



Analysis of administrative burden arising from the CAP

Final Report

Written by Ecorys
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Glossary

Acronym	Description
AECM	Agri-environment-climate Measures
AEM	Agri-environmental measures
AP	Agricultural Parcels
ATS	Abstract Tests Suit
BPS	Basic Payment Scheme
CAP	Common Agricultural Policy
DG AGRI	European Commission, Directorate-General for Agriculture and Rural Development
EAFRD	European Agricultural Fund for Rural Development
EAGF	European Agricultural Guarantee Fund
EC	European Commission
EFA	Ecological Focus Area
ETS	Executable Test Suite
FTE	Full Time Equivalents
GAEC	Good Agricultural and Environmental Conditions
GIS	Geographic Information System
GSAA	Geo-Spatial Aid Application
IACS	Integrated Administration and Control System
IT	Information Technology
LCCS	Land Cover Classification System
LFA	Less-Favoured Area
LIDAR	Light Detection and Ranging
LPIS	Land Parcel Identification System
LPIS QA	Land Parcel Identification System Quality Assurance
MTS	Model Test Suit
MS	Member State
OTSC	On The Spot Checks
PA	paying agency
RDP	Rural Development Programmes
RP	Reference Parcels
RS	Remote Sensing
SAPS	Single Area Payment Scheme
SCM	Standard Cost Model
SMR	Statutory Management Requirement
SPS	Single Payment Scheme
TC	Transaction cost
UAA	Utilised Agricultural Area
VCS	Voluntary Coupled Support
VHR	Very High Resolution
YF	Young Farmers

Abstract

This study collects evidence and measures the costs related to the implementation of the Integrated Administration and Control System (IACS) after the CAP 2013 reform. It analyses in-depth the different forms of IACS, Land Parcel Identification System and related control mechanisms, as well as the costs associated to cross-compliance. Overall, the 2013 reform led to an increase of the administrative burden on administrations, which has helped to avoid a significant increase of the burden on the beneficiaries. For the administrations, IACS administrative costs are estimated to represent around 3% of the annual CAP budget. For farmers, the share of the administrative burden, excluding compliance costs, accounts for about 2% of the total aid received. The study recommends to consider the administrative cost implications of Member States interventions in the future CAP strategic plans and to stimulate the use of digital technology. The report proposes examples of actions that could be taken by the Member States. The study also reveals that there is little data available on the administrative costs related to the CAP implementation which makes comparisons between Member States difficult and which does not allow for a monitoring of the costs over time.

Cette étude rassemble des preuves et mesure les coûts liés à la mise en œuvre du système intégré de gestion et de contrôle (SIGC) après la réforme de la PAC 2013. Elle analyse en profondeur les différentes formes de SIGC, le système d'identification des parcelles de terrain (SIPA) et les mécanismes de contrôle associés, ainsi que les coûts associés à la conditionnalité. Globalement, la réforme de la PAC 2013 a entraîné une augmentation de la charge administrative pour les administrations, ce qui a permis d'éviter une augmentation significative de la charge pour les bénéficiaires. Pour les administrations, les coûts administratifs du SIGC représentent environ 3% du budget annuel de la PAC. Pour les agriculteurs, la part de la charge administrative (coûts de conditionnalité exclues), représente environ 2% du total des aides reçues. L'étude recommande de prendre en compte les coûts administratifs des interventions des États membres dans les futurs plans stratégiques de la PAC et de stimuler l'utilisation des technologies numériques. Le rapport propose des exemples d'actions que pourraient entreprendre les États membres. L'étude révèle également qu'il existe peu de données disponibles sur les coûts administratifs liés à la mise en œuvre de la PAC, ce qui rend les comparaisons entre les États membres difficiles et ne permet pas un suivi des coûts dans le temps.

1 Introduction

This chapter provides a brief introduction to the context of the study, its objectives and structure.

1.1 Context and objectives of the study

Context and study setting

Since its establishment in 1962, the Common Agricultural Policy (CAP) has undergone major reforms aimed at tailoring and/or simplifying its implementation. Among the most influential were the so-called 'MacSharry' reforms in the 1990s and the Agenda 2000 reforms. Reforms included the introduction of a new Integrated Administrative Control System (IACS), which incorporates checks on the accuracy of farmers' declared area and livestock headage claims, together with associated payment reductions and penalties where applicable. The IACS system has been subsequently developed and tailored across the EU, introducing specific regulatory requirements (RDPs, Greening etc.) and technological tools (LPIS, Geo Spatial Aid Application etc.).

The 2013 CAP Reforms, which provide the basis of IACS assessed by this study, built upon the previously introduced two Pillar structure but increased overall flexibility for Member States and strengthened the links between the Pillars. The current IACS incorporates different databases (farmers' register, animal register, LPIS, entitlement register, claims databases) with cross-checking of the integrity of data. Under IACS, Member States are required to use computerised databases to administer the annual claim and control cycle, covering aid application, administrative and (where applicable) on-the-spot checks (OTSC), and payments, incorporating (where applicable) penalties and deductions.

The study takes also into account stakeholders' views expressed in the public consultations held at the time of the REFIT exercises on agriculture¹, particularly those related to Greening in 2016, and the "Simplification and modernisation of the CAP"², in 2017, together with the outcomes of the Omnibus Regulation 2017³. These give rise to observations on various topics that warrant consideration by this study:

- The impact of good quality advisory services such as the Farm Advisory system (FAS)⁴ and well-functioning IT systems in reducing the administrative burden placed on different stakeholders;
- The impact of unclear or highly detailed and prescriptive requirements on CAP beneficiaries;

¹ https://ec.europa.eu/info/publications/refit-platform-recommendations-agriculture_en

² European Commission, DG AGRI (2017): Modernising and simplifying the CAP, Background Document Socio-Economic challenges facing EU agriculture and rural areas

³ <https://www.consilium.europa.eu/en/policies/cap-simplification/omnibus-regulation-agriculture/>

⁴ https://ec.europa.eu/agriculture/direct-support/cross-compliance/farm-advisory-system_en

- The impact of policy changes – including their frequency and speed of implementation – on administrative processes at the national, regional and farm level;
- The impact of overlapping or stacked rules (e.g. relation Greening payment, cross-compliance and the AEC measure) on administrative complexity;
- The potential opportunities from use of results-based payments, rather than penalties, to achieve a better balance between cost and effectiveness of CAP administration;
- The ways in which the prescriptive nature of the CAP (as mentioned in the Communication on the Future of Farming) impacts on Member States implementation of controls and IT systems, and on efforts to find and introduce innovative alternatives.

Objectives of this study

The general objective of this study is to examine the costs and administrative burden, including the effectiveness and efficiency, of current systems for managing and controlling a large share of common agricultural policy (CAP) expenditure. Specifically, the study analyses and assesses different elements of the Integrated Administration and Control System (IACS), including the Land Parcel Identification System (LPIS) and related control mechanisms in place across the EU. The analysis and findings provided by the study should contribute to reflections on ways to simplify and improve management systems and procedures for CAP implementation.

The general objective of the study, is further defined by the following more operational specific objectives:

- **Objective 1 – Improve the understanding of Member States' implementation of IACS:** provide an overview and description of IACS, including LPIS, cross-compliance and related aspects of direct payments, including insights on their implementation by Member States;
- **Objective 2 - Identify the sources of costs for IACS:** identify and categorise costs of IACS according their source;
- **Objective 3 - Quantify and compare IACS costs across Member States:** provide a comparative quantification of the costs of different components of IACS across Member States;
- **Objective 4 - Compare IACS implementation procedures and their associated costs:** provide a comparison of Member States' IACS implementation procedures and assess the impact of observed differences on IACS costs;
- **Objective 5 – Undertake a 'fitness check' of IACS implementation:** provide and assessment of the adequacy, efficiency and effectiveness of IACS implementation and its regulatory basis, together with identification of opportunities for improvement and simplification;
- **Objective 6 – Develop a methodological framework for measuring LPIS cost-effectiveness:** develop and test a methodological framework for assessing the cost effectiveness of LPIS. This methodological framework, after fine-tuning, should be suitable for future use by Member States⁵.

⁵ NOTE: The LPIS Cost Effectiveness Framework is a separate study outcome not presented in this report.

1.2 Content and structure of the report

The structure of the report is as follows:

- **Chapter 2 – Methodological approach and limitations:** presents the general approach and methodology applied in the study;
- **Chapter 3 – Functioning and development of IACS:** introduces the policy background and context, simplification efforts and describes IACS and its major components;
- **Chapter 4 – Costs and cost drivers of IACS:** analysis of the administrative costs related to the main components of IACS and the burdens observed by farmers;
- **Chapter 5 – Conclusions and recommendations:** conclusions / recommendations based on the analysis of all study components.

2 Methodological approach and limitations

This chapter presents the definitions and methodological implications emerging from literature (Section 2.1), the approach for the study including the key methodologies chosen (Section 2.2) and the limitations and robustness of the study findings (Section 2.3).

2.1 Definitions and methodological implications emerging from literature

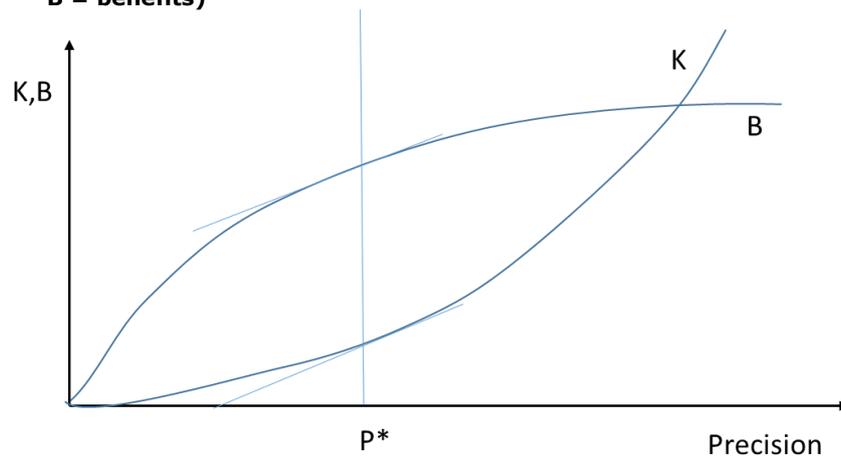
Administrative costs and burdens of EU policy and funds in general and the CAP in particular have been part of various reform discussions in recent years. Definitions applied however often differ and the political debate around the topics of 'burden reductions' and 'gold-plating' are not always supporting methodologically accurate definitions and distinctions. In the following sections, we thus first provide a brief introduction on assessments of costs and burdens in CAP related scientific literature, followed by an elaboration of the definitions applied in the remainder of this study.

2.1.1 Assessments of costs and burdens in CAP related scientific literature

The administrative burden is often mentioned in assessments of measures and policy. Broadly speaking, the scientific literature on the administrative cost of agricultural policy is mostly related to transaction costs, i.e. all costs (except for the price of the product itself) needed to carry out a transaction. Transaction costs are used by a growing body literature (implicitly or explicitly) to introduce the notion of trade-off between the costs and benefits of a more precise or more tailored policy. A more precise policy implies a more accurate implementation in line with objectives, which involves more demanding checks, more sophisticated selection criteria, better targeting and better controls at the stage of implementation. However, increased targeting and tailoring is expected to bring higher benefits (e.g. higher effectiveness) yet also implies higher transaction costs⁶. This trade off can be depicted as done in the figure below.

⁶ Fahrman and Grajewski (2013) <https://academic.oup.com/erae/article-abstract/40/4/541/428701>

Figure 1 Visualisation of the balancing exercise between costs and benefits (K = costs, B = benefits)



Source: Fahrmann and Grajewski (2013)

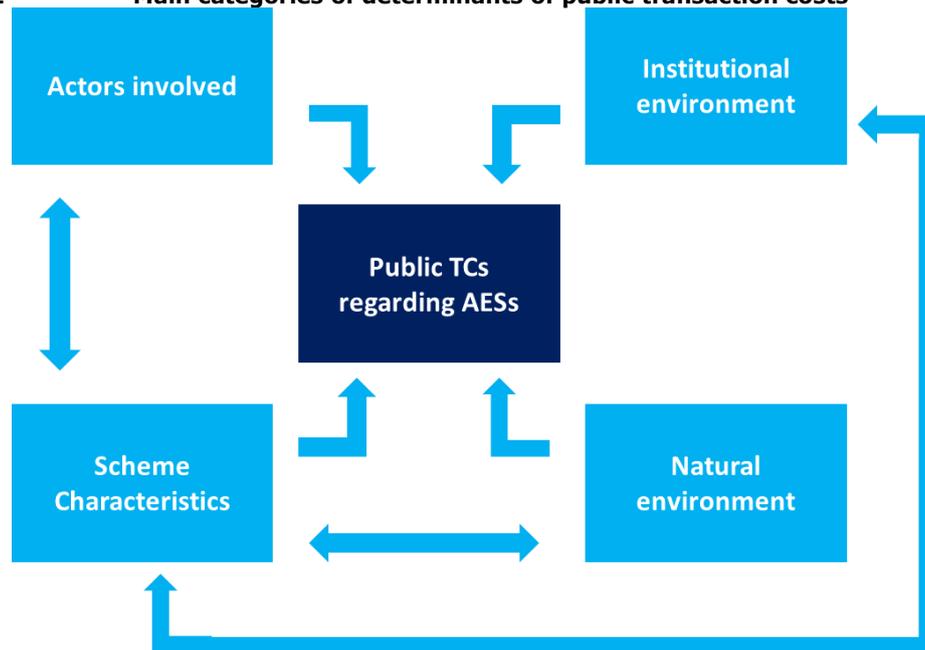
Precision vs. costs

Increased precision may not always be efficient, as the costs of being more precise may outweigh the benefits achieved. Therefore, there is an optimal level of precision (P^*), balancing between costs and benefits, and hence also an optimal level of administrative burden. The difficulty in striking or finding this balance lies in the fact that most of the time both benefits and costs are difficult to quantify, especially in their variation with precision. Benefits may be not clearly visible or immediately quantifiable as they are linked to achieved or presumed environmental effects, or difficult to monitor economic and social effects (e.g. equity, wellbeing). Costs are usually easier to identify for some components (e.g. direct workload) but others may still be very difficult to measure. An example is the loss of efficiency due to high workload in conditions of constrained budget or time limitations (i.e. higher unit costs with staff constraints) which implies less accurate measure design or implementation (or lack of implementation in some cases).

Within research literature, a broad distinction is made between private and public transaction costs. Public administrative costs include various types of personnel costs and services. They can also be distinguished based on the stage of the design, implementation and monitoring of the schemes. The literature analyses the determinants of these costs⁷.

⁷ e.g. Mettepenningen, Beckmann and Eggers (2011) <https://ideas.repec.org/a/eee/ecolec/v70y2011i4p641-650.html>

Figure 2 Main categories of determinants of public transaction costs



Source: Consortium based on Mettepenningen, Beckmann and Eggers (2011)

Public transaction costs

Actors involved affect public transaction costs both due to their number (the higher the number e.g. of farmers involved, the higher the transaction costs) and characteristics (the more heterogeneous, the higher the transaction costs). Transaction costs are also influenced by actors' features, such as trust, familiarity with measures, attitudes towards public administration and specific measures. Some of these elements mostly affect monitoring and control needs. With their influence based on characteristics and features, but also individual or collective policy choices, public administrations can cause (unintentionally or deliberately) additional potentially unnecessary requirements, better known under the term "gold-plating"⁸.

Scheme (and in general policy) characteristics also affect public transaction costs. Measures targeting environmental prescriptions have normally higher transaction costs than measures related to joint public and private goods (such as environmental taxes), which are normally more costly than simple subsidies. In addition, more locally targeted and territorial differentiated measures have higher transaction costs. Higher transaction costs apply in more heterogeneous local conditions, due to asset specificity and to the perceived risk of lock-in by farmers⁹.

⁸ The European Commission defines 'gold-plating' in the context of Smart Regulation, by referring to the '[...] transposition of EU legislation, which goes beyond what is required by that legislation, while staying within legality. Member States have large discretion when implementing EC directives. They may increase reporting obligations, add procedural requirements, or apply more rigorous penalty regimes. If not illegal, 'gold-plating' is usually presented as a bad practice because it imposes costs that could have been avoided'

⁹ Meaning they have limited 'free choice' or flexibility in decision

Features of measures causing costs

Other aspects depend more directly on the feature of the measures: a) scope of the scheme may increase complexity and design costs; b) the possibility of taking up multiple measures together can instead reduce costs for application management; c) the possibility for farmers to cooperate may reduce the costs for public administration (though may increase private costs at least of some types); d) the degree of monitoring and controls needed (the higher the controls, the higher the transaction costs); e) the timing in the program and the life cycle of a policy; transaction costs can decrease over time due to learning and improvement of procedures (with stable rules).

An important set of determinants is concerned with the institutional environment. This includes broad political issues, such as instability and degree of conflicting attitudes in an area. More practically, the number of parties involved, the contextual rules, the status quo linked to path dependency¹⁰ can all contribute to rather different levels of costs.

Natural environment can affect transaction costs due to different levels of complexity or heterogeneity. Notably, different types of transaction costs may be related, positively or negatively with each other. For example, higher costs for stakeholders participation in an early stage of the scheme development can produce better compliance and hence reducing monitoring and control costs. Empirical studies show that complexity of schemes is the most influencing factor affecting paying agencies' transaction costs in AES¹¹.

From the discussion above, it emerges that the actual costs may depend both on objective characteristics of prescription (and their complexity) and on preferences and behaviour by the actors involved¹². The latter may be the most difficult component to detect and is also the most difficult to act upon, as it implies long terms actions building knowledge, trust and confidence with measures.

Private transaction costs

Private transaction costs are costs borne by farmers or other private actors. They are affected by largely the same variables as for the public transaction costs, but, in addition, they are strongly affected by the design of the applied policy instruments and by the public administrative procedures. Depending on the scheme, these costs can be more or less compensated by payments (as is the case for transaction costs in the calculation of some second pillar payments) or be left as a net burden to farmers. Rather important for farmers, more than for the public administration, transaction costs not readily detectable from the time spent or accounting calculations may be important. This includes, e.g. uncertainty and risk perceptions and personal attitudes against complex administrative procedures.

In terms of wider interpretations, the topic can be further cast in the issue of the political economy of decentralisation and subsidiarity and hence in the wider

¹⁰ Path dependence explains how the set of decisions one faces for any given circumstance is limited by the decisions one has made in the past

¹¹ e.g. Mettepenningen, Beckmann and Eggers (2011) <https://ideas.repec.org/a/eee/ecolec/v70y2011i4p641-650.html>

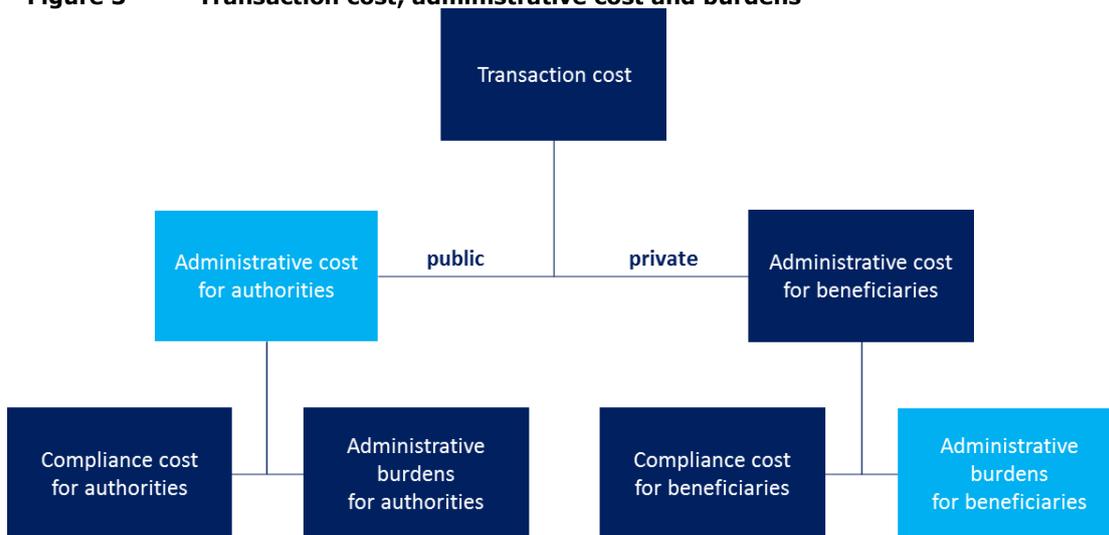
¹² Nilsson (2009): Personal and social factors that influence pro-environmental behavior

context of decentralised strategic programming¹³. Indeed, while there is a growing attention to transaction costs from policies, implications for planning and measure design are still poorly considered in real-life decision-making processes and policy evaluations¹⁴.

2.1.2 Definitions applied in this study

The focus of this study is on administrative costs of IACS for paying agencies including the perspective on administrative burden from a farmers position. We therefore define as “administrative costs” what is in the scientific literature referred to as transaction costs, distinguishing between administrative costs for authorities (public transaction costs) and farmers (private transaction costs).

Figure 3 Transaction cost, administrative cost and burdens



Source: Author’s own elaboration

Administrative costs can be further divided into the subcategories of compliance costs and administrative burdens.

Table 1 Cost definitions used in this study

Cost categories	Definition
Administrative costs	All costs related to the set-up, running and management and control of IACS related measures
→ Compliance costs	Costs for complying with relevant legislation e.g. the implementation of certain requirements
→ Administrative burdens	Information obligations and related activities due to the legislation related to IACS

Source: Author’s own elaboration

¹³ Beckmann, Eggers and Mettepenningen (2009), “Deciding how to decide on agri-environmental schemes: the political economy of subsidiarity, decentralisation and participation in the European Union”.
¹⁴ Shahab, Clinch and O’Neill (2018), “Estimates of Transaction Costs in Transfer of Development Rights Programs”.

The main difference between most compliance costs and administrative burdens is that the former usually include a certain amount of what is called “Business-as-Usual” costs, hence costs that would also occur in the absence of legislation.¹⁵ Administrative burdens on the other hand only occur due to the legislative requirements of providing and collecting information.¹⁶ Given that one could argue that the absence of CAP legislation would lead to no remaining activities of paying agencies (directly or indirectly linked to information obligations¹⁷), it is harder to distinguish between compliance cost and administrative burden for them. Based on this reasoning the European Commission in its Impact Assessment for the new CAP¹⁸ follows the previous assessment¹⁹ establishing that only less than 5% of administrative cost can be expected to occur also in absence of legislation and hence the remainder can be defined as administrative burden. However, the term “burden” is often affiliated in the public debate with unnecessary obligations and gold-plating that should be abolished and not in its methodological “neutral” sense. In this report, we thus for public authorities do not distinguish between administrative costs and burdens, assessing and describing the higher level category of administrative costs. In contrast, for farmers, we focus on administrative burdens.

2.2 Approach and methodologies chosen

Building on the context and objectives of this study and the considerations emerging from scientific literature of previous assessments, an approach was chosen that acknowledges the specificities of the CAP 2014-2020 and its efforts towards a greater simplification and flexibility for MS, as well as the complexity inherent in the controls and checks that are required. The chosen methodologies build on the EU Better Regulation Guidelines (revised in 2017) for assessing administrative burden for businesses and administrations due to EU regulations using the definitions established above. For information collection overall literature review, extensive case study work including farmers’ interviews and a validation survey were used. The general logic behind the applied approach matching methodologies and data sources with the sub-objectives (as defined in Chapter 1) is depicted in the following figure and summarised thereafter.

¹⁵ CEPS (2013): Assessing the costs and benefits of regulation

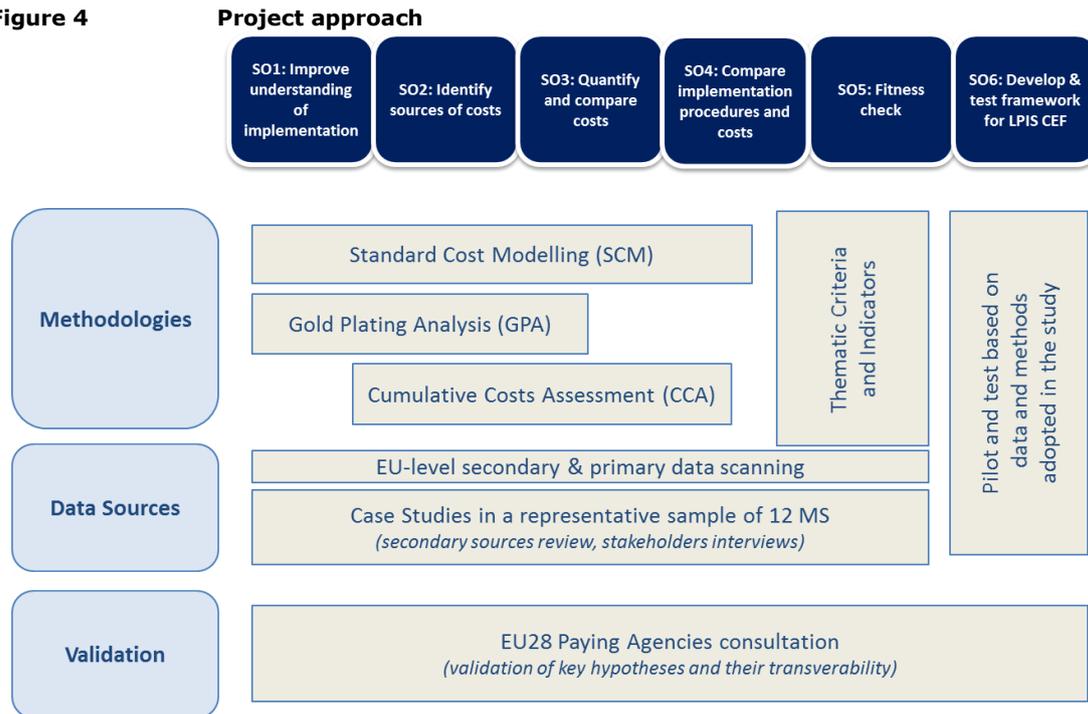
¹⁶ European Commission Better Regulation Toolbox, see: http://ec.europa.eu/smart-regulation/guidelines/docs/br_toolbox_en.pdf

¹⁷ NOTE: we interpret monitoring, and control activities as information obligations

¹⁸ SEC(2011) 1153 final/2: Common Agricultural Policy towards 2020 Annex 9

¹⁹ EU Project on Baseline Measurement and Reduction of Administrative Costs, 2010, http://ec.europa.eu/smartregulation/refit/admin_burden/docs/enterprise/documents/files/abs_development_reduction_recommendations_en.pdf

Figure 4



Source: Author's own elaboration

2.2.1 Key methodologies for cost identification and assessment

To analyse administrative costs and burdens of the CAP and identify their sources we rely on a mix of two specific methods tailored to the specific context of this study:

- **Standard Cost Modelling (SCM):** allows to address the costs and burdens of CAP requirements for paying agencies. It allows the quantification of actual costs (i.e. financial/time costs) resulting from CAP regulatory requirements (for paying agencies at MS level), to enable an assessment of the extent to which the CAP is deemed efficient;
- **Gold-plating Analysis (GPA):** provides a specific methodology to structurally and qualitatively identify Member State decisions on policy implementation potentially increasing costs. While the SCM is part of the EU Better Regulation Toolbox, GPA is a method developed by Ecorys as part of previous Administrative Burdens studies related to the CAP.²⁰

Through this combination, the approach allows for a better identification of possible corrective actions (i.e. fitness checks) in addressing persisting or new burdens in the CAP implementation.

²⁰ European Commission (2017): Better Regulation "Toolbox", available at: http://ec.europa.eu/smart-regulation/guidelines/docs/br_toolbox_en.pdf, European Parliament, Directorate-General for Internal Policies, Policy Department D. Budgetary Affairs (2014): "Gold-plating' in the EAFRD: To what extent do national rules unnecessarily add to complexity and, as a result, increase the risk of errors?", available at: [http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/490684/IPOL-JOIN_ET\(2014\)490684_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/490684/IPOL-JOIN_ET(2014)490684_EN.pdf)

A third methodology, which inspired the approach chosen for this study is the **Cumulative Cost Assessment (CCA)**, which aims to identify, assess and, where possible, quantify the cumulative costs generated by selected areas of EU legislation on a given industrial sector. The assessment of regulatory costs is based on a holding's cost structure. The CCA in its original format was designed for the assessment of costs for industry and has features which extend beyond the scope of this study. However, the following two features were used to reinforce and complete the approach chosen:

- expansion of the SCM to a broader set of requirements: by referring to a number of regulatory requirements (and in this sense to slot in additional costs due to MS and regional relevant regulations that go beyond EU CAP requirements);
- allowing the assessment of cumulative costs of different legislative acts: providing a framework for avoiding double-counting in areas where regulation overlaps.

As in the case of other better regulation instruments, the CCA was not originally designed to judge the content of policies:²¹ it is rather a method of insight generation that potentially feeds into further policy decisions. Yet, the CCA is in some ways more appropriate to policy analysis than a method such as cost-benefit analysis; or a process-oriented instrument built on specific steps, such as regulatory impact assessment.

2.2.2 General approach for case studies

Twelve Member State case studies²² provide the core evidence base for this study. They were used to collect both quantitative and qualitative information for all study themes to shed more light on the functioning of the different IACS systems and the administrative costs stemming from these systems. The selection of case studies focused on identifying cases, which represent a typical coverage of different types of CAP implementation and national/regional context. This allowed for the extrapolation of results to the EU level and the formulation of conclusions for all Member States.

In each case study, evidence was collected via a combination of desk research, interviews with paying agencies, and inquiry with other related stakeholders and farmers (farmers' interviews).

