

EXECUTIVE SUMMARY

The **background** to this study is the establishment of the Single Payment Scheme (SPS), providing decoupled support to farmers, which was the central element of the 2003 CAP reform. The Member States of the EU-15 had to implement the SPS at the latest by 2007. The Member States had some flexibility concerning the model of implementation. Member States could opt to apply payment entitlements based on historical individual reference amounts (the "historical model"), or alternatively, payment entitlements calculated as averages of the historical reference amounts of the region concerned (the "regional model") or a mix of the two approaches, either static or dynamic (the "hybrid model").

Economic theory, as well as empirical findings, suggest that the way in which agricultural support is provided has an influence on land markets, because payments capitalise to some degree into land values, affecting both the sale and rental price of land. This would also have effects on the transfer efficiency of support, on structural change, etc. However, the type of agricultural support is not the only factor influencing land markets. Profitability of production, user competition (driven by environmental concerns and demographic changes), ownership and production structures and the institutional setting of land markets are other factors that need to be taken into account. Many of these conditions differ greatly between and within the EU Member States.

The overall **objective** of the study is to investigate whether and to which degree the different means of implementation of the SPS have affected: (i) capitalisation of support into land values (sales and rental prices); (ii) the distribution of this capitalisation to the different owners; (iii) the effect of the SPS, in combination with the institutional setting of land markets, on structural change in agriculture; and (iv) the reaction of land markets and asset values to changes in policy. In contrast to previous simulation exercises, the main focus of this study is to provide an empirical underpinning of policy influences on the land market.

To guide our analysis, the empirical and theoretical **literature** in this field was analysed in detail and a **theoretical framework** was developed to study the impact of direct payments and the SPS on land market values under different conditions. The insights from this literature review and from theoretical analysis are used in the interpretation of the empirical findings in this report. The detailed literature review and the extensive theoretical framework are in the appendix of the main report.

The empirical analysis in this study is based on a combination of **data** sources. In particular, we combine insights from comparative data analyses based on data from Eurostat and the Farm Accountancy Data Network (FADN) with data analyses and information collected in a series of country studies and (sub-country) regional studies. More specifically, as part of the overall study, **11 country studies** and **18 regional studies** were undertaken. An important criterion in the selection of countries and regions is the coverage of different implementation models of the SPS. The countries covered are Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Spain, Sweden, and the UK. For France, Germany, Italy, Spain and the UK, two or more regional studies were implemented.

The results presented in this report are subject to certain **analytical limitations**. First, data on land values and transactions are scarce in the period since the SPS was implemented. The short time span since the implementation of the SPS, combined with the varying quality of the available data, do not allow econometric analyses. Second, although we have systematically verified our data sources and our findings draw on several sources of information, the qualitative analysis in the present study does not allow us to assess confidence intervals nor does it allow us to perform sensitivity analyses or to check the statistical robustness of the results. Third, land regulations and long-term contracts may delay the capitalisation of the SPS in land values beyond what can currently be observed in data. Fourth, global food markets have experienced major changes over the past years. This complicates the identification of the SPS impact on agricultural land markets. For these reasons the results in this report should be interpreted keeping these limitations in mind.

Despite these limitations, the report presents interesting **hypotheses** and **preliminary evidence** on land market developments in the EU study countries (EUSC) and the effects of the SPS. To analyse the role of the SPS in influencing land values and the operation of land markets, the study addressed the following **themes**: land market development, drivers of land values, the effects of changes in SPS on land values, the distribution of direct payments and the effects on structural change.

Land market developments in the EUSC

The size of rental market transactions differs strongly among the EUSC. The farms in Belgium, France, Northern Ireland and Germany are the top renters (more than 65% of used land). In Sweden farms rent approximately 50% of the used agricultural land. In contrast, in Ireland land renting is the lowest (17%). In the rest of the countries covered by this study, farms rent between 34% and 43% of used land. The share of rented farmland in total utilised agricultural area (UAA) is increasing in most of the EUSC.

