

## The assessment of the New CAP Reform: the case study of Tuscany

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### Introduction, aims and scope

In its more than fifty year existence, the Common Agricultural Policy (CAP) has undergone profound transformations in terms of objectives, as well as in terms of the tools adopted to pursue these objectives. Increased productivity, increased efficiency, reinforced competitiveness, and climatic changes are only a few of the many keywords utilised to describe the aims of public intervention in the course of decades.

The last CAP Reform, introduced through Reg. 1307/2013, deeply modifies the old system of First Pillar payments (Reg. 1782/2003). Indeed, as of January 2015, the Single Farm Payment Scheme (SFPS) has been replaced by the Basic Payment Scheme (BPS). The SFPS provided for a Single Farm Payment (SFP), decoupled from production, calculated on the average of all the payments the farmer received in the period 2000-2001-2002. Though decoupled, this calculation typology renders the SFP still affected by the coupled payments of the previous programming. The new BPS instead provides for a direct payment entirely recalculated on the national basis, decoupled from production, which considers again the historical aids.,

The passage from the old payments to the new is planned to occur gradually up until 2019 when direct payments per hectare will reach a more homogeneous level nationally.

The overall objective of the paper is therefore to evaluate the impacts of distributing direct payments in Tuscany in 2019, as provided by Reg. 1307/2013, compared to the pre-Reform SFP payments in 2014. It will thus be possible to analyse in detail the redistribution effects on farms and on the territory of Tuscany. By means of a microanalysis on the farm level and the spatial distribution of payments, we shall be able to identify specific farm typologies or specific areas that might show criticalities that could induce phenomena of abandonment of farming activity.

Reg. 1307/2013 provides that each Member State adopt decisions on the national level to implement the new system of direct payments. In particular, Italy has adopted the following decisions on the national level (Albani et al., 2015; Defra, 2014; Frascarelli, 2014; Mipaaf, 2014, Welsh Government, 2014):

- The "active farmers" will access the new BPS. It refers to farmers carrying out agricultural activity (defined by Europe and each Member State) on the area of land claimed;
- The minimum size a farm must have to receive payments is 0.5 ha;

- Direct payments divided into five components with the following percentages of the national ceiling: base payment (58%), greening payment (30%), payment for young farmers (1%), coupled payment (11%), payment for small-scale farmers;
- Regionalisation of payments, "Italy as a single region". Each title is calculated on the national level;
- "Irish" convergence model to calculate the base payment;
- Greening payment calculated on the individual level in proportion to the base payment.

The article is structured as follows. After making a brief synthesis of the various contributions found in literature that have analysed the effects of the CAP Reform, we describe the context of analysis (the Tuscan primary sector) and the methodology applied to calculate farm payments according to the new Basic Payment Scheme. Then the effects of the new Reform are pointed out, and several conclusions drawn.

### **Literature on the assessment of the New CAP Reform 2014-2020**

Before the publication of Reg. 1307/2013, several studies conducted simulations on hypothetical scenarios concerning the new CAP Reform, based on documents and anticipations of the new Regulation.

In particular, considering the recent literature on the topic, Shrestha et al. (2014), Casini and Scozzafava (2013), Swinnen et al. (2013), De Vivo et al. (2012) and Tudini (2011) conducted simulations on possible scenarios in the course of defining. With respect to these studies, this paper has the advantage of making long-term processing (up to 2019), based on recently approved policy decisions, and referring to the universe of farms of the Region of Tuscany.

With the publication of the Regulation of the CAP Reform 2014-2020 and national decisions, several studies have recently analysed the effects of introducing this reform. Hereafter, we shall concentrate on several studies conducted on the national and European level.

