm to a typology. Therefore, we use the FADN farm-type distribution as a proxy for the real regional farm distribution by typology.

3.2.2 Farm level

All our farm-level data come from the FADN 2001 dataset. In principle, the FADN sample should include only active farms, that is with commercial activity. However the minimum economic size admitted in the dataset in 2001 is just 2 ESU, that is 2,400 euros[5]. As comparison, the minimum size for France and Germany in 2001 is 8 ESU, and for United Kingdom and Netherlands is 16 ESU. The presence of very small farms in our dataset

[5] Starting from 2002 the minimum economic size was increased to 4 ESU, still relatively small.

strongly influences our results as on these farms structural time trends seems to overcome the impact of any implemented policy.

In addition, we have access to a limited sub-set of single-farm FADN dataset. In particular, we miss the exact indication of animals owned by farmers, available information only concerning the Livestock Units owned by each farm for that specific type (e.g. beef cattle, dairy...). Thus, we apply the animal distribution by age class obtained from the Census data to derive the *number of animals* from the *Livestock Units* .

3.2.3 Technical and economic coefficients

The third set of information still missing in our datasets are the technological and economical parameters that frame the space where farmers' decisions are modelled. We collected these parameters mainly from [5] and, for region-specific parameters (e.g. yield), we calculated them directly from the FADN dataset. Sections 4.2.2 and 4.2.3 of [4] describe in details the methodology we used[6].

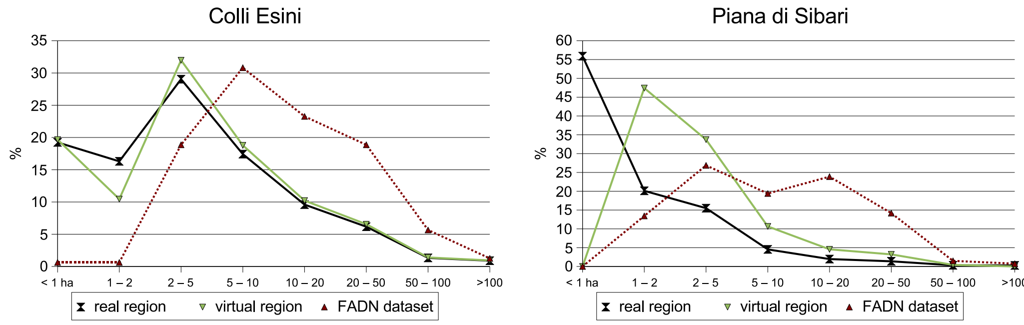
3.3 The resulting "virtual" region

With the regional-level data and the single-farm data from the FADN dataset, we can perform the "upscaling" step. Using optimisation techniques, we apply to each farm of the FADN dataset a scaling coefficient with the objective to obtain a "virtual region", only containing heterogeneous FADN farms, with aggregated values close to the figures of the real region we are investigating. Examples of parameters considered in this upscaling stage are the distribution of farms by size classes, land use and total animals.

Figures 3 and 4 compare the farm size distribution and on the land use in the real and virtual regions, and in the FADN dataset. We can appreciate that in both cases (Marche and Calabria), even if the lower limit of the FADN dataset is largely below the EU standards, the FADN farms are still

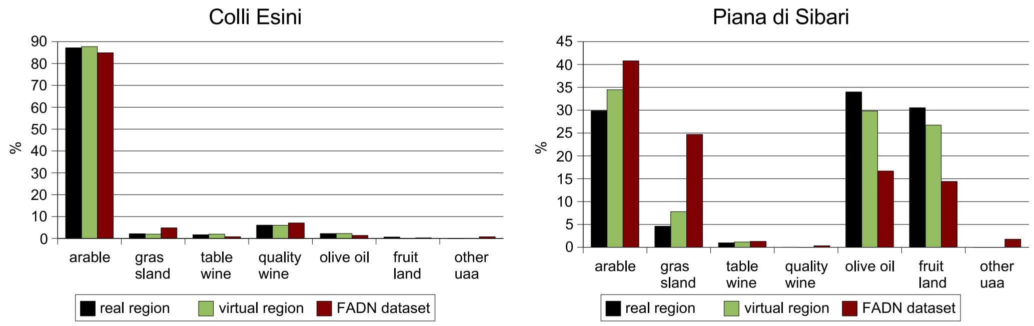
[6] The matrix containing the initial gross margins and the resource requirements for each activity is available under request by the autors.

Figure 3: Farm dimension



Sources: our calculations on ISTAT Census 2000 and FADN 2001 datasets.

Figure 4: Land Use

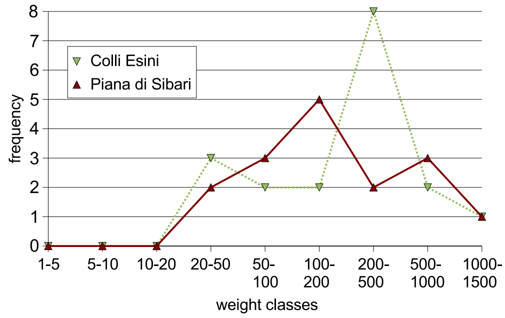


Sources: our calculations on ISTAT Census 2000 and FADN 2001 datasets.

considerable bigger than the whole regional sample. In the Piana di Sibari we have the specific problem that we do not have any farm smaller than one hectare in the FADN sample, even if in the real region this size class shows the highest numerousness. Despite this, we are able to select our FADN farms in such a way that the size distribution in our virtual region is quite similar to the real region. In particular, referring to the land use, we can notice that the upscaling process was able to give us a virtual region much more similar to the real one than the unadjusted FADN dataset.

Figure 5 shows the distribution of the upscaling coefficients applied to any FADN farm to generate the virtual region; for example, a coefficient of 150 applied to a specific FADN farm means that this farm will enter our virtual region 150 times. Although, these 150 farms come from the same FADN record, each one is different, as the model assignes it a random spatial

Figure 5: Upscaling coefficient distribution



Sources: our calculations

location in the virtual region and a random age to its endowments. [4] discusses in detail how modelled farms differ from each other. A detailed quantitative comparison among the real region, the virtual region and the FADN dataset is reported in Table 3.

4 Policy scenarios

AgriPoliS is able to generate projections under different policy scenarios.[7] In the initial period the model "collects" the subsides received by each farm, then automatically calculates the single-farm payment (SFP) due to any different farmer and finally assigns the SFP to farmers. This allows flexible implemention of the various policy scenarios. We can describe them according to several type of parameters and how these vary across the three policy scenarios.

Fixed parameters. These parameters usually do not vary across scenarios. They refer to basic coefficients (e.g. milk per cow or labour hours for

[7]Several other modelling approaches can be followed to analyse the impact of policy reform and, in particular, of decoupling on farm structure and production, as well on markets. In this respect, see papers presented at the 93rd EAAE Seminar, held in Prague on September 22nd and 23rd 2006.

standard annual work unit), to quotas (e.g. milk quota) and to modulation thresholds.

Product specific parameters. For each commodity, we specify if a payment scheme is active, which kind of payment will be converted into the SFP calculations (eg. euros/ha, euros/cow..) and, finally, for how many years AgriPoliS has to collect these data to calculate the SFP; for most product it is a three years period, but in case of olive oil it is a 4 years period.

Time specific parameters. Here we include some options, for instance the activation of the regional implementation (i.e., the SFP has the same value per hectare for all farmers in the region) or of the farm-specific implementation (each farm receive a SFP depending on the payments got during the reference period), or the full-decoupling option that differ from the farm-specific payment as it doesn't require the statutory management requirements and it is payable also in case of abandonment ("bond scheme"). We can also choose year-by-year the application of the degree of modulation for the various payments.

Time and product specific parameters. These parameters allow us to select, for any product and year, how much payment is still coupled and how much decoupled payment, calculated in the reference period, should be considered. Using these two parameters we can set partially decoupled payments (this mixed scheme currently applies, for instance, to durum wheat).

4.1 Scenario 1: Agenda 2000

This is the baseline scenario. It simply is the continuation of the coupled payment scheme under the Agenda 2000 regime, thus without SFP, modulation and cross-compliance. However, in this scenario we don't include the dairy coupled payment because our price data refer to 2001, when high milk price support was still in action. In the following years, the price support declined and was replaced by the "compensation" scheme introduced by Agenda 2000. Nonetheless, as in AgriPoliS prices are fixed and it is not possible to model their reduction starting from the initial specific year, we do not introduce the direct payment to avoid a misleading double support.

4.2 Scenario 2: Actual implementation

This scenario is the closest to the real implementation of the 2003 reform in Italy. In table 1 we summarize such implementation. As our model starts generating projections from 2001 and being based it is based on 2001 FADN data, we miss the 2000 reference year and, to mantain the three years reference period, we shift it one year onward, that is to 2001-2003 (2001-2004 for olive oil). In addition, as mentioned, we can not properly model dairy decoupling. As the activation of the decoupling scheme is not a product-specific option in AgriPoliS, we are forced to start the decoupling period in the same year for all product (i.e. 2005).

Besides these simplyfing assumptions, this implementation still maintain most characteristics of the real decoupling scheme adopted in Italy (e.g, the application of art. 69): payments maintain a 7% coupled support, livestock sector 8%, sheep and goat and olive oil 5%. These payments do not enter the SFP but are payed back to farmers in terms of coupled support (for example, 88 euros/ha for durum wheat). Finally, this scenario implements modulation with a 3% retention in 2005, 4% in 2006 and 5% onward, for SFPs higher than 5000 euros.

4.3 Scenario 3: "Bond scheme"

The "bond scheme" scenario is extremely simple as it mainly differs from the actual implementation for the fact that it doesn't imply any statutory management and maintenance requirements in order to preserve the SFP rights. Consequently, farmers can abandon the agricultural sector and still receive the payment. A further difference is that all premiums are fully

Table 1: Italian agricultural policy implementation

Actual implementation

	cereals	**livestock**	**dairy payments**	**olive oil**	**tobacco**
2000	REF COUP	REF COUP	REF PR. SUP	REF COUP	REF COUP
2001	REF COUP	REF COUP	REF PR. SUP	REF COUP	REF COUP
2002	REF COUP	REF COUP	REF COUP	REF COUP	REF COUP
2003	COUP	COUP	COUP	REF COUP	COUP
2004	COUP	COUP	COUP	COUP	COUP
2005	DEC	DEC	COUP	COUP	COUP
2006	DEC	DEC	DEC	DEC	DEC
2007	DEC	DEC	DEC	DEC	DEC
2008	DEC	DEC	DEC	DEC	DEC

AgriPoliS implementation

	cereals	**livestock**	**dairy payments**	**olive oil**	**tobacco**
2001	REF COUP	REF COUP	PR. SUP	REF COUP	REF COUP
2002	REF COUP	REF COUP	PR. SUP	REF COUP	REF COUP
2003	REF COUP	REF COUP	PR. SUP	REF COUP	REF COUP
2004	COUP	COUP	PR. SUP	REF COUP	COUP
2005	DEC	DEC	PR. SUP	DEC	DEC
2006	DEC	DEC	PR. SUP	DEC	DEC
2007	DEC	DEC	PR. SUP	DEC	DEC
2008	DEC	DEC	PR. SUP	DEC	DEC

REF->reference period (payments are calculated for the SFP)
COUP->coupled payments
PR. SUP -> price support
DEC->SFP

decoupled, but this is a minor difference in case of Italy where most payments are already fully decoupled in the actual implementation.

5 Model results

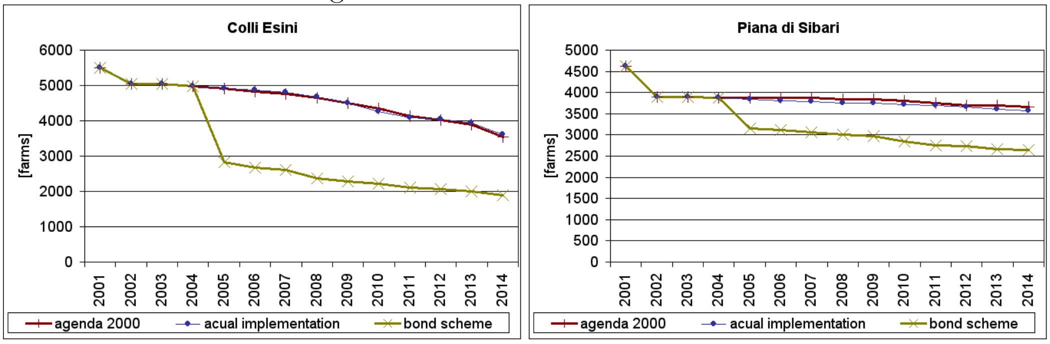
In this section we present the results of model simulations under alternative policy scenarios, particularly pointing out the differences emerging between the two regions under study.