2.2.3 Extrapolation of findings

The case studies were selected on the basis that they would cover a range of different approaches to CAP implementation, focus areas and contextual settings (e.g. geographical and economic context, CAP priorities etc.). For the qualitative study questions this provided a strong evidence base for a Thematic Cross Analysis, providing the basis to draw overarching conclusions for all EU Member States.

²¹ Claudio M. Radaelli, "Evidence-based policy and political control: what does regulatory impact assessment tell us?", presentation held at the ECPR Joint Sessions of Workshops, University of Rennes, France, April 2008.

²² Note: In the case of regional implementation of the CAP, typical regions were selected and analysed instead or complementary to activities performed at the MS level.

In the case of quantitative information (personnel cost, investment cost etc.), the extrapolation is more challenging. Firstly, data collection was not always possible at the desired level of granularity due to a combination of factors such as non-availability of data, non-existence of relevant monitoring structures, different reporting practices, changes in staff, time constraints, confidentiality of data etc. Consequently, data gaps had to be filled using methods such as cross-country shadowing, contextual indicator comparison, typical cost breakdowns etc. An additional input used was the European Commission, Directorate-General for Agriculture and Rural Development (DG AGRI) cost of controls survey 2017. To compare, aggregate and extrapolate, contextual indicators of agricultural structure, country indicators, and CAP indicators (budget, beneficiaries etc.) were used.

Given the challenges in data collection and the sometimes heterogeneous responses from Member States, we integrated an additional validation and assessment of transferability check into our approach by installing a validation of draft findings and hypotheses based on a preliminary report. In addition, key findings of the farmers' interviews were discussed with COPA-COGECA²³.

2.2.4 Approach for setting up the framework for assessing LPIS Cost-Effectiveness

In addition to the assessment of the costs and burdens of CAP implementation, a specific additional output of this study is to suggest a methodological framework for measuring and monitoring the cost-effectiveness of implementing the Land Parcel Identification System (LPIS) across EU Member States. As reported by the EU Court of Auditors – and reinforced by the analysis of this study – Member States have “difficulties in quantifying the overall investment cost of their LPISs, their annual running costs and the cost of specific features, such as the LPIS update process or the different LPIS layers or QA” (CoA 2016, p.25)²⁴. As a result, “Member States are not in a position to assess the cost-effectiveness of system improvements”.

A Cost-effectiveness Framework (CEF) is therefore suggested to identify the specific costs to be collected and compare these with the main effects of LPIS implementation across EU Member States.

For the purpose of this analysis, LPIS can be considered cost-effective when it efficiently allows Member States to unambiguously locate, identify and measure the Maximum Eligible Areas (MEA) of the reference parcels declared by beneficiaries, along with reliably checking the related administrative requirements and information²⁵. The assumption behind this analysis is that, although the management of LPIS implies certain costs to be incurred by the Paying Agencies, in the mid-term, it allows to increase efficiency of checks and controls and to reduce errors incurred by beneficiaries. Importantly, in this respect, LPIS fosters the overall digitalisation of the agricultural sector in Europe, towards fully automatized national and EU policy management systems.

²³ the union of the two big European agricultural umbrella organisations COPA and COGECA

²⁴ https://www.eca.europa.eu/Lists/News/NEWS1610_25/SR_LPIS_EN.pdf

²⁵ https://marswiki.jrc.ec.europa.eu/wikicap/index.php/LPISQA_Legacy/Rationale

The framework suggested focuses on the following areas of costs:

- **LPIS update**, including the update of LPIS content (e.g. acquisition of new imagery, photo-interpretation, updates as a result of evidence coming from OTS checks or farmer's request etc.);
- **LPIS upgrade**, referring to system's adjustments required to align with the scope of new regulatory requirements;
- **furnishing application process**, including the integration of information from LPIS on reference parcels and incorporation of GSAA information on agricultural parcels into LPIS/IACS; and
- **Enabling activities for administrative and OTS checks.**

To set up the framework for assessing LPIS cost-effectiveness, the approach includes:

- Identification of LPIS objectives/activities;
- Definition of some contextual variables to be considered in the analysis;
- Definition of costs/results Indicators;
- Set-up the overall Cost-Effectiveness Framework (to be used by MS);
- Interpretation of the emerging data;
- Comparison with additional existing indicators.

2.3 Limitations and robustness of the study

The analysis presented hereafter should be interpreted with awareness of the following limitations:

- **The key source of information are 12 case studies:** the study is based on extensive research in 12 different Member States (or regions therein). While the selection of case studies aimed at covering all major different types of CAP implementation and contextual and agricultural settings, overall conclusions for the EU still needed to be extrapolated. Despite the consecutive validation exercise with responses from 21 Member States, a potential bias of results due to the sample size cannot be fully excluded;
- **Dependency on cooperation and input information from Member States:** information collected (and in particular quantitative information) required the extensive cooperation of paying agencies and farmers and their ability to respond to the study questions. Unavailability for interviews, non-availability of data/information, difficulties in estimating efforts and diverging reporting structures reduced the evidence base, particularly at a very detailed level of activities. At a more aggregate level of key activities in managing and running IACS, sufficient data was available to estimate gaps. These estimates were further validated by the paying agencies through the Committee for direct payments;
- **Focus on costs and not benefits:** the focus of quantification in the study lies on costs and not on benefits. This should not be taken as implying that the CAP creates costs in disproportion to its benefits. The purpose of focusing on the costs is to identify opportunities for efficiency gain;
- **Extrapolation requires assumptions:** extrapolating from a sample to the EU requires assumptions (standard wage rates etc.). The assumptions used are

chosen in a way to reduce the risk of biases as much as possible. Nevertheless, assumptions can lead to over- or underestimation of findings;

- **Speed and extent of implementation of new technologies and other adjustments:** differences in technology uptake or the capability of transforming management and control structures affect the functioning of systems. Consequently, the comparison of implementation between Member States is not always based on the use of same systems or structures;
- **Implementation choices affecting cost estimates:** differences in costs may be due to different implementation choices. Where possible, the study aims to identify the reasons for cost differences. In the case of a combination of structural, technological and political (choices) differences, it is however not always possible to identify the exact drivers of costs given that different issues interact or their diverging impacts cross-compensate each other;
- **Combination of inputs and risk of overlaps:** to enlarge the evidence base, the DG AGRI cost of controls survey data was integrated in the estimates. Given its partially diverging definitions and delineations in comparison to the study themes and thus data collection tools, there is a risk of overestimating costs;
- **Overlap of study timing and MFF discussions:** although the timing of this study overlaps with discussion on the 2021-2027 Multiannual Financial Framework (MFF), it is not focussed on the MFF but rather on improving the systems which remain in place or new ones that may be setup. However, it meant that the study's data collection activities corresponded to a period when paying agencies were heavily occupied and when sensitivities over sharing detailed information on costs of operation were in a heightened state;
- **Timing of the study in relation to the publication of the proposals for the CAP after 2020:** this study was conducted to assess the implementation of the CAP 2013 reform. It was designed before the publication of the proposals for the CAP after 2020. As a consequence it does not provide an in depth analysis in the implications of the proposals on the administrative costs.

To mitigate the risks, which emerged due to the limitations stated above, extensive quality checks and a validation exercise have been conducted. The quality checks of individual data points consisted of:

- **Internal and external data consistency checks:** assessment of the logical consistency of data provided, the magnitude of inputs and hence the statistical identification of reporting errors;
- **Outlier identification:** cross country checking to identify specific outliers for further assessment;
- **Validation and verification:** additional verification with the original interviewees if outliers of data or inconsistencies can be clarified. Overall, validation of country estimates and overall cost estimates and drivers in the form of a survey addressed to the paying agencies and distributed through the Committee for direct payments survey.

3 Functioning and development of IACS related activities

This chapter presents the context of the analysis. It provides a historical background, outlines the key CAP reforms (Section 3.1) and describes the general functioning of IACS and related mechanisms (Section 3.2). As such, this chapter helps to better place the analysis of IACS and its components in a wider context of the CAP and its simplification efforts.

3.1 Evolution of the CAP

Historical Background

The CAP aims to provide a decent standard of living for farmers and viable food production for European citizens, while contributing to sustainable management of natural resources and combating climate change.²⁶ Since its inception in 1962, reforms of the CAP have seen it evolve from a system primarily based on guaranteed prices, export subsidies and tariffs and quotas to a system operating through direct payments to farmers and with a greater orientation towards environmental sustainability.

In 1992 the so-called 'MacSharry reforms' initiated the shift from product support to producer support. This support would mainly be controlled by a new Integrated Administrative Control System (IACS) focusing on checking the accuracy of farmer's declared area and livestock headage claims, with associated reduction and penalties where relevant.

In 2000 the Pillar II of the CAP²⁷ was introduced, giving Member States discretion under their agreed rural development programmes to introduce agri-environmental and other measures that best suited their environmental aims and taking the form of multi-annual schemes not aimed at meeting a specific outcome or obligation in a single year. These fell under the IACS umbrella, with checks needed to ensure against double benefits or incompatible uses on the same area of land.

The CAP 2003 reforms removed the link between subsidies and production. Farmers were now able to receive income support based on a "payment entitlement", providing that they met cross-compliance obligations in terms of looking after their land and meeting food safety, environmental, and animal health and welfare standards. Member States were given greater flexibility over direct payments, including the ability to retain a proportion of their budgetary ceilings to meet local policy aims and which could be spent through existing or new coupled schemes linked to specific areas of production. The reforms also ended a number of market measure schemes, the value of which was incorporated in entitlement budgetary ceilings. Further, SAPS - a simplified income support scheme not requiring the

²⁶ https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/cap-glance_en

²⁷ Pillar I: Direct Payments; Pillar II: Rural Development

establishment of entitlements - was made available to countries joining the EU in 2004 and 2007, with ten out of twelve using this option.

Simplification of the CAP has been an ongoing process since the early nineties. However, it gained additional impetus in 2005 with the "simplification initiative" that formed part of the Lisbon Strategy and the Commission's overall strategy for simplification²⁸. In addition a study on the administrative burden arising from the Pillar I of the CAP in 2003 implemented in 2007²⁹ and focussing on the single payment scheme, found a large impact of public sector use of IT solutions, as well the provisions of prefill forms, on administrative costs and burden both administrations and beneficiaries. Variations in administrative burden between Member States were also attributed to the size of national agricultural sectors and administrative structure and processes (e.g. being subject to rules of different regions, assistance in filling in forms, the magnitude of certain one-off costs). In 2009, this culminated in the publication of the Communication "A simplified CAP for Europe - A success for all" which brought simplifications to the Single Payment Scheme and other support schemes. What followed were major efforts across EU priority areas, including agriculture and agricultural subsidies, under the "Action Programme for the Reduction of the Administrative Burden". Moreover, studies were commissioned³⁰ and the results presented by the "High Level Group Independent Stakeholders on Administrative Burdens"³¹.

The CAP 2013 reform

Simplification has also been at the core of the CAP 2013 being named one of the core objectives and key requirements in Regulation (EU) No 1307/2013.³² It thus neatly fits into the ongoing debate of previous CAP reforms³³ particularly as certain measures imply direct costs and could interfere with beneficiaries' business decisions.

Building on the existing two-pillar structure, the CAP 2013 reform³⁴ aimed to strengthen the economic and ecological competitiveness of the agricultural sector, to promote innovation, to combat climate change and to support employment and growth in rural area. New features of the reform package included:

- A new architecture of direct payments (basic payment scheme/single area payment scheme integrating pre-conditions for active farmers to access other decoupled direct payments);
- A compulsory payment element for agricultural practices beneficial for the climate and the environment (the so-called 'greening' measures); and
- A compulsory payment scheme for targeting young farmers: the young farmers scheme.

Member States also got the possibility to further target direct payments through other optional schemes. To provide more targeted support to small and medium

²⁸ http://europa.eu/rapid/press-release_MEMO-05-382_en.htm?locale=en

²⁹ DG AGRI, Study on administrative burden reduction associated with the implementation of certain Rural Development measures (2011). The study analysed four groups of cost drivers: (i) transposition of CAP regulations, (ii) public administration, (iii) business culture, and (iv) national or cultural differences between the studied Member States (Denmark, France, Germany, Ireland and Italy).

³⁰ e.g. Capgemini (2010): EU Project on Baseline Measurement and Reduction of Administrative Costs

³¹ http://europa.eu/rapid/press-release_MEMO-14-574_en.htm

³² REGULATION (EU) No 1307/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

³³ http://ec.europa.eu/agriculture/simplification/index_en.htm

³⁴ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0672:FIN:en:PDF>

sized farms, Member States can apply a redistributive payment to the first eligible hectares of the farms. Moreover, to reduce their administrative burden, Member States can apply a specific and simplified support scheme for small farmers and are permitted to continue to grant limited coupled support to potentially vulnerable sectors. Further, Member States may also grant payment for areas with natural constraints.

The CAP 2013 reform also provided Member States with additional flexibility in implementation choices. Particularly important is the flexibility to transfer 15%³⁵ of their direct payment envelope between the two pillars.³⁶

Basic payments are made either through the basic payment scheme (BPS) or the single area payment scheme (SAPS). Member States operating the BPS are expected to shift away from direct payments calculated on an historic basis, towards a uniform (national or regional) rate per hectare. Member States that implement SAPS, which is a flat payment per hectare, can continue to do so until 2020. Moreover, payments under both schemes are to be reduced for those in receipt of over €150,000 of basic payment. Member States also have the option to introduce a redistributive payment (subject to a maximum limit) as a proportion of 'first eligible hectares' of farms. Member States that allocate over 5% of the national ceiling to these types of payments may, if they so choose, decide not to implement the reduction of payments rules. The new greening measures also provide significant flexibility to better reflect the diversity of environmental and production conditions across the EU.

For Pillar II, one of the most important changes is the removal of the previously existing four axes³⁷. They have been replaced by six common EU priorities and multiple focus areas.

Priorities and focus areas of the rural development programmes

1. Fostering knowledge transfer/innovation in agriculture, forestry, and rural areas:

- Innovation and the knowledge base in rural areas;
- Links between agriculture and forestry and research and innovation;
- Lifelong learning and vocational training in the agricultural and forestry sectors;

2. Enhancing competitiveness of all types of agriculture and enhancing farm viability:

- Restructuring of farms facing major structural problems, notably farms with a low degree of market participation, market-oriented farms in particular sectors and farms in need of agricultural diversification;
- Generational renewal in the agricultural sector;

3. Promoting food chain organisation and risk management in agriculture:

- Primary producers into the food chain through quality schemes, promotion in local

³⁵ Some Member States were allowed to transfer up to 25% of their Pillar II funds to Pillar I, see Article 14(2) of Regulation (EU) No 1307/2013 or point 2.3 of the information fiche available here: https://ec.europa.eu/agriculture/sites/agriculture/files/direct-support/direct-payments/docs/direct-payments-financial-mechanisms_en.pdf.

³⁶ DG AGRI (2015). Presentation on "The CAP towards 2020: the links between Pillar I and Pillar II". See also Commission Delegated Regulation (EU) No. 1378/2014.

³⁷ Axis 1: Improving the competitiveness of the agricultural and forestry sector; Axis 2: Improving the environment and the countryside; Axis 3: Improving the quality of life in rural areas and encouraging diversification of the rural economy; Axis 4: LEADER.

markets and short supply circuits, producer groups and inter-branch organisations;

- Farm risk management;

4. Restoring, preserving and enhancing ecosystems dependent on agriculture and forestry:

- Biodiversity, including in Natura 2000 areas and high nature value farming, and the state of European landscapes;
- Water management;
- Soil management;

5. Promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, food and forestry sectors:

- Efficiency in water use by agriculture;
- Efficiency in energy use in agriculture and food processing;
- Supply and use of renewable sources of energy, of by products, wastes, residues and other non-food raw material for purposes of the bio-economy;
- Reduce nitrous oxide and methane emissions from agriculture;
- Carbon sequestration in agriculture and forestry;

6. Promoting social inclusion poverty reduction and economic development in rural areas:

- Diversification, creation of new small enterprises and job creation;
- Local development in rural areas;
- Accessibility to, use and quality of information and communication, technologies (ICT).

Source: DG AGRI (2015)

Aside from implementation modalities and technicalities, Member States can choose the focus of the measures under these six priorities. There are also possibilities to link the two pillars by:

- complying with greening through equivalent measures under Pillar II;
- supporting young and small farmers through both Pillar I and Pillar II interventions;
- supporting areas facing natural constraints either under Pillar I or Pillar II;
- providing an option to link the risk management toolkit under Pillar II to direct payments and market measures under the common market organisation (CMO);
- providing cooperation support under Pillar I, Pillar II and market measures (CMO).

Overall, because of the additional flexibility introduced by the CAP 2013 reform, attainment of the CAP objectives (as specified in Art. 110 (2) of Reg. (EU) No 1306/2013 of the European Parliament and of the Council) and administrative complexity can be substantially influenced by the range and combination of implementation choices made by Member States under both the Pillar I and Pillar II.

Administrative burden and simplification in the CAP 2013 reform

Given the complex and multi-faceted nature of the CAP 2013 reform, it is not an easy task to assess the administrative costs associated to CAP regulation and its implementation. Generally, **throughout the CAP implementation process, the range of administrative requirements for beneficiaries, managing**

authorities and paying agencies has grown.³⁸ National and Regional regulations, further definition and description of measures within Rural Development Programmes, administrative requirements for the management of specific projects co-funded under RDP measures, and potential yearly changes of priorities, mean that even within one Member State it is extremely difficult to describe and assess the highly complex situation of policy implementation. Comparing across Member States, **the CAP 2013 reform contributed additional complexity by making implementation processes even more heterogeneous**, as it gave Member State greater autonomy in the implementation of measures and regulations for both Pillar I and II. At the level of national authorities, the diversity of CAP implementation choices means that it is almost impossible to make an overall assessment of CAP administrative requirements, and their consequential costs. It is nevertheless possible to select a relevant range of different implementation options across EU Member States and different institutional settings that characterise such implementation.

The flexibility provided under the CAP 2013 reform aims to allow Member States to find the best solution tailored to their specific context and thus reduce administrative burden. For instance, Member States have favoured different mechanisms for allocating payment entitlements (e.g. exclusions of some areas, transition to flat rate value, different flat rate values depending on the region). However, the impact assessment conducted by the European Commission before the CAP 2013 reform (based on the initial Commission proposal) pointed to concerns among stakeholders that these different mechanisms might not result in the most efficient choices for them. In addition, it provided some early indications of the related administrative burden, particularly for compliance with information obligations arising from Pillar I regulations (Annex 8 - Simplification³⁹). The assessment came at a very early stage of discussions for new CAP regulations, but provides a basis for the assessment under this study. Notably, the impact assessment provided estimates of the change (addition) in administrative costs arising from changes in legal obligations for direct payments post-2013:

- about €354 million estimated for businesses (of which about 80% due to pure administrative burden);
- about €32 million estimated for public authorities (of which about 5% due to pure administrative burden).⁴⁰

From these estimates, compared to the previous CAP regulation, the CAP 2013 reform was expected to cause an approximately 15% increase of administrative cost of the direct payment system.⁴¹

The impact assessment also highlighted how changes in administrative burden are strongly affected by policy choices. For example, the small farmers scheme, where great efforts have been made to simplify requirements for this beneficiary group, resulted in an estimated total reduction of €126 million. Conversely, greening

³⁸European Parliament, Directorate-General for Internal Policies, Policy Department D. Budgetary Affairs (2014): "Gold-plating' in the EAFRD: To what extent do national rules unnecessarily add to complexity and, as a result, increase the risk of errors?", available at: [http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/490684/IPOL-JOIN_ET\(2014\)490684_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/490684/IPOL-JOIN_ET(2014)490684_EN.pdf)

³⁹ European Commission (2011) : CAP Impact Assessment - Annex 8, see : http://ec.europa.eu/agriculture/policy-perspectives/impact-assessment/cap-towards-2020/report/annex8_en.pdf

⁴⁰ The average wage-per-hour was adjusted to take account of the differing wage levels in EU Member States (based on PPS coefficients)

⁴¹ European Commission (2011) : CAP Impact Assessment - Annex 8, p. 24., see : http://ec.europa.eu/agriculture/policy-perspectives/impact-assessment/cap-towards-2020/report/annex8_en.pdf

schemes aimed at ensuring that payments go to environmentally sustainable solutions, processes and products, were estimated to create additional costs for businesses (i.e. farmers) of in total €299 million.

In 2014, a screening exercise launched by Commissioner Hogan⁴², which assessed agricultural policy in its entirety, identified elements that could be simplified and that could be better left to the Member States.⁴³ In this respect, the following were identified among the priorities:

- **Every policy proposal will be screened and evaluated in terms of simplification**, so that simplification potential will be reinforced in the legislative process where possible;
- **The new direct payments regime will be reviewed in terms of administrative burden**, in particular - but not limited to - the rules on EFAs.

In 2016, a study on implementation of the 2014 – 2020 CAP, conducted by Ecorys⁴⁴ provides a preliminary assessment of the administrative burdens for both public administrations and beneficiaries.

Previously identified sources of administrative burden arising from CAP implementation

- **Adaptation of the IACS.** Adapting IACS to support the management of new CAP requirements has proved a complex task for public authorities. Specifically, control requirements and requirements on the on-the-spot checks that are often perceived by public authorities to be too rigid, leading to undue administrative costs. To minimise negative impacts, administrations' efforts have focused on making implementation choices on those areas where administrative costs of meeting implementation requirements were not expected to overwhelm benefits;
- **Insufficient past investments in LPIS.** Public authorities that were unable to make sufficient earlier investments to assure efficient information systems for mapping landscape features (e.g. remote control, satellite systems), appear to encounter particular difficulties in the proper implementation of new CAP regulations;
- **Inefficient MS systems for on-the spot controls:** systems set up for such controls are not organised in an efficient manner to avoid unnecessary burdens;
- **Recalculation of eligibility and payment criteria.** New requirements (e.g. Greening, BPS) necessitating accurate analysis of local trends and needs (in extreme cases resulting in 1 000 pages of analysis) resulted in significant additional burden on administrations with limited capacity/experience (e.g. new Member States) or with more complex country systems involving decentralised implementation systems that require decisions to be coordinated across various governance levels (e.g. Southern Member States);
- **Interplay of CAP regulations across the two pillars.** Particularly in relation to land measures and also cross-compliance, implementation of RDP is challenging for some countries. This seems to be more the case for some Southern and New Member States with more limited capacity and capabilities and complex implementation systems that create challenges for the promotion of synergies between central and regional authorities.

Source: Ecorys (2016)

⁴² https://ec.europa.eu/agriculture/cap-overview/simplification_en

⁴³ http://europa.eu/rapid/press-release_SPEECH-14-2343_en.htm

⁴⁴ European Commission (2016): Mapping and analysis of the implementation of the CAP, see: https://ec.europa.eu/agriculture/sites/agriculture/files/external-studies/2016/mapping-analysis-implementation-cap/fullrep_en.pdf

The 2017 **open public consultation on simplifying and modernising the CAP**, corroborates the findings of the Ecorys study.⁴⁵ Respondents highlighted that the **amount and accuracy of the required paperwork and the complexity of continuously changing applications for premia, subsidies or grants are the most important factors that add to their administrative burden**. The stacking of different rules related to CAP instruments and measures, and the lack of transparency related to controls were indicated as factors increasing complexity and the perceived risk of being sanctioned or penalised. Furthermore, many respondents indicated that the burden relating to greening seems disproportionate to its environmental impacts, with specific references made to the definition of permanent grassland and the ecological focus areas. Respondents suggested that simplification opportunities could arise from granting more flexibility to farmers in implementing environmental measures and through adopting a more results-based approach, which could potentially be more effective. Furthermore, they suggested **the CAP could be simplified through the use of ICT applications and databases to reduce controls, especially when combined with e-government services**.

At the end of 2017, the European Commission published a communication on the **Future of food and farming**⁴⁶, which recognised the need to "*significantly decrease bureaucracy and administrative burden*". The communication recognised that EU level requirements are detailed and feature tight controls, penalties and audit arrangements. Considering the highly diversified farming landscape in Europe, the role of the union should be to set basic policy parameters, while placing greater responsibilities on Member States to decide how they will reach policy targets, including a larger role in designing the compliance and control framework. In conclusion, the spirit of the communication is to reduce the prescriptive nature of the CAP at EU level, thereby favouring more integrated and innovative approaches. Furthermore, the future delivery system should aim to be more result-driven, making use of opportunities to reduce the cost and burden of control through simplified cost options and use of modern technologies.

⁴⁵ European Commission, Directorate-General for Agriculture and Rural Development (2017): "Modernising and Simplifying the Common Agricultural Policy: Summary of the results of the Public Consultation", available at: <https://ec.europa.eu/agriculture/sites/agriculture/files/consultations/cap-modernising/summary-public-consul.pdf>

⁴⁶ European Commission (2017). COM (2017) 713 final. The future of food and farming. https://ec.europa.eu/agriculture/sites/agriculture/files/future-of-cap/future_of_food_and_farming_communication_en.pdf

The Omnibus Regulation, which sets out the financial rules applicable to the general budget of the Union, includes a proposal for a further simplification exercise of the four CAP regulations to the benefit of both farmers and national authorities^{47,48}. The agricultural provisions of the Omnibus Regulation⁴⁹ were approved on 12 December 2017 and entered into force on 1 January 2018. In terms of simplification, key amendments include:

- **Direct Payments Regulation** (Reg. (EU) No. 1307/2013). The active farmer definition has been made optional to Member States, greater flexibility is given to Member States in the rules related to Permanent Grassland, and other aspects of the Greening payment are simplified;
- **Rural Development Regulation** (Reg. (EU) No. 1305/2013). The use of financial instruments is simplified, and coherence with other EU Structural and Investment Funds is improved;
- **Horizontal regulation** (Reg. (EU) No. 1306/2013). The procedure for controlling financial discipline is simplified, and is placed under single management of the Commission.

Proposed CAP post 2020

In June 2018, the European Commission published its proposal for the CAP post-2020. The legislative changes proposed by the European Commission revolve around modernisation and simplification. Furthermore, the CAP 2013 reform will shift away from rules and compliance towards a more results and performance-oriented approach, while allowing greater flexibility to Member States.

The main features of the Commission's proposal for a modernised and simplified CAP include:

- a focus on strategy and objectives;
- a fairer subsidy system;
- a focus on environmental and climate actions.

Member States will have **more flexibility to design measures targeting national and regional needs**, and **more flexibility when agreeing strategic plans with the EU for the application of controls**, which should provide a better fit to the package of measures they put in place. Member States will produce performance reports that show how these measures have been applied.

The figure below presents the nine objectives of the future CAP set out in the Commission's proposal. Member States' national strategic plans will be subject to approval by the Commission and Member States will have to report on progress on an annual basis, with under-performance subject to possible suspension of payments.

⁴⁷ Council of the EU (2017). Omnibus Regulation: Agricultural rules. <http://www.consilium.europa.eu/en/policies/cap-simplification/omnibus-regulation-agriculture/>

⁴⁸ Council of the EU (2017). Omnibus regulation: Council adopts new, simplified, agricultural rules. <http://www.consilium.europa.eu/en/press/press-releases/2017/12/12/omnibus-regulation-council-adopts-new-simplified-agricultural-rules/>

⁴⁹ PRE-CONS 56/17. <http://www.consilium.europa.eu/media/32072/pe00056en17.pdf>

Figure 5 CAP objectives for 2020 - 2026



Source: <https://www.agronaplo.hu/nagyvilag/common-agricultural-policy-post-2020-simplification-and-modernisation>

As with the CAP 2013 reform, Member States will have the possibility to transfer 15% of their CAP allocations between the two pillars. In addition, Member States may choose to transfer an additional 15% from Pillar I to Pillar II to support environmental and climate actions. The proposal sees IACS as a key element of control of CAP expenditure.

Direct payments, which will continue to represent 74% of the overall CAP budget, will remain at the core of income support to farmers. Payments will occur in the form of an annual decoupled payment per eligible hectare. **The CAP after 2020 aims to change the distribution of financial means across farm holdings** (20% of farmers receiving 80% of payments), by proposing an updated system of interventions. This system will encourage small and medium-sized farms, via a reduction of payments exceeding €60,000 and an aid capping of payments exceeding €100,000. Member States will have to set aside an amount corresponding to at least 2% of the annual direct payments allocation to support young farmers.

The CAP after 2020 will require farmers to achieve a higher level of ambition through both mandatory, and incentive-based measures. A mandatory proportion (30%) of payments to farmers under Pillar II will be conditional upon environmental and climate requirements. **Greening will be discontinued, but several of its principles will be carried forward under the conditionality compliance structure.** In addition, it will be mandatory for Member States to introduce eco-schemes to incentivise farmers to go beyond mandatory requirements with regard to environmental and climate action. Participation in these eco-schemes will be

voluntary for farmers. Overall, it is expected that 40% of the CAP budget will contribute to climate action.

The **increased opportunities afforded by technology are a key element** of the proposal for the CAP after 2020. The draft IACS legislation, which retains the key elements of the current system, includes the requirement to introduce an area monitoring system that allows regular and systematic observation, tracking, and assessment of agricultural activities and practices on agricultural areas using Copernicus Sentinels satellite data or other equivalent data. Although Member States will ultimately be responsible for designing their own control systems, such technologies may lead to a decrease in the number of on-the-spot checks.