Several studies conducted in Italy point out that the new typology of payments will involve criticalities, especially for farms specialising in arable crops and the breeding of herbivores: be it for the receipt of smaller sums, be it for the application of greening, which involves a diversification of crops (Frascarelli, 2014; Arfini et al. 2013). On the contrary, beneficial effects will mainly concern winegrowing firms, generally penalised by the old system of payments on a historical basis (Frascarelli, 2014; Pupo D'Andrea, 2014).

Other studies instead mainly examine the effects of introducing the greening payment in various Member States (Was et al., 2014; Brown and Jones, 2013; Czekaj et al., 2013; Heinrich, 2012). In this regard, Cimino et al. (2015) demonstrate the negative effect of greening on gross margin for the specialised arable farms in Italy, with some variability according to the different regions and areas considered. Moreover, Cimino et al. (2014), and Henke and Vanni (2014), stress that the introduction of greening involves the production of public goods by the farms. In some cases, the costs incurred for this production, e.g. by farms specialised in maize, are not compensated by the greening payment inasmuch as it does not take into account the specificities of farm and territory. Costs will therefore be compensated according to farm location and specialisation.

Bartolini et al. (2015), more specifically, show that the introduction of greening favours, with the consequent diversification of crops, the production of energy crops.

Methodologies of analysis similar to the one utilised in the article have been implemented by Scozzafava et al. (2014) and Pagnotta et al. (2014), who have examined the characteristics of the farms that have received Community financing – in this case pertaining to II Pillar – to then make more general considerations on the territorial level.

Generally speaking, the advantage of this article over the various studies cited is that it performs a punctual analysis up to 2019 of the BPS payments that single farms will receive, and can make comparisons with the pre-Reform situation of 2014.

## Data and method

The study utilises the ARTEA (the "Tuscan Regional Agency for Agricultural Payments") database as its source of data. Our case study refers to the Region of Tuscany.

The database contains information on the single farms in Tuscany that have received I and II Pillar payments through the years. In detail, we have utilised the data concerning the farm characteristics and the CAP Single Farm Payment (SFP) that farms received in 2014, which is necessary to calculate the total payments farms will receive with the New Reform 2014-2020 (in full effect as of the second half of 2015, and definitive as of 2019).

### *Overview: Tuscan agriculture and the CAP Single Farm Payment - SFP - (pre-Reform)*

An overview of the primary sector in Tuscany reveals a total of 52,946 farms included in the ARTEA database. The average Utilised Agricultural Area (UAA) per farm is 11.47 hectares, while the median UAA is 2.88 ha. The total farm UAA of the Region is 607,702.44 (about 5% of the total Italian UAA from the ISTAT Census of 2010).

Concerning the farm localization, 76% of farms are located in the hills, 12% on plains areas, and the remaining 12% in the mountains.

The prevalent Typology of Agricultural Holdings (TAH) is permanent crops, followed by field crops (*Graph 1*).