Agricultural land prices differ strongly across the EUSC. In the peak years the land price difference between the most expensive regions and the least expensive region is large. It ranges from around 2,000 EUR/ha in parts of Sweden to over 40,000 EUR/ha in parts of the Netherlands. These figures imply that awarding the same amount of subsidy per hectare of agricultural land would have quite different impacts on land prices.

The variation in rental prices is somewhat lower than in purchase prices but for rental prices there are also large differences. The difference in rental prices between the lowest and highest country in 1992 was around 6 to 1 and more than 7 to 1 in 2006.

Changes in agricultural land prices over the past decade also differ greatly across the EUSC. Over the period from 1992 to the present, real farmland purchase prices have declined by around 25% in Greece, while they have increased by around 250% in Ireland. Developments in rental prices were also very heterogeneous: since 1992 real rental prices declined by around 25% in Finland and increased by around 55% in Spain.

This cross-country heterogeneity in agricultural land markets suggests that farmers and landowners in these different land markets may be affected differently by (changes in) the Common Agricultural Policy.

Drivers of land values

Agricultural commodity prices and agricultural productivity, infrastructural expansion and urban pressures have important influences on land markets, but their relative importance differs between rental and purchase markets. First, agricultural commodity prices and productivity are significant drivers of agricultural land prices, but their effects seem to be stronger on rental markets than on purchase markets. Second, urban pressures, such as growing housing demand, are an important driver of agricultural land prices, particularly in densely populated EUSC (e.g. Belgium and the Netherlands) and faster growing economies (e.g. Ireland and Spain). The same applies to the role of infrastructural expansion in driving up land prices. The latter factor, in particular, affects purchase prices.

Land market regulations affect land prices and exchange; this is particularly the case for rental exchanges. Rental prices for agricultural land are more regulated by governments than are purchase prices. In one third of the EUSC, maximum rental prices are set by the government.

The duration of rental contracts is regulated in some EUSC and influences the rental market responsiveness to agricultural policy changes. The length of rental contracts is regulated by government in Belgium and France (minimum 9 years), the Netherlands (minimum 6) and Spain (minimum 5). In several EUSC (e.g. France), the renewal/inheritance of rental contracts is also regulated. In these countries, formal rental markets are stickier and the time lag is longer in adjusting to policy changes. The importance of land renting is typically higher in countries with strong rental market regulations, such as Belgium and France. Belgium and France have the highest minimum lengths of rental contracts (9 years) and have the highest share of rented area (77% and 75% in 2006, respectively) among all the EUSC.

Land taxes differ substantially across EUSC. Three types of tax regulations which affect market participants' decisions to sell, buy and own agricultural land have been studied: sales taxes, purchase taxes and ownership taxes. Land transaction tax rates are rather heterogeneous across the EUSC, ranging from 1% for low value land in the United Kingdom to 18% for high value farmland in Italy. Similarly, ownership taxes for agricultural land are highly heterogeneous across countries, ranging from a 0% tax rate on farmland in Finland to over 15% in the Southern EU countries.

Low taxes for ownership and transaction with farmland and entitlements do not constrain structural change, but expose farmland to non-agricultural investors. Low transaction taxes on farmland and SPS entitlements, facilitate structural change via the reallocation of agricultural land and entitlements from less productive to more productive farms (e.g. Germany). On the other hand, agricultural land markets in countries with low transaction taxes are more exposed to speculative farmland purchases (and sales) by non-agricultural investors (e.g. Finland). Differentiated farmland ownership taxes for farmers and non-farmers reduce the incentives for long-run speculative farmland purchases (and sales) by non-agricultural investors, but hinder structural change (e.g. Greece).

CAP subsidies have an impact on land values, but the impact varies importantly across countries and appears relatively modest compared to other factors, in particular where land prices are high. CAP subsidies appear to affect land purchase prices in the EUSC. However, their relative importance appears limited compared to other drivers.