3.2 Description of IACS and its major components

For the EU, the IACS is a fundamental tool in the achievement of policy objectives and the management of the risk to the EAGF/EAFRD. It has been the key control mechanism over aid application and payment claim declarations made by farmers and beneficiaries since its introduction in 1992. Member States are required to develop and then adapt/replace systems and processes to meet both policy and technological requirements. **IACS, its components and related aspects are the focus of this study.**

In compliance with EU regulations⁵⁰, Member States management and control of CAP expenditure for direct payments (e.g. BPS, SAPS) and some rural development schemes is undertaken using IACS⁵¹, which consists of databases of holdings, applications, land, and for Member States applying the BPS, payment entitlements. Member States operate IACS to ensure that payments are made correctly irregularities are prevented and, if revealed by controls, are properly followed up, as well as making sure that undue payments are recovered. Failure to properly implement the required key and ancillary controls can result in the EU applying financial corrections to recover sums considered to present a risk to the fund. IACS covers about 94%⁵² of expenditure made under the European Agricultural Guarantee Fund (EAGF) and approximately 53%⁵³ of overall expenditure for the relevant measures made under the European Agricultural Fund for Rural Development (EAFRD). The remaining proportions of these funds are appointed to non-IACS measures (i.e. market measures, non-IACS rural development measures).

The cost and complexity of implementing IACS is often identified by Member States as challenging for administrators and beneficiaries, particularly during periods of significant reforms. Their implementation approaches are shortly presented in the textbox below.

⁵⁰ https://ec.europa.eu/agriculture/direct-support/iacs_en

⁵¹ See European Parliament and Council Regulation (EU) No 1306/2013, Commission Regulation (EU) No 640/2014, Commission Regulation (EU) No 809/2014

⁵² Ecorys calculation based on expenditures in 2015, see: <http://www.europarl.europa.eu/factsheets/en/sheet/104/the-common-agricultural-policy-in-figures>

⁵³ Ecorys calculation based on https://ec.europa.eu/agriculture/sites/agriculture/files/rural-development-2014-2020/country-files/common/rdp-list_en.pdf

Implementation of IACS

Member States have adopted a range of technological approaches to meet IACS requirements. Some have developed systems linking the various elements together to perform the necessary checks. In other instances, they have installed commercially available IACS/CAP specific software packages with pre-loaded common rules that can be further configured to meet national and regional implementation policies and choices. Some use web-enabled applications that allow beneficiaries to apply online, whilst others allow use trusted third parties or regional offices.

In some Member States IACS is developed centrally. In others, some elements such as the entitlement register are developed and held at national level and LPIS/claims databases are developed and maintained at regional level. In other instances, paying agencies take feeds of data from registered administrations elsewhere; for example where farmer's registration is managed by a different government department or agency. Given the dynamic nature of the regulatory environment some Member States have invested in business rules engines that allow rules to be reconfigured relatively swiftly, whilst others may use a hard-coded solution. Some or all elements can be managed and developed in-house, or alternatively outsourced to IT or service companies. All these variables may have an impact on the speed, cost and complexity of the implementation of regulatory changes.

Key IACS changes and technological requirements

In parallel with the major policy changes affecting the IACS legislation, which are summarised in the previous section, changes in requirements coupled with technological advances have created both needs and opportunities to **strengthen and enhance IACS**. Key among the requirements and other factors influencing the shape of IACS are the following:

- **requirements to cross-check claims** under animal premia, voluntary coupled support and cross-compliance obligations against animal registration databases;
- **opportunities to replace physical on-the-spot checks** with the use of remote sensing satellite imagery;
- **information requirements for LPIS**, covering the incorporation of up-to-date imagery or other mapping data spatially recording each agricultural parcel and allowing the electronic cross-check against aid applications and payment claims under direct payment and relevant rural development schemes;
- **requirements to pre-populate aid applications and payment claims** with recorded control data on previously declared land parcels and entitlements including providing each claimant with up-to-date maps;
- **the opportunity to submit a single annual application** for all IACS-related aid schemes;
- **the opportunity to allow electronic submission of aid applications** and payment claims whilst still providing an equivalent service for those unable to do so;
- **the introduction of additional information requirements for greening** including additional spatial layers in the LPIS to control ESG and chosen EFA features;
- **the requirement to incrementally introduce GSAA** allowing electronic and spatial identification, as well as amendments to beneficiaries' claims and land so that by 2018, 100% of land on aid applications and payment claims are covered;

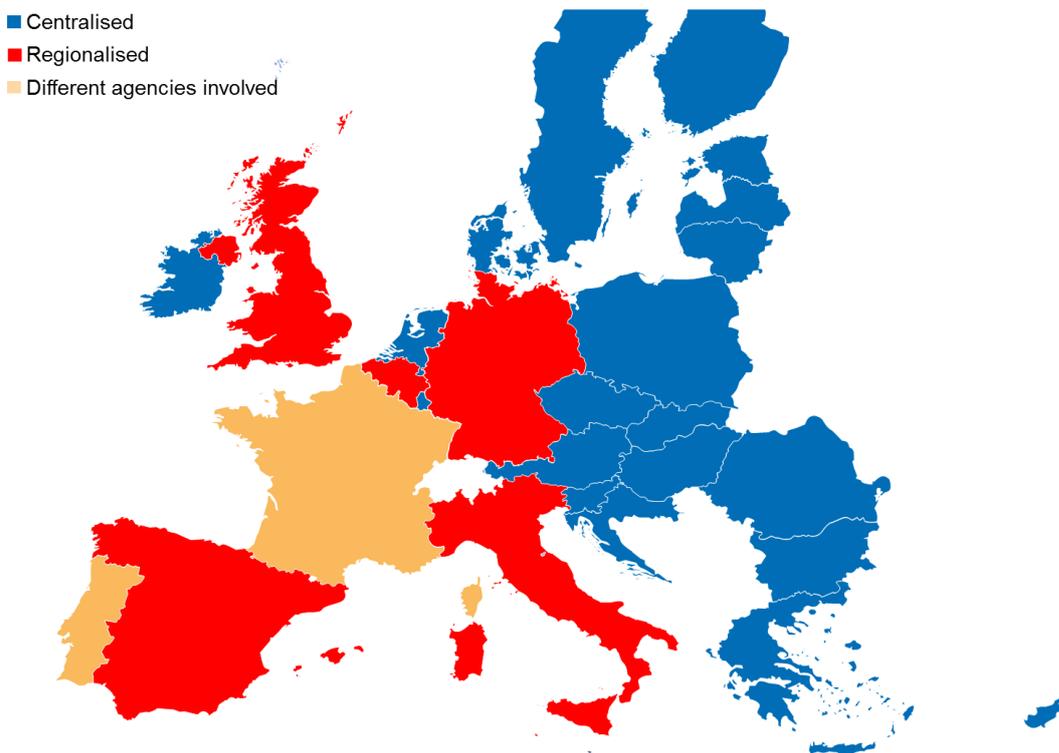
- **provisions to allow Sentinel satellite and other Earth observation data** to be used as evidence in control checks and cross-compliance requirements, along with the ability to use evidence such as geo-tagged photos or other relevant evidence submitted by the beneficiary and information from drones or other aerial imagery.

Implementation approaches

EU regulations allow Member States to **choose IACS policies and implementation approaches that best suit their needs**. As a result, variations exist in Member States' implementation of the different systems composing the IACS, with the following models being identified:

- **Centralised model:** all IACS databases and processes are managed and administered by one central agency;
- **Regionalised model:** responsibilities are shared between federal/central and regional authorities/paying agencies. For instance, farmer and animal registers, as well as the entitlement register, may be managed centrally, while claims and land controls are managed at the regional level;
- **Multi-agency involvement:** Member States may opt to have different agencies administering EAGF and EAFRD claims, or may use more complex arrangements for control and administration through local authorities and delegated inspection and control bodies.

Figure 6 Administrative structure by Member State



Source: Author's own elaboration

Other implementation dimensions that are also at the discretion of Member States include:

- entitlements type, i.e. regionalised on a geographic or topographic basis;
- range of landscape features included in EFA;
- inclusion of non-mandatory schemes (e.g. schemes for small farmers and VCS); and
- options for quantification of grassland areas.

Member States have pursued different IT implementation approaches.

Some use in-house development teams and others outsource part or all the development to third party companies. Further, some Member States have a network of third-party groups or structures on hand to assist or receive digital applications and transfers, while others provide web-enabled services that allow beneficiaries to enter their applications directly. And, in addition, levels of digital sophistication of beneficiaries and administrations also differs across and within Member States.

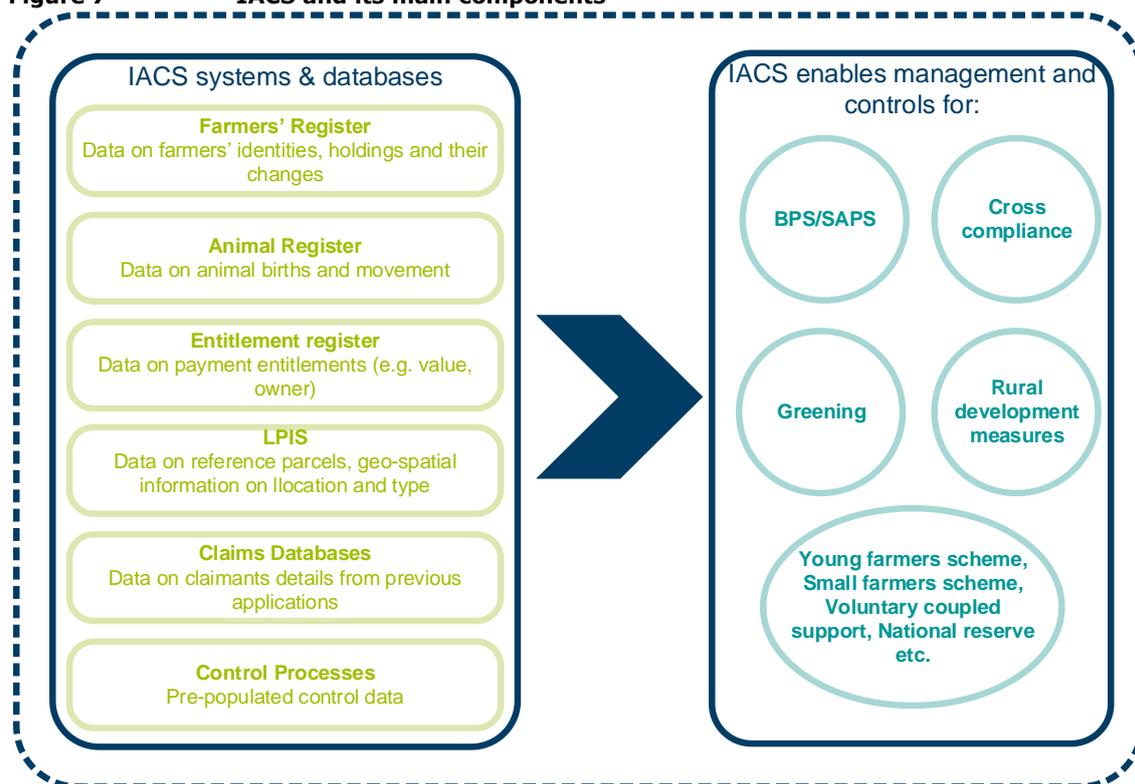
Differences in Member States choices over the various elements outlined above have the potential to influence the complexity and costs of implementing and managing IACS, particularly when changes take place. Chapter 4 of this report sets out to identify and understand these differences and analyse their impact on costs.

A specific topic of interest is whether advances in the availability, frequency and accuracy of satellite systems (e.g. Sentinel systems) can enhance or replace existing methods of land data collection, such as aerial photography and national land surveys. More broadly, it is important to identify if there are assistive technologies currently in use or being considered by administrators, beneficiaries and in the wider market that have the potential to reduce administrative burden. For example, are there robust geo-tagging solutions that can assist in areas such as confirmation of crop type or achievement of retention periods, and that can provide alternatives to more traditional control methods? Similarly, it is important to consider the potential impact of future policy changes that under consideration on the IACS framework and technology options and solutions.

3.2.1 IACS' main components

The main components of the IACS are shown in the following figure and described thereafter.

Figure 7 IACS and its main components



Source: Ecorys 2018

Farmers' register

The farmers' register is a single system for **recording the identity of each farmer claiming under an aid scheme administered through IACS**. It covers beneficiaries, identified as "Active Farmers", making claims for basic payments and under other related aid schemes. The system should uniquely identify each holding and apply appropriate controls over business structures, mergers, splits and changes, in order to ensure that artificial structures are not created so as to gain inappropriate benefits from EU schemes.

Animal register

Where Member States decide to have voluntary or other IACS-related schemes based on animal numbers or identities, then the IACS should also include the relevant **electronic registers used to identify and track animal birth and movement**.

Entitlements register

The entitlements register is a database that uniquely identifies each payment entitlement, its value, when it was established or surrendered, and who owns or leases it. It is updated when entitlements are transferred between farmers. The register is cross-checked against other databases and is the key basis for calculating payment values. It also maintains and allows applications and allocations from the national reserve.

Claims Databases and control processes

The claims database is an integrated database for recording details for each claimant taken from their aid applications and covering at least the previous 10 years. Provided compatibility between systems is maintained, claims databases may be decentralised. The database is managed following an annual cycle, where farmers submit applications for direct payment and IACS-relevant payment schemes within a defined time period, and containing details of their land, number of payment entitlements to be activated, and scheme specific information. Member States must prepopulate the application with the relevant control data they hold, which should be available electronically to farmers in a geo-spatial format that allows them to make any necessary amendments. The application covers all relevant direct payment schemes, such as greening and small farmers' scheme, as well as relevant rural development measures.

3.2.2 Land Parcel Identification System (LPIS)

LPIS is a geographic information system that allows the IACS to geolocate, display and spatially integrate its constituent data. LPIS contains reference parcels, for which Member States need to ensure correct quantification of maximum eligible area and must check that all declared agricultural parcels for IACS schemes are properly identified inside of reference parcels. Information about location of reference parcels and maximum eligible area must be provided to farmers as part of their aid applications. From 2018, all aid applications must include pre-populated and amendable geo-spatial information including the location and size of ecological focus areas (EFAs).

LPIS should also include data or layers that support a range of eligibility checks; for example, EFA, permanent grassland layer, Environmentally Sensitive Grassland, Natura 2000 and Rural Development measures. LPIS may also be used to assist in cross-compliance controls.

LPIS is maintained using aerial or satellite ortho-photos (imagery), national mapping systems, validated farmer notifications, and results of on-the-spot controls. Member States must ensure that the spatial data is sufficiently accurate and up-to-date that they allow effective checks of declared areas to be performed. There is a regulatory obligation for MS to perform an annual quality self-assessment of LPIS, with the results provided to the EU for consideration. If LPIS consistently meets the quality criteria, it can enable Member States to reduce the number of on-the-spot controls.

Reference parcels

Reference parcels are at the core of application process. **A reference parcel is "a uniquely identified and geographically delimited agricultural area".**⁵⁴ Farmer's applications to the paying agency contain all claims for the current year and the area of all reference parcels, such as agricultural parcels. Regulations define an **agricultural parcel** as **"a continuous area of land, declared by one farmer, which does not cover more than one single crop group"**. Agricultural parcels can change depending on the farming priorities, such as crop rotation, set-aside, aggregation or subdivision of fields, different extent of use, market

⁵⁴ Articles 2(25) and 5(1) of Regulation (EU) No 640/2014 as well as Article 4(1)(e) of Regulation (EU) No 1307/2013

considerations etc. Therefore, for the purpose of unique identification of agricultural parcels, reference parcels were introduced by the CAP regulations.

Reference parcels serve as a spatial container for allocation and identification of agricultural parcel(s). EU regulations offer Member States a choice between different types of reference parcels. The four types of reference parcels applied by the Member States are summarised in the table below.

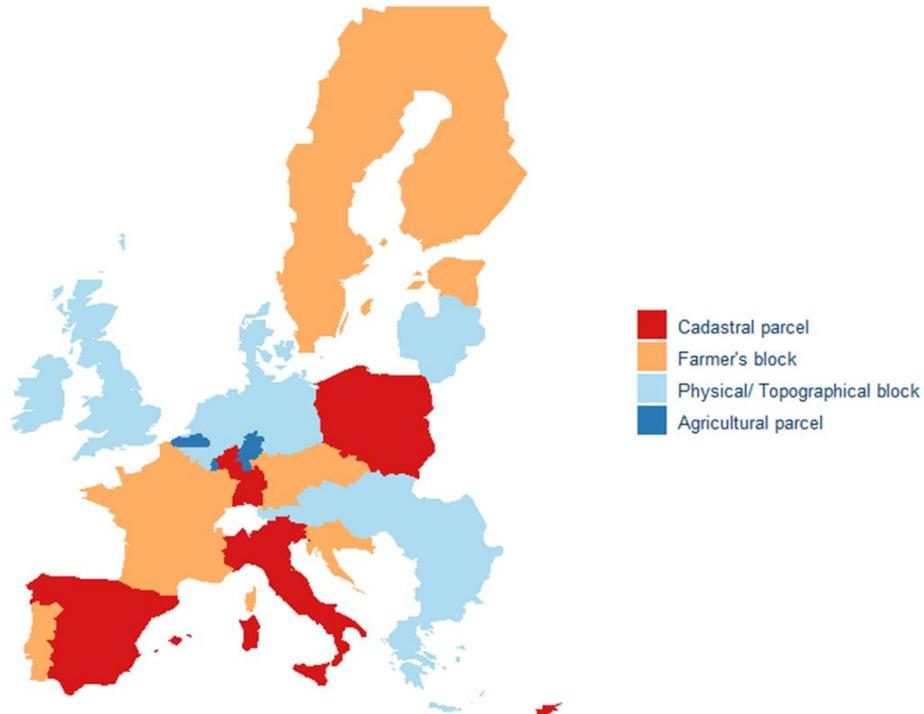
Table 2 Different types of reference parcels

	Agricultural parcel (Single Crop)	Farmer's Block	Physical Block	Cadastral parcel
Example				
Main features	One single crop group; single farmer; annual life cycle.	One or several crop groups; single farmer; multi-annual life cycle.	One or several crop groups; one or several farmers; semi-permanent.	Do not always match agricultural pattern; one or several farmers; object life cycle in database depending on property rights.
Source	Farmer's application	Farmer's application	Administrative classification	Cadastral, land register and farmers application

Source: Zielinski, R., Sagris, V., 2009. Summary Results of the LPIS Survey 2008. EUR 23828 EN. Luxembourg (Luxembourg): OPOCE; 2009. JRC51413.

Regulation (EU)N°1307/2013 defines 'agricultural area' (Art. 2) as any area taken up by arable land, permanent grassland/pasture or permanent crops. In practice, the four main types of agricultural area can have very different appearance on the image or in the field, depending on geographical location and agricultural practice of each Member State. To provide for common interpretation of possible sub-types, the Land Cover Classification System (LCCS) originally developed by the FAO is used. There is, however, an ongoing process of re-definition of LCCS in accordance with the INSPIRE Directive for land cover. The maximum eligible area (MEA) is the officially known and recorded maximum quantity of agriculture land, read eligible hectare, per reference parcel. This indicator is used in cross-checks with other IACS registries for possible over declarations for the reference parcel. The figure below presents the distribution of different types of reference parcels used in each EU Member State in 2015.

Figure 8 **Distribution of different reference parcel types across the EU in 2015.**



Source: Author's own elaboration based on the European Court of Auditors and the 2014 and 2015 LPIS Quality Assessment Reports

Another term with key importance for the LPIS is eligible hectare, as defined by the Regulation (EU) N°1307/2013. Eligible hectare refers to any agricultural area of a holding that is: (i) used for an agricultural activity or, where the area is also used for non-agricultural activities, is predominantly used for agricultural activities, or (ii) certain areas that gave a right to payments under the single payment scheme (SPS) or the single area payment scheme (SAPS) in 2008.

Member States need to ensure correct quantification of maximum eligible area of reference parcels and check that all declared agricultural parcels for IACS schemes are properly identified inside the reference parcels. Information about the location of reference parcels and maximum eligible area must be provided to farmers as part of their aid applications. From 2018, all aid applications must be submitted through geo-spatial aid application (GSAA), which should contain pre-populated and amendable geo-spatial information including the location and size of ecological focus area (EFA). As described earlier, for the purposes of administrative checks, LPIS should include data or layers allowing a range of eligibility checks to be made.

Article 5 of Regulation (EU) N°640/2014 specifies that the identification system for agricultural parcels shall operate at reference parcels level. Member States shall ensure that (i) declared agricultural parcels are reliably identified through reference parcels and (ii) aid applications and payment claims are furnished with information that enables each agricultural parcel to be located and measured. For each reference parcel, the database shall contain information that allows to:

- Determine a maximum eligible area for the purpose of the support for direct payments schemes of Regulation (EU) No 1307/2013;
- Determine a maximum eligible area for the purpose of the area-related for rural development measures of Regulation (EU) No 1305/2013;
- Locate and determine the size of EFA;
- Determine whether provisions of Regulations mentioned in Article 5(d) of R640/2014 apply.

LPIS in practice

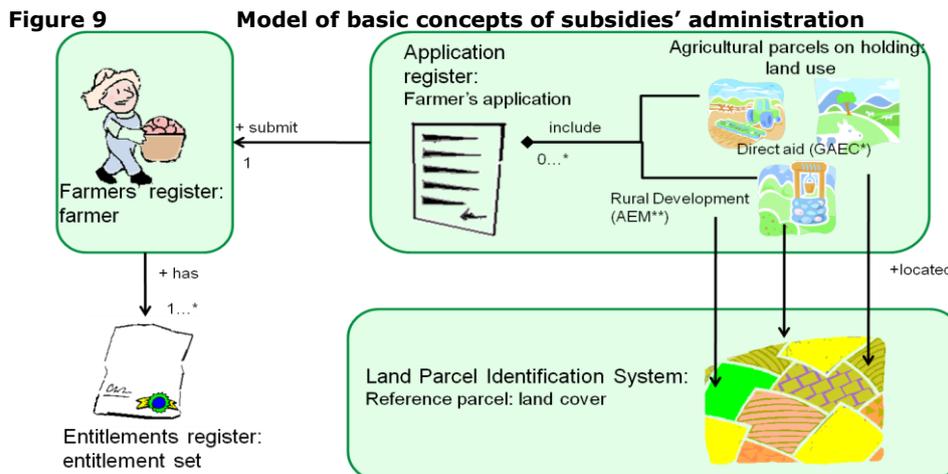
LPIS uses aerial or satellite ortho-photos (imagery) to provide necessary information that can be aligned with the reference parcels to quantify the eligible area. Thus, imagery with very high spatial resolution is a key element for LPIS quality. A three-year cycle of imagery update appears to be the most efficient and reference parcels' layer is subject to regular update as soon as new imagery is available. In addition, LPIS contains other spatial data sets from multiple sources that, together with reference parcels classifications, permit quantification of eligible area and enable checking of commitments and obligation. Therefore, the LPIS already takes advantage of the synergy with other EU policies including data sets created for those policies; e.g. environmental regulations on protected areas Natura 2000. LPIS may also include spatial information from other national governmental registries such as a cadastre.

There are currently 44 national or regional LPISs in operation in the EU, containing over 135 million reference parcels.⁵⁵ LPIS is connected through reference parcels with other IACS components. A quantity of eligible hectares is accompanied by beneficiary entitlements and should be stated in the aid application. Key elements of the administrative burden arising from LPIS relate to its main functions in the IACS (as illustrated in the figure below). It includes the submission of farmers' applications, including graphical information, and information for administrative and on-the-spot (OTSC) checks. Producing graphical maps of the reference parcels for each application is simplified through the use of Internet map portals, which allow farmers to identify relevant reference parcels, obtain necessary information for declaration and print out required maps. E-application solutions permit the integration of graphical information with declaration forms and avoid paper forms. The GSAA, obligatory from 2018, is a further step towards the process of simplification.

Member States are obliged to ensure that the system works properly and, therefore, that necessary information updates and IT system upgrades are implemented. The main trigger for systematic updates is the acquisition of new ortho-photo imagery that may potentially reveal that changes have occurred.

⁵⁵ This number reflects the total number of "polygons" stored in the LPIS, including also non-declared parcels, cadastral parcels on non-agricultural area, non-eligible exclusions, landscape features, etc.

Updates may also be triggered by information gathered from farmers' declaration, or during the OTSC checks of farmer's applications.



Source: Sagris, V., Kikas, T., Angileri, V. (2015). Registration of land for the common agricultural policy management: potentials for evaluation of environmental policy integration. *Int. J. Agricultural Resources, Governance and Ecology*, Vol. 11, No. 1, 2015

LPIS QA

Member States are obliged to perform an annual assessment of the LPIS quality and its effectiveness in determining maximum eligible areas.⁵⁶ After this self-assessment exercise, actions to remedy deficiencies need to be taken where necessary. LPIS quality can roughly be defined as an ability of the system to fulfil two explicit LPIS functions, namely the (i) localisation of all declared agricultural parcels by farmer and inspectors, and (ii) correct quantification of all eligible area for crosschecks. The LPIS Quality Assessment (LPIS QA) framework is composed of two major components:

- Database design testing, also known as abstract or models test suite (ATS or MTS); and
- Testing of data records stored in the system, so-called executable tests suite (ETS).

The ETS exercise must be performed annually, while ATS/MTS should be undertaken only if there are changes in the database model or in underlying concepts; e.g. change of reference parcel type. Member States' information obligations arise from the quality assessment exercise include the reporting of tests results and remedial actions (if needed) to the European Commission (DG AGRI and JRC). After receiving Member States' reports and the data subject to the testing, the JRC undertakes a screening to assess correctness of applied tests and disseminates the results to Member States and DG AGRI.

The **key elements of the administrative burden in the LPIS QA** are related to three main activities:

- **Understanding of the methodology and coping with methodological changes;**

⁵⁶ Article 6 of Regulation 640/2014

- **Time and efforts spent for performing tests and conducting rapid field visits**, if necessary. This may include also the acquisition of additional imagery or pre-processing of imagery acquired by DG JRC;
- **Communication of results to the European Commission.**

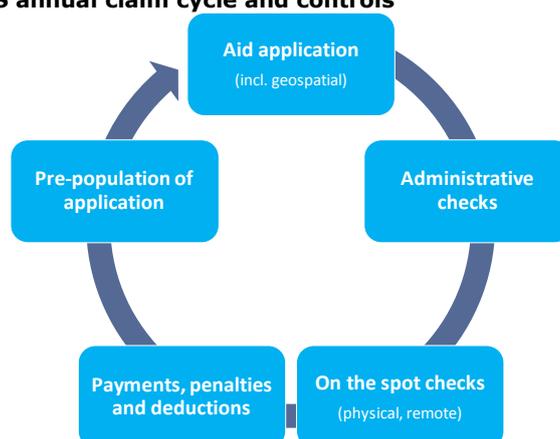
The **Executable Test Suite (ETS)** consists of the following steps:

- **Preparation of layer of reference parcels for Member States and the random selection of test samples.** In case of absence of the most recent imagery selection of samples constrained to the spatial windows of the imagery especially purchased by the Commission for the purpose of controls; imagery should be tested and, if necessary, corrected for geometric errors by the LPIS custodian. The required sample size is determined from the total number of active parcels in LPIS, such that more parcels should be checked for bigger systems, therefore impacting the amount of effort required for subsequent steps;
- **Undertaking ETS observations, including two conformance levels:** (i) Level 1, which includes the re-digitizing of reference parcels in order to correctly quantify the maximum eligible area and classification of major types of errors, so called critical defects, that were found during observation; (ii) Level 2, which includes calculation of different types of quality indicators from observations and critical errors;
- **Conducting rapid field visits**, if necessary;
- **Reporting to the Commission** (reports to DG AGRI and to the JRC), covering formal communication and submission of actual geospatial data and testing results for screening by the JRC.

3.2.3 Costs of controls

Before the approval of payments, CAP regulations require controls of applications registered in the claims database.

Figure 10 IACS annual claim cycle and controls



Source: Ecorys

Controls for IACS based measures consist of administrative checks and on-the-spot-checks (OTSCs). While all claims are subject to administrative cross checks for accuracy, scheme eligibility and conformity with IACS rules, at least 5% must undergo OTSCs. The majority of OTSCs are conducted on the basis of a predetermined risk assessment, while others (~1.5%) are selected randomly. In a

typical year, around 190,000 on-the-spot checks (with 57,000 randomly selected) are made from a base of about 3.8 million beneficiaries.⁵⁷

Member States must ensure that inspections are carried out at the most appropriate time (for instance, for crop diversification under greening when the crop is in the ground or within a prescribed retention period when animals are on the holding). To help reduce the burden on beneficiaries, they can simultaneously be included in the sample of inspections for several measures. For instance, farmers inspected under BPS can also be included in the sample for greening controls. If high levels of error are identified, Member States must increase inspection levels and implement corrective measures to reduce error levels. Inspections may be aided by new technological developments. Many field inspectors use hand-held devices and tablets with downloaded claim and geo-spatial information, allowing them to validate parcel and feature size and upload their reports electronically. In addition, information of one year is used to pre-populate the database for the following year.

Administrative checks

All claims are subject to administrative crosschecks against the relevant IACS databases to confirm accuracy and eligibility with scheme and IACS rules. This typically includes:

- checks beneficiary's registration as meeting relevant criteria and eligibility of claim;
- checks against the LPIS that the declared area is not overstated;
- checks against animal registers to ensure that livestock are registered and associated with the correct holding;
- checks against entitlements registers to validate the number of declared entitlements (and if applicable within the correct region);
- check that total claims do not exceed 100% of the parcel, in the case of multiple farmers or beneficiaries declaring the same agricultural parcel is at their disposal;
- checks that the declared land use (e.g. wheat production) is compatible with the land cover determined in the LPIS (e.g. arable);
- checks that different uses are not incompatible, in the case that a land parcel is declared under different schemes (e.g. BPS and rural development);
- checks between regions within a Member State to ensure there are no double claims for a single holding and unintentional errors that could lead to reductions or penalties are avoided.