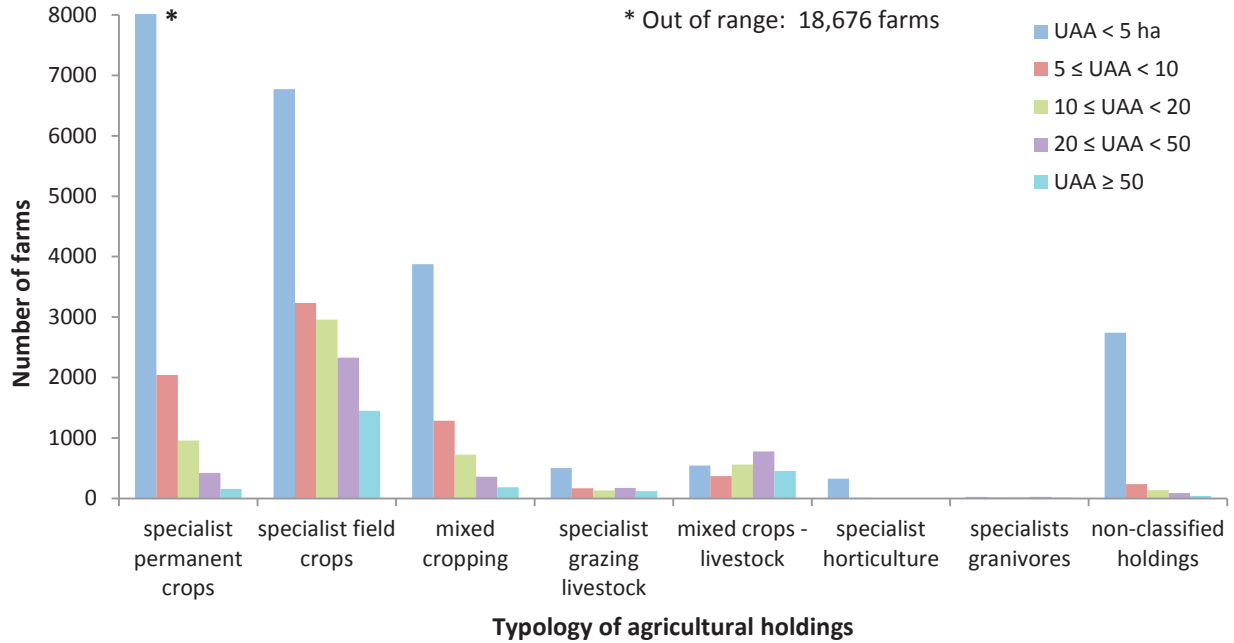
*Graph 2* shows the total amounts of the Single Farm Payment that farms received in 2014. This payment constitutes the basis of departure to calculate the new Direct Payments of the new CAP Reform, paid out to farms as of the second half of 2015.

Though decoupled from the productions, the SFP is still tied to the historical payments that the farmer received, as stressed earlier. In general, a total of 150.7 million euros in SFP payments were made to farms in 2014. The figure below shows that most of the payments made in Tuscany were mainly destined to large farms with arable crops. Though constituting the most widespread TAH, the farms with permanent crops instead received proportionally smaller payments.

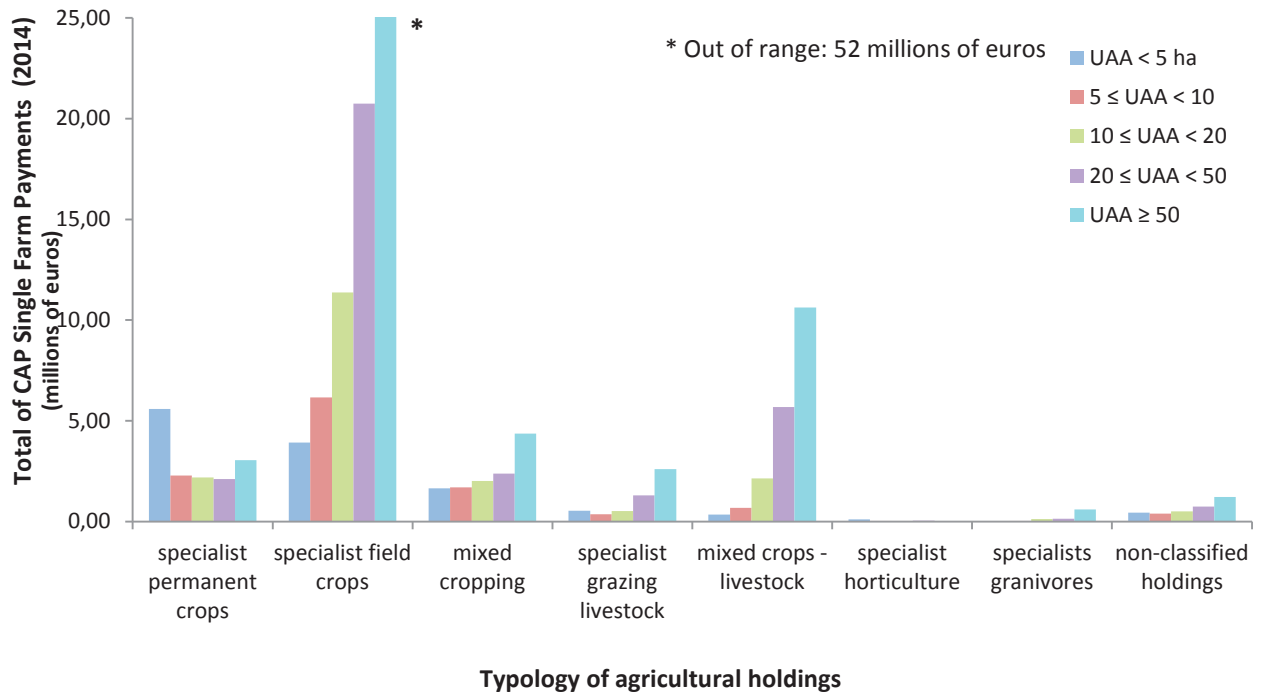
In specific terms, the farms with sown crops receive an average of € 286/ha, those with permanent crops € 252/ha, and those with mixed crops-livestock € 873/ha. From the territorial viewpoint, the Provinces of Grosseto and Siena are the ones where most of the I Pillar funds are concentrated (respectively 26% and 24% of the total SFPs disbursed to