Generally, the lower the land price, the higher the impact of CAP policies on land prices (e.g. Nordic regions in Finland and Sweden). In countries such as the Netherlands and Ireland, which have very high or rapidly increasing land prices, factors other than CAP policies appear to be much more important.

Implementation of the SPS

The EU member states can choose between three SPS implementation models: the *historical model*, the *regional model* and the *hybrid model*. Under the historical model, the SPS payment is farm-specific and equals the support the farm received in the “reference” period. This is the most commonly implemented SPS model in the EUSC. Under the regional model, an equal per hectare payment is granted to all farms in the region.

Concerns about the redistribution of subsidies were by far the most important factor for EUSC that chose the historical SPS implementation model over the regional model. An important motivation for England, Finland and Germany in choosing the dynamic hybrid model instead of directly going for the regional model, was to smoothen the adjustment of the farming sector over some period of time.

Receipt of the full SPS support is conditioned on the fulfilment of cross-compliance requirements. More precisely, a farmer receiving SPS support must respect Statutory Management Requirements (SMR) and maintain land in Good Agricultural and Environmental Condition (GAEC).

None of the EUSC implemented the pure regional SPS model (see also the last section). The comparative insights are therefore based on contrasting the implications of the historical model with the hybrid model.

Entitlements: activation, trade and valuation

The share of non-activated entitlements in the total distributed entitlements is low. For most EUSC it is less than 3%. The value of non-activated entitlements tends to be lower than the value of activated entitlements. The main reasons for non-activating entitlements are non-availability of eligible area and administrative burdens.

The share of the activated entitlements tends to be somewhat larger in countries that implement the hybrid SPS model than in countries with the historical SPS model. We find that this might be due to specific criteria relating to the implementation of the hybrid model.

There is a significant variation in the face value of entitlements among and within the EUSC. This variation appears to be determined by the commodity structure, support in the reference period, the implementation SPS model and implementation details.

There is a significant variation among the EUSC in the entitlement trade restrictions. The EU regulations allow entitlements to be tradable but certain constraints are imposed by the EU. Member states have certain flexibility in introducing additional country-specific restrictions on entitlement tradability. Spain, Italy, and France have the greatest restrictions in entitlement trade.

Trade with entitlements is most often conducted directly between farmers. Market agents or farm organisations also play a role sometimes. Spain appears to have the most developed entitlement trading system, similar to an auction.

There is no informal trading in entitlements, except among family members. An informal entitlement market was not found in any of the EUSC, because in order to receive payments, entitlement holders need to be identifiable. However, unofficial “trade” may occur among members of the same family.

The entitlement market tends to be smaller in regions under the hybrid model compared to the historical model. Under the historical SPS model trade is likely to be driven by structural change. This is because entitlements were distributed based on the land use in 2000-2002, while the SPS was implemented in 2005-2007. With the hybrid SPS model entitlement trade is driven by a combination of decoupling and the fact that relatively more entitlements were allocated than with the historical model. Structural change is less important in the hybrid model as entitlements were distributed based on area used in the first year of the SPS application. Differences in the implementation details between the two SPS models may explain higher trade with the historical model than with the hybrid model. This is particularly evident in the short-run, which is investigated in this study.

Preliminary evidence suggests that trade in entitlements is also affected by the functioning of land markets, restrictions on the tradability of entitlements, the availability of an opportunity to consolidate entitlements, and the level of “naked” land.

Entitlements are most often traded with land. The evidence from EUSC shows that with few exceptions entitlements are traded with land.

The market value of entitlements is between 1 and 3 times the face value of the entitlements. Our data show that the market price for entitlement in most EUSC is between 1 and 3 times the annual face value of the entitlement. A simple calculation would indicate that with perfect markets and without uncertainty the entitlement price would be in the range of 4-5 times the face value if the SPS runs until 2013, or in the range of 10-20 if the SPS runs indefinitely.