In addition to IACS crosschecks, a number of scheme specific checks can be made to ensure that the relevant regulatory obligations are met before payments are made. These include, for instance:

- checks that relevant payments are only made to active farmers rather than companies whose primary activity is on a prescribed negative list from which they have no exemption;

⁵⁷ Borchmann, Christina (DG AGRI): CAP audit system 2014-2020, see: https://ec.europa.eu/futurium/en/system/files/ged/c_borchmann_dg_agri_eafrd_audits_-_facts_and_figures.pdf

- checks that farmers meet crop diversification, EFA and permanent grassland rules and thresholds under greening, and that claims for exemptions as organic farmers are legitimate;
- checks that young farmers meet national definitions and have sufficient controlling interest in the holding to demonstrate eligibility to subsidy;
- checks that applications to the National Reserve from young farmers, new entrants and other categories meet eligibility criteria and entitlements are not falsely awarded;
- checks that specific options and programmes under IACS-related rural development measures meet the laid down control and verifiability criteria.

On-the-Spot Controls

Within each scheme, **a defined proportion of beneficiaries must be selected for on-the-spot checks**. Typically, they are selected using a predetermined risk assessment, with a smaller proportion chosen randomly. On-the-spot checks may be conducted by physical inspection on the ground or remotely using remote sensing via satellite.

Cross-compliance has its own on-the spot control requirements. Samples of beneficiaries under both Pillar I and Pillar II IACS schemes are selected from populations covering SMR, GAEC or both. In some instances, the levels of inspection are prescribed in other sectoral legislation, such as that governing the traceability of livestock. Errors found during these inspections or other checks and notifications must be evaluated for their severity, extent, permanence and reoccurrence of the non-compliance before the appropriate penalty is applied across all IACS-related Pillar I and Pillar II payments in that year.

Penalties

Both IACS and the different schemes have their own prescribed reduction and penalty regimes for payment reductions, which depend on the gravity of the error or over-declaration. The EU legislation has introduced the concept of a “yellow card” in 2016, where some initial errors or over-declarations in aid applications through IACS are treated with a reduction of the penalty of 50%. If a reporting error is observed in the next claim year for the same support plan or measure, the affected beneficiary will have to pay the portion of the administrative penalty from which it was exempted the previous year. The “yellow card” has not yet been fully implemented in all Member States.

3.2.4 Payment entitlements

The Basic Payment Scheme from 2015

Payment entitlements are a **key component of the basic payment scheme**. They link payments back to farmers and facilitate the correct allocation of the annual direct payments under the Pillar I of the CAP. The BPS is a compulsory scheme for all Member States, but those having applied the **single area payment scheme** under Regulation (EC) 73/2009 have been allowed to continue applying the SAPS for a transitional period until 2020⁵⁸. In countries where SAPS is applied⁵⁹, there are no payment entitlements, and the support is paid solely based

⁵⁸ 10 Member States in total: BG, RO, CZ, SK, PL, EE, LT, LV, CY, HU.

⁵⁹ European Commission: *CAP explained. Direct payments for farmers 2015 – 2020* (2017).

on the eligible hectares. However, the logic behind the allocation of resources is similar to BPS.

Payment entitlements are linked to eligible land (de-coupled payment system). In general, “*the number of payment entitlements a farmer can obtain [is] equal to the number of eligible hectares he declares in his aid application in 2015 and which are at his disposal at a date fixed by the Member State.*”⁶⁰ Payment entitlements are activated on an annual basis by declaring eligible hectares with an accompanying number of payment entitlements.

The envelope available for the BPS is not a fixed percentage of the national ceiling fixed in Annex II Regulation (EU) N°1307/2013. The BPS ceiling is obtained by subtracting from the national ceiling in Annex II, the amounts foreseen for the redistributive payment, the payment for agricultural practices beneficial for the climate and the environment (greening), the payment for areas under natural constraints, the young farmer payment and the voluntary coupled support.

Member States need to operate a **(national or regional) reserve**. In 2015, the reserve is established by allocating a certain share of the BPS ceiling to it, in the later years amounts available in the reserve correspond to those remaining from a previous year and any replenishments thereafter. Priority for the allocation of these funds is to be given to young farmers and new entrants (This is regulated in Art. 30-6. Regulation (EU) N°1307/2013). Member States can set additional eligibility criteria relating to appropriate skills, education or experience applicable to these groups of farmers.

Payment entitlements have been allocated under BPS for the first time in 2015 (this is regulated in Art. 24 Regulation EU 1307/2013). Some Member States, under specific conditions, decided to use the option to allocate BPS entitlements by keeping those allocated to farmers under the SPS⁶¹ (this is regulated in Art. 21-3 Regulation EU 1307/2013).

The BPS can be applied at national or regional level. Six Member States/regions (DE, EL, ES, FR, FI, UK - applied in Scotland and England) opted for the possibility offered under Art. 23 Regulation EU 1307/2013. Member States applying the BPS at regional level are allowed to establish regional reserves. Among them, only France has opted for this system.

The three main models of internal convergence

Within a given country/region, all entitlements allocated to a farmer have the same value, but difference in the values of entitlements may occur among farmers. In order to ensure a more equitable distribution of direct support between farmers, Member States implement **internal convergence**. The main options ⁶² available to achieve the convergence are explained in the info box below.

⁶⁰ European Commission: *Direct Payments. Basic Payment Scheme* (2016).

⁶¹ DK, UK-England, SE, FI, *European Commission: Direct Payments. Basic Payment Scheme* (2016).

⁶² For a more detailed description of the three options, please refer to European Commission: *Direct Payments: the Basic Payment Scheme from 2015 – Convergence of the value of payment entitlements ('Internal Convergence')* (2015).

Main models of internal convergence

- Flat rate from 2015: in this model the value of PEs is calculated by dividing a fixed percentage of the national ceiling available for granting direct payments (Annex II to Regulation EU 1307/2013) for each year by the total number of PEs allocated in 2015, except the ones allocated from the reserve – Art. 25-1 Regulation EU 1307/2013). This fixed percentage corresponds to the share of the BPS ceiling excluding the reserve in the national ceiling in 2015. It means that all PEs will have the same value (yearly average) in a Member State or in a region from 2015 onwards⁶³;
- Flat rate by 2019: in this model the objective is to reach a uniform amount per hectare in maximum 5 steps. Member States differentiate initially the values of PEs which converge progressively until reaching a uniform value by 2019 (Art. 25-3 Regulation EU 1307/2013). The starting point is the Initial Unit Value (IUV) calculated on the basis of the direct support the farmer was entitled to in 2014, adjusted to the proportion of BPS in 2015 and to the national ceiling as amended by the Multiannual Financial Framework 2014-2020⁶⁴;
- **Partial convergence (the tunnel model)**: the adjustment is similar to the flat rate by 2019 model, but no complete convergence is achieved by that date. The target value for 2019 is between 90% and 100% of the 2019 average⁶⁵. The 2019 average is also calculated on the basis of the "theoretical BPS ceiling excluding the reserve" (This is regulated in Art. 25 Regulation EU 1307/2013).

3.2.5 Greening

'Greening' is one of the key features introduced in the CAP 2013 reform. It is a component of direct payments adopted to achieve the CAP objective to enhance the environmental performance of European agriculture and accounts for **30% of the direct payments budget**. The principle behind the greening payment is to **remunerate farmers for their efforts towards the environment and biodiversity**. The greening payment is linked to a number of sustainable agricultural practices beneficial for climate and environment. It targets three main areas:

- **the maintenance and protection of permanent grassland**: Member States are required to monitor the proportion of permanent grassland in the total agricultural area covered by direct payments and to designate areas of sensitive permanent grassland;
- **ecological focus areas**: farmers with more than 15 ha's of arable land must devote an equivalent of 5% of that land to EFAs (EU legislation provides for 19 distinct EFA types);
- **crop diversification**: farmers with more than 10 ha's of arable land will have to cultivate a minimum of two or three different crops.⁶⁶

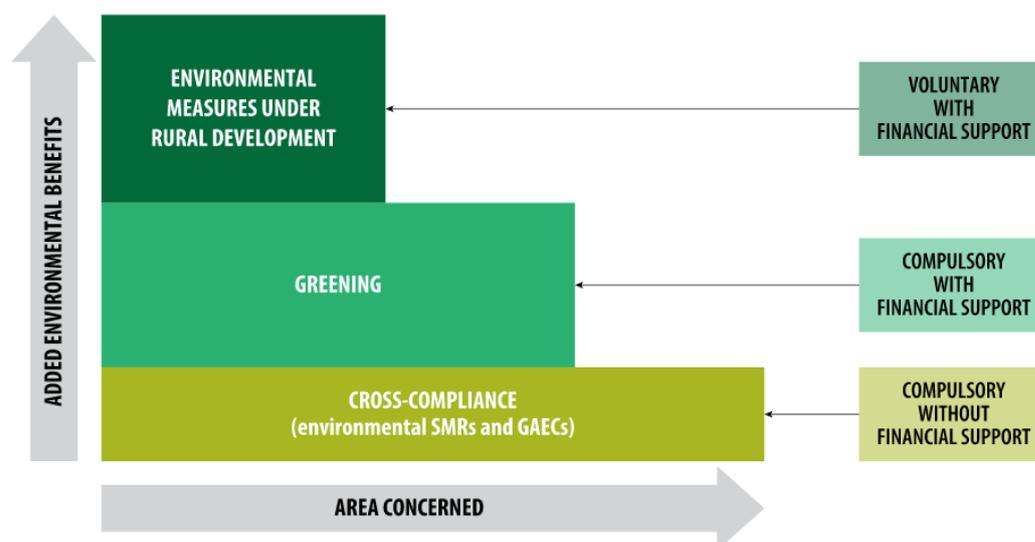
The greening component complements the cross-compliance rules and the environmental measures under rural development (Pillar II).

⁶³ Implemented in DE, MT, FR-Corsica and UK-England.

⁶⁴ Implemented in NL, AT, FI, UK-Scotland and UK-Wales.

⁶⁵ Implemented in BE-Flanders, BE-Wallonia, DK, IE, EL, ES, Continental FR, HR, IT, LU, PT, SI, SE and UK-Northern Ireland.

⁶⁶ https://ec.europa.eu/agriculture/direct-support/greening_en

Figure 11 Cross-compliance, greening and environmental measures under rural development

Source: ECA(2017): Special Report No 21/2017 — 'Greening: a more complex income support scheme, not yet environmentally effective'

Both, greening and cross-compliance are compulsory, whereas farmers get financial support only for greening. Environmental measures under rural development (with the exception of the Agri-environmental-climate measure – AECM) are voluntary, but receive financial support.

The design, management and control of the greening scheme have **led to additional administrative tasks for Member States and farmers**, especially in the first year of implementation (e.g. the creation of the EFA layer in the IT-systems). In 2011⁶⁵, the European Commission performed an impact assessment of the new legislative proposals for the CAP 2013 reform. This impact assessment already pointed to the potentially high administrative burden and costs for businesses as regards the greening scheme. It was estimated that total costs would amount to €299 million for the 2013-2020 period. The same study estimated that the greening scheme would furthermore represent the largest share of administrative burden to the Member State administrations (71% of the total administrative burden to the public authorities).⁶⁷ In the course of reducing the environmental reach of the Commission's original proposals, the co-legislators (Council and European Parliament) added to the complexity of the direct payments system (Hart et al., 2016)⁶⁸. Following the introduction of the greening obligations to farmers, and the Commission's ambition to simplify the CAP, an analysis of greening implementation was undertaken. The Review of greening after one year⁶⁹ included a consultation to collect feedback from relevant stakeholders on the functioning of the greening scheme after the first year of implementation. The stakeholder consultation strategy is presented in the box below.

⁶⁷ see also the Impact Assessment, Annex 8, Table 4

⁶⁸ Hart, K., Buckwell, A. and Baldock (2016). Learning the lessons of the Greening of the CAP. <http://publications.naturalengland.org.uk/publication/5851680709541888>

⁶⁹ SWD(2016) 218 final: Review of greening after one year

The focus of this greening review after one year was on one feature of the green direct payment scheme, the ecological focus area. The review addressed three aspects, 1) any administrative burden arising from this new instrument; 2) the impact on the level playing field for farmers of implementation by Member States of green direct payments; and 3) the impact on production potential. Concerning the first aspect – most relevant for this study – the review concluded that “*After only one year of implementation, sufficient hard data on the costs and burdens associated with the new greening measures is still not available*”.

Stakeholder Consultation on greening

Dedicated consultation activities included discussions in Expert Groups on Direct Payments (three meetings during the second half of 2015), a meeting of the Expert Group on Simplification (February 2016) and two meetings of the Civil Dialogue Group for Direct Payments and Greening (November 2015 and April 2016). In addition, from 15 December 2015 to 8 March 2016, an online survey sought to collect stakeholders’ views on the main themes of the Commission declaration of 2 April 2014 covering experiences from the first year of application of greening, especially the ecological focus areas (EFA), the impact on the level playing field and production potential, administrative burden and simplification ideas. This Open Public Consultation (OPC) also sought respondents’ preliminary views on the effects of greening.

The results from the Open Public Consultation “*Experience with the first year of application of the greening obligations under the direct payment scheme (CAP)*”⁷⁰ show that the **majority of farmers, professional farmer organisations and public authorities consider the implementation requirements for greening difficult to very difficult**. Also understanding the rules and complying with them for crop diversification and the Ecological Focus Areas were aspects highlighted by respondents as being very demanding.⁷¹

Because of the consultation, the Commission published a Staff Working Document in 2017 addressing efforts to simplify and reduce regulatory burdens. Many of its conclusions related to greening were based upon the findings from the OPC (e.g. aid application for greening requiring extra time, farmers need to hire professional support to complete the declaration, and the perception of additional risks as regards making costly mistakes and additional controls⁷²).⁷³

In light of the results of the greening review after one year, including the consultation activities, the parallel Refit exercise aimed at improve the effectiveness of the policy and the need to address the actions identified in the Mid-term review of the EU biodiversity Strategy to 2020, the Commission identified four priority areas to amend the secondary legislation.

Such changes aimed from one side to simplify the greening scheme and on the other to increase its environmental effectiveness (especially the ban of use of plant

⁷⁰ https://ec.europa.eu/agriculture/sites/agriculture/files/consultations/greening/greening-001-results-online-survey_en.pdf

⁷¹ Based on participants to the Expert and Civil Dialogue Groups and the OPC

⁷² Some noted that these administrative aspects are the only consequence of greening for those farmers whose production methods were and would be in line with greening even in the absence of the legislation.

⁷³ SWD(2017) 675 final: Overview of the Union’s Efforts to Simplify and to Reduce Regulatory Burdens

protection products on productive EFA), as the results of the review after one year showed potential to improve it.

The priority areas were further elaborated into 14 concrete **amendments to the delegated and implementing acts**:

- Better specification and/or clarification of what is required from farmers and national administrations, especially as regards landscape features;
- Eliminating some burdensome technical requirements without lowering environmental benefits;
- Providing more flexibility or alternatives where these increases the environmental and climate benefit of the greening;
- Additional harmonisation of some requirements and conditions.⁷⁴

Table 3 Overview of priority areas for review of the Greening Payment after one year of implementation

Priority Issues identified	Planned way forward	Implemented changes by the Commission Delegated Regulation (EU) 2017/1155 of 15 February 2017 ^{75 76}
Better specification and/or clarification of what is required from farmers and national administrations, especially as regards landscape features	Merging certain EFA types such as strips (e.g. buffer strips and field margins) and streamlining certain conditions associated to these EFA types could be a way forward. For farmers, these simplifications would reduce the risk of errors in the declaration. For national administrations, the need for definitions, clarifications and specific checks would be reduced. It should therefore facilitate the uptake of some landscape features as ecological focus areas and therefore increase their environmental benefits.	<p>Landscape features and strips:</p> <ul style="list-style-type: none"> • Certain strips (buffer strips and field margins) have been merged and associated conditions streamlined (min and max width: 1 to 20 m and no production requirements) • Certain landscape features have been merged (trees in line, wooded strips and hedges) • Associated conditions for landscape features are streamlined <p>Common definition and conditions</p> <ul style="list-style-type: none"> • No production requirement applicable to Land Lying Fallow and all strips without production) means no agricultural activity as defined under Art 4 (1) of basic act (reg n°1307/2013) without prejudice other requirements under

⁷⁴ DS/EGDP/2016/04 rev 2 (greening)

⁷⁵ <http://epkk.ee/wp-content/uploads/2017/05/Unit-D2-CDG-DP-greening-2017-05-19.pdf>

⁷⁶ <https://ec.europa.eu/transparency/regdoc/rep/3/2017/EN/C-2017-735-F1-EN-MAIN-PART-1.PDF>

Priority Issues identified	Planned way forward	Implemented changes by the Commission Delegated Regulation (EU) 2017/1155 of 15 February 2017 ^{75 76}
<p>Eliminating some burdensome technical requirements without lowering environmental benefits</p>	<p>Revisions of certain aspects (e.g. species to be used, allowing more mixtures) could be considered in order to make some EFA types more attractive and increase the environmental improvement. Introducing some flexibility as regards certain geographical criteria and deadlines could also be considered with a view to preventing undue constraints upon farmers arising from their inadequacies with respect to the plant cycle and the climatic conditions, especially for green cover or catch crops</p>	<p>GAEC ;</p> <p>Crop diversification:</p> <ul style="list-style-type: none"> • Possible differentiation for the period of crop diversification at regional and/or sub regional level. <p>Catch crops / green cover</p> <ul style="list-style-type: none"> • Deletion of deadline for sowing catch crops or green cover (before 1st October) • Common minimum duration of 8 weeks for catch crops and green cover • Adjustment of the list of species for under sowing (allowing leguminous) <p>NFCs</p> <p>Allowing mixture of seeds for Nitrogen Fixing Crops (NFC)</p>
<p>Providing more flexibility or alternative where this increases the environmental and climate benefit of the greening</p>	<p>Certain eligibility rules for landscape features are fully relevant for the definition of agricultural land, but have been shown to be too restrictive for ecological focus areas, in particular as regards their size and their location in the parcel of land. In such situations, farmers can be reluctant to declare these landscape features because of the risk of possible non-compliance with the fulfilment of the mandatory 5 %. This reduces the potential biodiversity delivery of ecological focus areas. Certain modifications could be useful to promote other potential landscape features.</p>	<ul style="list-style-type: none"> • More flexibility for the land lying fallow EFA (see previous row) • More flexibility for the qualification of landscape features: • Corresponding area calculated up the maximum width or size • Adjacency notion extend to the 2nd element adjacent to the 1st element directly adjacent to the arable land.
<p>Additional harmonisation of some requirements and conditions</p>	<p>This first year experience has shown that certain definitions are missing or would benefit from a better specification to better achieve their environmental objective, in particular for EFA types such as land lying fallow, catch crops or green cover. In addition, the potential biodiversity value added of EFA types has to be properly considered in view of favouring the use of the most valuable</p>	<ul style="list-style-type: none"> • Ban of use of pesticides on productive EFA areas (nitrogen fixing crops, catch crops and green cover land lying fallow and strips along forest) • Weighting and conversion factors of EFAs have been amended (Annex X of Reg. (EU) No.

Priority Issues identified	Planned way forward	Implemented changes by the Commission Delegated Regulation (EU) 2017/1155 of 15 February 2017 ^{75 76}
	EFA types by farmers. As regards the method of calculation of EFA areas, the definition of weighting factors could better reflect the potential to enhance biodiversity of the various features of ecological focus areas. The modification of these weighting factors could therefore be considered in this respect. The harmonisation of some management requirements may also be needed. In this perspective, a limitation of the use of inputs on productive EFA areas could be considered.	1307/2013) EFAs: Land lying fallow The article now includes the duration of the 'no production' restriction while taking into account the need to allow farmers resuming main crops before the end of year.

Source: Commission Delegated Regulation (EU) 2017/1155 of 15 February 2017

3.2.6 Cross-compliance

Cross-compliance was first introduced on a voluntary basis during the Agenda 2000 CAP reform, and further developed in the 2003 CAP reform. Cross-compliance is based on a conditionality principle, whereas **farmers direct payments are made conditional upon compliance with basic standards and requirements** laid out in Regulation 1306/2013. The objective of cross-compliance is to raise the awareness of CAP beneficiaries, to contribute to the development of sustainable agriculture and making the CAP more compatible with the expectations of society.

The cross-compliance system consists of **two main elements**:

- **Statutory management requirements (SMRs)**: 13 legislative standards in the field of the environment, food safety, animal and plant health and animal welfare;
- **Standards for good agricultural and environmental conditions (GAEC)**: a range of standards related to soil protection, maintenance of soil organic matter and structure, avoiding the deterioration of natural habitats, and water management.⁷⁷

Prior to the introduction of cross-compliance, the basic obligations under the SMRs already existed under the sectorial EU legislation. They apply to all farmers disregarding if they are CAP beneficiaries or not.

The SMRs that stem from sectorial legislation are, for Directives, applied as implemented by Member States. They contain selected requirements addressed to farmers (and not to Member States) which are measurable and controllable and are linked to farming activity under the following policies:

- **Public, animal and plant health**: General Food Law, Hormones ban Directive, Regulations on identification and registration of pigs, bovine, ovine and caprine animals, Regulation on prevention, control and eradication of TSEs⁷⁸, Regulation on plant protection products;

⁷⁷ https://ec.europa.eu/agriculture/direct-support/cross-compliance_en

⁷⁸ Transmissible Spongiform Encephalopathies (TSEs) are a family of diseases occurring in man and animals and are characterised by a degeneration of brain tissue giving a sponge-like appearance leading to death

- **Animal welfare:** Directives on the protection of calves, pigs and animals kept for farming purposes;
- **Environmental protection:** Nitrates Directive, NATURA 2000 Directives (wild birds and habitats).

The GAEC standards, specifically applicable for farmers receiving CAP payments refer to a set of standards aimed at:

- **preventing soil erosion:** minimum soil cover, minimum land management;
- **maintaining soil organic matter and soil structure:** maintenance of soil organic matter level;
- **biodiversity and ensure a minimum level of maintenance:** retention of landscape features including a ban on cutting hedges and trees during the bird breeding and rearing season;
- **protection and management of water:** establishment of buffer strips along water courses, authorisation on water for irrigation and protection of ground water against pollution.

The policy framework for standards of good agriculture and environmental condition (GAEC) was restructured with the current CAP programme (2014-2020) to take into account the introduction of the greening measures (Hart et al., 2016). The main changes as compared to the previous CAP programming period are that all standards are now compulsory and the standards have been consolidated into a shorter list. For example, the maintenance of permanent grassland became a greening requirement, and optional standards for crop rotation were superseded by the compulsory crop diversification (greening) requirement. The number of SMRs was also shortened.

The philosophy behind cross-compliance follows a "whole farm-approach". This implies that when non-compliance is detected, the payments farmers receive may be reduced proportionally to the extent, permanence, severity and reoccurrence of the infringement specified. Furthermore, it is considered if the infringement was committed intentionally or due to negligence having an impact on the reduction's calculation.

The payments subject to a reduction may include:

- the direct payments (decoupled or coupled) (Pillar I, CAP);
- most rural development payments (Pillar II CAP) such as Area Based Payments, which include agri-environmental measures, Areas with natural constraints, Natura 2000 measures, Afforestation measures, Forest environmental payments, Agroforestry, Organic farming, and two payments specifically linked to the wine sector ("Restructuring and conversion of vineyards" and "Green harvesting").

Cross-compliance is a **good example of the search for striking a balance between transaction costs and benefits**, as it covers all farmers eligible for direct payments. As such, a large agricultural area is subject to the cross-compliance conditions, ensuring a basic environmental standard could be reached⁷⁹. Yet, the following elements should be taken into account:

- to what extent this actually ensures a given level of environmental quality;

⁷⁹ OECD (2010), Environmental cross compliance in agriculture. See: <http://www.oecd.org/tad/sustainable-agriculture/44737935.pdf>

- the amount of monitoring costs involved.

Farmers not respecting the standards/requirements risk a penalty reducing their direct payments from 1% to 15% (the higher threshold applies for repetitions of infringements), as a general rule by 3% which is in practise often lowered to 1%. In case a minor infringements, instead of applying a reduction, the paying agency may give in writing an early warning to the beneficiary informing on the non-compliance identified, the corrective-action required and the time limit for such action. However, such early warning does not call for a mandatory follow-up visit to control if the beneficiary implemented in due time the required corrective action.

3.2.7 Rural development measures (IACS based)

The EU's rural development policy, or so-called Pillar II of the CAP, is funded through the EAFRD.⁸⁰ The EAFRD finances the EU's contribution⁸¹ to 118 different RDPs, either at national or regional level (20 single national programmes and 8 Member States opting to have two or more programmes).⁸²

In the CAP 2013 reform, the EU switched from the previously existing four axes to a framework setting the following priorities:

- fostering knowledge transfer and innovation in agriculture, forestry and rural areas;
- enhancing the viability and competitiveness of all types of agriculture, and promoting innovative farm technologies and sustainable forest management;
- promoting food chain organisation, animal welfare and risk management in agriculture;
- restoring, preserving and enhancing ecosystems related to agriculture and forestry;
- promoting resource efficiency and supporting the shift toward a low-carbon and climate-resilient economy in the agriculture, food and forestry sectors;
- promoting social inclusion, poverty reduction and economic development in rural areas.⁸³

The rural development priorities are then broken down into the so-called "focus areas".

While IACS applies to all direct payment schemes, it only **covers those rural development support measures that are granted based on the number of hectares or animals held by the farmer.**⁸⁴ The specific measures are defined in Council Regulation 1305/2013⁸⁵ and 1303/2013⁸⁶, as summarised in the table below:

⁸⁰ https://ec.europa.eu/agriculture/rural-development-2014-2020_en

⁸¹ https://ec.europa.eu/agriculture/cap-funding_en

⁸² https://ec.europa.eu/agriculture/rural-development-2014-2020_en

⁸³ https://ec.europa.eu/agriculture/rural-development-2014-2020_en AND REGULATION (EU) No 1305/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005

⁸⁴ https://ec.europa.eu/agriculture/direct-support/iacs_en

⁸⁵ REGULATION (EU) No 1305/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council REGULATION (EC) No 1698/2005

⁸⁶ Regulation (EU) No 1303/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006

Table 4 IACS-based rural development measures

Article	Measure	Heading	Sub Heading
21 reg.1305/2013	08	Investments in forest area development and improvement of the viability of forests*	(a) afforestation and creation of woodland; (b) establishment of agroforestry systems.
28 reg.1305/2013	10	Agri-Environment and Climate	
29 reg.1305/2013	11	Organic Farming	
30 reg.1305/2013	12	Natura 2000 and Water Framework Directive Payments	
31 reg.1305/22013	13	Payments to areas facing natural or other specific constraints	
33 reg.1305/2013	14	Animal Welfare	
34 reg.1305/2013	15	Forest-environmental and climate services and forest conservation	
40	-	Financing of complementary national direct payments for Croatia	
35.1 of 1303/2013	-	Support from the ESI Funds for community-led local development (LEADER)	Where applicable: (b) implementation of operations under the community-led local development strategy; (c) preparation and implementation of the local action group's cooperation activities.

*this measure has an investment and a maintenance component. The IACS part relates to the maintenance only.

Source: Council Regulation 1305/13

As with all the measures in RDPs, also RDP measures that are IACS-based are **based on voluntary participation** (exception AECM, which is compulsory for MS, see "shall" in Article 28(1) of Reg. 1305/2013). Though the basic measures are set up by EU regulations, they usually undergo a rather significant adaptation to local needs connected to local environmental and climate objectives, the latter being the core of most of them. Consequently, the detailed design of measures and of the related prescriptions can change remarkably from an area (region) to the other. For instance, technical prescriptions can also differ within the same programming area. In addition, their implementation typically involves zoning (i.e. identification of areas with different needs) and targeting of enrolled land, to provide a concentration of measures in some specific areas (e.g. Nitrate-vulnerable zones). This can be achieved through locally defined selection criteria (although EU-wide eligibility criteria remain valid for most measures). These criteria usually focus on environmental concerns and possibly interact with general farm or farmers' features (e.g. specialisation, age). These criteria can represent a useful selection tool, in case the budget available is not sufficient for funding all eligible applicants. As a matter of fact, selection criteria, as well as eligibility criteria, may be locally-specific.

Eligible farms have to comply with the eligibility conditions (eligibility criteria, commitments and other obligations) established in the programme, which are **checked by the competent authority through administrative and on-the-spot checks**. The compliance with some eligibility conditions may be difficult to check, mainly due to time restrictions (e.g. activities carried out only in a restricted time period) or because they imply the reduction of fertilisers and/or pesticides, which is difficult to assess. In any case, Member States are obliged to comply with Article 62 of Regulation (EU) 1305/2013, which stipulates that all measures implemented in the programme have to be verifiable and controllable. This obligation brings the risk that some measures are not implemented by programming authorities because their commitments are difficult to verify and control.

4 Costs and cost drivers of IACS related activities

This chapter presents the key results of the analysis structured in five sections. The first four analyse the administrative cost of national public authorities (Managing Authorities and Paying Agencies): overall costs of IACS (Section 4.1), set-up costs (Section 4.2), running costs (Section 4.3), management and control costs (Section 4.4). The analysis of the administrative burden for farmers is presented in Section 4.5.

4.1 Overall costs of IACS

<p>Total IACS cost, ~ €10 per ha of UAA, ~€170 per agricultural holding</p>	<p>Total IACS cost reflect 3.5% - 3.9% of IACS managed CAP budget</p>
<p>94% of EAGF and 53% of EAFRD managed by IACS</p>	<p>There is wide variation between Member States</p>
<p>The impact is disproportionate for smaller Member States</p>	<p>IACS-related running costs increased on average by one third after the CAP 2013 reform</p>

The total annual administrative cost⁸⁷ of IACS for national and regional competent authorities are estimated to be within a range of **€1.7 billion and €1.9 billion corresponding to 3.0% - 3.3% of the total CAP budget or 3.5% - 3.9% of CAP budget managed through IACS**. To bring these numbers into context, the European Commission spends about 6% of its annual budget on administration.⁸⁸ Alternatively, national administrations' management and control cost of the EAGF and EAFRD are estimated at 3.9% of public expenditure.⁸⁹ Also, estimated administrative costs for IACS are below overall estimates for ESIF.⁹⁰

⁸⁷ NOTE: Set-up cost for the whole period are divided by the number of years of the planning period to make annual expenses comparable

⁸⁸ http://ec.europa.eu/budget/explained/myths/myths_en.cfm.