Farm numerousness and size In both regions simulations start with a very high number of farms. AgriPoliS only models farm behaviour in economic terms, though. Many farms are actually very small and the reasons why they are still "active" farms often have to be found in social and even cultural factors, rather than in classical economic motivations.

Thus, quite surprisingly, Figure 6 shows that abandonment is higher in Colli Esini region, where farm average size is relatively larger, compared to Piana di Sibari. This may be explained by the fact that in Colli Esini, with the exception of farms producing quality wine, most farms can grow only low-income cereals, so their "small size" constraint has a much more binding effect on their profitability. On the contrary, most Piana di Sibari farms can rely on intensive productions that can support a profitable farm activity even in small farm sizes.

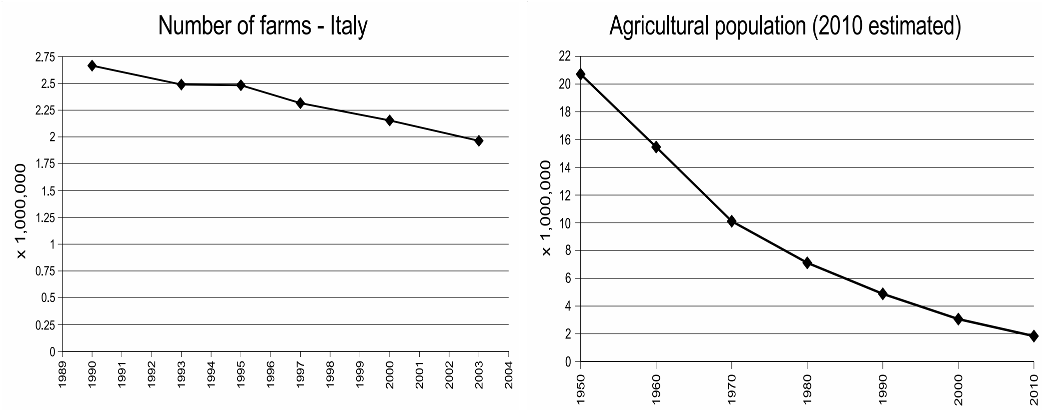
Looking at figures 6 and 7, the decision to abandon the farm activity actually seems more related to a pre-existing structural trend than being influenced by the CAP reform. During period 1990-2003 in Italy we observed an average 2.32% abandonment rate (Figure 7). Our scenarios (with the exclusion of the "bond scheme") show a comparable abandonment rate, ranging between 3.19% and 3.32% for Colli Esini and 1.78% and 1.96% for Piana di Sibari (see Table 2). The complete decoupling scenario ("bond scheme") has a larger impact in this respect particularly in Colli Esini.We can explain this latter aspect again with the different productions in the two areas: as de-

Figure 6: Total number of farms



Source: model results

Figure 7: Long-time trends in Italian Agriculture



Source: Eurostat; FAOSTAT

coupling mainly affects cereals and livestock productions, Colli Esini is much more sensible to CAP regime change than Piana Di Sibari.

To better understand the structural impact of policy scenarios we divide our farms in five size classes[8] and we observe their evolution during the simulations (figures 8 and 9). Even in this case quite surprisingly, our results show that not the smallest farms quit the activity. This is one typical demon-

[8]We apply the following classification based on UAA and on the Italian small-size standards:
0 (micro-farms) : <2ha;
1 (small) : <6ha;
2 (middle) :<15ha;
3 (large) : <50ha;
4 (extra-large) : >=50ha.

stration of how heterogeneity is relevant in the model. In fact, in Colli Esini all farms of class 0 cultivate perennial crops (mainly wine production), while class 1 farms mostly present arable crops. Therefore, while under the continuation of Agenda2000 or the actual CAP reform implementation, these small arable crop farms still survive, in the "bond scheme" scenario they mostly abandon while their land is taken over by either bigger farms or, in some cases, smaller but still competitive wine producers.

In Piana di Sibari, however, we have not this particular situation and farm quitting is much more homogeneous across size classes, with an higher abandonment rate in the two smallest classes, as expected. Even in this region, the "bond scheme" scenario has a stronger impact on arable crop farms, that mainly belong to the second size class.

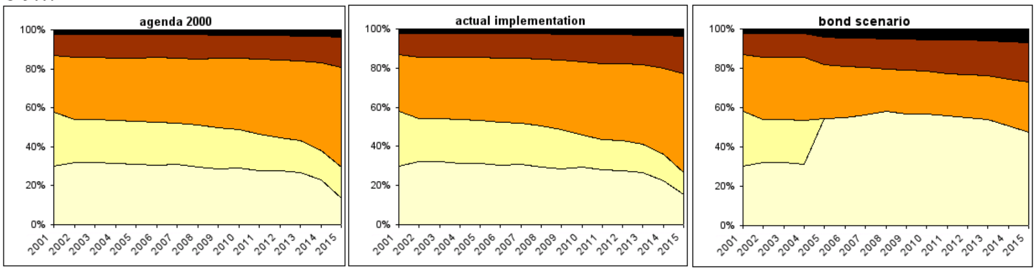
Figure 10 reports the two regions at the beginning and at the end of the simulation runs (where each colour rappresent a different farm), for the actual implementation scenario and the "bond scheme". Both scenarios, particularly the latter, show a simplification of the farm structure where the remaining farms grow using the land made available by the quitting farms.

Land rental prices In our model, rental contracts endogenously arise from agent's iterations; consequently, we can observe effects of different policies on rental prices (figures 11 to 14). As expected, we have a decline of arable land rental price in the "bond scheme" scenario, caused by a remarkable drop of land demand. On the contrary, under the "actual implementation" scenario, the rental price seems to increase, especially for irrigable land and allowing productions of more profitable crops like vegetables, while grassland rental price shows a similar decline (more details on these results can be found in the Appendix).

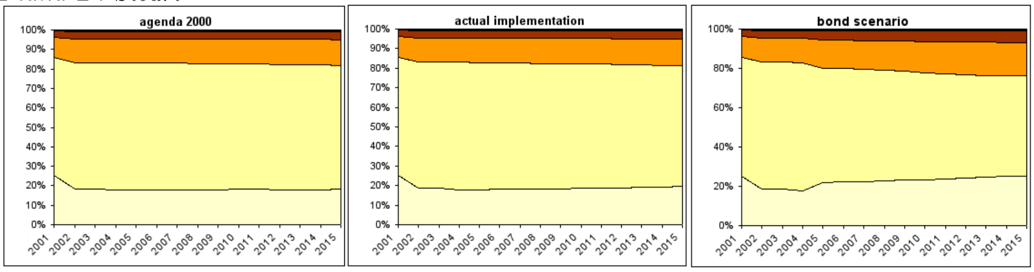
At the opposite, rental prices of land producing commodities not involved by the CAP reform (e.g. grapes, fruit) shows no decline, also with a small increase in the "actual implementation" case. It must be reminded, however, that these result could over-estimate decoupling effects on perennial crop

Figure 8: Farms distribution by initial size classes

Colli Esini



Piana Di Sibari

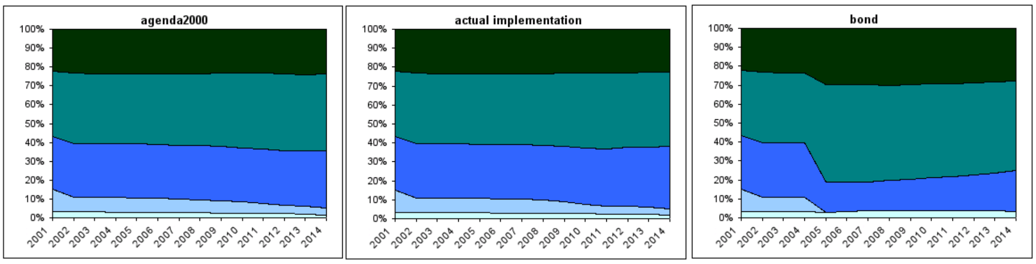


Source: model results

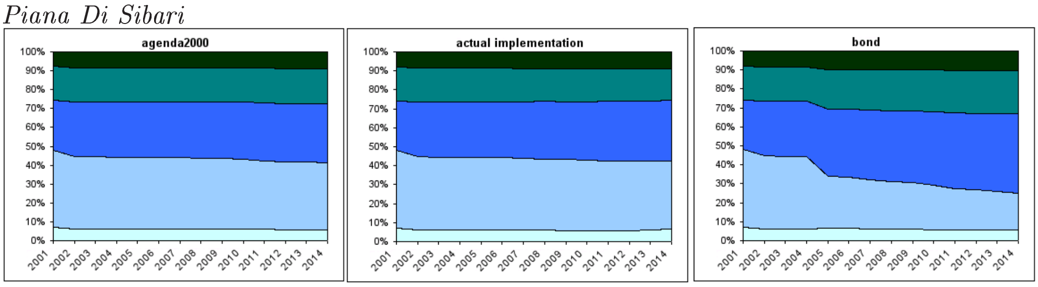
Note: classes are thoose of note 8, smallest being on bottom

Figure 9: Land distribution by initial size classes

Colli Esini



Piana Di Sibari

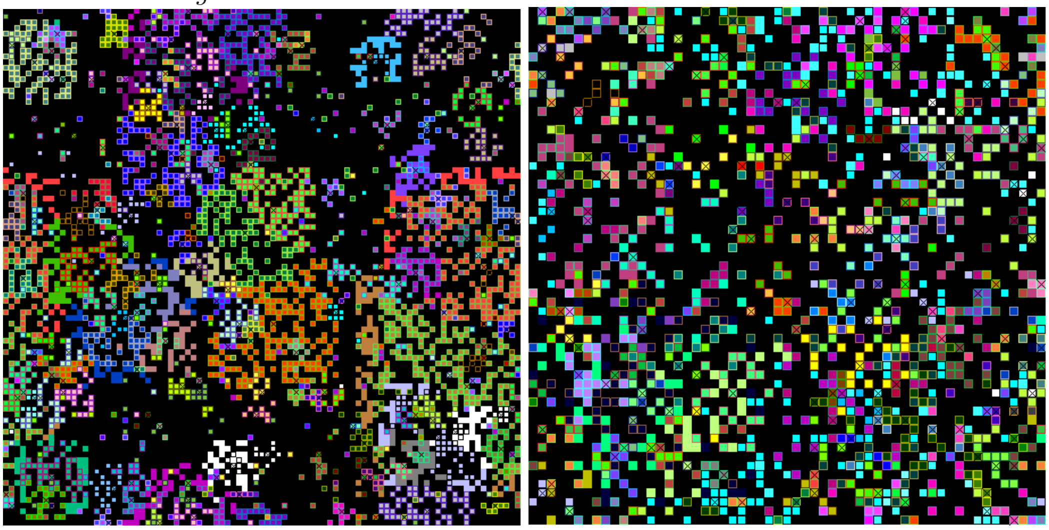


Source: model results

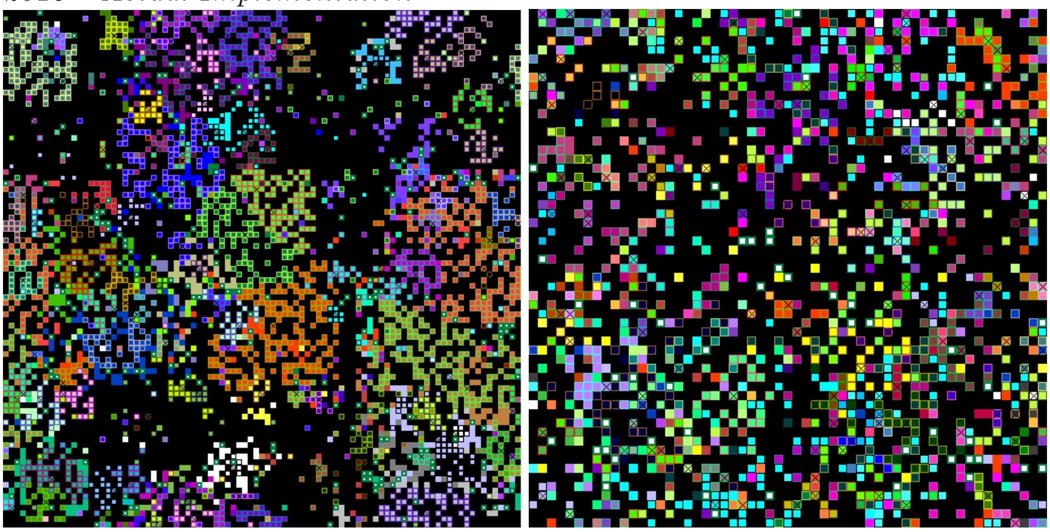
Note: classes are thoose of note 8, smallest being on bottom