farms). In these territories, arable crops indeed represent the main farming activity that strongly characterises the local agriculture.

*Graph 1 - Farm size by prevalent Typology of agricultural holdings*



*Graph 2 - CAP Single Farm Payments in 2014 (pre-Reform) by prevalent Typology of agricultural holdings*



Source: our elaboration from ARTEA data

*From the SFP to the new regionalised Direct Payment: the Irish convergence model*

In processing data, the regionalised Direct Payment disbursed to farmers as of the second half of 2015 was calculated. Italy has chosen the "Irish" model with a base payment of 58% joined by the greening payment of 30%.

The data processing performed in the article refers to the 52,946 farms located in Tuscany and contained in the Artea database. All the farms are included in our analysis since the lack of data and the complex definition makes difficult to determine precisely the "active farmers".

The base payment received by farms in 2019 with the new Reform is calculated using the *Irish convergence model*. The Irish model provides for the calculation of two parameters: the initial unitary value (*IUV*) and the national unitary value in 2019 (*NUV*).

Referencing Ciliberti and Frascarelli (2014), Frascarelli (2014), and Albani et al. (2015), the first parameter is calculated as (1):

$$(1) \quad IUV = (x/y) * (A/B)$$

where  $x$  is the national ceiling for the basic payment scheme for the year 2015,  $y$  is the amount of the payment for 2014 under the SFP scheme,  $A$  is the payment the farmer received in 2014 and  $B$  is the number of payment entitlements allocated in 2015 (calculated as the single farm's UAA in 2014).

The  $(x/y)$  relationship depends on the Member State and is independent of each farmer's situation. For Italy this value equals 58%. The  $(A/B)$  relationship instead depends on the individual farmer's situation.

The *NUV*, the second parameter, is calculated as (2):