⁸⁹ DG AGRI (2017), Annual activity report, Available at: https://ec.europa.eu/info/sites/info/files/file_import/agri_aar_2017_final.pdf

⁹⁰ Spatial Foresight & t33 (2018) New assessment of ESIF administrative costs and burden, Available at: <https://publications.europa.eu/en/publication-detail/-/publication/4f4b7bcc-e18f-11e8-b690-01aa75ed71a1/language-en/format-PDF/source-80003963>

Table 5 Comparative assessment of administrative costs for public authorities

Fund	Share of administrative cost
European Agricultural Fund for Rural Development *	8.3%
European Territorial Cooperation*	6.7%
European Maritime Fisheries Fund*	4.4%
European Structural and Investment Funds - overall*	4.0%
European Agricultural Guarantee Fund and European Agricultural Fund for Rural Development **	3.9%
European Structural and Investment Funds * overall for national administrations (excluding national coordination and programme preparation)	3.8%
IACS-based CAP as estimated in this study	3.5% - 3.9%
European Social Fund*	2.8%
European Regional Development Fund*	2.3%
Cohesion Fund*	1.8%

*The comparative estimates are extracted from the Spatial Foresight & t33 (2018) study⁹¹. These estimates also incorporate (unless otherwise stated) the programming aspect of funds, which are not captured by this study.

** Emerging from the DG AGRI annual activity report as share of public expenditure

In 2017, the average **annual costs of IACS administration per country was around €65 million**. There is, however, significant variation across Member States and years, ranging from estimated annual costs of €2 million to more than €300 million.

Per hectare of utilised agricultural area (UAA), the annual IACS cost of administration is estimated at €10.47. Across the EU, the annual IACS cost ranges from €2 to €208 per hectare of UAA, indicating considerable variation across Member States. Similarly, average annual IACS costs per agricultural holding are estimated at €168.61. There is, however, considerable variation across Member States, with average annual IACS cost per agricultural holding ranging from €18 - €4,000.

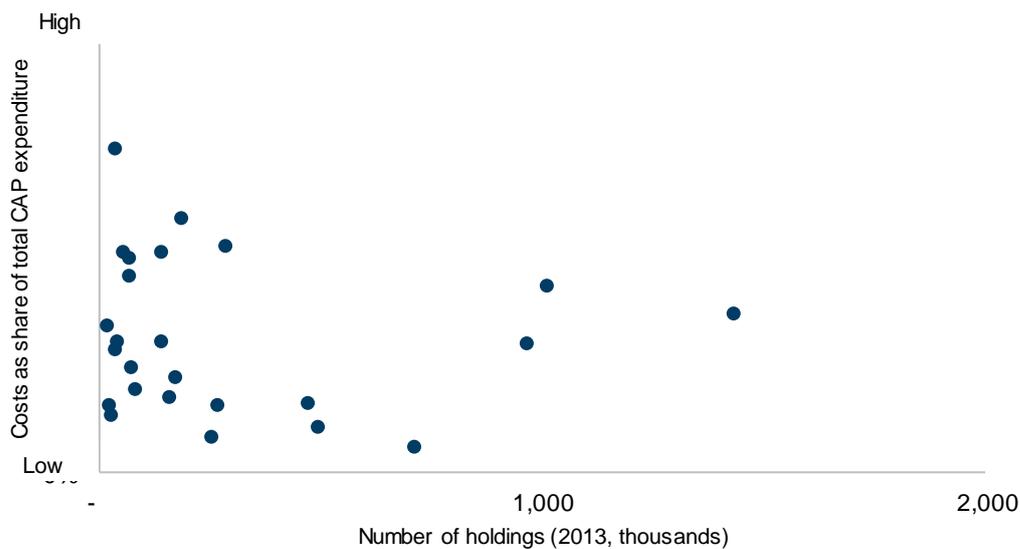
In particular, the data shows large differences between smaller and larger Member States, with a disproportionately high cost for smaller Member States. Administrative tasks linked to the IACS are more burdensome for smaller Member States that do not benefit from economies of scale. For example, all Member States need to implement an IACS IT infrastructure but, although the absolute cost of IACS IT infrastructure is higher for large Member States, the cost per beneficiary is lower.

Several factors have the potential to impact on administrative costs at a Member State level. These include country specific characteristics such as the geography of the country, the size and structure of its agricultural sector and the organisational structure of the national authorities. On top of those, factors related to the CAP implementation choices and budget allocation such as the amount of CAP budget received, the number and types of available schemes, implementation

⁹¹ Spatial Foresight & t33 (2018): New assessment of ESIF administrative costs and burden, see: http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/assess_admin_costs.pdf

choices, and the level of technology use. Statistical analysis shows a negative correlation between the ratio of administrative cost to CAP budget ('share of administrative costs') and indicators reflecting the volume of CAP and the size of the agricultural sector in a Member State (i.e. number of holdings, UAA, amount of aid received). By way of illustration, the figure below shows the correlation between the 'share of administrative costs' and number of agricultural holdings, which points to proportionally higher administrative costs for Member States with fewer agricultural holdings. However, the correlation is rather weak ($r=-0.2$), indicating that more from the aforementioned factors also impact the 'share of administrative costs'.

Figure 12 Costs as share of total CAP expenditure vs number of agricultural holdings (EU 28 – excluding two outlier Member States)



Source: Consortium's data collection and Member State estimates

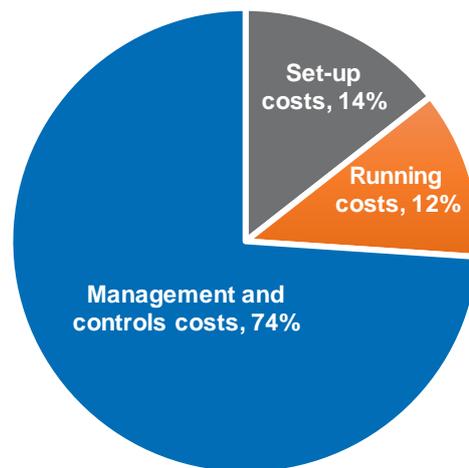
Based on the available data it was not possible to identify causal relationship between other types of factors potentially affecting the overall administrative costs. However, the following sections of this chapter (Sections 4.2-4.4) contain more information and analysis on the main cost drivers and factors affecting administrative costs for different IACS schemes.

Main sources of cost for administrations

For the purposes of the analysis and cost breakdown, this study identifies three main types of costs for national administrations: set-up costs, running costs, and management and controls costs. The overall annual costs incurred for management and controls of the applications received through the different schemes are estimated to represent the largest share of total IACS related costs (74%), followed by set-up costs (14%) and running costs (12%).⁹²

⁹² NOTE: The percentages presented reflect the proportion of the administrative cost of the Member States at an aggregate (EU) level. They do not reflect the breakdown of a representative Member State. Individual Member State splits may thus vary greatly.

Figure 13 Main types of IACS related costs borne by national administrations



Source: Consortium’s data collection and DG AGRI Cost of Controls Survey 2018

Set-up costs presented in this study represent the annualised value of the total amount of spending on IT systems for IACS after the CAP 2013 reform; unlike other cost categories, the quantification of set-up costs reflects the total amount of costs in the programming period divided by the number of years since the start of the programming period. Key cost components include: the worked hours spent by IT staff, purchases of products and services associated with establishing all necessary infrastructure (hardware), applications (software), and other IT-related costs to operate IACS. Set-up costs are typically one-off investment in IT, which is often outsourced. The need for the development of new IT systems, or updates of existing systems, is often created by the adoption of new schemes (e.g. adoption of greening), integration of new tools and e-solutions (e.g. GSAA), or modifications in schemes or processes. However, changes in the set-up of IACS may also be initiated by the Member States with the aim of improving efficiency, usability etc.

Set-up costs could be further broken down into sub-categories. For instance, costs for initial establishment of IACS, costs for integrating LPIS, costs for setting-up greening etc. However, cost information at such a detailed level could not be retrieved.

Running costs presented in this study represent the total annual amount of spending for the running of IACS. These include the worked hours of staff, purchases of products and services associated with system maintenance, monitoring and reporting, and evaluations, as well as costs associated with LPIS. Running costs are split into the following three categories, which are elaborated in the indicated sections:

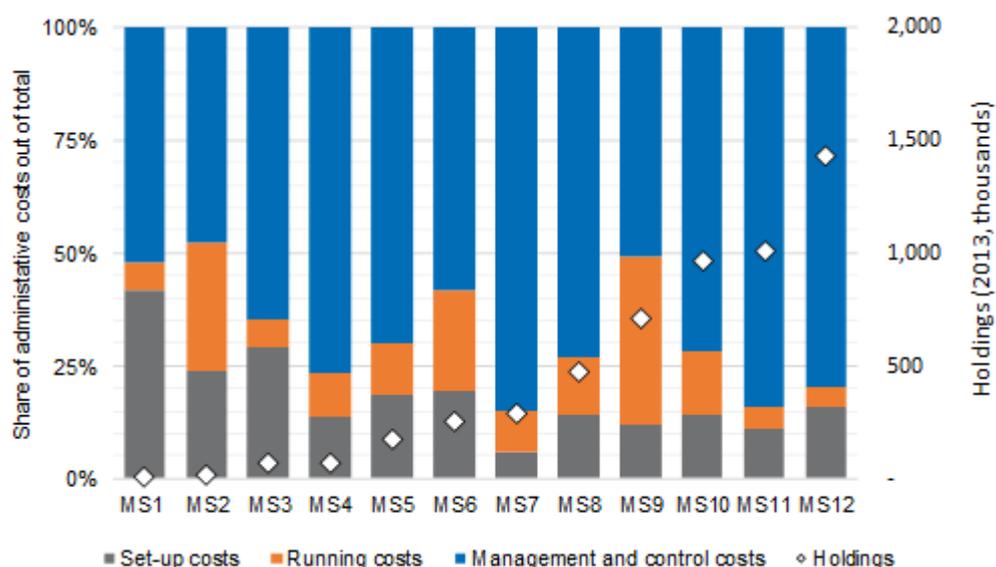
- **Horizontal IACS staff** (Section 4.3.1) covers overall IACS management operations, such as database management, applications management, control management etc.;
- **LPIS** (Section 4.3.2), which includes provision of correct reference parcel information (including imagery acquisition), furnishing the application process, and enabling checks;
- **LPIS QA** (Section 4.3.3), which covers preparing and carrying out tests (i.e. the LPIS QA data test suite) and communicating results, including reporting to the Commission.

Management and controls costs represent the total spending for managing all the specific IACS based schemes and measures (excluding the overall IACS management) directly or indirectly linked to conducting controls. These include the worked hours and purchases of products and services associated with the day-to-day management activities of all specific schemes, such as calculating and conducting of payments, processing and selection of applications as well as organising and conducting controls. For the purposes of this study management and controls costs are divided in the following, which are elaborated in the indicated sections:

- **Horizontal controls costs** (Section 4.4.1), which are horizontal costs - for all IACS measures - for the execution of administrative checks and on-the-spot checks;
- **Payment entitlements** (Section 4.4.2), which covers the operations required to initiate the basic payment scheme (e.g. initial allocation of entitlements, establishing values), run all recurring operations related with payment entitlements (e.g. keeping track of updates, processing applications) and conduct the controls on the basic payment scheme applications;
- **Greening** (Section 4.4.3), which covers the operations related to dealing with greening claims, such as calculating and transferring payments due to beneficiaries, and conducting administrative and on-the-spot checks for greening applications;
- **Cross-compliance** (Section 4.4.4), which covers the execution of all compliance checks required under GAEC and SMR, as well as the relevant reporting and follow-up;
- **Rural development measures** (Section 4.4.5), which covers operations related to the IACS based rural development measures, such as managing the open calls, selecting the applications, processing the payments, conducting controls etc.

Cost structures for these three cost elements vary among Member States. As shown in the figure below, the case studies indicate a moderate correlation between the size of the agricultural sector (represented by agricultural holdings) and the shares of set-up costs ($r=-0.31$), and management and controls costs ($r=0.33$).

Figure 14 Cost structure of individual Member States

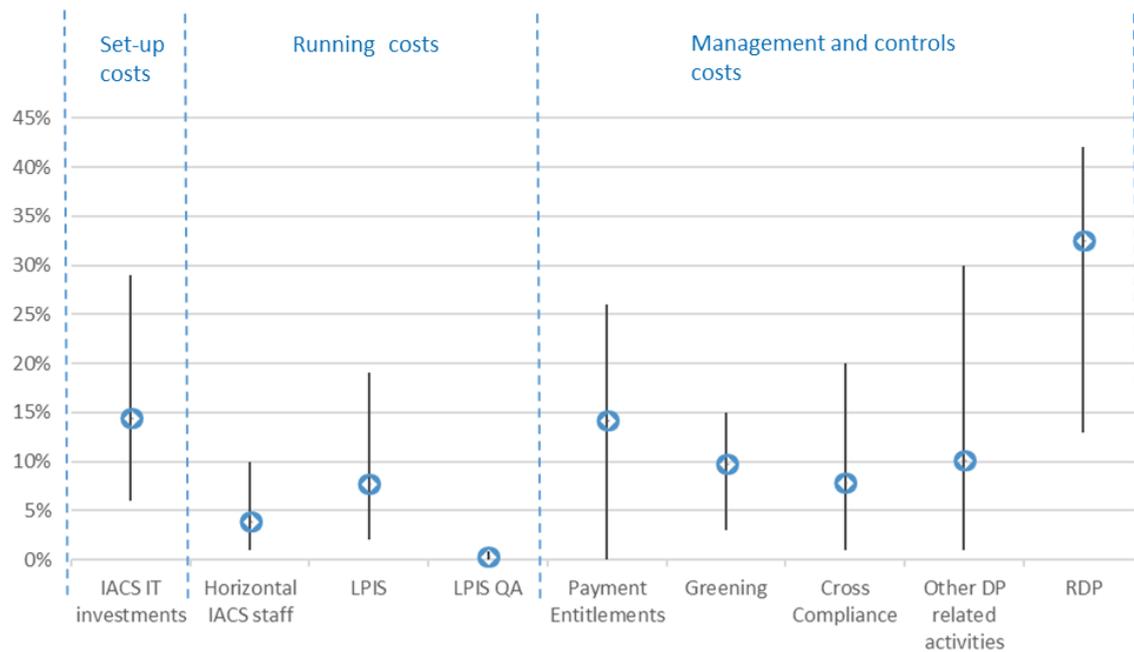


Source: Consortium’s data collection through case studies

Set-up costs are often higher for Member States with fewer agricultural holdings. There also appears to be a trade-off between the shares of set-up costs and management and control costs. Moreover, other aspects defining the implementation choices of Member States have an impact on the overall costs. Such factors often are geographic considerations (e.g. mountainous areas), historical factors (e.g. continuity of funding), structural conditions (e.g. regionalisation), technological advancements (e.g. adoption of GSAA) or political ambitions (e.g. environmental conditions). Particularly the latter combined with flexibility in the interpretation of legal prescriptions, fears of auditors and lack of alignment between stakeholders lead to what is often interpreted as gold-plating. Gold-plating could however not be quantified as it is often the outcome of intentional choices with expected benefits (and can as such not be declared “unnecessary”) or overcompensated by other implementation decisions (including technological uptake).

Looking at the cost estimates from a more granular point of view, the figure below illustrates that **rural development measures represent the highest cost driver** with a median value of 32% of the total costs. **IACS IT Investment and payment entitlements** (Basic payment scheme) are also **significant cost sources** with a median value of 14%. As for the Member State cost structures from the case studies presented above, ranges for each category vary.

Figure 15 Breakdown of main of IACS related costs borne by national administrations



Source: Consortium’s data collection and DG AGRI Cost of Controls Survey 2018

Note: the category “other DP related activities” should not be mixed-up with the horizontal assessment of control costs as described in chapter 4.4.1. This category quantifies the remaining costs for management and controls deducting PE, greening, cross-compliance and RDP, hence capturing aspects such as young farmers scheme and voluntary coupled support.

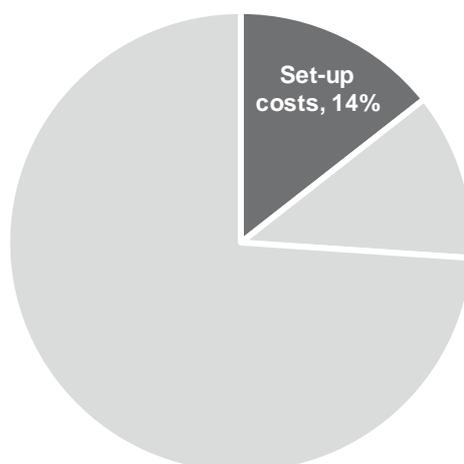
Cost impact of the CAP 2013 reform

Evidence from the case studies indicates increases in IACS-related running costs increased following the CAP 2013 reform of between 17% and 58%, with an average of about one third. Some case study respondents attributed the cost increases to the introduction of the greening obligations (see Section 4.4.3). The cost of establishing new reference layers, outsourced data acquisition, and subsequent verification by the paying agency were also indicated as factors, particularly due to the need to recruit additional staff. IT systems also needed to be modernised to cater for these changes. In other instances, a combination of the control requirements arising from the legislation alongside existing national legal framework increased complexity and raised cost.

While paying agencies observe increased costs due to the CAP reform, interviewed farmers indicated that there was no significant increase in their administrative burden.⁹³

⁹³ NOTE: the farmers survey focuses on administrative burden and not compliance cost, which are of much higher relevance for farmers than for administrations.

4.2 Set-up costs



<p>Estimated set-up costs of €250 m - €275 m or 14% of overall IACS cost (yearly costs)</p>	<p>Costs ranging from 6% in larger Member States, to 40% in smaller ones</p>
<p>IT choices and architecture have a major impact on the variability of costs and the ability of Member States to adapt to changing regulations</p>	<p>System enhancement can deliver a 20-30% reduction in costs</p>
<p>The greater the level of customisation the greater the cost</p>	<p>Disproportionate impact of set-up costs on smaller Member States</p>

Set-up costs cover all costs arising from establishing or upgrading IACS to meet the legislative framework following the 2013 CAP reform. Set-up costs are typically one-off investment in IT, which is often outsourced.

Set-up costs are estimated at €250 million to €275 million, or 14% of the annual IACS cost borne by Member States. In practice, these costs are higher at the beginning of the planning period and decrease over time. Cost estimates show that set-up costs also have a disproportionate impact on smaller Member States ranging from around 6% in larger Member States to up to 40% in smaller Member States.⁹⁴

⁹⁴ NOTE: Set-up costs could conceptually be further broken down into sub-categories of costs such as costs for initial establishment of IACS, costs for integrating LPIS, costs for setting-up greening etc. However, cost information at such a level of detail is not collected by Member States under assessment.

The need for the development of new IT systems, or updates of the existing ones is often created by the adoption of new schemes (e.g. Greening), integration of new tools and e-solutions (e.g. GSAA) or modifications in schemes or processes. The case studies indicate extensive preparation, adaptation and maintenance of IT-systems due to the new greening requirements, e.g. the development of new layers to incorporate the greening elements in the system. The case studies confirm that considerable time and effort were spent to set-up and prepare IT-systems, both to incorporate the greening requirements, and to inform farmers about the changes in the legislation. These costs are considered the largest driver of overall cost and can account to up to 20% of establishment costs.⁹⁵

Table 6 Main sources of costs related to greening requirements

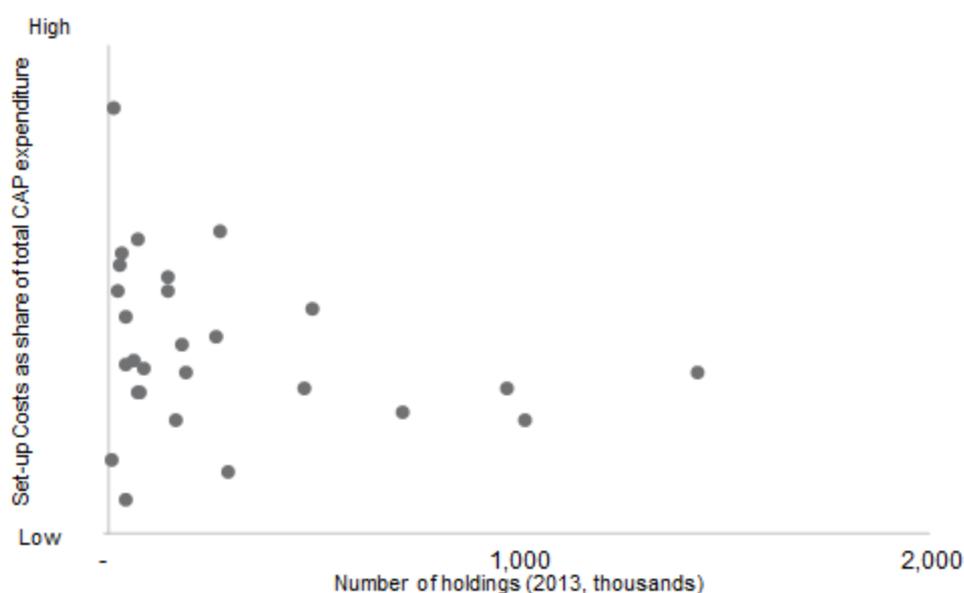
Main sources of costs mentioned by (regions of) Member States	Mentioned by X Member States
IT	
Preparations and technical refurbishment of the IT systems and requirements for administration and control system	4
Layer digitisation	6
Layer maintenance	1
Modification aid application form	3
Information to farmers	
Information to farmers	1
Controls	
Differentiated and time-divided on-the-spot-inspections for EFA requirements	9

Source: Consortium based on case studies

Changes in the set-up of IACS may not only be due to new requirements, but also be initiated by Member States aiming to increase efficiency, usability etc. Key cost components include: hours spent by IT staff and purchases of products and services associated with establishing all necessary infrastructure (hardware) and applications (software) to operate IACS.

⁹⁵ Alliance Environnement and Thünen Institute (2017): Evaluation study of the payment for agricultural practices beneficial for the climate and the environment, see: https://ec.europa.eu/agriculture/sites/agriculture/files/fullrep_en.pdf

Figure 16 Share of Set-up cost out of total IACS administrative cost in relation to number of agricultural holdings



Source: Consortium's data collection and Member State estimates

Solutions for and costs of setting-up IACS

Most Member States covered by the case studies developed purpose-built systems by either adapting general licenced software to meet IACS requirements or creating bespoke systems using either in-house or external developers. This often involved the integration of several different components, sometimes developed by different suppliers to deal with the challenge of changes resulting from major reforms. In other cases, Member States either (i) procured software where a component or components were developed/provided by commercial suppliers to meet the specific requirements of the CAP/IACS or (ii) used suppliers that were established primarily to develop CAP/IACS solutions, such as LPIS systems or remote sensing modules. The former has the benefit of introducing systems that do not need to be designed from scratch, though they will still need to be adapted to national needs and integrated with other IACS systems. In the latter, Member States are able to leverage the IT skills of companies that are familiar with the complexities of CAP which can reduce analysis and design time and costs.

In addition, Member States operating regional models either provided common software to the regions or national technical specifications⁹⁶ to ensure that systems were developed to harmonised standards. In these instances, Member States were able to benefit from a degree of commonality, though systems still needed to be adapted to meet national or regional needs and required integration with other components.

Other Member States **purchased "out of the box" software packages specifically designed to deliver a fully integrated IACS solution.** These provide all the relevant core registers and databases to manage and control IACS schemes, together with modules available for specific elements such as LPIS QA, EU payments, accounting, and remote sensing. Updates to common elements are

⁹⁶ National technical specifications are developed by some Member States to ensure compatibility of regional systems.

provided, but other elements need configured to local implementation choices and potentially some customised solutions are required where certain practices are unique to a Member State, region, or a processes for handling transactions and claims that is different to the standard design. Local implementation choices increasing overall costs, can be defined in a wider sense as gold-plating. Such gold-plating is however usually happening based on good intention and to provide additional benefits, which could cause higher costs for administrations. In general, **the greater the level of customisation the greater the cost**, but this approach has the advantage of sharing the costs of development, reducing and simplifying integration, and reducing testing costs.

There were instances of enhancements of existing IT systems to achieve identified benefits either in the speed of payment using existing resources or maintaining levels of service with fewer people.

Insights from the case studies

One Member State experienced a 40% increase in costs following the introduction of the CAP 2013 reform package. Just under 90% of this was due to increased set-up costs. A significant amount of the increase can be attributed to increased costs in the use of external IT suppliers.

In one example, a system enhancement that allowed the electronic input and capture of inspection reports and findings delivered a **20-30% reduction in costs** and improved the speed of input and resolution compared with the previous position, enhanced the quality of the information as results no longer needed to be manually transposed, and eliminated previous paper and printing costs.

Both the level of integration and the modernity of the systems impact on the speed and cost of development required by major reforms. With the exception of one Member States, which reported a development cycle of less than a year, all case study Member States reported a **development lifecycle to implement changes associated with a major reform package of at least two years**. In most cases, a three-year cycle from the production of draft council regulations to the introduction of a new scheme was considered to be the norm. Based on preliminary analysis of their current IT systems and the emerging proposals, most Member States envisage a similar or lengthier development cycle for the next reform period, once clear requirements are known.

These case studies indicate that the existing **IT architecture has a significant impact on the ability of Member States to adapt to changing regulations**. In general, those Member States using integrated solutions or components specifically designed to meet IACS requirements have shorter development lifecycles than those using general purpose IT software (adapted to meet regulatory requirements) and/or requiring the integration of multiple different components. In these latter cases, development and test cycles are longer. This is particularly the case when responsibility for IT systems is shared between national and regional authorities, or different implementation bodies. Sharing the implementation is also always a factor that increases the risk of gold-plating, given the increased need for communication and alignment between the implementation bodies. A previous study focussing on

the EAFRD showed that in case of no clear agreement, bodies tend to prefer being “on the safe side”, by introducing stricter rules than what is absolutely necessary.⁹⁷

Some Member States are experiencing difficulties in adapting their IT systems to conform to the last set of reforms. At that time, some Member States took the opportunity to upgrade or change some or all elements of their IT platforms to better deliver their services and obligations. In other cases, the reforms were managed by through incrementally developments of existing IT platforms. Some of the EU13 Member States, which developed some of the most modern IT platforms after accession (approximately 10 years ago) that are now reaching the end of their life-cycle, are considering upgrading or changing their systems to cater for the forthcoming reforms. This could lead to more flexible and cost-effective solutions but there could be risks from changing IT at the same time as implementing major regulatory reforms. In addition, because of the risks involved or the limitations of their existing IT solutions, Member States may be cautious or discouraged from considering control systems that differ significantly from those currently in place, even though this could potentially deliver attractive benefits.

Future CAP and opportunities to reduce administrative burdens

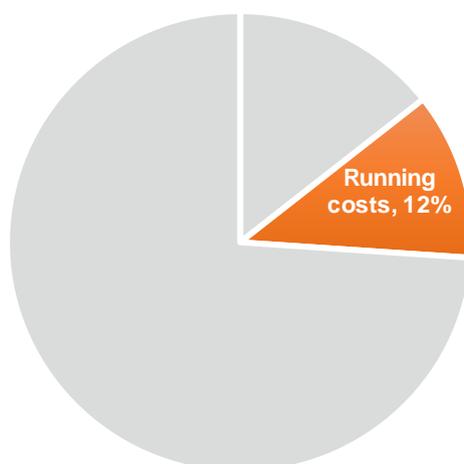
Member States indicate that they frequently find it necessary to initiate developments of their IT systems based on assumptions made in advance of regulations being agreed, which can necessitate subsequent adaptation causing implementation delays. Such unclarity also provides additional room for overarching rules or activities which later might be interpreted as gold-plating.

There is a consensus view that impact assessments and high-level estimates of development cost and effort can begin while regulations are in negotiation but system analysis starts after their adoption, and development starts when there is agreement on delegated and implementing acts, which need to be in place at least one year before systems need to be operational.

Some Member States, stress that the timing of the regulation is not the major factor, but internal timings of IT development are critical. IT development often takes place in phases; for example, software to receive and confirm an application may be developed in advance of software to calculate values and make payments. Taking into account the IACS scheme cycle, Member States indicate that confirmation of rules relevant to different aspects of the cycle (e.g. application design and receipt, administrative validation and controls and later payment calculations and penalties) should be prioritised according to the timing of the cycle in which they are to be implemented. This is considered more important than developing a comprehensive regulation covering all aspects, if doing so introduces delays and uncertainty. Hence, the IACS scheme cycle should be taken into consideration when specifying the CAP after 2020.

⁹⁷ European Parliament, Directorate-General for Internal Policies, Policy Department D. Budgetary Affairs (2014): ‘Gold-plating’ in the EAFRD. To what extent do national rules unnecessarily add to complexity and, as a result increase the risk of errors?