Several factors may explain the observed gap in the entitlement price between theoretical expectations and empirical evidence: (i) uncertainty about the SPS future (e.g. modulation, health check, etc.); (ii) additional costs of SPS (e.g. administrative costs); (iii) taxes and fees imposed on transactions; and (iv) credit market imperfections. However, the low market price of the entitlements may also reflect the capitalisation of the SPS in farmland values.

Impact of the SPS implementation

Our theoretical framework and the empirical evidence in the literature suggest that the impact of the SPS on land markets should depend on several factors, including the SPS implementation model and implementation details, market imperfections, transaction costs, market structure, other implemented policies, etc.

On average, the impact on land markets of the change to the SPS appears to be weak and did not lead to lower capitalisation than under coupled policies, though there is variation among the EUSC and regions. Preliminary evidence presented in this report indicates that the average impact is limited. On average, we do not observe major declines in land prices with the shift to decoupled policies, which suggests that there are no major reductions in capitalisation of support.

The SPS introduction appears to have a stronger impact on land rents than on farmland purchase prices. The net impact of the SPS introduction on land values also depends on the capitalisation of the SPS rate and on the relative importance of SPS compared to other drivers of land values. The empirical evidence from this study suggests that the relative importance of SPS in determining farmland prices compared to other drivers of land values is higher for rents than for purchase prices.

Preliminary evidence suggests that the historical SPS implementation model leads to lower capitalisation of the SPS into land values than the regional and hybrid models. In countries with the hybrid SPS model, capitalisation appears to be driven by the low amount of “naked” land. In countries with the historical model the impact of SPS appears to be significantly weaker. Where SPS land capitalisation occurs the strongest driver tends to be structural changes combined with constrained entitlement trade (the strongest in Belgium). In countries such as Greece there is little activity on the land market and hence there is limited capitalisation of SPS. In Ireland the possibility to consolidate entitlements reduces the pressure of SPS on land markets and the SPS land capitalisation appears minimal.

We also find that instead of reducing capitalisation, the SPS introduction appears to increase capitalisation in the least productive countries. The SPS appears to put a floor on land values in less productive regions (e.g. in Sweden and parts of the UK). The clearest evidence of the SPS impact on land values appears in higher land values for less fertile lands (e.g. grassland). However, this could also be due to the redistribution that came with the hybrid model.

In countries with regulated rental prices, the SPS implementation seems to mostly affect unofficial markets. In these Member States there is little effect on official prices (since these are regulated) but where regulations lead to the existence of unofficial markets for agricultural land, the SPS tends to increase the unofficial market rental price (e.g. Belgium) and the size of the unofficial markets for agricultural land (e.g. Belgium, the Netherlands).

Distribution of SPS benefits

Landowners seem to benefit more from the hybrid SPS model than from the historical SPS implementation model. Landowners benefit more under the hybrid SPS model through two channels. The first channel is the capitalisation of the SPS into land values. This is mostly where low amounts of “naked” land drive land values up. The second channel is the implementation details of the hybrid model. Under the hybrid model the number of entitlements that farmers received is equal to the total eligible area in the first year of the SPS application. This allowed some non-farming landowners to obtain entitlements either by cancelling the existing rental contracts and hence applying themselves for entitlements; or by adjusting rental contracts that ensure that entitlements are returned to landowner after the expiry of the contracts; or by other similar arrangements.

The distribution of SPS rents to landowners appears to differ strongly among the EUSC. From our country studies, it appears that landowners tend to benefit most from SPS in Finland and Sweden (60-100% of the value of entitlement) while least in Greece and Ireland (0-10%). In the rest of the countries, the landowner benefits from the SPS are low to medium (10-60%).

The distribution of SPS also depends on whether landowners are also farmers, which differs by EUSC. As mentioned above, the importance of land renting varies significantly among the EUSC. The evidence in this report suggests that in EUSC such as Germany, Northern Ireland and Sweden, an important share of SPS benefits will be channelled to non-farming landowners. This also holds, but to a lesser extent, for the UK and Finland. In the rest of the EUSC a lower share of the SPS will go to non-farming landowners either because land renting is less important and/or because the capitalisation of the SPS into land values is small. In these countries farmers appear to gain the largest share of SPS.