Figure 10: Spacial farm allocation on Colli Esini (*left*) and Piana di Sibari (*right*)

2001 - Starting simulation



2015 - Actual Implementation



2015 - Bond scheme

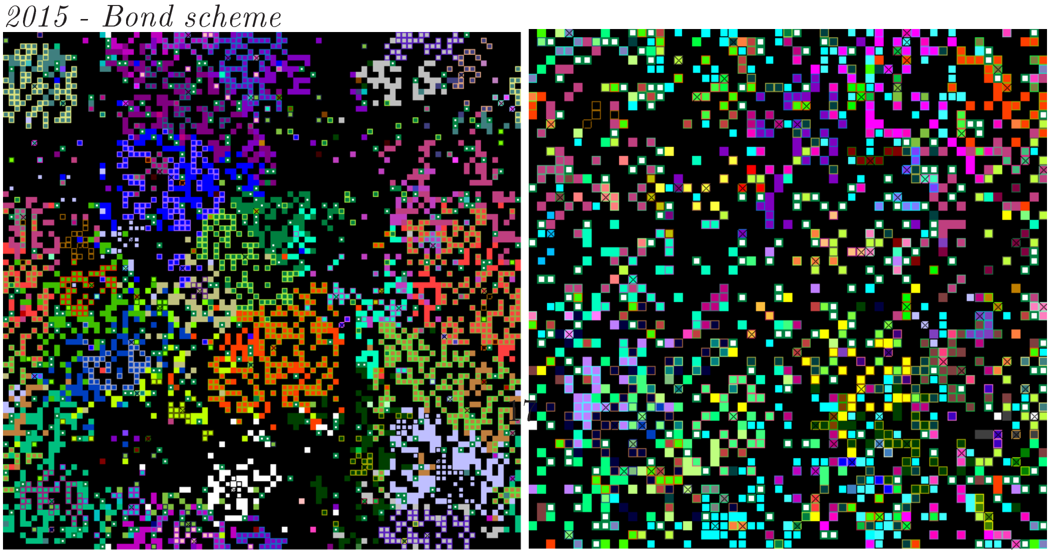
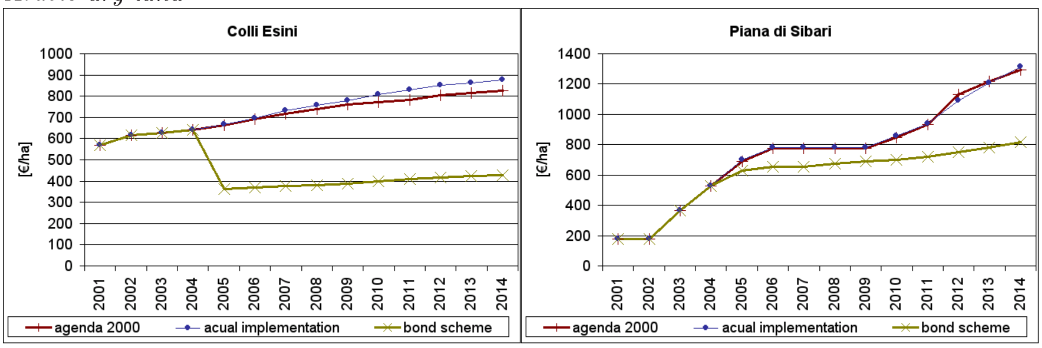
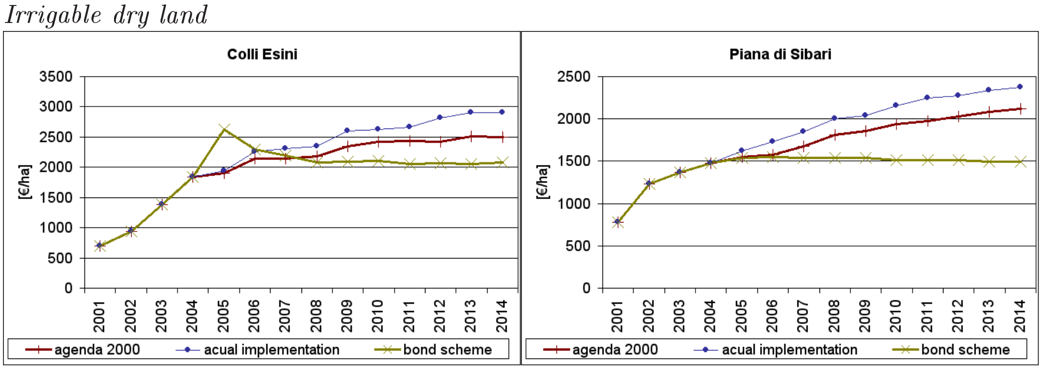


Figure 11: Arable land rental prices

Arable dry land

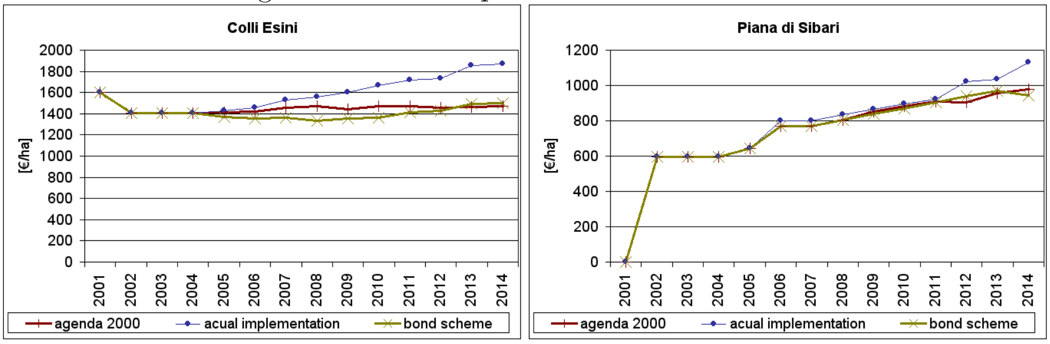


Irrigable dry land



Source: model results

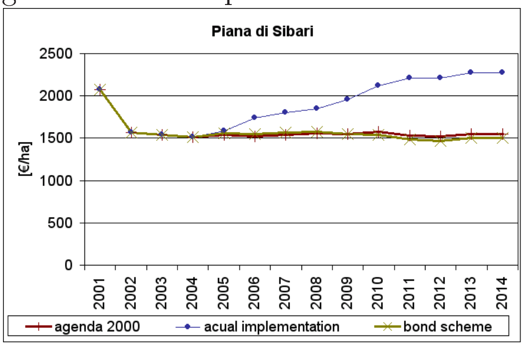
Figure 12: Rental price of table wine area*



Source: model results

* We report a 0 value for Piana di Sibari on year 2001 because there is no available wine area to be rented on that year.

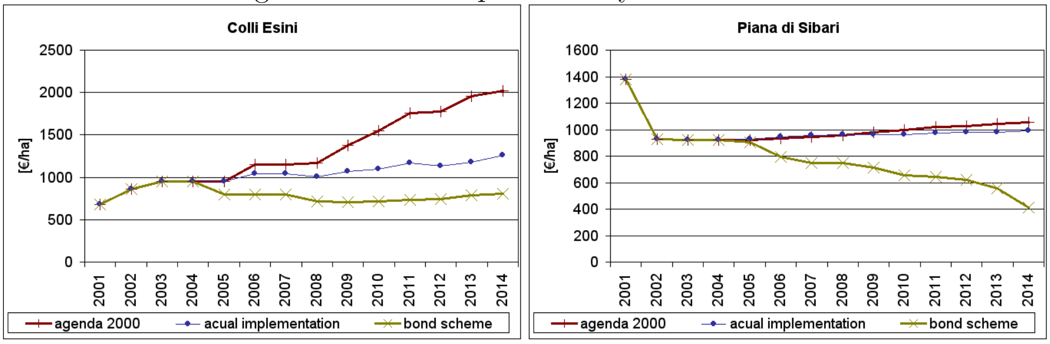
Figure 13: Rental price of citrus fruit land



Source: model results

land rental price, as land renting is actually very uncommon for perennial crops. Analogously, citrus fruit land shows a growing nominal rental price under partial decoupling, but it remains constant under full decoupling. Finally, rental price of olive oil dry area is strongly influenced by the effects of decoupling on this production. The "bond scheme" scenario seems to have a stronger effect in Piana di Sibari, as olive oil production is much more common in this region and many farms are specialized in this crop. On the contrary, in Colli Esini olive oil production is often just a marginal activity for farms where the main product is something else, often wine grapes; thus, we don't observe a major impact on in its land rental price.

Figure 14: Rental price of dry olive oil area

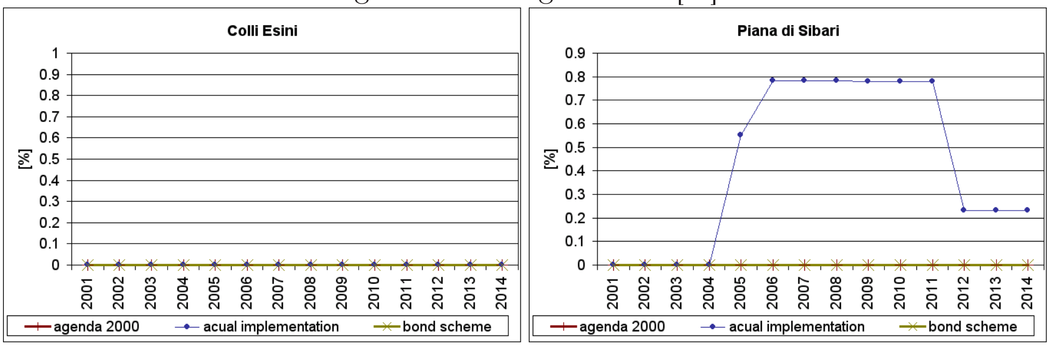


Source: model results

Land use Despite other strong effects of decoupling on farms, the impact on land use even in the "bond scheme" scenario is very limited. We can explain this results with the high fragmentation of Italian agriculture in many small farms; thus, land demand is always high (for this reason land prices are higher than most other EU countries). As AgriPoliS is able to model the impact on farm size (through the availability of many investments in different size options), it can well represent catch the attempts of farms to increase their size in order to produce more efficiently. As rental contracts are assigned through an auction without minimal level constraints, if land supply increases and, at the same time, demand declines as result of farm quitting, the rental price may decline until it becomes profitable for farmers to rent it. So, due to rental price changes, we observe a very small land abandonment and we don't register unused land even in full decoupling case, i.e under the "bond scheme" scenario (Figure 16). Figure 15 shows the only case where our model generates an amount of land used for management obligations only (as required by cross-compliance and statutory management requirements).