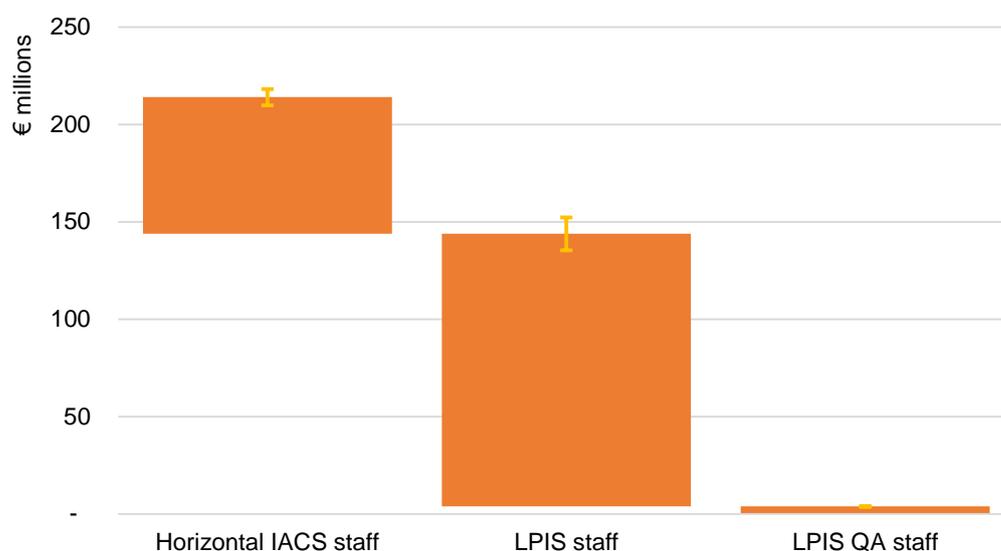
4.3 Running costs



Estimated running costs of €200 m - €225 m or 12% of overall IACS cost	Horizontal IACS staff cost is estimated at €65 m - €75 m or 4% of overall IACS cost
Regionalisation may constitute practical constraint to deliver economies of scale	A number of existing new technologies have not yet been tested by the Member States
Initial results from the use of GSAA and Sentinel imagery indicate potential cost reductions and other benefits	44 LPISs in operation, with some 135 million reference parcels
LPIS is estimated at €133 m - €147 m and LPIS QA at €3.5 m - €4.2 m or 8% and 0.2% of overall IACS respectively	Acquisition of imagery is a main source of costs under LPIS
Agricultural parcel and Farmer's block most effective	LPIS QA has led to improvement of LPIS

Under running costs, we included the worked hours and purchases of products and services associated with general system maintenance, monitoring and reporting, evaluations as well as associated with LPIS. These costs can be seen as the linking piece between the set-up of the system and the control related costs. We estimate running costs to represent 12% of the annual IACS costs. They consist of costs for horizontal IACS staff, LPIS and LPIS QA related costs. **Running costs** also largely vary between individual Member States (in the case studies ranging **from 4% to 37%** of total annual costs).

Figure 17 Breakdown of main of IACS related costs borne by national administrations⁹⁸



Source: Consortium's data collection and DG AGRI Cost of Controls Survey 2018

Costs for horizontal IACS staff account for about one third of running costs and 4% of total IACS costs. They are thus the second cost component after LPIS staff which is reflecting about two thirds of running costs and 8% of total IACS costs. LPIS QA on the other hand represents only 2% of running costs and 0.2% of total IACS costs. Horizontal IACS staff covers all overall IACS management operations, such as database management, applications management, control management etc. LPIS includes providing correct reference parcel information (including imagery acquisition), furnishing the application process and enabling checks. LPIS QA entails preparing and carrying out tests (i.e. the LPIS QA data test suite) and communicating results, including reporting to the Commission.

4.3.1 Horizontal IACS staff

Estimated annual costs for horizontal IACS staff account for 4% of total IACS cost at the aggregate (EU) level and about one third of running costs, ranging from €65m to €75m. The case studies identified a **number of different approaches and variables that have an impact on the relative costs and complexity of implementing regulatory changes**. However, the level of granularity in the costs

⁹⁸ A breakdown of the IACS costs incurred by Member States in running IACS was not always available at the level of granularity to identify the individual IACS components and the cost drivers within those components. This was mainly due to the integrated nature of the IACS and how IT systems are designed to reflect that integration. In many instances the study was able to use secondary sources, such as the "Cost of Management and Controls" from Member States to either identify missing data or validate financial information supplied by the Member States.

provided makes it difficult to reach clear financial conclusions on the factors that influence the administrative burden on Member States.

Main cost elements of horizontal IACS activities

Organisational level and structure

One aspect defining the cost structure of horizontal IACS management, is the organisational structure applied. The main distinction can be made between those Member States that adopted a regional model and those that operate with one central paying agency. The choice of these models often reflects the level of delegated autonomy at a political level. **De-centralised (regional) managing models may constitute a practical constraint to delivering economies of scale, and cost-effective and less burdensome structures and processes.** This introduces additional overhead costs.

Insights from the case studies

One Member State needed to establish an operational team to cover the regions and the ministry to oversee and monitor the management and development of IACS systems. Regions can use nationally developed systems, but maintain the autonomy to choose whether these are deployed and in some instances choose to manage their own.

In addition to the general central vs regional structure, Member States have different approaches concerning the involvement of different bodies or the delegation to other state bodies such as local municipalities. Such choices can also affect the application processes. **Most Member States in the case studies had a single application covering both Pillar I and Pillar II IACS schemes.** This was however not always the case where responsibilities were managed by different bodies or agencies. However, not only the integration of applications into one system in one year allows for simplification, but also the integration of historic data and applications into updates and new applications. Several Member States invested heavily in **processes and structures that allowed both farmers and administrations to update key data** on an ongoing basis rather than having this information checked at the point of aid application or payment claim submission. This reduces the amount of anomalies found and the amount of effort required to manage these.

Insights from the case studies

One paying agency has over three times as many people working in its “front office” managing updates and receiving claims as it has in its “back office” dealing with anomalies found during administrative cross checks.

Structural decisions are also taken with respect to outsourcing of specific services. While in some instances, there has been little or no outsourcing, others have chosen to outsource where they do not have the practical in-house specialist skills or capacity. As some tasks, such as confirmation of crops for greening, have a very tight timescale, more resources and greater flexibility are needed. In these cases, it makes more sense to outsource specific tasks, to manage them in a more cost effective way.

Overall, the analysis does not allow for general conclusions on the ideal organisational structure, given that it always has to be built in the national/regional context. The case studies show however that there are examples on how **cost savings were achieved due to structural changes in the way that services were delivered.**

Insights from the case studies

One Member State reorganised its paying agency to become more activity based, recognising that there needed to be greater overall management responsibility and accountability for IACS. This new structure envisages delivery at reduced cost and greater oversight and control over how IACS is implemented. Another country was able to significantly reduce the costs associated with a rural development nature management scheme (from €27 million to €15 million) due to the changes to managing applications through regional collectives starting in 2015.

Levels of e-take up

There is a **significant variation in the levels of electronic take up** between Member States. In some instances all key transactions are managed electronically, whilst in others take up is extremely low (less than 1% of all transactions). This is a reflection of the levels of sophistication of the overall electronic enablement and expectations of how the Member State interacts with its citizens. This is closely linked to the wider challenges in increasing e-take up due to the aspects of the age of the farming population, its relative sophistication and the ability to access sufficient broadband services in remote rural areas. Consequently, Member States often provide extensive local physical support to farmers. Such “Front Office” facilities to farmers who are physically able to present their proposed changes and updates and have any issues identified in real time, provide reassurance and a cost-effective option for both administrators and farmers appropriate to the nature of the Member States. This option is cost-effective if not provided only to a handful of farmers. It however might also act as a disincentive for them to use online tools.

Investments in new and extended IT systems are often costly (see Section 4.2). We however also see that they often substantially decrease the amount of paper work and the manual works to be done, which leads to a positive benefit cost ratio in the longer run.

Insights from the case studies

One Member State was able to reduce the cost of maintaining a paper channel of applications tenfold over 10 years as the take-up in e-claims increased. There would also be additional associated paying agency labour costs savings by avoidance of manual or other data capture or the opportunity to transfer staff to more productive validation work to speed up payments.

Impact of new technologies on costs

The majority of the administrations made investments or identified opportunities to use technology to cater for the changes arising from the CAP 2013 reform. Often the main driver of these investments was the need to address perceived or identified control risks and therefore eliminate or reduce the risks and cost of

financial corrections for incorrect application of EU rules. In other instances, additional investment was required to comply with regulatory requirements that were prescribed incrementally or needed to be met in later years such as the introduction of GSAA or the establishment of an EFA control layer. In the following a further assessment of GSAA, Remote Sensing, Sentinel Satellite Data, Spatial Software tools, Geo-tagging, Drones, robots is presented.

a. Geo-Spatial Aid Application

GSAA is not completely new. Some Member States adopted electronic claims with a geo-spatial component before GSAA became a requirement. This provides several attractive features for farmers, such as on-line crosschecks with paying agency databases and instant anomaly warnings that can help minimise the number of mistakes in declarations. It also reduces the number of errors and checks the paying agency needs to undertake between the receipt of the application and making payment. Comparing Member States with **GSAA in place for several years against those that have only recently implemented the requirement shows that the costs of controls are about 50% higher for the latter**. This suggests that the marginal benefits of introducing GSAA are high. However, the available data is relatively thin and does not allow a robust calculation of the cost-benefit ratio. The cost reductions would need to be further validation with a more comprehensive data set before reliable conclusions could be drawn.

Insights from Case Studies - Specific Member State reflections on the use of GSAA

The most enthusiastic comments on GSAA indicated that it provides higher accuracy and speed of the procedure for aid applications, and that having everything online (web based) and automated, allow a continually improvement of the communication between farmers and the assistance bodies.

Another Member State highlighted that the GSAA reduces time spent by farmers and for different controls, thanks to one shared information base. The online application (including the GSAA) was first tested in the Member State in question in 2005 and has been progressively deployed during the 2007-2013 period. Automatic controls were launched in 2015 and the system has been operational since 2017. The main difficulty arises from farmers' double declaration on a same parcel (superposition in the GSAA) and shared utilities. Transfers are also more difficult to deal with, as they requires specific verification, including notarial deed, which is not automatable.

A Member State has introduced the GSAA according to the timing established by EU regulation. Currently, it applies the GSAA at 100% for direct aid and at 25% for rural development measures, with wide differences between paying agencies. The adoption of the GSAA is deemed to contribute to a high extent to improve cost-effectiveness. Furthermore, on the basis of a specific action plan shared with the competent EU Commission services, the overcoming of the cadastral parcel with a new model of reference agricultural parcel being planned. The Member State expects that the surfaces will not have to be measured in the new control model for monitoring, thanks to the measurements determined in the GSAA system and the cross checks with LPIS.

The paying agency from another Member State with 100% GSAA coverage, stated that the use of the GSAA has already improved the cost-effectiveness of IACS (EAGF & EAFRD).

The most important improvement has been the reduction of the administrative burden due to the use of the digitization of the land parcels and the improved reliability of land register that leads to fewer OTSCs.

In Member States where the GSAA has been available more recently (since 2015) a Member State indicates as the main effects included improving cost-effectiveness to an average extent, while two others argue it has not. In terms of control of double claims (two applications for the same parcel or for the same farmer) at the margins, decrease in the number of them and control of large farms. One Member State points to low update of online applications due to low digital literacy of farmers' population in the Member State.

b. Remote Sensing

A few Member States, particularly the smaller ones, already use remote sensing to the maximum extent as part of their control regime. This has allowed a **reduction in the number of on-the-spot controls and more targeted use of resources** when inspectors need to be deployed on-farm. The use of the imagery together with other data sources or technologies could be optimised to add value to the overall control regime.

Insights from the case studies

One Member State uses Light Detection and Ranging (LIDAR) which an active remote sensing system that can be used to measure vegetation height across wide areas. It uses light in the form of a pulsed laser to measure ranges (variable distances) to the earth. Its use, in conjunction with remote sensing has enabled a better evaluation of the eligible areas of grassland under the pro-rata method for areas of permanent grassland. Its use in conjunction with crop identification software has provided the potential to support a more cost effective means of undertaking the greening crop diversification inspection requirements in a short period. It can also be used to scan terrain multiple times a year, and crosscheck this against other layer of information to identify anomalies and changes for further consideration. It provides the opportunity for more targeted control checks such as in large areas of land which are difficult to physically access or where land is under shared or common ownership. However, reliance on this as a method is often tempered by the existence of cloud cover over these inaccessible areas.

c. Sentinel Satellite Data

A number of Member States are either piloting or considering the use of Sentinel imagery. Recent regulatory changes and the **new CAP reform proposals introduce the possibility for the greater use of monitoring techniques across IACS schemes where Sentinel is likely to play a significant role.**

Insights from the case studies

One Member State has tested and used Copernicus Sentinel-1 and Sentinel-2 imagery with other software to check its grassland-mowing obligation and uses the results to fine-tune the application for 2018. To minimise the number of non-compliances the system notifies farmers by e-mail or text when they have two weeks until mowing deadline reminding them of the need to mow together with spatial information locating the area concerned. The aim is to expand this to crop group identification and look at other potential uses such as the detection of nitrogen fixing crops and cultivated fallow land. Another Member States has used Sentinel data for a couple of years.

In 2016, Sentinel-2 data was used in support of its remote sensing campaign (about

50 000 sampled and verified farmers) through the European Space Agency (ESA) portal and other open services. In 2017, it expanded this by using multi-temporal analysis with multiple Sentinel-2 images. In this Member State 74 sample areas of 30 000 sq km, 230 Sentinel-2 images were acquired to provide information throughout the agricultural year: winter, spring, until late summer.

Existing feedback from case studies and other pilots are largely positive towards the further increase of using Sentinel. However, these pilots are mostly in the early stages to determine if sentinel uses are cost-effective. Moreover, there were also a **number of more challenging aspects to the introduction of this technology that will need to be addressed.**

Insights from the case studies

In one Member State, initial analysis is that whilst 100% monitoring via satellites is an aim, it would require a significant amount of additional labour. With 100% monitoring, the level of potential inconclusive cases that may need field checks would be more onerous than traditional 5% sample on-the-spot-checks. Similarly, early indications from another also indicate high utilisation costs.

The following table provides an overview on the key benefits and issues identified:

Table 7 Benefits and issues of using Sentinel

Benefits	Issues
<ul style="list-style-type: none"> • The introduction of checks by monitoring would provide the opportunity to replace 5% on-the-spot checks with a system for 100% monitoring, based on the automatic detection of agricultural activities by each farmer; • It is possible that farmers could have the possibility to alter claims and rural development agreements on an ongoing basis to reflect changes in their holdings and management obligations; • Potentially simplifying the annual claims process by basing payments on monitoring checks and technologies and portals for farmer notification. In addition, the size of a control unit can be reduced. This could reduce costs particularly in Member States where large numbers of inspections are required; • Increased accuracy and simplification of the aid application from farmers, through the confirmation of the results of the monitoring and the combined use of geo-tagged photographs; • Elimination of bottlenecks improving the speed of payments for beneficiaries; • Reductions in penalties and error rates; • More timely identification of irregularities; • Cost reductions in the cost of procurement of control imagery by using this "open source" data; • Using sentinel imagery in tandem with land use 	<ul style="list-style-type: none"> • The administrative, technical and cultural challenge of moving from a system of change being identified on an annual or less frequent basis to one where change is constantly identified; • Sentinel alone is unlikely to fully replace existing methods (and their cost) to determine boundaries and ineligible features and higher resolution images are needed to provide a full picture; • The geometric resolution of Sentinel-2 (10m pixels) is insufficient for some elements and features such as hedges, ponds, ditches, trees in line or in groups, margins of field, traditional walls. Also updating parcel boundaries and for many permanent crops (olive groves, scattered orchards); • Monitoring parcels of <0.5 ha (present in very high numbers in some Member States); • Potential increased total cost of ownership including: <ul style="list-style-type: none"> - costs of developing the associated software; - algorithms for accessing processing and interpreting the images;

Benefits	Issues
<p>identification software to determine crops. This is particularly pertinent as potential alternatives for greening controls where a large number of inspections need to be undertaken in a narrow control window and catch and cover crops must be determined in different periods. The greater frequency and availability of sentinel imagery can be more reliable than remote sensing capability, particularly in areas of greater cloud cover;</p> <ul style="list-style-type: none"> • Determination of cultivated areas, grassland and other features for direct payments and some rural development commitments such as vineyards, wild bird cover establishment and traditional meadowland; • Support for compensation or derogations associated with unnatural events such as flood or severe drought conditions where the areas impacted can be monitored more precisely over time; • Using the imagery to indicate potential anomalies in eligible areas (though not accurate dimensions) in tandem with automated software that produces alerts to digitisers or controllers for future follow up. 	<ul style="list-style-type: none"> - data storage capacity or cloud computing costs together with digitising costs of managing the availability of changes.

The preliminary assessment confirms that **Sentinel data has the potential to be a key component of a future monitoring system.** Their use presents the possibility to reduce the burden of on-the spot controls on administrations and beneficiaries in some areas. It is however more likely to be a cost-effective solution for those Member States with high numbers of farmers, which require large numbers of checks. In other Member States or regions, particularly with a smaller land area where the LPIS can be updated by imagery sources annually, there is a risk that sentinel will introduce additional development and maintenance costs without a commensurate improvement in control or potential for cost reduction.

d. Spatial Software tools

One of the more positive areas of development and consideration is around the use of tools to assist the ingestion and analysis of change. These range from:

- software that determines specific land use; to
- hyperspectral analysis that allows for identifying the type of land cover by interpretation of the colours on ground; and
- the identification of potential anomalies for further research through tools that automatically update the LPIS where the area is considered to be sufficiently accurate against a specified set of rules thereby eliminating the need for manual digitisation.

Imagery, whether regularly obtained via sentinel or more traditional means is combined with other layers of developed, procured or open source data that allow a suite of checks against different regulatory direct payment and rural development

requirements to take place. The majority of these tools use probability assessments where parcels, land uses, areas or features are flagged as potential anomalies often using “traffic light” coding. The higher the level of probability required then the greater the number of potential anomalies that may require follow up or investigation. The key to ensuring that these and other technologies are able to make a cost-effective investment proposition compared with those currently in use is agreeing a sensible level of acceptable residual risk to both Member States and EU funds. If this is not achieved then it is likely that Member States, fearful of financial corrections, will set very high probability levels, identifying large numbers of anomalies that need investigation or ratification. This introduces the capacity for significantly increased costs or having to invest in several different technologies to reach the required level of assurance.

e. Geo-tagging

There are a number of Member States considering or using geo-tagging capability. Inspectors or farmers provide evidence via time, date and location stamped images taken via smartphones or tablets. Geo-tagging refers to adding the metadata for these geo-spatial information on images or other media. Identified uses include:

- **Providing an effective means for any area that is not effectively monitored by imagery** or where there is doubt that needs verification as the result of controlled use of that imagery;
- **Validation of crop type or feature within a land parcel** particularly in determining crop diversification obligations under greening but also for specified crops or areas under voluntary coupled schemes and features in rural development measures;
- A **potential cost-effective alternative means of confirmation of small land parcels** against a combination of sentinel and high resolution imagery;
- Where the model provides the opportunity for the farmer or representative to submit the geo-tagged evidence, the **ability to save travel and resource costs** by eliminating or reducing the need for rapid field visits or even full on-the-spot controls;
- A **supplementary route to provide secondary information for certain crops or schemes** such as details of seed labels;
- Another tool for **updating and maintaining the accuracy and currency of the LPIS**.

Overall there are **positive views about the potential uses of geo-tagging within an overall framework of spatial and technical monitoring tools**. The full costs of using this technology are however only currently being explored. Moreover, its use is not without challenges. Technical skills are needed to provide an authoritative set of images that can be used to assure the accuracy of control or declared areas. It should be reasonably easy to train control officers in its use but it may be more problematic where farmers would supply the evidence. In several Member States, particularly those showing low current levels of direct e-take up on claims and other transactions by farmers where there is also an aged farming population; there may be insufficient current technical capability to make this a widespread option that can reduce control costs. The technology needs to be tamper-proof to provide assurance that the image represents the actual parcel or area on the date and time in question. There is also a need to ensure that any photographs taken or used for control purposes do not include any unauthorised

personal data of either people associated with the holding being controlled or any third parties with no such ties.

One on the use of geo-tagging from the Member States and the costs it entails are rather limited. One single Member State indicated the costs for the development of a working model of around €50 000, indicating it has the potential to provide a cost-effective component.

f. Drones

The most realistic use of drones is for targeted campaigns on specific areas where physical access is difficult for traditional on-the-spot controls. Currently their coverage and range limits their usefulness. **Several Member States have considered and discounted their use on cost effectiveness grounds and the need to avoid too many different technologies seeking to achieve the same aim.** The time and cost to acquire the details of the area under control, preparation and processing combined with the level of initial and ongoing capital investment have dissuaded its widespread use and placed the focus on targeted “high value” inspections. There are also legal limitations in some Member States where it is currently national law that drones cannot be flown out of the sight of the operator. As well as the practical challenges, there are wider issues that need to be overcome. In areas of relatively high population density or where the drones are being used to monitor agricultural land within sight of non-agricultural areas or businesses there may be suspicion from those not subject to the control regarding their use. Public bodies are sensitive to the negative publicity and challenge that may arise in these circumstances.

However as the sophistication and ability of drones to operate successfully beyond the eye of the controller improves, so too does the opportunity to complement other control techniques. Drones of this type may be fuelled by hydrogen and can therefore undertake a control check over a greater area. In addition to eliminating controls in areas difficult to access, they could also resolve issues where remote sensing images are impacted by cloud and therefore on-the-spot controls are needed.

g. Robots

Robots are an option to reduce the time intensive tasks of staff in checking applications. They are particularly interesting when interacting with software applications. So far experience with robots is however limited, which does not allow to draw overall conclusions on their cost-effectiveness. A few Member States have investigated the possible use of robots with one of them having piloted the use of a robot since 2017.

Insights from the case studies

In March 2017, one of the analysed Member States introduced robotics to perform certain functions. The robot is software capable of working with a number of other software applications. It has already evaluated thousands of applicants and their annual applications. In a similar manner to paying agency staff, the robot does its work following clear procedures and rules. When evaluating a document received, it checks employment-related income and / or state social insurance pensions received and transfers the data to paying agency forms in order to correctly calculate the support amount. It interrogates

other data sources to check the number of animals kept, and saves the generated report in the paying agency's internal system. The robot also completes the evaluation questionnaire, checks the calculations and evaluates the application. In 24 hours, it handles a daily workload of 6 employees alone, evaluating more than 400 applications. This has the clear potential to reduce administrative costs, operate longer working hours, support more timely payments to farmers and avoid human errors.

Future CAP and opportunities to reduce administrative burdens

Member States are generally supportive of simplification initiatives and the changes in current regulations. They highlighted however instances where **changes aimed at simplifying IT processes for farmers resulted in additional administration costs to adapt the IT.**

Insights from the case studies

One example was the "Yellow Card" approach for applying a more proportionate penalty regime where more discretionary application of penalties for unintentional first time breaches. From the administrative perspective, the need to apply a retrospective element was seen as particularly difficult. In most instances, Member States suggestions would require a less rigorous application of controls to get the simplification benefit such as a more liberal application of tolerances than currently permitted where the costs of application of the control can be seen to be greater than the identified risk. Similarly, there were proposals that specific circumstances of a Member States or region because of its scale or geography should allow derogation or flexibility in the application of some controls going forward.

Looking at the future of the CAP, case study interviews show largely consistent views with those expressed in the Commission proposal for the post 2020 period such as greater use of monitoring techniques and other technologies to allow the reduction of traditional inspections. In addition, the less centralised approach to IACS control via strategic plans presents the opportunity to address some of the concerns highlighted. **A number of Member States were supportive of the ability to design their control systems reflective of local needs and to set priorities within the overall IACS framework.** There are clear opportunities to simplify control systems with properly targeted risk-based solutions that can both reduce administrative costs and the burden on beneficiaries. Nevertheless, there were concerns identified through the case studies that the move of emphasis towards national legislation and the need to achieve agreement of the proposed approach with the EU would introduce greater risk of delay, cost and implementation challenges including the risk of being accused for gold-plating for the next reform package than previously. In particular if the timing of the introduction of new schemes following the production of delegated and implementing act is not adjusted to reflect these new procedures. In many cases, these changes may have to be enacted into national legislation where previously the EU regulations did not require any actions for their transposition. This could also lead to some Member States coming forward with conservative proposals, fearful that more radical plans will fall foul of subsequent audit criticism and risk financial corrections. In this scenario, costs and complexity could increase, as Member States apply new technologies and local systems in addition to all the existing procedures rather than rationalising or replacing them.

Moreover, there are fears that certain elements in the proposed CAP after 2020 are likely to require manual rather than automated checks, which may perpetuate or add to the administrative burden under the proposed new regulatory regime. In particular the proposals for payment reductions and “genuine farmers”.

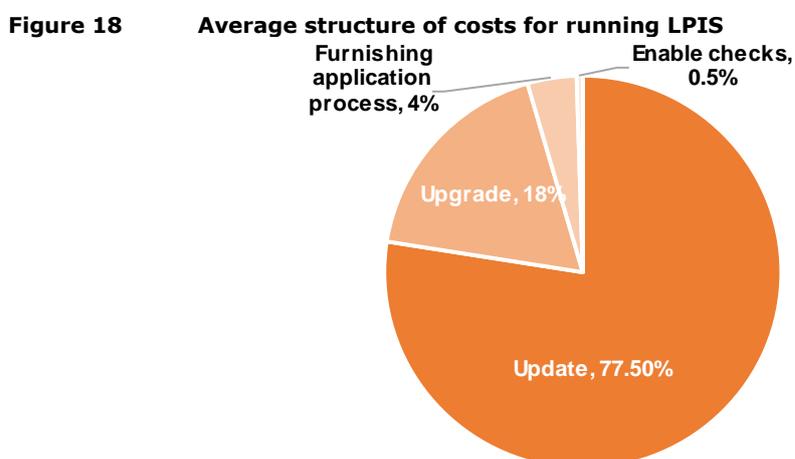
4.3.2 The Land Parcel Identification System (LPIS)

Costs estimated for running LPIS (excl. LPIS QA) range between €133m - €147m or 8% of IACS cost at the aggregate (EU) level and two thirds of annual running costs. In addition, there is a small share of costs related to LPIS QA (namely around 0.2% reflecting about 2% of LPIS running costs, ranging in absolute terms between €3.5m - €4.2m.)

Main cost elements of LPIS

LPIS cost elements identified are:

- **LPIS update**, including the update of LPIS content (e.g. acquisition of new imagery, photo-interpretation, updates as a result of evidence coming from OTS checks or farmer’s request etc.);
- **LPIS upgrade**, referring to system’s adjustments required to align with the scope of new regulatory requirements;
- **furnishing application process**, including the integration of information from LPIS and incorporation of GSAA information on agricultural parcels into LPIS/IACS; and
- **enabling checks**, including activities that enable administrative checks with other registries of IACS and furnish OTS checks with ground information.



Activity types	Expected share of cost	Standard deviation
Update	77.5%	11.7%
Upgrade	18%	5.2%
Furnishing application process	4%	8.9%
Enable checks	0.3%	0.7%

Source: Ecorys based on case studies

We estimate annual **LPIS update costs to be the major cost component of running LPIS**, for both the main layer of reference parcels and ancillary layers dedicated to ineligible exclusions, environmental elements, ecological focus areas and permanent and sensitive grassland. Depending on the type of LPIS parcels and methodology to derive eligibility, Member States report that they perform the

update parcel-by-parcel (including changes for different layers), while in some cases, the work is conducted layer-by-layer, e.g. ineligible features, are treated separately, sometimes by different administrations.

Overall, **upgrading is considered the second largest cost item, being placed at about one fifth of the cost.** In some Member States it is only responsible for 13-16% of LPIS costs, while in others it can go up to almost 26%. The **amount of data to be digitalised depends on Member States' approach.** Some Member States decided to include into ecological focus areas only those elements that were relevant to GAECs and environmental schemes in the previous period. Since these data had been used before, costs on ecological focus areas layer decreased considerably. In those Member States, the highest costs are reported for the separation of land use – arable land, permanent grassland and permanent crop. These countries declared that the costs linked with LPIS are significantly high.

In those Member States **where the percentage of GSAA is relatively high or close to 100%**, authorities report **zero costs for furnishing application and enabling checks**, because no effort from paying agency staff is needed to incorporate parcel data into the system. Overall, most Member States assess these as marginal costs. Dispersion in our case study sample is driven mainly by the response of a single Member State, which indicated these cost items to represent respectively 20% and 2% of total LPIS cost.

In the following section, we present further insights concerning the two main cost items “update” and “upgrade”.

LPIS update costs

LPIS update, responsible for 77.5% of costs in running LPIS, consists of the following main cost items:

- Acquisition of imagery;
- Regular LPIS update (with new imagery) by means of photo-interpretation;
- Ad-hoc updates (based on evidence coming from administrative and OTS checks, farmer's request);
- Costs of annual update of ancillary layers (not RP);
- Costs of implementation of remedial action plan (after LPIS QA).

The following table provides an overview on the costs and the structure of the LPIS update per reference parcel based on case studies findings. These estimates are extrapolated from rough estimates provided by the Member States in question, in order to give an indication on the LPIS update costs.

Table 8 Costs of update per reference parcel and structure of the costs in LPIS update

	Parcel type	Estimated Nr. of parcels in the LPIS (thousands)	Estimated Nr. of parcels updated in 2017* (in thousands)	Total LPIS costs without imagery acquisition, k€	Update costs per RP	Share of update RP in the costs	Share of OTS in the costs	Share of update of ancillary layers
Country 1	PhB	1 389	347	630	1.30	-	-	-
Country 2**	PhB	301	100	376	3.75	43%	3%	40%
Country 3	FB	1 910	955	700	0.73	50%	-	-
Country 4***	FB	161	92	428	4.65	59%	16%	25%
Country 5	FB	1 101	367	565	1.54	65%	35%	-
Country 6	SC	104	26	82	3.14	-	-	-
Country 7	CadP	-	-	5 839		63%	-	36%
Country 8	CadP	34 696	11 565	5 128	0.44	-	-	-

Source: Ecorys based on case studies

* Calculated on the basis of annual update cycle when exact number is not reported;

** Country 2 reported that Remedial Action Plan after LPIS QA took up to 5% of LPIS related costs;

*** Country 4 applies 2-year cycle;

PhB= physical block; FB= farmer's block; SC= single crop; CadP= Cadastral parcel

The **acquisition of the imagery is one of the main sources of costs** in running LPIS.