$$(2) \quad NUV = (X/Y) * (P/R)$$

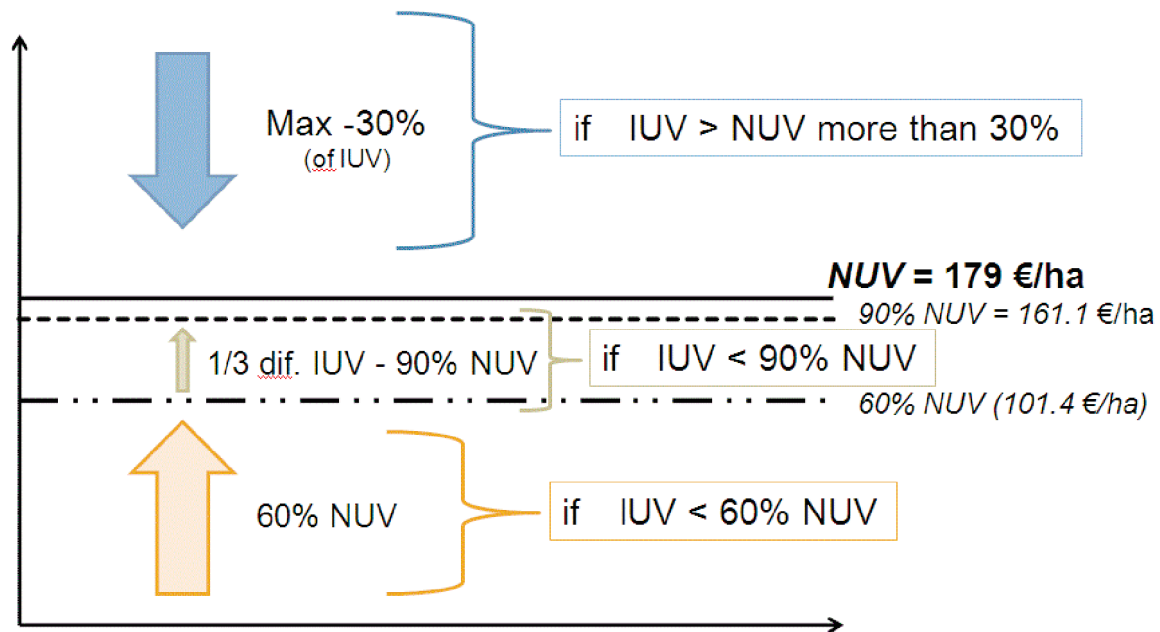
where  $X$  is the national ceiling for the basic payment scheme for 2015 (58% of the total national ceiling),  $Y$  is the national ceiling for 2015 (3,902 million euros),  $P$  is the national ceiling for the basic payment scheme established for 2019 (3,704 million euros) and  $R$  is the number of allocated payment entitlements in 2015 (about 12 million hectares).

In processing, the value of the *NUV* is thus considered equal to € 179/ha, as also indicated by Bartolini et al. (2015), Ciliberti and Frascarelli (2014), and Frascarelli (2014).

Therefore, according to the *Irish convergence model*, the titles of each farmer cannot be subjected to a reduction greater than 30% of the *IUV*, and the latter cannot be more than 60% lower than the *NUV*. For this reason, if the *IUV* is greater than the *NUV*, from 2015 to 2019 the direct payments will diminish gradually without declining more than 30% (*Figure 1*).

On the contrary, if the *IUV* is more than 60% lower than the *NUV*, the direct payments will increase from 2015 to 2019 until they reach this threshold. Moreover, farmers who receive less than 90% of the national unitary value will obtain an increase equal to one-third of the difference between their initial unitary value and 90% of the national unitary value of 2019.

Figure 1 - The Irish Convergence Model: the calculation of the new Base Payment



Lastly, the greening payment is calculated on the individual level in proportion to the base payment, as (3):

$$(3) \quad \text{Greening payment} = \left( \frac{\text{base payment}}{0.58} \right) * 0.30$$

In processing, the base payment and the greening are summed, so that they can be better compared to the SFP farms received in 2014.

In our study the coupled payments (11% of the national ceiling) are not considered. Indeed, the Italian decisions concerning these payments have not yet been defined exhaustively. However, relying on the intentions of the public decision-maker, the coupled payments in Tuscany will be allocated mostly to farms with durum wheat crops and specialised in dairy cattle and beef cattle.

One of the limitation of the analysis conducted is the static nature of calculation: the land use in 2019 is the same of 2014 (e.g. farmers do not respond changing farm structure and production orientation).