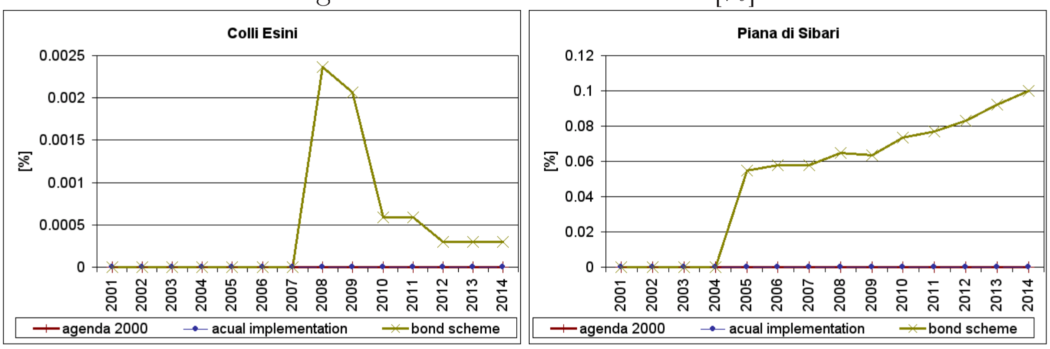
Farm diversification We are also interested to assess if, in our model, farms tend to specialize on some sectors or, on the contrary, to diversify production. Then, we calculate the average number of products obtained by farms. From model results (figure 17), we observe a general tendency to

Figure 15: Idle grassland [%]



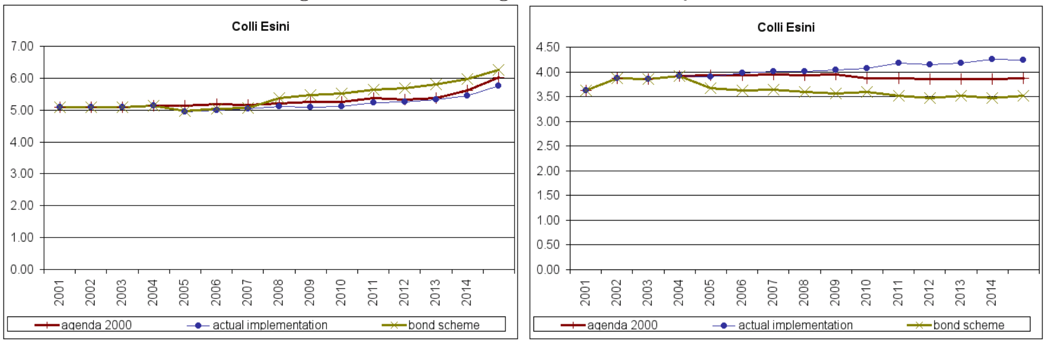
Source: model results

Figure 16: Land abandonment [%]



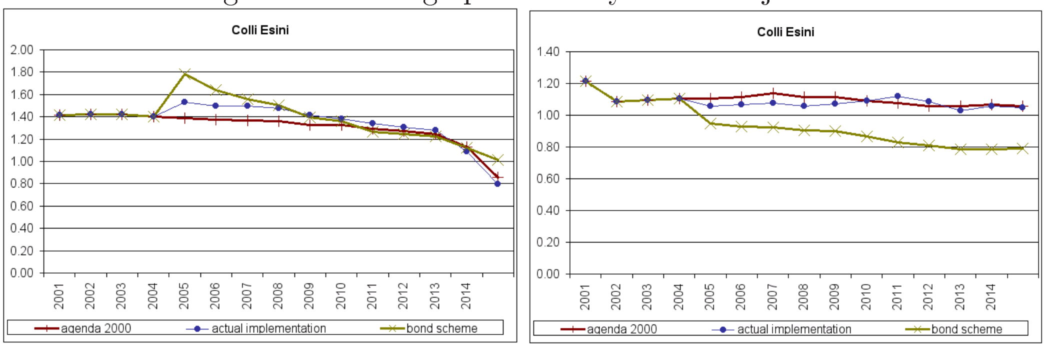
Source: model results

Figure 17: Average products by farm



Source: model results

Figure 18: Average products by farm - adjusted

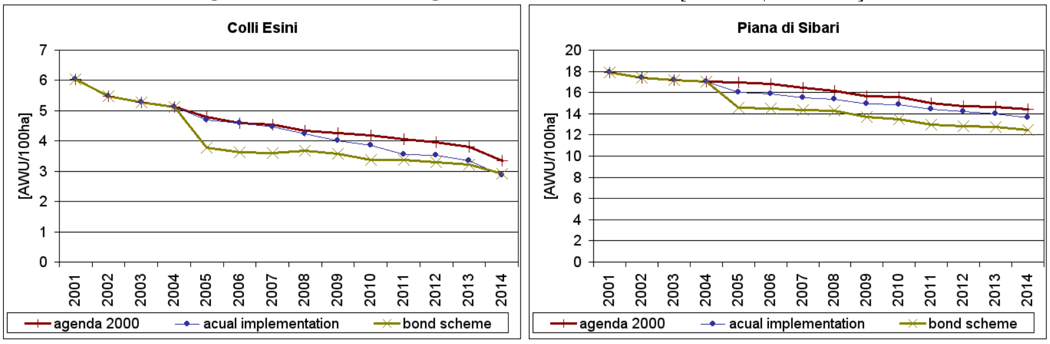


Source: model results

diversification, since farms produce a higher number of products over years. This is mostly explained by the increase in the average size. In fact, once we adjust our coefficient by the farm size (figure 18), we notice that, on average, farms actually tend to produce a smaller number of products, that is, to specialize.

We can also observe that, again, the "actual implementation" scenario has a very small impact on this specialization-diversification process. We can explain the larger impact of the "bond scheme" scenario on Piana di Sibari by the fact that here the land dropped by small farms is used by bigger farms with the same kind of specialization and looking for scale effects, whereas in Colli Esini this "available" land is used also by small perennial crops' farms taking advantage of the decline of arable and grass land rental price.

Figure 19: Total agricultural labour [AWU/100ha]

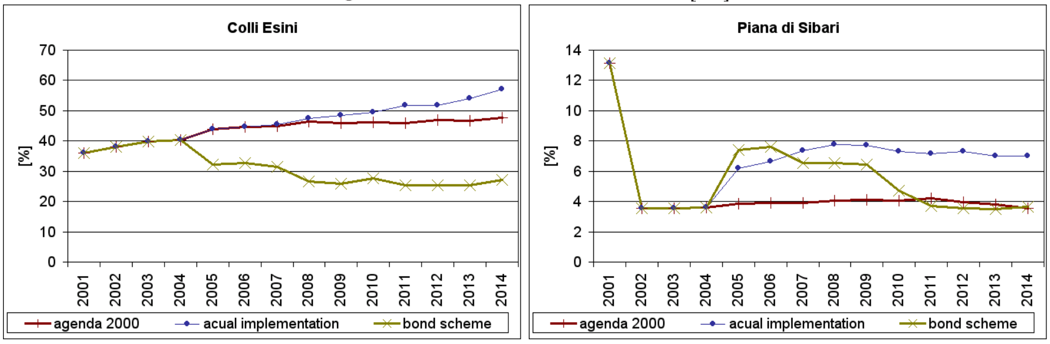


Source: model results

Labour Labour figures clearly show a structural declining trend in both regions (Figure 19). In the model, this labour saving pattern is implemented trough new investments having smaller labour requirements than the older ones they replace (due to technological progress) and, above all, through size effects, that is bigger size investments requiring less per unit labour than smaller ones. Figure 19 also indicates a strong effect of the "bond scheme" scenario on labour reduction and a smaller effect of the "actual implementation" scenario. While the former case is evidently a result of abandonment of the smallest and inefficient arable crop farms, the effects of the latter are of more difficult interpretation. It seems that the reduction of agricultural labour force in Colli Esini (-14.3% under the "agenda 2000" scenario) could be explained by the decline of beef production, while in Piana di Sibari (-5.6%) by the decline of olive oil production.

Figure 20 reports the off-farm share of farm family labour. In Colli Esini the "bond scheme" scenario reflects abandonment of farms that previously were already more off-farm oriented; on the contrary, the "actual implementation" scenario keeps such farms active but more oriented toward labour-saving productions. Piana di Sibari results show a more complex path. We notice an initial drop of off-farm labour that is probably caused by a poor calibration of the model on this aspect; then we observe an increase of off-farm labour in two scenarios and a decline in the "bond scheme" case, as in the other region. In both regions, however, "actual implementation" seems

Figure 20: Off-farm labour [%]



Source: model results

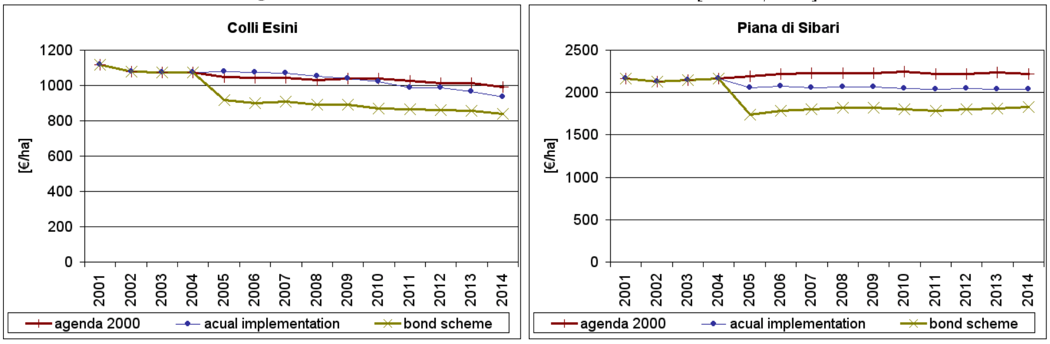
to increase the share of off-farm labour. This is a clear direct effect of the scenario construction (but also of policy design) that forces farms to remain in the sector to mantain the right to the SFP.

Farm profitability Figure 21 shows the average per ha net profit of the farm. We define farm net profit as the sum of the revenues coming by products, direct premiums and decoupled premiums (SFP) less all explicit costs (including capital depreciation). Therefore, we do not include opportunity costs of own factors (labour, land and capital). Per ha profit shows a slight but constant decline over time; however, the "bond scheme" scenario shows the strongest drop. This decline is also due to the fact that the figure only reports only the profits of the still-active farms. Under the "bond scheme", even farmers who quitted production still receive the SFP, but this is not computed in this figure. The "actual implementation" scenario seems to have a small impact on per ha profit compared to Agenda 2000.

When looking at real degree of decoupling (i.e., the real decoupling rate) in the two regions (Figure 22), we notice that it reflects their different product composition. In Colli Esini the share of crops supported by the CAP is higher and even in the "actual implementation" we observe a considerable level of coupled support (18.3%), mainly due to durum wheat and "quality" payments[9]. In Piana di Sibari, even in the "actual implementation", we

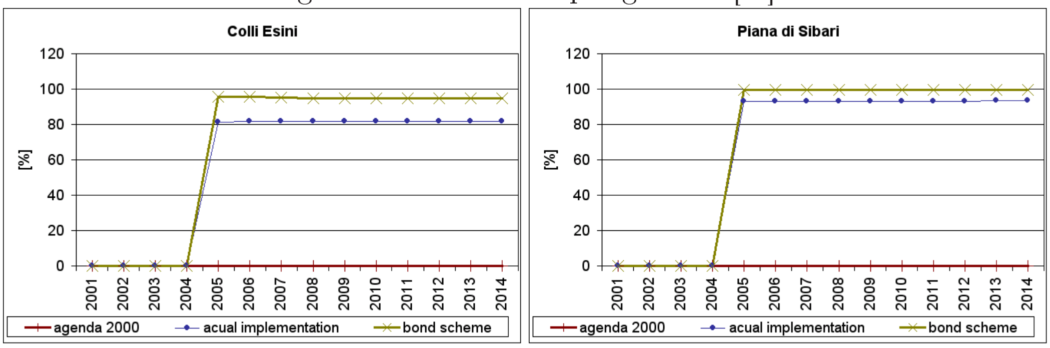
[9]Reg EU 1782/2003, art. 69 and art. 72

Figure 21: Farm net profit per ha [euro/ha]



Source: model results

Figure 22: Real decoupling rate - [%]



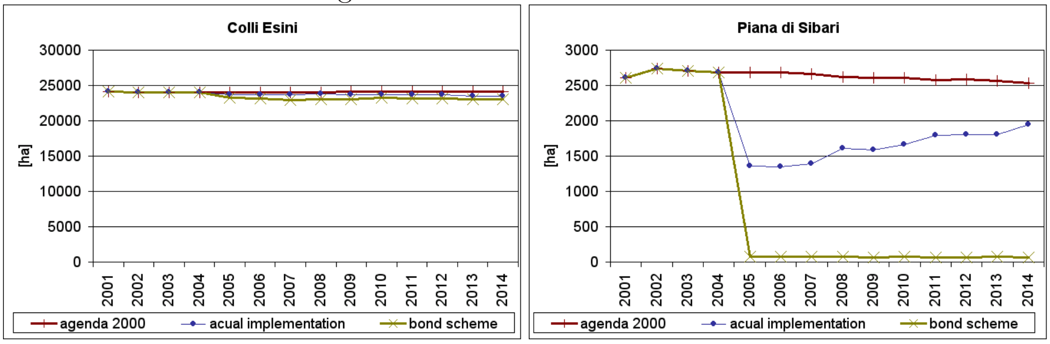
Source: model results

achieve an almost full decoupling rate (the coupled support is just 6.7%)

Specific crops and livestock productions Though AgriPoliS is more suited to the analysis of the impacts on farm structure rather than on specific commodity productions (for instance, prices are fixed and exogenous), we can still look at the impact of the three policy scenarios on major Mediterranean crops.