Insights from the case studies show that Member States can be grouped in two categories:

- Member States where aerial ortho-photo imagery is acquired and pre-processed by national (or regional) mapping authorities. This imagery is normally multi-purposed and used by different state agencies within Member States. It is therefore difficult to derive the specific, CAP related cost from the common use;
- Member States in which the paying agencies are in charge of the imagery acquisition, and usually outsource it to a commercial provider. Within these, three Member States reported imagery acquisition costs and in one case they considerably exceed other LPIS update costs. For these Member States, **costs per sq.km varied from €10-€40.**

Up-to-date ortho-photo imagery is a key element for the quality of LPIS data. Evidence from the case study Member States, points to an average of 2-3 years cycles of imagery acquisition and LPIS update. The majority of Member States in the case study sample (8 from 10 responses) manages to produce imagery within the 3-year or even shorter cycle – which, according to the CAP regulation, allows them to reduce the number of some LPIS related checks. Two of them reported a 2-year cycle. In the northern parts of Sweden, where weather does not permit often cloud free acquisition, it is done every 6-10 years.

Insights from the case studies

One Member State reported regular use of Very High Resolution (VHR) satellite imagery for LPIS update, whereas partially it is imagery purchased by the Commission for the need of OTS checks with remote sensing. In addition, other two reported that their PAs purchased VHR imagery to map reference parcels along an EU external border where it is difficult to arrange aerial survey flights. Another Member State uses satellite imagery to map oversea territories.

Regular LPIS update by means of visual photo-interpretation on the screen based on aerial ortho-photos is reported as **the main methodology** for the reference parcel regular update. Additional data requirements in the current programming period such as separation by agricultural land type and mapping of EFA led to a considerable increase of time needed for parcel updates.

Insights from the case studies

The majority of countries declared that the amount of reference parcel updates per year is strongly connected to the imagery acquisition cycle. The goal is to ensure correctness of parcel information and prevent a situation where LPIS contains parcels, which were updated more than 4 years ago. However, shortening imagery acquisition time may lead to an increase in costs – for imagery and for the more frequent update exercise .

The **wide range of costs** does not allow making reliable conclusions on the dependency from the reference parcel type. For the physical block type, the only information needed for interpretation are physical borders from imagery and land cover. For other parcel types, some additional information are needed (ownership/cadastral borders). Therefore, **interpretation of physical blocks is theoretically considered as less costly**. An overview on cost estimates based on the case studies is presented below. The exemplary information collected does not fully support this consideration.

Table 9 Costs for photo-interpretation per RP per type

	Parcel type	Cost of photo-interpretation per parcel, €
Country 1	PhB	0.08
Country 2	PhB	0.54
Country 3*	FB	1.54
Country 4	SC	0.48
Country 5	FB	0.36
Country 6	FB	1.00
Country 7	CadP	0.44

Source: Ecorys based on case studies

* Country 3 reported that during photo-interpretation of RP all ancillary layers are also updated if necessary.

PhB= physical block; FB= farmer’s block; SC= single crop; CadP= Cadastral parcel

Costs of ad-hoc updates (triggered by evidence coming from administrative and on-the-spot checks, farmer’s request) **are considerably low** and reported as a part of the regular update. Regarding the ad-hoc updates of farmer’s blocks, in some countries, the feedback from the applicant is required. For instance, in France, when the ecological focus areas layer is updated, farmers should be notified and confirm its correctness. **A considerable amount of time is spent for**

updates stemmed from field measurements during on-the-spot checks. The ratio of field visits to the regular updates may differ from 10% to 35%.

Costs related to the implementation of remedial action plan are incurred only if needed as an outcome of the LPIS QA⁹⁹. In the study conducted, only two Member States reported these costs, which represented approximately 13.5% and 17% of LPIS update costs.

LPIS upgrade costs

Upgrade costs, being responsible for estimated 18% of LPIS running costs, are deemed as considerably high – sometimes close to annual LPIS update cost (see table below). The main workload accumulated in the two first years of the programming period indicates considerable increase in administrative burden at the beginning. Some Member States report that it costs additional staff to employ to keep-up with the reform timetable. Regarding different layers, evidence indicates that the **EFA layer was the most expensive**.

The cost of the additional layers should be weighted against the purposes it serves. For instance, layers added to LPIS to serve requirements of the CAP 2013 reform may also have an important role in the monitoring and evaluation process and serve the enforcement and controls of other environmental legislations.

Insights from the case studies

Member States that made the choice to use only elements of agro-environmental measures and landscape features of previous programming period as EFA, saved on the new layer digitalization costs. The decision was also supported by the assumption that those environmental elements are already familiar to the farmers. There were also more ambitious, environmentally dedicated approaches by some countries trying to include as many different features as possible. Those countries run in considerable costs, as reported by one of them: *“this problem comes from the initial Member States LPIS choice: delimiting every non-agricultural surface at the level of isolated trees, as long as they present a scenic and ecological interest, it needs to be delimited”*.

Based on the information collected from the case studies, the following table provides individual cost estimates for LPIS upgrade for the period 2013-2017, as compared to the annual LPIS update cost.

Table 10 Cost of annual LPIS update and upgrade from the start of the CAP 2013 reform

	Update for year 2017, thousands €	Upgrade for program period 2013-2017, thousands €	Ratio of upgrade in terms of annual update
Country 1	700.0	300.0	43%
Country 2	428.1	319.1	75%
Country 3	5839.8	3607.5	62%
Country 4	376.3	508.5	135%
Country 5*	82.3	11.3	14%
Country 6	565.6	290.0	51%

Source: Ecorys based on case studies

* Country 5 does not apply EFA.

⁹⁹ https://marswiki.jrc.ec.europa.eu/wikicap/index.php/LPIS_TG_ETS

Costs incurred are related to the development of application and integration with different IT systems of IACS. They are lower for countries which introduced e-application with its graphical part long time before the reform. In fact, they needed to conduct only maintenance updates to conform with new rules and to achieve integration with other IT systems that were applicable for these countries. Concerning IT costs for GSAA, Member States did not separately specify the cost related to integration with LPIS.

Insights from the case studies

One Member State under observation with relatively low number of beneficiaries, spent €709k for GSAA-related IT-development in the programming period (but first introduction of the e-application was long ago). Since 2013, the Member State saved €18.5 thousands on pre-printing maps and €95 thousands on mailing costs due to graduate increase in number of on-line applications. The total cost of printers with soot and paper costs has decreased from €26 thousands to €8 thousands per year.

Effectiveness and efficiency of approaches

Effectiveness of update methodologies

All case study Member States indicate that the visual photo-interpretation on the computer screen using aerial **ortho-photo imagery unanimously is the best methodology** for updating reference parcels. This process is supported to different extents with on-the-spot checks and, in particular, GPS field measurements of eligible area. The complexity of eligibility criteria and number of small features/landscape elements, which are eligible at certain circumstances (e.g. size, width or length), do not permit automatic classification with the existing capabilities and, human decision is needed. Therefore, VHR satellite imagery cannot support the level of detail needed to establish eligibility areas precisely.

Additional actions to address the aforementioned issues include the following:

- In the systems with farmer's block and cadastral parcel (Estonia, France, Sweden, Spain), it is frequent that declarations of the farmer and cadastral ownership boundaries are also taken into account to associate an applicant to a particular parcel;
- Previous year declaration are consulted, farmers should confirm land use of the previous year or submit changes;
- Information on ineligible inclusion (presence and extent) detected from the photo by the paying agency (or associated institution) should be confirmed/objected by the farmer;
- Additional information is consulted, different state registries according to nature and heritage protection legislation.

Overall, aerial ortho-photo imagery seems to be the best and most precise data source for LPIS update. VHR satellite pictures are used by very small countries, for border areas and outermost territories.

Effectiveness and efficiency in determining reference parcel eligibility

Member States follow three main different approaches for determining reference parcel eligibility:

- **Agricultural parcel (Single crop)** and **farmer's block** use an approach where 100% of the parcel graphical shape is eligible (in other words only eligible land is digitised). Some ineligible features, which are smaller than digitalisation threshold, are stored alpha-numerically (pro-rata). Reference parcels are digitised based on eligibility criteria (this process only includes eligible land, separated by land use). For farmer's block it is also important that parcels belong to one farm, and during the update data from previous application years are consulted;
- In case of **physical block** (sometimes also called topographical-block) borders of topographical elements such as roads and water courses from imagery form reference parcel boundaries. This makes digitalisation/updating much faster and changes are minimal over time. This type of reference parcels is always supported by layers of land uses and one of small ineligible features, which is updated more frequently to take account of ineligible land. Eligible areas on reference parcels are calculated by spatial or alpha-numerical subtraction of these layers;
- Cadastral boundaries are the primary container of eligible land in **cadastral parcels**. Such parcels are subdivided by sub-parcels of different land use (for example *recinto* in Spain). In addition, small ineligible elements and the eligible element of EFA are added to eligibility by land use spatially or alpha-numerically.

When number and frequency of the ineligible features are high and manual digitisation is burdensome, a pro-rata approach is used / operator assess the ratio of inclusions for wider territory (some specific landscapes such as alvars, wooded meadows, independent of type of the parcel). Since the pool of ecological focus areas' features accommodates a former pro-rata element, it seems that the number of MSs using pro-rata method has decreased.

Evidence from the case studies shows that **agricultural parcel (Single crop) and farmer's block are the most effective** solutions in terms of administrative checks, due to tighter delineation of eligible land and their direct link to the particular beneficiary (lower risk of double declaration). This is the reason why some Member States underwent evolutionary transition from physical to farmer's block. However, those two types lose considerably to physical block in terms of maintenance costs and therefore advantages in efficiency diminish – **the physical block system is more stable, with faster and cheaper update requirements**. In addition, the number of parcels in the system increases when the parcel type is changed from physical to farmer's block. The cadastral parcel is less effective in cross-checks than the farmer's block as by definition does not match any boundaries of agricultural land. However, there is no evidence that it is more or less expensive to maintain compared to e.g. physical block (Member States with cadastral parcel provided only sum of cost, but failed to give statistics on number of parcels and rate of update).

Therefore, we conclude that the **farmer's block is the most efficient in administrative checks** and therefore most secure to the funds in the current IACS set-up. Nevertheless, the case studies show that **its superiority is not absolute** and since conditions in and choices of Member States differ greatly, **all of the parcel types can perform effectively**¹⁰⁰.

LPIS QA: quality assurance framework and annual assessment

Total estimated costs for LPIS QA represents a small share of the total IACS cost at the aggregate (EU) level, namely around 0.2% reflecting about 2% of LPIS running costs, ranging in absolute terms between €3.5m - €4.2m.

LPIS QA procedures and associated costs

Regarding the LPIS QA procedures, the following cost elements were identified:

- Understanding the methodology and coping with methodological changes;
- Preparing the work (including imagery);
- Carrying out the LPIS QA data test suite (ETS) observations (central part of the QA);
- Conducting rapid field visits, if necessary;
- Reporting to the Commission (reports to DG AGRI and to the DG JRC).

We observe **the carrying out of the ETS to be the main cost item of LPIS QA**. The range of costs attributed to each step based on the case study Member States is presented in the table below.

Table 11 Ranges in cost for LPIS QA between the Member States

Range	Steps in the LPIS procedure
5-10%	Understanding the methodology and coping with methodological changes
5-15%	Preparing the work (including imagery)
60-70%	Carrying out the LPIS QA data test suite (ETS) observations (central part of the QA)
0-2%	Conducting rapid field visits, if necessary
15-25%	Reporting to the Commission (reports to DG AGRI and to the DG JRC)
5-15%	Preparing Remedial Action Plan*

Source: Ecorys based on case studies

*Not always the case, only when MS fail to pass ETS

The size of sampling lot for LPIS QA is calculated from the total number of reference parcels falling under its scope¹⁰¹ by employing industry standard and may vary from 500 up to 1,250¹⁰². The time needed for quality assurance may depend on a number of factors, such as the lot size, the type of reference parcel and the complexity of the eligible area determination rules. Overall, case study evidence shows that **larger sample sizes (1,250 parcels) are associated in absolute terms to higher time spent for LPIS QA** (table below). Nevertheless, there is the exception of a Member State reporting relative low time spent, despite the relatively large sample size. An overall assessment in terms of FTE per parcel does not lead to clear conclusions. This finding may suggest however, a **correlation**

¹⁰⁰ NOTE: LPIS can be considered effective when it allows Member States to unambiguously locate, identify and measure the maximum eligible areas (MEA) of the reference parcels declared by beneficiaries, along with reliably checking the related administrative requirements and information.

¹⁰¹ https://marswiki.jrc.ec.europa.eu/wikicap/index.php/ETS_Scope

¹⁰² JRC (2011): LPIS quality inspection: EU requirements and methodology

between the time needed for LPIS QA and the reference parcel type. Looking at the reference parcel type in fact, **countries adopting agricultural parcel (Single crop) and farmer's block reported less time spent for quality assurance compared to the others, irrespective of the lot size.** For these countries, time spent on LPIS QA ranges between 0.13 to 0.56 FTEs.

In absolute terms, **reported costs of LPIS QA ranged from €8 thousands to €16 thousands.** There is one exception amongst the cases reporting very high cost. A possible explanation for that refers to the fact that the same country reported that LPIS QA methodology is deemed not to be sufficiently tailored to the specificity of the national system.

The following table provides an overview of the case study responses.

Table 12 Total time taken by LPIS QA

	RP type	Sample size – Nr. of parcels under the test	Time spent to LPIS QA in 2017, FTE	Costs of LPIS QA, in thousands €
Country 1	PhB	1,250	1.27	16.2
Country 2	FB	800	0.33	7.8
Country 3	FB	1,250	0.13	8.5
Country 4	SC	500	0.56	12.5
Country 5	CadP	1,250	6.9	278.9
Country 6	CadP	1,250	1.33	16

Source: Ecorys based on case studies

PhB= physical block; FB= farmer's block; SC= single crop; CadP= Cadastral parcel

Regarding the time spent per reference parcel an indicative value of approximately **half an hour was derived from the case study Member States.** However, this value varies depending on the quality of imagery. Some countries reported that they consult better resolution imagery, such as aerial photos, when performing data test observations. In contrast, others indicated that additional information is rarely consulted.

Main **difficulties reported by Member States** include the following:

- Difficulties in **understanding of LPIS methodology**, as presented in terms of complex ISO geo-spatial standards and INSPIRE. On the other hand, others indicate that applying the standard methodology ensured correctness;
- **Interpretation of the technical specifications**, which are only available in English, is sometimes very difficult;
- **Inconvenient format of geospatial data exchange (GML)**, conversion tools for which are not provided by many standard desktop software;
- Member States that use specialised software for LPIS QA need to **amend functionality to align with changes in methodology**, but the majority of respondents mentioned that the methodology finally is in place and software used for the LPIS test reporting to the Commission (ETS Reporter) works well;
- One of the major concerns expressed in case studies refers to **low resolution of imagery provided by the EC** (satellite VHR). Thus, there are variations in the precision of digitalisation already programmed into the methodology. In order to reduce discrepancies, Member States use additional information (10-15% of cases as reported by Estonia);

- Member States with **small parcels/uneven terrain have higher level of discrepancy when parcels are measured with VHR**. A paying agency response explains: “Thresholds are now in percentage, but tolerance for small parcels should be also expressed in minimum area of square meter, currently no waiver for classification correctness QE2c”;
- Methodology expects the **drawing of reference parcels from scratch**. Random operator(s) errors and on the imagery of lower quality become system errors – the one commonly mentioned drawback of LPIS QA methodology.

Alternative uses of imagery and optimisation of roles

In some cases, imagery is also used to a limited extent for other purposes. Seven out of twelve case study Member States indicated that the imagery are not used for other purposes due to very low image resolution. While five Member States report that they use it at limited extent for visual interpretation in LPIS update, especially if territory not covered by the most recent aerial imagery.

In general, the majority of interviewed authorities considers the **current roles and responsibilities of the European Commission and Member States for the QA framework as rather appropriate**. Nevertheless, the suggestions for improvement coming from the case studies include the following:

- More freedom and flexibility in the selection of sites and test examples. Member States are best placed to assess the representative case constellations;
- Some adaptation needed in terms of different models suited to national needs for LPIS with small parcels and cadastral parcel type.

Future CAP and opportunities to reduce administrative burdens

The LPIS’s main functions are to locate, identify and quantify agricultural land. Member States put significant financial resources into establishing, running and updating their land parcel identification systems. Changes in regulations aimed at **simplifying things for farmers sometimes resulted in additional administration costs to adapt technology**, introduce new control procedure and create/update data sets supporting them. However, there are no obligations in place to collect information on the amount and structure of costs, which makes it difficult to monitor their development. As already discussed in Section 2.2.4 regarding the set-up of a framework for assessing LPIS Cost-Effectiveness, a common framework to identify the specific costs to be collected may prove beneficial for this purpose.

Moreover, a **major difficulty reported by case study Member States relates to the high level of accuracy required** for surfaces and landscape features included in the LPIS. The level of accuracy is considered excessive. The main difficulties concern area size, area overlaps, occupancy, and determination of non-agricultural area. This is particularly problematical in small parcels with a high share of landscape elements. This aspect is an important cost driver for administrative checks and requires a lot of time in most Member States when updating the LPIS.

The **implementation choices in CAP made by Member States have a significant influence on the administrative costs of LPIS**. Some Member States made the choice to use only elements of agro-environmental measures and landscape features of the previous programming period as ecological focus areas

and, therefore, these administrations saved on the new layer digitalization. This decision was also supported by the assumption that those environmental elements are already familiar to the farmers. There were also more ambitious, environmentally dedicated approaches by some countries trying to include as many different features as possible - those countries run into considerable costs.

A pan-European LPIS could be established throughout Member States aiming to harmonise the procedures and reduce administrative costs. Most Member States' authorities did not identify clear overall benefit in such a solution. Nevertheless, case studies underlined that it is **difficult to estimate any impacts without insights on the share of roles and responsibilities** between Member States and the Commission. The overall stance towards a pan-European LPIS was negative, some potential benefits, challenges and other considerations are listed in the table below.

Table 13 Case study authorities' reflections on a pan-European LPIS

Advantages	Challenges	Other considerations
<ul style="list-style-type: none"> • More homogeneity across the EU in the type of LPIS implementation; • Considerable reduction of costs for Member States, as: the EU may take over the financing of the imagery acquisition. It may also lead to staff reduction for paying agencies; • Reduced audit reviews and subsequent sanctions; • Potential increased efficiency in case result-based/ monitoring approach in order to harmonise payment practices, avoid difference in treatment, audit/appeals blockages. 	<ul style="list-style-type: none"> • Difficulty to address all different choices of Member States; • Standardisation in the type of LPIS reference parcels is technically difficult or even impossible exercise, in particular, due to different agricultural systems and landscape patterns; • Various environmental conditions, historical aspects, and agricultural practices would be difficult to address; • Standardisation in geospatial terms will have different impact on Member States; • Difficult to implement as all Member States have basically built up their own systems; • There would also be difficulties to reach consensus between Member States; • OTSC versus EC LPIS - the process of checks will be less effective; • Regarding ortho-photo image, nowadays Member States are in charge of acquisition, each Member State has a different cycle; • Communication with farmers will be slow and inflexible; • Possibly slower decision-making processes. 	<ul style="list-style-type: none"> • Only one Member State confirmed that they were consulted on the topic; others said that they have not been consulted so far; • Member States expressed concerns that responsibilities between Member States and the Commission are unclear in this solution: which costs will be borne by whom and who will be responsible for the update of the EC LPIS.

Source: Ecorys based on Case Studies

The LPIS QA has led to improvements for LPIS and its updates according to case study Member States, although with some differences in the intensity of such improvement. On the one hand, four Member States' authorities indicate improvements to a limited extent, as the system in place was deemed already effective and did not require substantial improvements. On the other hand, six Member States reported that improvements were observed to high or very high extent, justifying their opinion by the fact that LPIS QA allowed them to detect and analyse the type of errors and to focus on them during regular update through the implementation of remedial action plans.

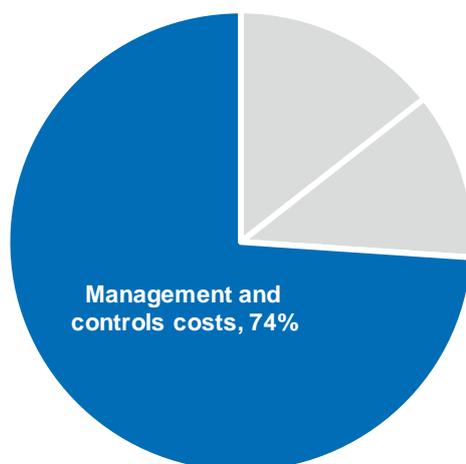
The number of parcels updated during LPIS QA is rather low and Member States indicated increasing the aerial imagery resolution as the major factor for quality improvement. **Overall, LPIS quality has improved greatly since 2010, when LPIS QA became mandatory** according to interviewed authorities; this is mainly due to technological advances in aerial photography such as higher resolution and more frequent acquisition. LPIS QA only gives insight on type and sources of possible errors.

A common remark from several Member States was that **LPIS QA does not require any immediate changes, and stable requirements should be ensured in the future**. Arguments supporting the current version of LPIS QA include the following:

- ETS is a useful instrument and an appropriate way to check if the systems works. It has led to improvements of the system, as the deviations are lower year by year;
- It shows probable weaknesses or distortions, which should be addressed in order to improve LPIS quality;
- It provides feedback on the quality and main types of errors in LPIS, thanks to quality indicators;
- The LPIS QA is an effective and low-cost tool to check and assure data quality.

Nevertheless, along with some specific difficulties reported in the previous section, Member States also raised points of attention with respect to guaranteeing accurate impression of LPIS quality, the number of requested indicators and the limited benefit in case of Member States with already low error rates.

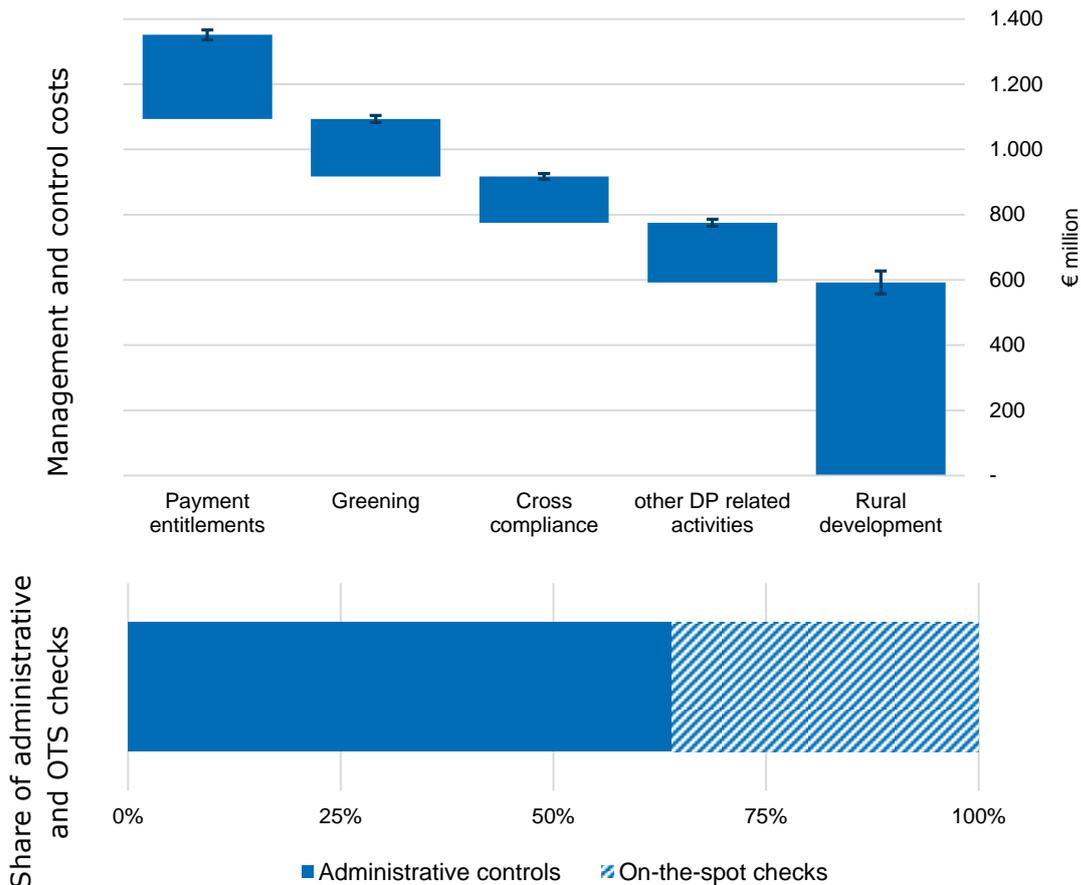
4.4 Management and control costs



Estimated cost of €1.27 bn - €1.44 bn or 74% of total IACS cost	GSA system is expected to substantially improve cost-effectiveness
Controls in all direct payments are estimated at approximately a third of the total IACS costs	Administrative checks cover about two thirds of cost of controls
Member States needed 6 to 36 months to implement the new PE systems	Payment Entitlements: €238m - €278m or 14% of total IACS cost
Greening: €166m - €186m or 10% of total IACS cost	Expected increase in costs due to the 2017 greening review
Red tape from cross-compliance is estimated between 0.3% and 4.3% of the overall burden	Cross-compliance: €130m - €152m or 8% of total IACS cost
Rural Development : €558m - €626m or 32% of total IACS cost	The M10 – Agri-environment schemes in particular are causing high personnel costs in most Member States

Overall, management and control costs represent the greatest component in the total IACS costs. In fact, estimated costs account for 74% of total IACS cost, ranging between €1.27bn - €1.44bn. Management and control costs can be approached from a horizontal angle distinguishing between activities related to administrative checks vs. on-the-spot checks (OTSC) and a vertical thematic angle distinguishing between costs for payment entitlements, greening, cross-compliance, IACS-based RDP measures and other controls of direct payments.

Figure 19 Breakdown of management and control cost from vertical and horizontal perspective



Source: Ecorys

From a horizontal perspective, administrative checks are responsible for about two thirds of the cost, while OTSC account for one third of them. Vertically, RDP IACS controls cover about one third of the cost followed by payment entitlements, other controls (such as young farmers scheme and basic payment scheme), greening and cross-compliance.

Breakdown categories and potential overlaps

The aforementioned types of costs and IACS components are used to present a breakdown of IACS costs. In practice, the administrative control framework that Member States put in place to apply the regulations is often applied holistically and may not break down neatly into these components and types of costs. This means that these categories are not necessarily mutually exclusive and some overlaps may occur. For instance:

- The specific IACS components under “management and controls” (i.e. payment entitlements, greening, cross-compliance and rural development measures), also entail some : “set-up costs” to adjust the system to their reforms and changes as well as some “running costs” for their management.
- This division attempts to estimate the costs of controls under greening and payment entitlements aside the total cost of controls. Since most of the time controls under different schemes are combined, this is only an approximate estimate.

In the following sections we first provide a horizontal assessment of cost drivers and aspects concerning controls, followed by a specific vertical focus on payment entitlements, greening, cross-compliance and IACS-based rural development measures.

4.4.1 Horizontal assessment of cost drivers and aspects concerning controls

The horizontal assessment of IACS management and control costs focuses on the distinction between administrative checks and on-the-spot checks as well as organisational and operational choices affecting the costs, a possible relation between them and error rates and the future of the CAP.

Cost of management and controls

Costs of management and control related activities are estimated to represent **74% of the total IACS cost**. However, this share varies significantly among Member States, ranging from almost 50% to more than 90%.¹⁰³ The costs for management and control equal about **1.9% of the total aid received**. Again, this share varies a lot between Member States, but also among controls and management linked to the two different pillars. Costs for the management and controls range between 0.3% and 9.7% of total aid received for direct payments, and 0.3% and 12% for the management and controls of pillar I and pillar II (see Table 14). If reported to the total UAA of the Member States (regional UAA for Andalusia, Bavaria and Emilia Romagna were considered), the cost of controls varies in the case study sample between €0.9 per ha up to around €58 per ha of UAA for all IACS measures.

There is also a variation of cost shares among the pillars, which is mainly explained by the number of FTEs employed on the performance of controls (higher under Pillar II), which is obviously linked to the number of applicants and more generally to the importance of the agricultural sector in each Member State. To a lesser

¹⁰³ Data on control costs have been collected in the 12 sample Member States. Depending on the case study, data were either provided by the administrations interviewed or come from the DG AGRI survey. In all cases, the information corresponds to annual costs (latest data available 2016 or 2017). For Italy, Germany and Spain, which have a decentralised administrative organisation, data considered are at regional level (Emilia Romagna, Bavaria and Andalusia). When only data on the number of FTEs employed on control were available, the cost in euros was estimated using Eurostat data on the yearly average labour costs for different employee’s categories (assuming a share of the different employee’s categories in the administrations concerned).

extent, differences in the cost of labour force considered accentuates the gap between Member States.