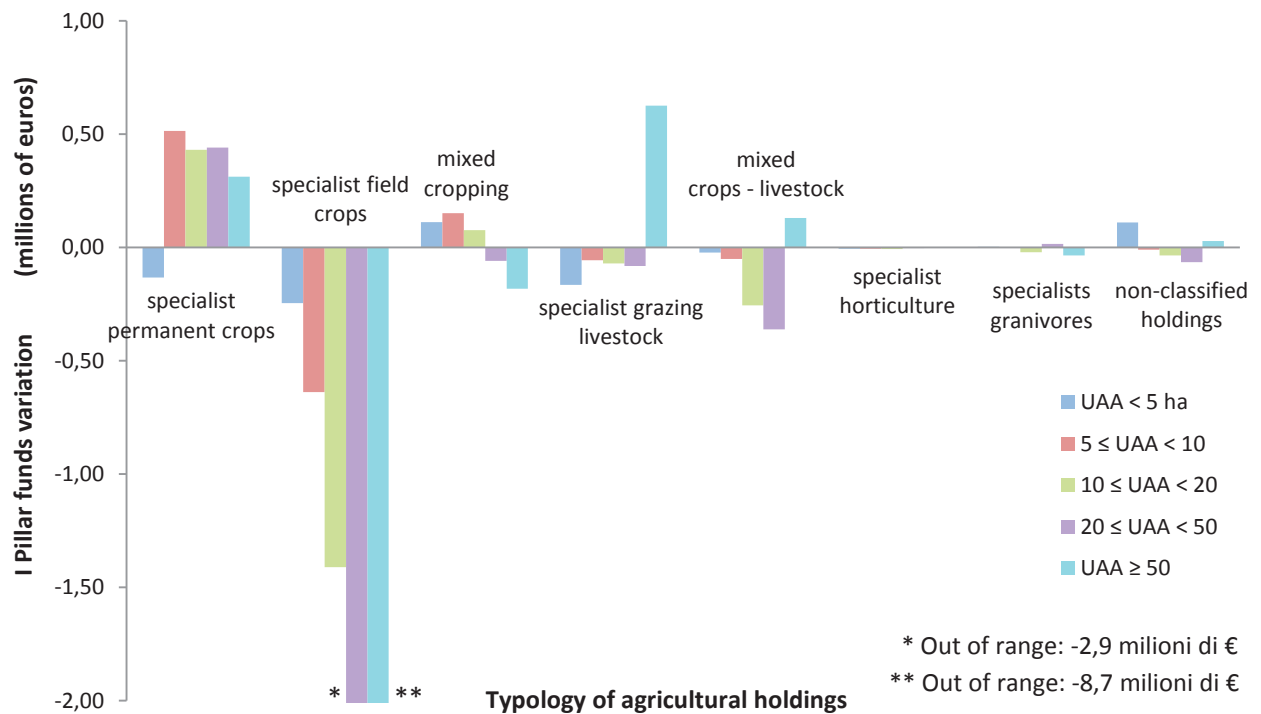
## Results

With the passage from the SFP to the BPS, the I Pillar payments for the Tuscan farms will face an 8.33% reduction compared to 2014, ending up at € 138.1 million.

The total number of farms that can benefit from the new payments also declines; 5,952 farms indeed have a UAA lower than 0.5 hectares and can therefore not receive the new BPSs.

In particular, as shown in *Graph 3*, the most pronounced decline in the disbursement of payments is recorded for farms with arable crops. In fact, this farm typology previously received most of the payments, as these were tied to the old aid on a historical basis. Large farms with arable crops produced more and received greater aid in the period 200-2001-2002.