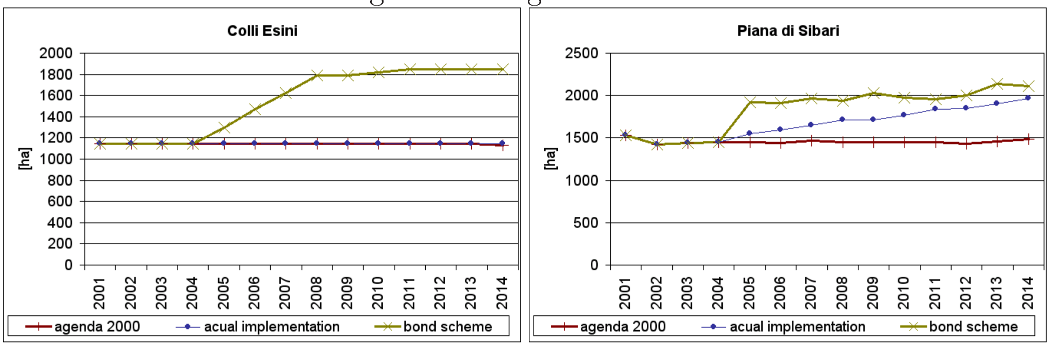
With regard to durum wheat, simulations reveals a significantly heterogeneous situation between the two regions, with Colli Esini showing almost no change and Piana di Sibari, at the opposite, a quite negative impact. As the gross margin of this crop is higher in Calabria (860 euro/ha compared to 502 euro/ha in Colli Esini), the reason of this sharp decline relies on the complex

Figure 23: Durum Wheat area



Source: model results

Figure 24: Vegetables area



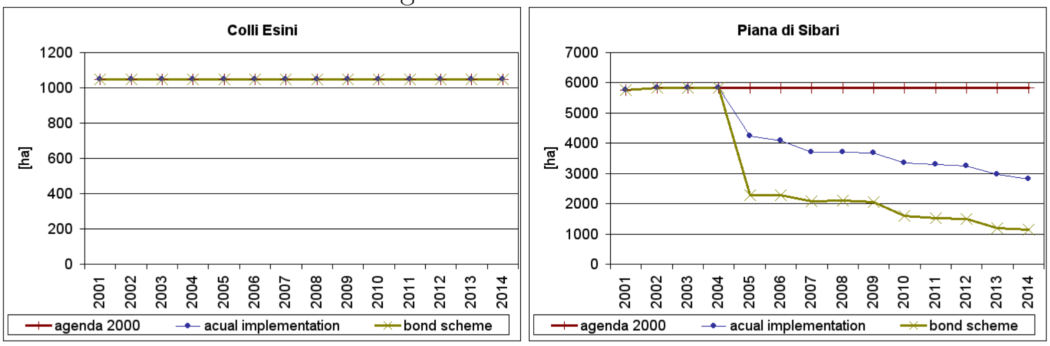
Source: model results

mix of alternative options decoupling gives to farmers. In particular, it seems that in Colli Esini there are no viable alternatives to durum wheat, while in Piana di Sibari it is possible to re-allocate labour, land and other resources to other more profitable farm productions.

Being vegetables labour-intensive and highly profitable crops, model results indicate that they benefit from decoupling due to more available labour and land dropped by previously supported commodities. In this respect, it must be reminded that our decoupling scenarios, even "actual implementation", admit that all land dropped by previously supported crops can then be used for vegetable crops, though this is not entirely allowed in the the current regulation[10].

[10]Reg. EU 1782/2003 n. 1782, art. 51

Figure 25: Olives area



Source: model results

In some perennial crops (both grapes and fruit production) we don't observe a significant response to CAP change. On the contrary, the impact seems quite large on olives production, even with significant regional differences. While in Colli Esini we don't have impact on the indeed marginal olive oil production, we actually observe a sharp decline in Piana di Sibari. As already mentioned, the reason is that olive growers in Colli Esini are not "specialized" in this production, being mostly wine producers. In Piana di Sibari, specialized olive growers are much more affected by the decoupling.

A final remark on the livestock sector. In both regions livestock is almost negligible, with Colli Esini reaching a maximum of 0.06 LU/ha in 2014 under the "agenda 2000" scenario and Piana di Sibari a maximum of 0.16 LU/ha in 2014 under the "bond scheme" scenario. Again, the impact seems to depend more on farms structure than on direct effects of CAP reform on these activities.

6 Conclusions

In this paper, we use samples of heterogeneous farms to build a model suitable to simulate the effects of different agricultural policies on these heterogenous farm structures and ouput composition. Farm samples are collected from two Italian regions differing in terms of typical Mediterranean agricultural characteristics. These samples are then rescaled to build two virtual regions showing, on aggregate figures, similar characters with respect to the real regions.

Results emphasize the complex interaction among heterogeneous farms and cross effects are well captured by the model. Differences in farm structure are often the key explanation of different responses to CAP change in the two regions. Furthermore, the long-run structural trends often overlap and even hide the effects arising form different policy implementations. This is the case of the sharp decline in number of farms and in agricultural labour. Nonetheless, even in the "bond scheme" scenario we don't observe a substantial land abandonment. Eventually, within the model, it is the decline of land rental price to allow land to be reallocated to other agricultural activities. However, in our model we neither consider marginal areas nor land demand from other sectors (e.g. "urban" uses).

We also investigate which farmers can get the best opportunities in the new CAP scenarios, that is under decoupling. Our simulations show that size by itself is not necessarily a key factor, as arable crop farms need a much larger size to achieve scale economies and be competitive compared with permanent crop farms that may remain profitable also with a very small land size. At the end, we expect that the decoupling scheme, as introduced in Italy after the 2003 CAP reform, causes quite limted changes on land use and on farm structure. On the contrary, a more radical reform, like the "bond scheme" scenario, would allow farms to leave the sector, still receiving the SFP, and this would remarkably change the farm regional structure. However, even in this case, we don't observe radical changes on several aggregated agricultural figures, e.g. productions and land use.

References

[1] M. Brady. The environmental impacts of decoupled payments. IDEMA Working Paper 24, 2006. http://www.sli.lu.se/IDEMA/publications.asp.

[2] K. Happe, A. Balmann, and K. Kellermann. The agricultural policy simulator (agripolis) - an agent-based model to study structural change in agriculture. IAMO discussion paper 71, 2004. http://www.iamo.de/dok/dp71.pdf.

[3] K. Kellermann K. Happe and A. Balmann. Agent-based analysis of agricultural policies: an illustration of the agricultural policy simulator agripolis, its adaptation, and behavior. *Ecology and Society*, 11(1):49, 2006. http://www.ecologyandsociety.org/vol11/iss1/art49/ES-2006-1741.pdf.

[4] A. Lobianco and R. Esposti. The regional model for mediterranean agriculture. IDEMA Working Paper 17, 2006. http://www.sli.lu.se/IDEMA/WPs/IDEMA_deliverable_17.pdf.

[5] G. Porciani. *Manuale di stima e gestione dei beni rustici ed urbani*. Edagricole, 2001.

[6] C. Sahrbacher, H. Schnicke, K. Happe, and M. Graubner. Adaptation of agent-based model agripolis to 11 study regions in the enlarged european union. IDEMA working paper 10, 2005.

Data sources

- EU Commission, *EUROSTAT on-line data explorer*, last visited 2005
  http://epp.eurostat.cec.eu.int
- EU Commission, *Farm Accountancy Data Network*, last visited 2005
  http://europa.eu.int/comm/agriculture/rica/index_en.cfm
- ISTAT, *5th agricultural census data*, last visited 2005
  http://censagr.istat.it/

A Appendix

Table 1: Region delimitation

Colli Esini		Piana di Sibari	
National code	LAU2 Name	Nationa l code	LAU2 Name
42003	Arcevia	78009	Altomonte
42004	Barbara	78029	Cassano allo Ionio
42005	Belvedere Ostrense	78044	Corigliano Calabro
42008	Castelbellino	78047	Crosia
42011	Castelleone di Suasa	78108	Rossano
42012	Castelplanio	78121	San Lorenzo del Vallo
42016	Cupramontana	78142	Spezzano Albanese
42021	Jesi		
42023	Maiolati Spontini		
42024	Mergo		
42025	Monsano		
42026	Montecarotto		
42029	Monte Roberto		
42031	Morro d'Alba		
42035	Ostra		
42036	Ostra Vetere		
42037	Poggio San Marcello		
42040	Rosora		
42041	San Marcello		
42042	San Paolo di Jesi		
42043	Santa Maria Nuova		
42046	Serra de' Conti		
42047	Serra San Quirico		
42049	Staffolo		

Table 2: Farms average yearly abandonment rate (%)

	period	observed	ag2000	actual	bond
Italy	1990-2003	-2,32			
Colli Esini	2001-2014		-3,32	-3,19	-7,88
Piana di Sibari	2001-2014		-1,78	-1,96	-4,21

Source: Eurostat, model results

Table 3: Comparison between the real and virtual regions and the FADN dataset

		Colli Esini			Piana di Sibari		
		Real region	Virtual region	FADN dataset	Real region	Virtual region	FADN dataset
Total farms		5,785	5,510	159	10,626	4,631	134
Total UAA		49,093	49,292	2,688	29,178	18,683	1,511
Irrigated UAA		2,022	2,105	45	9,728	7,130	305
Number of farms in different size unit	< 1 ha	1,113	1,084	1	5,941	0	0
	1 – 2	943	576	1	2,137	2,196	18
	2 – 5	1,680	1,762	30	1,647	1,562	36
	5 – 10	1,008	1,035	49	482	493	26
	10 – 20	555	563	37	210	211	32
	20 – 50	357	361	30	146	149	19
	50 – 100	77	77	9	33	20	2
	>100	52	52	2	30	0	1
Land use	arable	42,718	43,248	2,283	8,618	6,487	620
	grassland	1,052	971	130	1,334	1,469	375
	table wine	830	968	21	282	218	20
	quality wine	2,985	2,959	190	6	0	5
	olive oil	1,092	1,103	37	9,816	5,609	254
	fruit land	319	0	6	8,820	5,033	219
	other uaa	0	42	21	0	0	27
Farm type (farm number)	arable	.	3,581	105	.	778	21
	wine	.	642	14	.	0	0
	olive	.	0	0	.	86	18
	fruit	.	0	4	.	2,439	59
	livestock	.	0	0	.	185	7
	milk	.	0	0	.	141	4
	mixed	.	1,287	36	.	1,002	25
Farm type (UAA)	arable	.	38,394	2,052	.	3,735	310
	wine	.	1,236	70	.	0	0
	olive	.	0	0	.	2,236	196
	fruit	.	0	42	.	5,493	328
	livestock	.	0	0	.	518	42
	milk	.	0	0	.	704	61
	mixed	.	9,662	525	.	5,998	574
Livestock (number of animal)	beef cattle	3,059	2,972	118	2,531	1,680	80
	dairy cows	700	0	0	2,042	1,635	199
	pigs	16,933	17,040	93	3,121	2,944	59
	ovins	10,882	0	0	3,664	4,292	2,000
	goats	733	0	0	2,480	3,386	1,426
	poultry	1,806,093	0	0	16,750	0	0

Source: Census 2000, FADN 2001, upscaling results

Table 4: FADN farms' upscaling weight distribution

	Discarded	1-5	5-10	10-20	20-50	50-100	100-200	200-500	500-1000	1000-1500
Colli Esini	141	0	0	0	3	2	2	8	2	1
Piana di Sibari	118	0	0	0	2	3	5	2	3	1