Effects on structural change

It is too early to observe significant impacts of the SPS on structural change in agriculture. Structural change is a long-term process. For this reason, it is too early to assess the developments observed in 1-2 years since implementation of the SPS. Furthermore, substantial other structural changes which were unrelated to SPS occurred in agriculture in the last few years. Still, the decoupling of subsidies with the introduction of the SPS was identified by most country studies as an important factor affecting structural changes in agriculture.

The SPS seems to constrain farm exit and increase part-time farming. Evidence from several countries, e.g. Belgium, Finland, Sweden and the UK, suggests that the SPS constrains farm exit. The SPS also appears to increase part-time farming. This effect appears to be stronger in marginal areas. Part-time farming allows farmers to reduce non-profitable farm activities, while benefiting from the SPS. No significant difference can be identified between the hybrid and historical SPS models.

The impact of the SPS on hired labour appears small. There is insufficient evidence to identify SPS effects on other agricultural labour developments.

The hybrid SPS model has stimulated (formal) farm entry, unlike the historical model, and creates uncertainty in the rental markets. This is because under the hybrid model, the allocation of entitlements is based on land use at the time of introduction of the SPS and not on land use in the reference period. We find some evidence that landowners have started farming in order to get access to the entitlements. The long-term net impact of these rent-seeking activities on farm structures is unclear. However it has affected the distribution of SPS rents and the market in entitlements in different ways than with the historical model where such activities did not occur.

The introduction of the SPS reduced farm credit constraints, in particular for short-term credit. An interesting, and potentially important, side-effect of the SPS is on rural credit markets. Several country studies (e.g. France, Germany, Italy and Spain) confirm that the SPS affects farms' access to the credits. If farms receive the subsidies at the beginning of the season, they can use the SPS directly to pay for inputs. If farms receive SPS payments at the end of the season, the SPS subsidies can be used as collateral for bank credits. Due to uncertainty about the future of the SPS, it appears that the SPS has no impact on long-term credit. Lenders are not willing to provide longer-term loans by accepting future SPS payments as collateral.

Effects of changes in the SPS models on land values

None of the EUSC has implemented a pure regional model. Most of the EUSC have implemented the historical model and some have implemented the dynamic hybrid model which will gradually be replaced by the regional model.

The key characteristic of the regional model is that it equalises the face value of all entitlements. The effect of the shift to the regional model will be determined by three key features: (i) whether new entitlements will be allocated; (ii) the redistribution of subsidies between regions; and (iii) how landowners are treated with respect to access to the entitlements.

The regional model may lead to changes in the relative land prices between regions. The regional model redistributes subsidies between regions, which is expected to lead to higher prices in less productive regions and lower prices in more productive regions. The effect is expected to be stronger in those regions that currently implement the historical model. Under the hybrid model a share of the payments were already redistributed.

Implementation details of the regional model will largely determine whether the shift to the regional model will increase the capitalisation of the SPS compared to the current SPS models. Among other things, this will depend on whether the number of entitlements will increase or will stay at the current level, and to what extent non-farming landowners' access to entitlements will be regulated and enforced.

However, if the size of the total allocated entitlements will not be affected by the policy changes, the upward pressure on land prices will continue to be stronger in those countries that currently implement the hybrid model.

Frictions between farmers and landowners are expected to increase with the shift to the regional model. The key factors that will determine the frictions are to what extent the access to entitlements of non-farming landowners is regulated and enforced, and to what extent the number of newly allocated entitlements (if any) depend on the current or past land use.

The change in models may have an impact on uncertainty and transparency of the entitlement market. If the shift to the regional model creates uncertainty among farmers it will constrain entitlement markets and may induce stronger land capitalisation. On the other hand, the shift to the regional model may increase the transparency on the entitlement market, as all entitlements will have the same face value.