*Graph 3 - I Pillar funds variation at 2019*



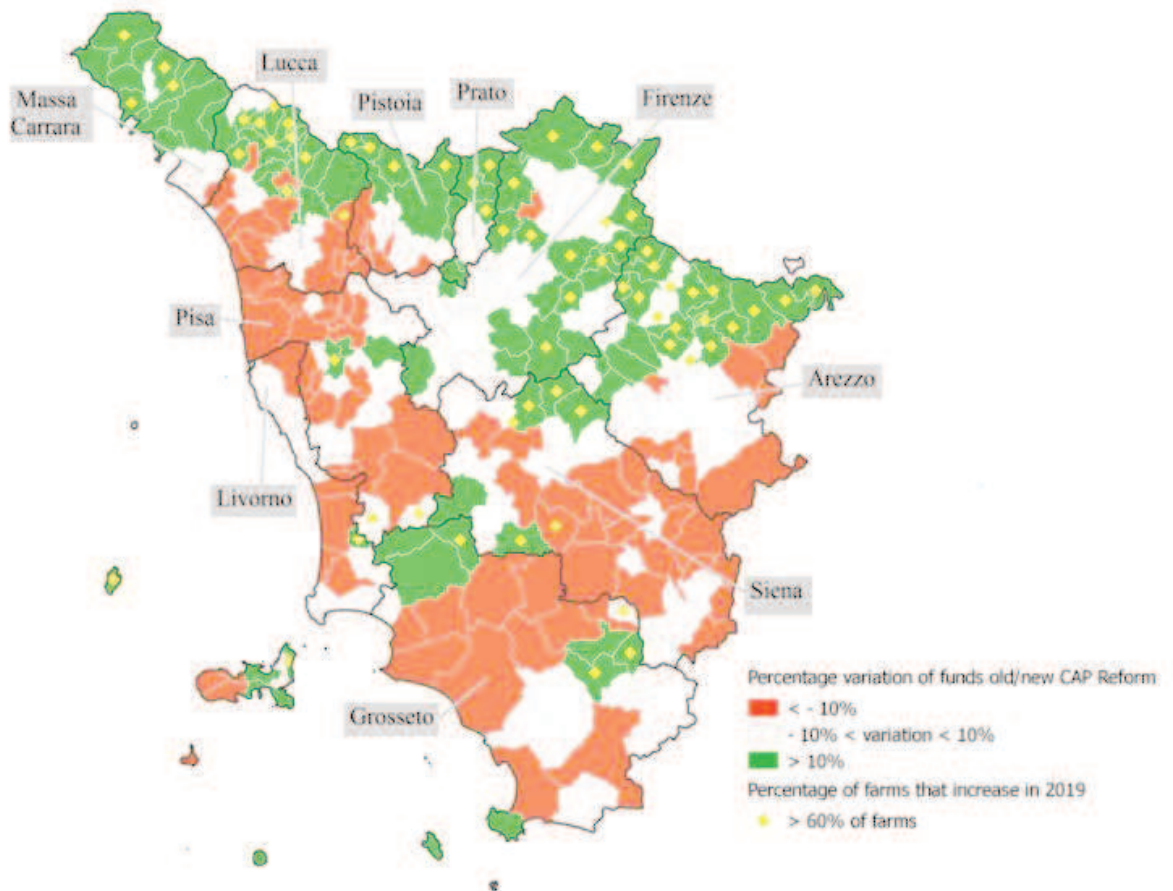
*Source: our elaboration from ARTEA data*

With the new BPS, farms with arable crops receive a payment per hectare uniform to the other TAHs. In this context, the recalculation of the payments favours especially the farms with permanent crops and those with diversified productions.

These initial results indicate that the introduction of the BPS will be particularly unfavourable to several production sectors of agriculture, such as arable crops and livestock farming.

*Figure 2* instead shows the effects of the redistribution of the new CAP payments on the municipal aggregate level. The colour green indicates the municipalities in which the sum of the total BPS payments the farms will receive in 2019 is greater than 10% compared to the total SFP sum the farms received in 2014. The colour red indicates that it is less than 10%, and white if the difference remains unvaried.