Source: upscaling results

Table 5: Farm distribution by 2001 farm size

	ag2000					actImpl					bond				
year	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
2001	55	51	53	20	4	55	51	53	20	4	55	51	53	20	4
2002	54	37	53	20	4	54	37	53	20	4	54	37	53	20	4
2003	54	37	53	20	4	54	37	53	20	4	54	37	53	20	4
2004	52	37	53	20	4	52	37	53	20	4	52	37	53	20	4
2005	51	36	53	20	4	51	36	53	20	4	51	0	26	13	4
2006	49	36	53	19	4	49	36	53	20	4	49	0	23	13	4
2007	49	34	53	19	4	49	34	53	20	4	49	0	21	13	4
2008	46	33	53	19	4	46	33	53	20	4	46	0	17	12	4
2009	43	32	53	18	4	43	30	53	20	4	43	0	17	12	4
2010	42	29	53	17	4	42	23	53	20	4	42	0	16	12	4
2011	38	26	53	17	4	38	21	53	20	4	39	0	15	12	4
2012	37	23	53	17	4	37	21	53	20	4	38	0	15	12	4
2013	35	21	53	17	4	35	19	53	20	4	36	0	15	12	4
2014	27	18	53	16	4	27	16	53	20	4	32	0	15	12	4

	ag2000					actImpl					bond				
year	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
2001	39	93	16	5	1	39	93	16	5	1	39	93	16	5	1
2002	24	84	16	5	1	24	84	16	5	1	24	84	16	5	1
2003	24	84	16	5	1	24	84	16	5	1	24	84	16	5	1
2004	23	84	16	5	1	23	84	16	5	1	23	84	16	5	1
2005	23	84	16	5	1	23	83	16	5	1	23	61	15	5	1
2006	23	84	16	5	1	23	82	16	5	1	23	60	15	5	1
2007	23	84	16	5	1	23	81	16	5	1	23	58	15	5	1
2008	23	83	16	5	1	23	80	16	5	1	23	56	15	5	1
2009	23	83	16	5	1	23	80	16	5	1	23	55	15	5	1
2010	23	82	16	5	1	23	79	16	5	1	22	52	15	5	1
2011	23	80	16	5	1	23	78	16	5	1	22	49	15	5	1
2012	22	79	16	5	1	23	77	16	5	1	22	48	15	5	1
2013	22	79	16	5	1	23	75	16	5	1	22	46	15	5	1
2014	22	78	16	5	1	23	74	16	5	1	22	45	15	5	1

Source: model results

Table 6: Land distribution by 2001 farm size

	ag2000					actImpl					bond				
year	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
2001	55.0	198.0	480.0	584.5	374.5	55.0	198.0	480.0	584.5	374.5	55.0	198.0	480.0	584.5	374.5
2002	54.0	132.0	482.5	628.5	395.0	54.0	132.0	482.5	628.5	395.0	54.0	132.0	482.5	628.5	395.0
2003	54.0	132.0	483.0	625.0	398.0	54.0	132.0	483.0	625.0	398.0	54.0	132.0	483.0	625.0	398.0
2004	52.0	132.0	483.5	625.0	399.5	52.0	132.0	483.5	625.0	399.5	52.0	132.0	483.5	625.0	399.5
2005	51.0	128.0	484.0	631.0	398.0	52.5	128.0	484.5	630.0	397.0	51.0	0.0	269.5	865.0	506.5
2006	49.0	128.0	484.0	634.0	397.0	50.5	129.0	485.0	631.5	396.0	55.0	0.0	261.5	870.5	505.0
2007	49.0	120.0	484.5	637.5	401.0	51.5	122.0	486.0	633.0	399.5	61.0	0.0	259.0	868.0	504.0
2008	46.0	116.5	484.5	646.0	399.0	49.0	118.5	489.0	637.5	398.0	66.0	0.0	266.0	846.0	510.0
2009	43.0	112.5	485.5	654.5	396.5	46.0	107.5	493.0	652.5	393.0	64.0	0.0	280.5	842.0	502.0
2010	42.0	100.5	486.0	668.0	395.5	45.5	80.0	501.5	672.5	392.5	64.5	0.0	292.0	836.0	498.5
2011	38.0	90.0	488.0	680.5	395.5	40.0	73.5	510.0	674.0	394.5	64.0	0.0	300.5	834.0	492.5
2012	37.0	77.0	490.5	683.5	404.0	40.0	75.0	520.0	669.5	387.5	63.0	0.0	322.0	821.5	485.0
2013	35.0	70.5	494.0	686.0	406.5	38.0	67.5	531.5	668.0	387.0	61.0	0.0	337.5	817.5	475.5
2014	27.0	60.5	514.0	690.0	400.5	30.0	57.5	562.0	659.5	383.0	55.0	0.0	366.5	803.0	467.0

	ag2000					actImpl					bond				
year	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
2001	46.5	268.5	171.0	118.0	51.0	46.5	268.5	171.0	118.0	51.0	46.5	268.5	171.0	118.0	51.0
2002	41.0	251.0	190.5	117.5	55.0	41.0	251.0	190.5	117.5	55.0	41.0	251.0	190.5	117.5	55.0
2003	41.0	249.5	191.0	118.5	55.0	41.0	249.5	191.0	118.5	55.0	41.0	249.5	191.0	118.5	55.0
2004	40.0	249.5	191.0	119.5	55.0	40.0	249.5	191.0	119.5	55.0	40.0	249.5	191.0	119.5	55.0
2005	40.0	249.5	191.0	119.5	55.0	40.5	250.0	191.5	117.5	55.5	39.5	170.0	219.5	130.0	60.0
2006	40.0	249.0	192.0	119.0	55.0	40.5	249.0	192.0	116.5	57.0	39.5	166.0	222.5	129.0	60.0
2007	39.5	248.5	193.0	119.0	55.0	40.5	247.5	195.5	114.0	57.5	39.0	159.5	225.0	133.5	60.0
2008	40.0	245.0	196.0	119.0	55.0	40.0	244.5	199.5	112.5	58.5	38.5	153.0	227.0	134.0	60.0
2009	40.0	245.0	195.5	119.5	55.0	38.0	245.5	199.5	113.0	59.0	37.0	150.0	232.5	134.0	60.0
2010	40.0	242.0	198.5	119.5	55.0	38.0	243.5	201.5	112.0	60.0	35.5	141.0	236.0	134.5	60.0
2011	40.0	236.5	201.0	121.0	56.5	37.0	242.0	205.5	110.5	60.0	34.0	132.0	240.5	136.5	61.5
2012	38.5	234.5	203.5	120.5	58.0	37.5	240.0	207.0	110.5	60.0	34.5	127.0	242.0	135.5	61.5
2013	38.5	234.5	202.5	121.0	58.5	40.5	238.0	206.5	110.0	60.0	34.5	119.5	245.0	134.5	61.0
2014	38.5	230.5	206.0	121.0	59.0	42.5	235.0	210.5	107.5	59.5	33.5	114.5	247.5	133.5	60.5

Source: model results

Colli Esini results

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total number of farms - [farms]														
- agenda 2000	5,490	5,040	5,040	4,980	4,920	4,830	4,770	4,650	4,500	4,350	4,140	4,020	3,900	3,540
- actual implementation	5,490	5,040	5,040	4,980	4,920	4,860	4,800	4,680	4,500	4,260	4,080	4,050	3,930	3,600
- bond scheme	5,490	5,040	5,040	4,980	2,820	2,670	2,610	2,370	2,280	2,220	2,100	2,070	2,010	1,890
Profit - [€/ha]														
- agenda 2000	1,116	1,079	1,075	1,074	1,047	1,043	1,044	1,033	1,040	1,038	1,028	1,011	1,012	991
- actual implementation	1,116	1,079	1,075	1,074	1,079	1,072	1,069	1,054	1,040	1,020	988	987	967	934
- bond scheme	1,116	1,079	1,075	1,074	916	900	907	892	890	870	866	861	858	837
Average farm size - [ha]														
- agenda 2000	9.25	10.07	10.07	10.19	10.32	10.51	10.64	10.92	11.28	11.67	12.26	12.63	13.02	14.34
- actual implementation	9.25	10.07	10.07	10.19	10.32	10.44	10.58	10.85	11.28	11.92	12.44	12.53	12.92	14.10
- bond scheme	9.25	10.07	10.07	10.19	18.00	19.01	19.45	21.37	22.22	22.85	24.16	24.51	25.25	26.85
Rental price of arable dry land - [€/ha]														
- agenda 2000	570	618	628	641	663	690	718	740	760	771	784	804	814	828
- actual implementation	570	618	628	641	668	695	730	758	780	808	829	852	863	878
- bond scheme	570	618	628	641	363	369	376	381	388	398	409	415	422	426
Rental price of arable irrigable land - [€/ha]														
- agenda 2000	700	938	1,384	1,834	1,908	2,148	2,141	2,177	2,350	2,427	2,431	2,423	2,515	2,501
- actual implementation	700	938	1,384	1,834	1,937	2,253	2,303	2,346	2,595	2,629	2,659	2,821	2,909	2,905
- bond scheme	700	938	1,384	1,834	2,619	2,301	2,195	2,078	2,090	2,102	2,057	2,063	2,051	2,074
Rental price of generic grassland - [€/ha]														
- agenda 2000	254	691	691	691	887	887	1,109	1,342	1,343	1,394	1,457	1,457	1,502	1,563
- actual implementation	254	691	691	691	655	655	614	703	666	619	615	617	644	668
- bond scheme	254	691	691	691	91	91	91	72	78	76	90	103	116	114
Rental price of table wine area - [€/ha]														
- agenda 2000	1,600	1,403	1,403	1,403	1,415	1,419	1,455	1,469	1,442	1,467	1,470	1,459	1,464	1,473
- actual implementation	1,600	1,403	1,403	1,403	1,430	1,457	1,531	1,557	1,600	1,669	1,720	1,729	1,856	1,870
- bond scheme	1,600	1,403	1,403	1,403	1,370	1,358	1,364	1,335	1,352	1,362	1,415	1,431	1,489	1,499
Rental price of quality wine area - [€/ha]														
- agenda 2000	0	1,798	1,798	1,798	1,798	1,798	1,798	1,792	1,792	1,749	1,782	1,782	1,771	1,757
- actual implementation	0	1,798	1,798	1,798	1,798	1,798	1,798	1,782	1,782	1,743	1,936	1,961	1,972	1,995
- bond scheme	0	1,798	1,798	1,798	1,758	1,758	1,758	1,734	1,750	1,736	1,770	1,793	1,813	1,812
Rental price of olives for oil dry area - [€/ha]														
- agenda 2000	678	860	954	954	954	1,152	1,152	1,172	1,375	1,548	1,759	1,779	1,960	2,019
- actual implementation	678	860	954	954	954	1,040	1,040	1,003	1,065	1,096	1,171	1,128	1,175	1,261
- bond scheme	678	860	954	954	801	795	795	716	709	716	734	747	787	807
Rental price of olives for oil irrigable area - [€/ha]														
- agenda 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- actual implementation	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- bond scheme	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rental price of citrus fruit area - [€/ha]														
- agenda 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- actual implementation	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- bond scheme	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Share of unused occupied land - [%]														
- agenda 2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- actual implementation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- bond scheme	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.001	0.000	0.000	0.000
Idle arable dry land - [%]														
- agenda 2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- actual implementation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- bond scheme	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Idle arable irrigable land - [%]														
- agenda 2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- actual implementation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- bond scheme	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Idle grassland - [%]														
- agenda 2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

- actual implementation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- bond scheme	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Beef - [LU/ha]														
- agenda 2000	0.042	0.050	0.051	0.051	0.052	0.052	0.054	0.055	0.055	0.057	0.055	0.057	0.057	0.059
- actual implementation	0.042	0.050	0.051	0.051	0.039	0.039	0.037	0.036	0.034	0.030	0.029	0.029	0.036	0.034
- bond scheme	0.042	0.050	0.051	0.051	0.007	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Suckler cows - [LU/ha]														
- agenda 2000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
- actual implementation	0.001	0.000	0.000	0.000	0.002	0.002	0.003	0.003	0.004	0.005	0.005	0.005	0.004	0.004
- bond scheme	0.001	0.000	0.000	0.000	0.010	0.010	0.010	0.010	0.010	0.011	0.011	0.012	0.012	0.012
Dairy - [LU/ha]														
- agenda 2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- actual implementation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- bond scheme	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ovins and goats - [LU/ha]														
- agenda 2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- actual implementation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- bond scheme	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total livestock - [LU/ha]														
- agenda 2000	0.044	0.050	0.051	0.051	0.052	0.052	0.054	0.055	0.055	0.057	0.055	0.057	0.058	0.060
- actual implementation	0.044	0.050	0.051	0.051	0.042	0.042	0.040	0.039	0.038	0.035	0.034	0.034	0.040	0.039
- bond scheme	0.044	0.050	0.051	0.051	0.018	0.018	0.018	0.010	0.011	0.011	0.011	0.012	0.012	0.012
Total agricultural labour - [AWU/100ha]														
- agenda 2000	6.03	5.47	5.27	5.12	4.78	4.58	4.54	4.34	4.26	4.18	4.06	3.97	3.80	3.35
- actual implementation	6.03	5.47	5.27	5.12	4.70	4.58	4.47	4.24	4.01	3.85	3.55	3.53	3.36	2.87
- bond scheme	6.03	5.47	5.27	5.12	3.77	3.62	3.61	3.67	3.58	3.38	3.37	3.29	3.22	2.92
Share of family labour - [%]														
- agenda 2000	92.86	92.29	92.61	92.74	92.45	92.48	92.22	92.37	92.50	92.26	91.21	90.82	92.40	92.91
- actual implementation	92.86	92.29	92.61	92.74	93.39	93.38	93.29	93.31	93.56	93.39	92.63	92.59	92.78	92.61
- bond scheme	92.86	92.29	92.61	92.74	93.55	93.86	94.85	94.74	94.73	94.84	94.69	95.59	95.28	96.15
Share of family labour spent off farm - [%]														
- agenda 2000	36.04	38.02	39.81	40.33	43.89	44.56	44.94	46.48	45.97	46.15	46.01	46.92	46.70	47.59
- actual implementation	36.04	38.02	39.81	40.33	43.95	44.64	45.47	47.35	48.40	49.49	51.73	51.80	53.95	57.15
- bond scheme	36.04	38.02	39.81	40.33	32.29	32.73	31.39	26.53	25.88	27.72	25.25	25.32	25.43	27.13
Total incomes by farm (profit + off farm incomes) - [€]														
- agenda 2000	14,052	14,917	15,080	15,269	15,539	15,785	16,025	16,417	16,856	17,359	17,926	18,293	18,715	19,947
- actual implementation	14,052	14,917	15,080	15,269	15,874	16,027	16,277	16,668	17,159	17,903	18,388	18,499	18,937	20,074
- bond scheme	14,052	14,917	15,080	15,269	20,333	21,089	21,518	22,401	23,059	23,459	24,223	24,444	25,059	26,132
Share of incomes from off farm activity - [%]														
- agenda 2000	26.584	27.168	28.228	28.305	30.465	30.550	30.693	31.342	30.420	30.243	29.687	30.199	29.632	28.742
- actual implementation	26.584	27.168	28.228	28.305	29.863	30.124	30.546	31.417	31.636	32.131	33.146	33.133	34.029	34.428
- bond scheme	26.584	27.168	28.228	28.305	18.882	18.830	18.037	14.952	14.272	15.209	13.641	13.631	13.523	13.960
Farm incomes by farm - [€]														
- agenda 2000	10,317	10,864	10,823	10,947	10,805	10,963	11,106	11,272	11,729	12,109	12,604	12,769	13,169	14,214
- actual implementation	10,317	10,864	10,823	10,947	11,133	11,199	11,305	11,431	11,731	12,151	12,293	12,370	12,493	13,163
- bond scheme	10,317	10,864	10,823	10,947	16,494	17,117	17,637	19,051	19,768	19,891	20,918	21,112	21,670	22,484
Total development of total transfers - [x1,000,000 €]														
- agenda 2000	22.43	22.60	22.62	22.58	22.55	22.50	22.56	22.50	22.60	22.75	22.73	22.74	22.78	22.98
- actual implementation	22.43	22.60	22.62	22.58	23.37	23.28	23.20	23.17	23.17	23.13	23.11	23.11	23.09	23.09
- bond scheme	22.43	22.60	22.62	22.58	14.38	14.02	13.77	12.56	12.53	12.42	12.29	12.28	12.26	12.23
Transfers by farm - [x1,000 €]														
- agenda 2000	4.09	4.48	4.49	4.53	4.58	4.66	4.73	4.84	5.02	5.23	5.49	5.66	5.84	6.49
- actual implementation	4.09	4.48	4.49	4.53	4.75	4.79	4.83	4.95	5.15	5.43	5.66	5.71	5.88	6.42
- bond scheme	4.09	4.48	4.49	4.53	5.10	5.25	5.27	5.30	5.50	5.59	5.85	5.93	6.10	6.47
Transfers by hectar - [€]														
- agenda 2000	441.9	445.3	445.7	444.9	444.3	443.3	444.5	443.3	445.2	448.2	447.7	448.0	448.9	452.7
- actual implementation	441.9	445.3	445.7	444.9	460.5	458.6	457.1	456.5	456.4	455.7	455.2	455.2	454.9	455.0
- bond scheme	441.9	445.3	445.7	444.9	283.3	276.2	271.2	248.0	247.4	244.8	242.2	242.0	241.6	240.9
Real decoupling rate - [%]														
- agenda 2000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- actual implementation	0.00	0.00	0.00	0.00	81.51	81.60	81.56	81.61	81.59	81.64	81.66	81.67	81.68	81.68
- bond scheme	0.00	0.00	0.00	0.00	95.61	95.50	95.42	94.98	94.97	94.92	94.87	94.86	94.86	94.84
Share of irrigated land - [%]														
- agenda 2000	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1

- actual implementation	3.0	3.0	3.0	3.0	2.3	2.3	2.3	2.3	2.3	2.4	2.6	2.6	2.8	3.0
- bond scheme	3.0	3.0	3.0	3.0	2.7	3.1	3.4	3.8	3.8	3.9	4.0	4.0	4.0	4.0
Durum wheat - [ha]														
- agenda 2000	24,085	24,034	24,040	24,045	24,048	24,059	24,059	24,073	24,081	24,081	24,122	24,125	24,138	24,171
- actual implementation	24,085	24,034	24,040	24,045	23,717	23,740	23,741	23,756	23,746	23,715	23,671	23,682	23,492	23,527
- bond scheme	24,085	24,034	24,040	24,045	23,247	23,191	22,972	23,050	23,032	23,209	23,143	23,166	22,992	23,040
Sugar beet - [ha]														
- agenda 2000	7,899	8,147	8,156	8,249	8,342	8,448	8,420	8,623	8,426	8,184	8,163	8,237	8,185	7,887
- actual implementation	7,899	8,147	8,156	8,249	11,216	11,216	11,216	11,216	11,216	11,216	11,216	11,216	11,216	11,216
- bond scheme	7,899	8,147	8,156	8,249	11,216	11,205	11,186	11,149	11,141	11,134	11,119	11,115	11,111	11,111
Maize - [ha]														
- agenda 2000	5,092	5,018	4,966	4,908	4,864	4,791	4,753	4,687	4,740	4,921	4,896	4,725	4,772	4,823
- actual implementation	5,092	5,018	4,966	4,908	2,466	2,587	2,611	2,702	2,723	2,829	2,861	2,885	2,986	2,955
- bond scheme	5,092	5,018	4,966	4,908	4,216	4,246	4,355	4,336	4,365	4,168	4,234	4,214	4,412	4,414
Vegetables - [ha]														
- agenda 2000	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,132
- actual implementation	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145	1,145
- bond scheme	1,145	1,145	1,145	1,145	1,294	1,473	1,623	1,787	1,787	1,816	1,846	1,846	1,846	1,846
Set-aside - [ha]														
- agenda 2000	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,373
- actual implementation	4,372	4,372	4,372	4,372	5,456	5,262	5,261	5,188	5,247	5,210	5,214	5,167	5,196	5,232
- bond scheme	4,372	4,372	4,372	4,372	4,357	4,339	4,324	4,308	4,308	4,305	4,302	4,302	4,302	4,302
Total permanent crops - [ha]														
- agenda 2000	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905
- actual implementation	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905
- bond scheme	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905	4,905
Vineyards - [ha]														
- agenda 2000	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855
- actual implementation	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855
- bond scheme	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855	3,855
Olives (for oil) - [ha]														
- agenda 2000	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050
- actual implementation	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050
- bond scheme	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050	1,050
Citrus fruits - [ha]														
- agenda 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- actual implementation	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- bond scheme	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Piana di Sibari results

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total number of farms - [farms]														
- agenda 2000	4,620	3,900	3,900	3,870	3,870	3,870	3,870	3,840	3,840	3,810	3,750	3,690	3,690	3,660
- actual implementation	4,620	3,900	3,900	3,870	3,840	3,810	3,780	3,750	3,750	3,720	3,690	3,660	3,600	3,570
- bond scheme	4,620	3,900	3,900	3,870	3,150	3,120	3,060	3,000	2,970	2,850	2,760	2,730	2,670	2,640
Profit - [€/ha]														
- agenda 2000	2,166	2,128	2,147	2,166	2,190	2,223	2,227	2,225	2,232	2,244	2,216	2,218	2,233	2,222
- actual implementation	2,166	2,128	2,147	2,166	2,058	2,077	2,059	2,065	2,067	2,051	2,041	2,047	2,039	2,034
- bond scheme	2,166	2,128	2,147	2,166	1,736	1,783	1,798	1,824	1,817	1,804	1,783	1,798	1,810	1,831
Average farm size - [ha]														
- agenda 2000	4.25	5.04	5.04	5.08	5.08	5.08	5.08	5.12	5.12	5.16	5.24	5.33	5.33	5.37
- actual implementation	4.25	5.04	5.04	5.08	5.12	5.16	5.20	5.24	5.24	5.28	5.33	5.37	5.46	5.50
- bond scheme	4.25	5.04	5.04	5.08	5.90	5.93	6.05	6.13	6.20	6.39	6.57	6.60	6.68	6.70
Rental price of arable dry land - [€/ha]														
- agenda 2000	180	180	364	526	692	774	774	774	774	849	933	1,133	1,218	1,296
- actual implementation	180	180	364	526	699	781	781	781	781	857	938	1,090	1,206	1,315
- bond scheme	180	180	364	526	631	656	656	676	690	698	722	750	781	815
Rental price of arable irrigable land - [€/ha]														
- agenda 2000	780	1,235	1,371	1,473	1,545	1,580	1,672	1,812	1,858	1,934	1,977	2,025	2,086	2,116
- actual implementation	780	1,235	1,371	1,473	1,625	1,732	1,851	2,000	2,036	2,153	2,249	2,278	2,340	2,377
- bond scheme	780	1,235	1,371	1,473	1,543	1,552	1,542	1,538	1,538	1,511	1,511	1,510	1,498	1,491
Rental price of generic grassland - [€/ha]														
- agenda 2000	104	753	835	861	891	950	1,048	1,140	1,142	1,207	1,279	1,369	1,411	1,499
- actual implementation	104	753	835	861	899	965	1,049	1,134	1,132	1,152	1,232	1,355	1,388	1,453
- bond scheme	104	753	835	861	871	853	884	888	870	827	805	838	830	832
Rental price of table wine area - [€/ha]														
- agenda 2000	0	594	594	594	641	770	770	806	851	881	908	906	956	977
- actual implementation	0	594	594	594	641	801	801	834	864	897	923	1,020	1,035	1,132
- bond scheme	0	594	594	594	641	770	770	806	838	869	906	938	968	946
Rental price of quality wine area - [€/ha]														
- agenda 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- actual implementation	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- bond scheme	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rental price of olives for oil dry area - [€/ha]														
- agenda 2000	1,380	927	922	922	921	933	943	959	977	995	1,020	1,028	1,042	1,054
- actual implementation	1,380	927	922	922	927	945	955	959	962	961	971	982	980	989
- bond scheme	1,380	927	922	922	906	796	750	750	712	655	644	620	557	410
Rental price of olives for oil irrigable area - [€/ha]														
- agenda 2000	1,720	1,779	1,795	1,807	1,886	1,896	1,962	2,006	2,036	2,079	2,134	2,149	2,168	2,175
- actual implementation	1,720	1,779	1,795	1,807	1,701	1,661	1,635	1,584	1,570	1,537	1,511	1,502	1,499	1,517
- bond scheme	1,720	1,779	1,795	1,807	500	458	329	298	239	219	175	162	153	156
Rental price of citrus fruit area - [€/ha]														
- agenda 2000	2,070	1,566	1,541	1,516	1,536	1,524	1,543	1,557	1,547	1,575	1,529	1,522	1,551	1,548
- actual implementation	2,070	1,566	1,541	1,516	1,582	1,739	1,802	1,847	1,956	2,119	2,209	2,209	2,270	2,270
- bond scheme	2,070	1,566	1,541	1,516	1,557	1,552	1,570	1,576	1,553	1,542	1,482	1,467	1,502	1,505
Share of unused occupied land - [%]														
- agenda 2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- actual implementation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- bond scheme	0.000	0.000	0.000	0.000	0.055	0.058	0.058	0.065	0.063	0.073	0.077	0.083	0.092	0.100
Idle arable dry land - [%]														
- agenda 2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- actual implementation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- bond scheme	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Idle arable irrigable land - [%]														
- agenda 2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- actual implementation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- bond scheme	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Idle grassland - [%]														
- agenda 2000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- actual implementation	0.000	0.000	0.000	0.000	0.549	0.783	0.783	0.783	0.779	0.779	0.779	0.231	0.231	0.231