*Figure 2 - Percentage variation on the municipal level of direct payments from 2014 to 2019, and percentage of the farms that overall receive greater payments with the new CAP Reform*



*Source: our elaboration QGis*

An initial reading of the map shows that the Provinces of Grosseto and Siena, where most of the I Pillar payments were concentrated in 2014, face a marked decrease (respectively of 10% and 13%) in 2019. These areas indeed have many plains and hilly territories with farming destined mainly to arable crops and extensive animal farming systems, penalised by the new Reform, in line with the findings of Frascarelli (2014) and Arfini et al. (2013). Several exceptions are recorded in municipalities particularly bound to winegrowing, a sector rewarded by the recalculation of the new payments, as shown by Frascarelli, 2014 and Pupo D'Andrea, 2014. In this regard, the Province of Florence, which is characterised by a large number of winegrowers, is marked by an overall increase of payments of 9%. Other conspicuous reductions are also remarkable for the Provinces of Lucca (- 14%) and Pisa (- 13%). Contrarily, the Province of Massa-Carrara particularly benefits, with an increase in payments of 49%, along with several mountainous areas in the interior of the Province of Arezzo, which are characterised by medium-small enterprises located in disadvantaged areas with a high hydrogeological risk.

## Conclusions

The new CAP Reform 2014-2020 deeply modifies the old system of disbursing payments to farmers, introduced with Reg. 1782/2003, and in force for more than ten years. In fact, aid



is entirely recalculated on the national basis, but it considers again the historical payments as an effect of the *Irish convergence model*. In particular, in addition to increasing the sector's competitiveness, the latest Reform places greater stress on themes tied to the environment, which range from the production of public goods to the mitigation of climate change. In this context, farms are summoned to reorganise production in order to access the new BPS. By effect of introducing the greening payment, the farms specialised in non-organic arable crops, for example, are forced to diversify their crops and form areas of ecological interest. Though in the legislator's intention this practise was introduced to attain environmental benefits, it could constitute a problem in the long run due to the costs of transaction and implementation that farms have to sustain. On the contrary, the recalculation of payments benefits many farms specialised in permanent crops, which only to a lesser degree will receive payments tied to the Fischler Reform. In this regard, benefits will be enjoyed mainly by winemaking and fruit-producing farms, which did not received decoupled payments under the old Reform and, as of 2015, will receive payments per hectare without making changes to the production system by effect of greening, inasmuch as they are 'green by definition' (Frascarelli, 2014).

Therefore, the redistribution of the payments by effect of regionalisation has a double consequence. On one hand, in 2019 farms will thus receive a more homogeneous payment per hectare. On the other hand, however, several sectors have been penalised, especially those of arable crops and animal farming.

The results of our paper point out the consequences of recalculating direct payments from the viewpoints of farm and territory. In particular, vast plains and hilly areas with intensive agriculture of the Region of Tuscany, characterised by a strong presence of farms with arable crops, will face an overall decrease in payments compared to 2014. In many cases, this decline will be accompanied by expenditures that the farmer will have to make in order to comply with greening, especially in plains areas that mainly practise monoculture. In this context, fewer negative consequences will be felt especially by farms that have already diversified, and have an organic production system and elements characteristic of the landscape (already included in greening).

In acknowledging this situation, the public legislator could intervene in the near future and adopt a series of actions aimed at promoting organic farming, diversifying productions, and valorising products. the need for complementarity between 1st and 2nd Pillar (RDP), as to limit negative effects of new direct payment Reform.

On the contrary, the new Reform all in all rewards several areas in the interior of Region with a strong presence of winemaking enterprises. This fact carries both positive and negative implications. The former are tied to the fact that farms that did not receive payments under the old reform, now find themselves receiving aid per hectare without sustaining any additional costs. The latter are instead tied to the fact that the liberalisation of the rights to plant vineyards could drive many farmers to convert less profitable productions, such as arable crops, to vine arboriculture crops that would guarantee a greater source of income.

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