- bond scheme	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Beef - [LU/ha]														
- agenda 2000	0.118	0.120	0.122	0.122	0.121	0.121	0.121	0.122	0.123	0.122	0.121	0.121	0.121	0.122
- actual implementation	0.118	0.120	0.122	0.122	0.121	0.121	0.121	0.120	0.120	0.120	0.120	0.119	0.120	0.120
- bond scheme	0.118	0.120	0.122	0.122	0.128	0.127	0.127	0.127	0.127	0.128	0.127	0.124	0.120	0.122
Suckler cows - [LU/ha]														
- agenda 2000	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.008	0.008	0.008	0.008
- actual implementation	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.008	0.008	0.008
- bond scheme	0.006	0.007	0.007	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.009	0.009	0.010	0.010
Dairy - [LU/ha]														
- agenda 2000	0.007	0.001	0.001	0.001	0.004	0.004	0.004	0.004	0.004	0.007	0.007	0.007	0.007	0.007
- actual implementation	0.007	0.001	0.001	0.001	0.004	0.007	0.007	0.007	0.007	0.008	0.008	0.008	0.008	0.008
- bond scheme	0.007	0.001	0.001	0.001	0.004	0.011	0.012	0.012	0.012	0.012	0.012	0.024	0.028	0.028
Ovins and goats - [LU/ha]														
- agenda 2000	0.002	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- actual implementation	0.002	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
- bond scheme	0.002	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total livestock - [LU/ha]														
- agenda 2000	0.133	0.129	0.131	0.131	0.133	0.133	0.133	0.133	0.134	0.136	0.136	0.137	0.137	0.137
- actual implementation	0.133	0.129	0.131	0.131	0.133	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.136	0.136
- bond scheme	0.133	0.129	0.131	0.131	0.141	0.146	0.146	0.147	0.147	0.148	0.148	0.157	0.159	0.161
Total agricultural labour - [AWU/100ha]														
- agenda 2000	17.89	17.42	17.20	17.01	16.93	16.81	16.42	16.16	15.64	15.56	15.00	14.74	14.67	14.45
- actual implementation	17.89	17.42	17.20	17.01	16.03	15.90	15.49	15.38	14.90	14.86	14.45	14.20	14.00	13.64
- bond scheme	17.89	17.42	17.20	17.01	14.54	14.49	14.34	14.29	13.71	13.45	12.99	12.80	12.72	12.45
Share of family labour - [%]														
- agenda 2000	92.40	67.68	67.90	68.29	68.32	68.66	69.49	69.52	71.37	71.38	72.13	72.32	72.74	72.45
- actual implementation	92.40	67.68	67.90	68.29	68.80	68.65	68.76	68.35	70.19	69.73	70.91	71.27	71.22	72.15
- bond scheme	92.40	67.68	67.90	68.29	63.47	63.36	63.12	62.60	64.02	63.41	63.73	64.08	63.36	63.91
Share of family labour spent off farm - [%]														
- agenda 2000	13.11	3.55	3.54	3.59	3.86	3.89	3.89	4.05	4.12	4.06	4.22	3.96	3.82	3.57
- actual implementation	13.11	3.55	3.54	3.59	6.20	6.67	7.34	7.78	7.70	7.31	7.14	7.28	6.98	6.98
- bond scheme	13.11	3.55	3.54	3.59	7.41	7.60	6.53	6.53	6.43	4.71	3.71	3.55	3.50	3.66
Total incomes by farm (profit + off farm incomes) - [€]														
- agenda 2000	10,085	10,951	11,118	11,268	11,408	11,575	11,666	11,792	11,836	11,983	12,037	12,223	12,296	12,436
- actual implementation	10,085	10,951	11,118	11,268	11,038	11,215	11,327	11,474	11,514	11,608	11,634	11,768	11,895	12,009
- bond scheme	10,085	10,951	11,118	11,268	10,831	11,143	11,373	11,621	11,704	12,008	12,145	12,287	12,510	12,700
Share of incomes from off farm activity - [%]														
- agenda 2000	8.667	2.100	2.691	2.378	2.506	2.484	3.083	3.455	3.491	3.429	3.523	3.354	3.269	4.066
- actual implementation	8.667	2.100	2.691	2.378	4.608	4.492	5.487	5.674	5.945	6.676	6.597	6.631	6.450	6.752
- bond scheme	8.667	2.100	2.691	2.378	5.491	5.060	4.359	3.864	3.774	4.026	3.521	3.418	3.366	3.407
Farm incomes by farm - [€]														
- agenda 2000	9,211	10,721	10,818	11,000	11,122	11,287	11,306	11,384	11,423	11,572	11,613	11,813	11,894	11,930
- actual implementation	9,211	10,721	10,818	11,000	10,530	10,712	10,705	10,823	10,829	10,833	10,867	10,988	11,127	11,198
- bond scheme	9,211	10,721	10,818	11,000	10,236	10,579	10,877	11,172	11,262	11,524	11,718	11,867	12,089	12,267
Total development of total transfers - [x1,000,000 €]														
- agenda 2000	12.30	14.06	14.07	14.06	14.06	14.06	14.05	14.04	14.05	14.04	14.04	14.06	14.04	14.02
- actual implementation	12.30	14.06	14.07	14.06	12.17	12.18	12.19	12.20	12.19	12.17	12.17	12.17	12.15	12.14
- bond scheme	12.30	14.06	14.07	14.06	8.98	8.98	8.83	8.68	8.62	8.36	8.15	8.06	7.94	7.84
Transfers by farm - [x1,000 €]														
- agenda 2000	2.66	3.60	3.61	3.63	3.63	3.63	3.63	3.66	3.66	3.69	3.74	3.81	3.81	3.83
- actual implementation	2.66	3.60	3.61	3.63	3.17	3.20	3.22	3.25	3.25	3.27	3.30	3.33	3.38	3.40
- bond scheme	2.66	3.60	3.61	3.63	2.85	2.88	2.88	2.89	2.90	2.94	2.95	2.95	2.97	2.97
Transfers by hectar - [€]														
- agenda 2000	625.8	715.5	715.8	715.3	715.6	715.6	714.9	714.8	715.0	714.6	714.4	715.5	714.6	713.7
- actual implementation	625.8	715.5	715.8	715.3	619.1	620.1	620.4	621.1	620.5	619.4	619.4	619.5	618.4	618.1
- bond scheme	625.8	715.5	715.8	715.3	483.8	485.0	476.8	472.5	468.2	459.4	449.6	447.5	444.9	443.3
Real decoupling rate - [%]														
- agenda 2000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
- actual implementation	0.00	0.00	0.00	0.00	92.85	92.97	93.17	93.04	93.07	93.20	93.16	93.16	93.33	93.31
- bond scheme	0.00	0.00	0.00	0.00	99.52	99.53	99.53	99.53	99.52	99.52	99.49	99.50	99.47	99.46
Share of irrigated land - [%]														
- agenda 2000	55.5	56.7	56.9	57.0	57.1	57.2	57.3	57.4	57.4	57.5	57.7	57.7	57.8	57.9
- actual implementation	55.5	56.7	56.9	57.0	57.2	57.1	57.2	57.3	57.3	57.1	57.1	57.3	57.0	57.0

- bond scheme	55.5	56.7	56.9	57.0	56.7	56.9	57.2	57.3	57.8	57.6	57.7	58.3	58.5	58.5
Durum wheat - [ha]														
- agenda 2000	2,613	2,740	2,711	2,682	2,681	2,681	2,667	2,621	2,613	2,603	2,575	2,587	2,565	2,528
- actual implementation	2,613	2,740	2,711	2,682	1,358	1,351	1,386	1,610	1,587	1,664	1,795	1,808	1,802	1,947
- bond scheme	2,613	2,740	2,711	2,682	78	78	75	72	67	75	67	67	75	70
Sugar beet - [ha]														
- agenda 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- actual implementation	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- bond scheme	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maize - [ha]														
- agenda 2000	1,501	1,485	1,502	1,521	1,544	1,551	1,542	1,570	1,570	1,590	1,619	1,654	1,639	1,625
- actual implementation	1,501	1,485	1,502	1,521	1,540	1,564	1,625	1,651	1,656	1,684	1,733	1,712	1,774	1,816
- bond scheme	1,501	1,485	1,502	1,521	1,950	1,948	1,983	1,958	2,012	1,986	1,969	1,992	2,077	2,061
Vegetables - [ha]														
- agenda 2000	1,529	1,418	1,442	1,454	1,449	1,439	1,463	1,445	1,449	1,448	1,448	1,429	1,456	1,488
- actual implementation	1,529	1,418	1,442	1,454	1,547	1,593	1,645	1,715	1,715	1,767	1,843	1,845	1,907	1,966
- bond scheme	1,529	1,418	1,442	1,454	1,916	1,914	1,965	1,939	2,025	1,979	1,956	1,998	2,134	2,107
Set-aside - [ha]														
- agenda 2000	340	358	385	412	429	432	432	436	435	436	442	446	443	443
- actual implementation	340	358	385	412	484	504	514	526	528	521	533	535	539	543
- bond scheme	340	358	385	412	533	537	547	543	553	551	542	550	565	559
Total permanent crops - [ha]														
- agenda 2000	10,895	11,070	11,070	11,070	11,070	11,085	11,085	11,100	11,100	11,100	11,100	11,100	11,100	11,100
- actual implementation	10,895	11,070	11,070	11,070	9,492	9,353	8,957	8,957	8,930	8,603	8,551	8,519	8,221	8,089
- bond scheme	10,895	11,070	11,070	11,070	7,543	7,538	7,355	7,365	7,324	6,874	6,778	6,755	6,456	6,411
Vineyards - [ha]														
- agenda 2000	225	225	225	225	225	225	225	225	225	225	225	225	225	225
- actual implementation	225	225	225	225	225	225	225	225	225	225	225	225	225	225
- bond scheme	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Olives (for oil) - [ha]														
- agenda 2000	5,750	5,835	5,835	5,835	5,835	5,835	5,835	5,835	5,835	5,835	5,835	5,835	5,835	5,835
- actual implementation	5,750	5,835	5,835	5,835	4,227	4,088	3,692	3,692	3,665	3,338	3,286	3,254	2,956	2,824
- bond scheme	5,750	5,835	5,835	5,835	2,278	2,273	2,090	2,100	2,059	1,609	1,513	1,490	1,191	1,146
Citrus fruits - [ha]														
- agenda 2000	4,920	5,010	5,010	5,010	5,010	5,025	5,025	5,040	5,040	5,040	5,040	5,040	5,040	5,040
- actual implementation	4,920	5,010	5,010	5,010	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040
- bond scheme	4,920	5,010	5,010	5,010	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040	5,040