Table 14 Share of control costs in the amount of aid (direct payment and IACS EAFRD measures)

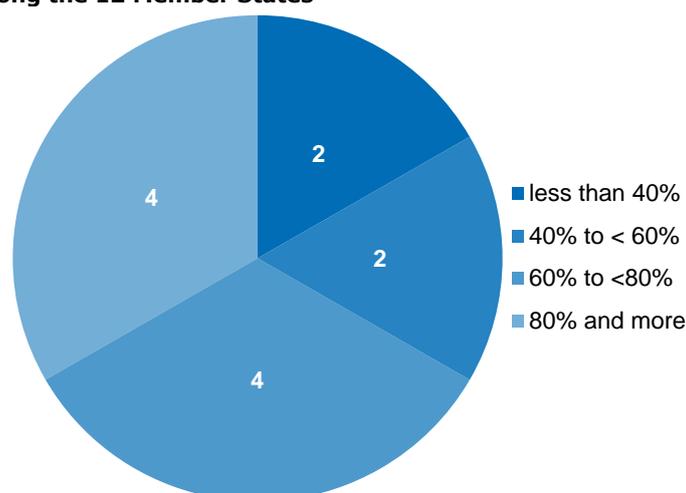
	Direct payments	Direct payments and IACS EAFRD measures
Min	0.3%	0.3%
Max	9.7%	12.9%
weighted average	1.2%	1.9%
Median	1.3%	2.7%

Source: Case studies and financial reports for EAGF and EAFRD expenditures

Administrative checks

Administrative checks need to be performed for all aid applications. They therefore present the **majority of all controls**, also in terms of costs. On average, 64% of the overall costs for management and controls are linked to administrative checks. The proportion of costs dedicated to administrative checks varies among Member States (see Figure 20) and tends to be higher for larger countries, mainly for Pillar II related controls.

Figure 20 Distribution of the share of administrative checks /total cost of controls among the 12 Member States



Source: Case studies and DG AGRI survey

The **main cost driver** in running administrative checks is the time needed for **on-the-spot checks**. These checks are necessary mainly when administrative checks involve data not included in the integrated system or when requirements are too complex to be fully automated (e.g. because of exemptions). They are also necessary when dealing with anomalies or incomplete claims.

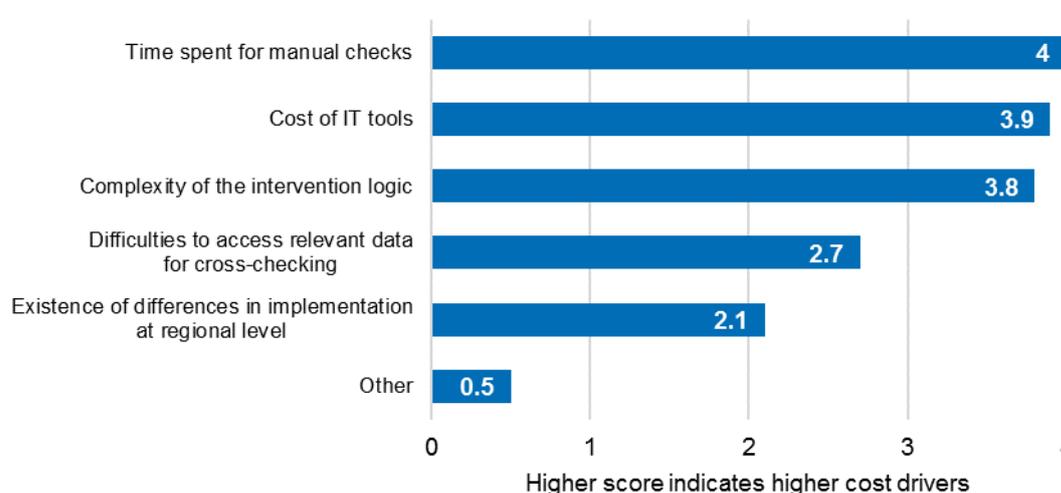
Examples of necessary manual checks identified in the case studies

- Check active farmers status;
- Check eligibility to young farmer scheme;
- Checks on crop rotation (for agri-environment-climate Measures (AECM)) that cannot always be automated as they depend on specific measure requirements;
- Check of stocking density for organic farming;
- Transfer of PE: supporting documents provided directly by farmers;
- Dealing with non-agricultural areas and overlaps of land between neighbours.

The **second current key cost driver is investments in IT tools**.¹⁰⁴ These are mainly related to the evolution of IACS. In particular the increased integration of databases, the integration of IACS-rural development measures¹⁰⁵, and the initial configuration of the necessary administrative checks require significant investments in the IT infrastructure. More performant IT systems should however increase cost-effectiveness of administrative checks in the long run by reducing the number of necessary manual checks.

The third key cost driver is the complexity of the intervention logic (and changes in regulations and requirements can lead to an increase of both IT costs and manual checks).

Figure 21 Case study Member States average ratings on cost drivers for administrative checks



Source: Case studies and DG AGRI survey

On-the-spot checks (OTSCs)

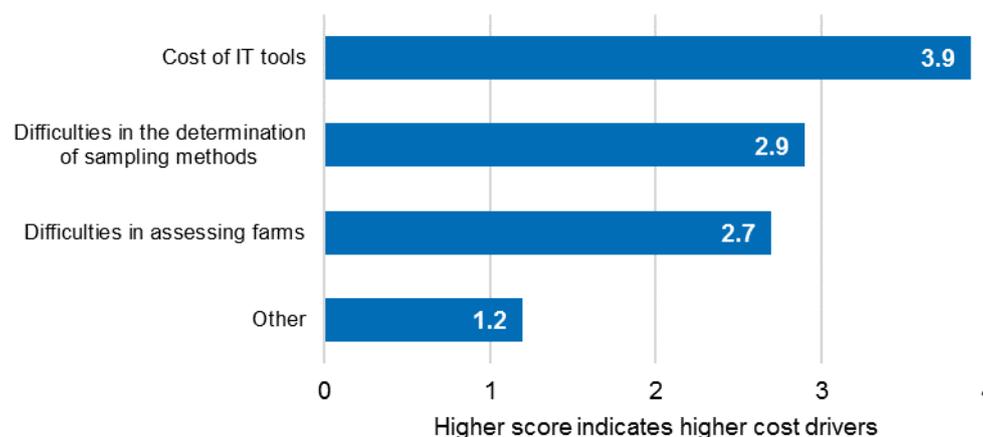
On-the-spot checks account for a smaller share of the overall costs for controls (approx. 36%). The paying agencies of the Member States included in the case studies identified some of the key cost drivers for OTSC. Costs for IT tools stand out as a major cost driver. Indeed, the development and upgrade of specific IT systems to assist and monitor OTSC, as well as the development of remote sensing are cost intensive. Out of the twelve case study Member States, most have specific IT systems for OTSC. Inspectors generally make use of tablets, which are also taken into account in the IT costs. However, as IT costs are usually one-off costs, it is not clear if Member States discounted the costs for IT tools when asked to identify the key cost drivers. Rather, the major cost driver can be expected to be the labour costs, i.e. the time spent on visiting farms to perform the controls. In addition, Member States identified the determination of the sampling method and difficulties in accessing the farms as cost drivers. Member States indicating challenges to determine the sampling method generally experience difficulties in combining the criteria for different schemes to combine the OTSC for different

¹⁰⁴ IT tools are included here in order to reflect the existence of the need of new IT or IT updates arising from controls; however, IT costs are quantified and assessed under Section 4.2 Set-up.

¹⁰⁵ which used to be under different systems in some Member States, e.g. in France

measures. The difficulty in accessing farms is primarily related to the specific geographical context and structure of the farms (number and distance of the different parcels) in each MS.

Figure 22 Case study Member States' average ratings on cost drivers for OTSC



Source: Case studies and DG AGRI survey

The extent to which **remote sensing** is used, as well as the technologies used for remote sensing also have a major impact on the cost of OTSC. In general, physical controls are more expensive than remote sensing controls. However, remote sensing cannot be used for all types of controls. The control of certain greening requirements for instance implies visual controls. The cost of remote sensing controls includes imagery acquisition, the cost of which varies depending on the technology used (mainly satellite or aerial) and the time spent for image interpretation. The cost of physical controls includes the cost of vehicles, mobile phone/ tablets, and time spent for travelling and during controls.

Organisational and operational choices affecting costs of controls

Feedback provided by Member States illustrates that organisational choices are primarily based on the historical organisation of public administrations in each Member State. This includes the distribution of competencies of the different geographical levels, the organisation of the services at central level, the representation of the national or regional authorities in the territories, the pre-existing skills in the different administrations, financial capacities etc. Even in Member States that re-organised to some extent their services for the overall management of IACS to some extent, the organisation of controls remained fairly stable. This is in particular the case for OTSC, which require specific skills and training of inspectors. Main changes are related to the increased use of technology: new IT tools and increased automation of administrative checks, new IT tools to assist and monitor OTSC, use of remote sensing for OTSC, the use of satellite imagery and, mainly at experimental stage, use of drones and geotagging. The available data do not allow to assess the impact of specific organisational choices on the cost of controls, but transferability from one Member State to the other seems limited anyway given the above.

Outsourcing of controls

There is **no evidence that outsourcing reduces cost of controls**. Information also do not imply that it increases the costs. About half of Members States investigated to outsource only OTSC. Two kinds of practices are identified:

- **Countries decide to outsource only a small part of their controls.** In one Member State, for example, only 5% of remote sensing controls (1300 to 1400 files) are outsourced. The Member State decided to source these files out when remote sensing controls were performed for the first time, as the agency was lacking the competency to perform the checks;
- **Countries decide to outsource the largest part of their controls.** For instance, one Member State in the case studies outsources the majority of its OTSC controls. The outsourcing is related to direct payments system in less favoured areas (LFAs), due to their number and less complicated character.

The general tendency is to outsource remote controls, which require sophisticated IT tools. Some paying agencies do not have the technology or skills to implement remote sensing. Contrary to this, on site visits are usually performed by national authorities and not outsourced. In general, small Member States do not outsource controls because the cost-effectiveness is not clearly given.

Insights from the Case Studies

Members States that do not outsource tasks indicated the following main reasons:

- **Cost:** outsourcing represents additional cost for the paying agency. According to them, it is more expensive to outsource than to develop tools and set them up by themselves. It allows greater flexibility and less cost;
- **Additional burden:** outsourcing implies additional controls of the external body as the paying agency has to maintain the link to the provider at all times, define a specific contract, control their technology, etc.
- **Legitimacy:** in some Member States, farmers would be more reluctant to be controlled by private organisations than by public authorities.

Cost drivers of specific requirements

Environmental measures, voluntary coupled schemes or veterinary controls for animals are often listed as very specific and thus could potentially cause additional costs of controls. The analysis shows that:

- there is no evidence that controls of environmental measures are more cost-effective for annual or multiannual commitments;
- veterinary controls for animals tend to be conducted separately from other animal-related controls.

The available case studies do however not provide clear evidence that the combination of controls would lead to a reduction of burden. Similarly, the cost data available do not allow a comparison between the two options to combine controls or to perform them separately.

Insights from the case studies

Environmental measures

Several Member States reported that there were no significant difference, because commitments are annual or multiannual. In this case, the control management system is the same for annual and multiannual measures and the control effort as regards OTSC is also equivalent (5% of claimed amount). Nevertheless, some highlighted that the processing and assessment of control results can involve more administrative work for a multiannual requirement due to the adjustment on several years (retroactivity), whereas on the other side, a stronger stability for farms benefitting of multiannual requirements is expected.

Voluntary coupled schemes

The majority of Member States underlines the suitability of IACS rules with VCS measures. The rules are similar to the original ones adopted when the IACS-system was developed and coherence between national register and the OTSC livestock is easily checked (Identification control is similar to eligibility). IACS applications can be used all along the control process.

Veterinary controls for animals

In practice, eligibility and identification controls are combined (as much as possible) in several countries where the paying agency operates for identification control by means of delegation. Veterinary controls are, however, more often separated (1% sampling, less than the other controls) and performed by specific sanitary agencies. Only Spain resorts to private veterinarians in some cases.

Two paying agencies ensure complete combined controls, including veterinary controls. The integration of veterinary skills into the paying agencies is the most suitable option for combining animal related controls. Delegating eligibility and VCS controls to specific Veterinary authorities seems to rise some issues about prerogatives. These actors are not always keen to endorse such kind of control activities. Inspectorates provide veterinary assistance that the farmer may need.

Other identified limits are:

- Farm sample overlapping and differences in thresholds. Another specific case refers to mixed herds where the control rates are not reached at the same time for a single farm;
- Timing and availability of both farmers and controllers;
- Required trainings for paying agency inspectors to carry out veterinary checks (in addition to competences on *Phytosanitary*, remote sensing).

Relationship between control costs and error rates

Based on the evidence collected, there is **no clear correlation between the costs of controls and the error rate**. A correlation test was made to compare the cost of controls and the administrative, OTSC and residual error rates. The correlation between the cost of control and the administrative error rates on one hand and the cost of control and the OTSC error rate on the other hand are both negative. They thus point into the "right" direction. However, none of the

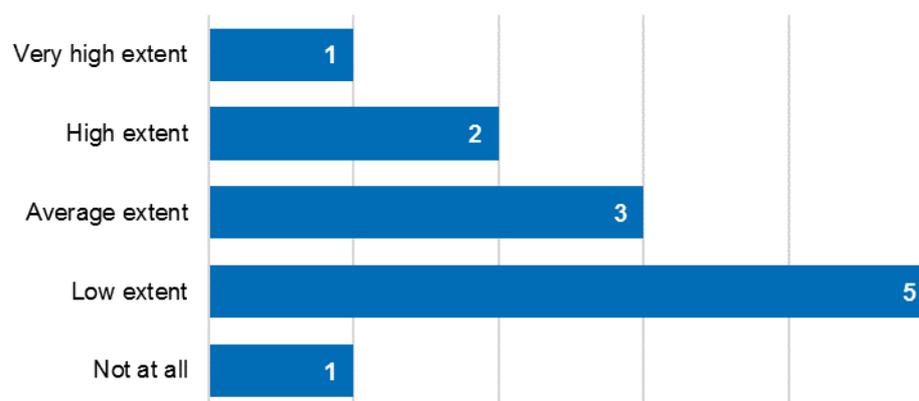
correlation values are significant.¹⁰⁶ In other words, a higher spending on controls does not necessarily ensure that the error rate is reduced. Still, this does not imply that the costs of controls have no impact on error rates, but rather that it is not a determinant factor. **Implementation choices and the total amount of aid received** (in terms of economies of scale) may have a greater impact.

No statistical test applied could identify a significant relationship between control rates and lower error rates through years¹⁰⁷. The only relationship that could be observed (but not statistically tested as data are aggregated), is the relationship between the two rates at national level. However, results differ depending on the Member State, which underlines that other factors (implementation choices, geographical or physical constraints, learning curve etc.) are more determinant than the control rate.

Future CAP and opportunities to reduce administrative burdens

Although Member States generally agree that mandatory controls are necessary to enforce the CAP regulation and create a culture of compliance (see figure below), they also report **difficulties in the understanding of the EU legal framework on controls**. Some Member States consider the regulation too complex and difficult to implement.

Figure 23 Extent to which the different mandatory controls are considered necessary to enforce the CAP regulation and create a culture of compliance



Source: Case studies

The high number of regulatory changes for a new programming period reinforces difficulties to interpret the EU legal framework. Once paying agencies adjusted to the new rules and develop routine, they have to implement changes again. As a consequence, maintaining consistency in the interpretation of the regulation is challenging. The difficulty in understanding the EU regulation on controls increases with the complexity of the schemes. In addition, Member States indicated that they consider the complexity of the schemes and thus controls to have increased

¹⁰⁶ The correlation value is between -1 and 1. When the correlation is negative, it indicates that error rates decrease when control costs increase. The closer it is to 0, the less significant is the correlation.

¹⁰⁷ Different statistical tests were also carried out to determine if there was a link or not between control rates and lower error rates through years. Several statistical methods were used (correlation and regression tests), with various time lags, to identify a relationship between the control rate and the error rate.

compared to the previous programming period. Some of the most problematic issues identified by Member States are:

- Greening (with the definition of EFAs and the introduction of specific controls);
- AECs (which imply numerous tender specifications and requirements to be controlled);
- The status as “active farmer”; and
- The management of payment entitlement transfers (very complex, administrative procedure as BPS are linked to the farm and not the agricultural surface).

Nevertheless, **options to adapt the regulation at national level can increase the complexity even further.** This also makes it more challenging to perform controls (greening in particular as regards the definition of EFAs). Difficulties to interpret and apply the EU regulation also impacts IT systems, as they have to be adapted on a continuous basis. In one case, it was pointed out that the small number of skilled people able to understand and translate the regulations and the turnover in the administration are also important limitations.

Depending on the specific requirements, some schemes are easier to control than others. Some require OTSC, such as greening and AECM. Other schemes require controls to take place at specific dates or within short periods of time (e.g. date of mowing, implantation of catch crops, diversification). In addition, animal-related controls under the two pillars cannot be combined because of different requirements in terms of the reference year. This makes the scheduling of controls more challenging. In addition, control samples have to be established considering these constraints. Moreover, in large Member States and differences in climatic conditions, it is difficult to apply controls homogeneously throughout the country. Finally, some Member States highlighted that the zero-tolerance obligation, i.e. that also very small errors are not negligible, can be very costly, while the benefits of solving small issues are often negligible.

Adjustments of the control system

The study should also identify – if possible – alternative approaches to the controls. However, among the Member States considered, there is no clear evidence for an alternative yet performing way to manage the control of direct payments and area-based support measures. While some indicate that there are alternatives worth considering, others do not see alternatives. However, there is room for improvements in terms of enhancing methods, simplifying procedures, the training of staff, etc.

Most of Member States which fully implemented IACS tools and processes, consider only changes at the level of the general framework helpful to further improve the performance and efficiency of the system. Indeed, the main cost drivers identified in the above analysis (the complexity of the schemes and the costs of developing IT tools) are not specific to the issue of controls but influence the overall system of the CAP. Some possible improvements have been identified that could contribute to reduce the cost of controls, without undermining the various objectives of the CAP. These range from the enhanced use of GIS and remote sensing to greater flexibility and the avoidance of control duplication.

Proposed changes to controls expressed in case studies

The following suggested changes were proposed by interviewees in the case studies:

- A stronger focus on more structural commitments in order to reduce conditions and criteria, especially concerning environmental measures (Area of ecological interest, etc.) and possibly merging of conditions, greening, AEC objectives and criteria;
- Clean-up of conditions (one in/ one out): new technologies that simplify controls could increase the cost effectiveness of controls, as long as old, more bureaucratic measures and conditions are lifted;
- Better use of Geographic Information System (GIS) and remote sensing: Some measures such as direct payment could be controlled using RS only. Such an approach could be widened to M13, M15 and progressively to other measures due to technical progress and the possibility to carry out monitoring (i.e. through the acquisition of imagery over a time series). Generally, conditions should always be defined taking into account what technology can provide;
- More flexible calendar: strict deadlines (e.g. 15th of May) can significantly increase the burden to implement and perform controls without contributing to the reliability of the system;
- Sampling methods and risk-based strategy: the 100% control conditions could be relaxed to reduce costs (which would of course also reduce the completeness of controls). Also the OTSC sampling size could be reduced focusing more on risk-based and cost-benefit principles.

In addition, suggestions were made on possible legal changes to improve combined controls between VCS measure controls, cross-compliance and veterinary controls. Most recommendations are linked to the necessity to adopt a more risk-based approach and limit OTSC by using animal register, and are potentially already possible to implement.

Proposed legal improvements to controls expressed in case studies

The following improvements to the existing system were proposed by interviewees in the case studies:

- Complete interfacing and mutual update between livestock system and IACS;
- Regional databases could be more detailed: improved traceability of sheep and goat herds;
- Comprehensive guidance for "animal" controls (as is available for crop areas);
- Decrease OTSC: checking data bases will be more efficient on time and money;
- Better coordination between authorities and veterinary;
- Veterinary checks should be considered in identical sample;
- Avoiding double checks such as ear-marking made by farmers and administrations.

The previous discussion illustrates that there is room to improve the system in future. In particular, a greater and more integrated use of IT tools could enhance the efficiency of controls and reduce costs for Member States. Some of the improvements and changes could already be implemented with the current tools. The analysis further highlights that policymakers need to be reflective of the operational consequences when developing the requirements of schemes and the overall CAP structure. Changes in the legal context need time to be implemented, and it takes even longer to adjust the control system to the extent that it works efficiently again.

Previous results-based methods

Very few of the Member States in the case studies had considered the use of results-based measures. A region of a Member States is implementing a scheme for species-rich grassland and a pilot study to monitor specific zones for greenhouse gas emissions and land coverage thresholds. Early indications are that within the existing IACS the determination of the precise area of land and features is less relevant. However, the LPIS is still seen as a key tool to access new and different layers of spatial data to determine the success of measures over time. Similarly, administrative checks need to be supplemented by cross checks to external data sources stored non-spatially. Costs are not easily quantified as the measure covers only 4 500 ha within a total agricultural area of over one million ha but early indications are that the measure requires a noticeably higher training requirement and a significantly higher control effort.

Another has introduced monitoring indicators and is developing a system, which processes these indicators. Currently data is being extracted and analysed manually from a number of distributed databases. The new system will allow the data to be consolidated and processed automatically. It is anticipated that this will be more costly overall but will reduce the burden of data gathering for administrators and farmers and improve its accuracy. In 2010, a Member State introduced result-based measures in its nature development schemes. However, this was abandoned as it was considered that there were too many factors influencing the result over which the farmer had no influence. The authorities went back to measures based on inputs. In addition, they are currently running a pilot on species rich grassland where the use of aerial photography as a validation tool is being trialled but there is currently little information to confirm whether this will be a success. Feedback from those who are trialling measures or were considering them was that ambitious result-based measures are difficult to implement as they require solid indicators (accuracy, reliability, precision, timeliness etc.), which can be difficult to source in areas such as water pollution, carbon storage, etc. Most need data from external sources that would need to be modelled. There would be less ability to place reliance on the LPIS for validation and there may be a need to consider alternative models based on the multi-annual nature of the measure rather than validating on an annual basis, as is the current norm.

IACS would need to be expanded to allow the access and cross checking of secondary databases, which may lead to increased complexity and costs.

This data may be managed and controlled by other state bodies or trusted third parties. Dependent upon the level and frequency that this data may need to be crosschecked this is likely to require a more complex and costly IT. There may be some cost reductions within regional development schemes but overall Member States will need broadly the same IACS systems for direct payments and those elements of a results-based scheme that are best managed via IACS plus any new elements required to adequately control results-based schemes. New solutions would need to be developed to adapt to new measures from the old and new interfaces would need to be developed to relevant external sources of independent validation, which may or may not exist in a format required to perform automated checks. If this is the case, manual administrative checks and/or physical validation in the field would be required to confirm results. The prospect of **using new**

technologies could reduce these costs. A Member State is piloting the daily monitoring of land parcels combined with the use of geotagging. The project aims to evaluate and test the possibility to adopt more ambitious monitoring approaches. Some practices appear to be relevant for satellite monitoring, such as crop rotation/diversification, catch crops, permanent grassland or late mowing. Other practices (use of fertilisers or phytosanitary) appear more difficult to monitor. Some tests are being carried out in order to estimate greenhouse gas emissions scores instead of measuring each type of practice.

4.4.2 Payment entitlements

Payment entitlements cover the operations required to initiate the basic payment scheme (e.g. initial allocation of entitlements, establishing values), run all recurring operations related with payment entitlements (e.g. keeping track of updates, processing applications) and conduct the controls on the basic payment scheme applications.

Costs of management and controls linked to payment entitlements

Overall, the estimated administrative costs for payment entitlements range between €238m - €278m, accounting for 14% of total IACS at the aggregate (EU) level, not including the establishment costs.

The analysis of administrative costs related to payment entitlements faces the following **general constraints**:

- As specified in the above Chapter 3, in four Member States (BG, EE, LT, PL) from our case studies, there is no payment entitlements identification and registration system (no BPS), thus they are not included in the analysis under this section;
- The real cost is more related to the design procedure implicit in the regulatory effort, rather than in specific items of expenditure.

These elements hampered authorities from the case study Member States to provide the detailed administrative cost structure that would allow detailed estimates on the administrative burden. Furthermore, no significant relationship between the timeframe, modalities and administrative burdens of implementing the CAP, declared by Member States, and the grouping of Member States into five clusters, according to the choices of CAP implementation, was found. Therefore, **it is not possible to make any comparisons between Member States belonging to different clusters and thus limits the possibility to identify concrete examples of gold-plating.**¹⁰⁸

Administrative issues differ among Member States, but on the basis of the information provided by them, no difference can be referred to the different implementation of BPS.

From the available data, an extrapolation based on the number of beneficiaries provides an estimate that the initial set-up costs range from €250,000 to €500,000 per Member State. The average unit cost for payment entitlements (per beneficiary) is estimated at approx. €7.8 (including all types of costs). The number of entities or authorities involved in the payment entitlements identification and

¹⁰⁸ European Commission (2016), *Mapping and Analysis of the implementation of the CAP*.

registration system varies depending on the choices in terms of internal convergence and regionalisation models.

Insights from Case Studies

The specific reasons that motivated the design of the payment entitlements identification and registration system come for all Member States from historical causes and, for some of them, also from the division of competences across different regional levels. For example in one Member State, four different types of entities are involved in the payment entitlements identification and registration system.

The timeframe needed to implement the new payment entitlements system ranged from 6 to 36 months, with an average of 18 months (standard deviation of 11). In some cases, these delays are mostly due to the parcel register evolution and the 2015 action plan. Furthermore, because of the convergence approach, where applied, the historical path of each farmer rights has to be integrated in the system and this individual treatment was complex to operationalise in the PE database.

The nature of the process for a new establishment of entitlements in 2015 led in some cases to delays in payments to farmers compared to payment profiles in previous years. The main changes in the management of systems have been the nature of the first implementation of new entitlements, the need to ensure that the entitlements were based on eligible hectares declared in 2015, the management of a new national reserve and the need to accurately calculate entitlement values. Moreover, the subsequent completion of several investigations by the paying agencies has led to substantial recalculation processes.

Member States encountered several key difficulties in setting up the new payment entitlements system. These are mainly related to the interpretation of the rules or the complexity of choices made by the Member States. In more detail, these difficulties are:

- Obstacles in the assessment and technical definition of eligibility (“active farmer”);
- Challenging political negotiation with regions;
- Problems in tracing the history of each farmer (pre-2015); and
- Consolidating these data for the new calculation tool.

In most of the Member States covered by the case studies, there were no particular difficulties in establishing the IT module for payment entitlements registration. Instead, existing IT tools were simply adapted. Three countries report some specific issues, respectively in (1) integrating needs and functionalities in IT tools after the adoption of the regionalisation model that requires negotiation, in (2) managing special cases and situations that do not allow a linear process of analysis and development of computer algorithms and in (3) dealing with the heterogeneity and difficult communication between different databases.

For Member States applying the basic payments scheme, payment entitlement management costs include the allocation of payment entitlements to new entrants in the system (new farmers). During this allocation, specific rules and conditions apply. For instance, newly installed young farmers are given priority in the payment entitlements allocation.

The main costs to establish eligibility of young farmers and new entrants are incurred for the administrative control of the information provided by farmers. In IT terms, this differentiation plays a minor role in the preparation of the calculation software. Costs are also referred to the complex verification of the requirements for eligibility.

The main entities typically involved in assessing the eligibility of farmers for the first allocation of payment entitlements are:

- **Farmers:** they must testify their status as active farmers. They have to prove that their principal business does not consist of activities excluded by the European regulation;
- **The Ministry of Agriculture:** it outlines the necessary national legislation and administers the PE. The administering includes the establishment of the farmers eligibility, the definition of the national reserve and the attribution of payment entitlements through a BPS transfer or through the reserve (in some Member States it delegates the administration of payment entitlements to the paying agency);
- **The administrative control units:** they check the applications and run on site controls;
- **The paying agencies:** they establish eligibility of land for the first allocation of payment entitlements, the value of payment entitlements (including its progression for internal convergence) and the national reserve (if delegated by the Ministry).

Some Member States utilise digital information from other institutions, such as digital cadastre, area data from regional administrations, economics and tax data of farmers from Ministry of Finance and Independent Public Revenue Authority.

Regarding the establishment of the value of entitlements for first allocation, the main difficulties have been the ex-ante determination of the eligible area and the transition from the previous system to the new one. The latter has been particularly complex for some countries adopting regionalisation. In particular, some countries refer to the fact that in the new system calculations and analyses are longer and harder to convert in IT. One Member State which kept the existing entitlements reported less problems with the initial allocation.

Among the main difficulties in establishing the national or regional reserve, some processes, e.g. the control processes, have been difficult to digitalise. These include the transfer of payment entitlements, clause signatures, and the notarial deed verification. The rules for replenishing the national or regional reserve are complex. Other difficulties are related to capturing and validating additional land during the request period, to estimating the needed amount of national or regional reserve and to performing manual work. Only two Member States identify some cost drivers for establishing the national or regional reserve in the payment entitlements system. These are the complexity of regulations for the allocation of PEs from the national or regional reserve and the complexity of regulations and controls for new entrants.

Future CAP and opportunities to reduce administrative burdens

It is a widely shared view amongst case study interviewees that the administrative procedures linked to PEs need to be simplified. The recommendations range from a complete abolishment of the PE system to more specific simplifications. Others suggestions, relating to the establishment and management of the national or regional reserve in the PE identification and the registration system are listed below (national or regional level solutions could also be applied to address some of these issues):

- The withdrawal of mandatory rules for the allocation of payment entitlements from the reserve and the related amendment of Regulation (EU) No 1307/2013
- Leaving more autonomy at national level in the management of the national or regional reserve;
- The clarification of the legal status of young and new farmers and the improvement in the communication about the reserve to decrease farmers' requests and complaints, where these issues occur;
- The use of the same process and criteria in the first and second pillars as regard young farmers.

There is a call to simplify the management of the transfer of PEs after the first allocation. Member States proposed several changes. Those which were mentioned the most are (1) avoiding controls on the criterion of active farmer, (2) consolidating all applications in one single application per beneficiary or holding, and (3) harmonising entitlement transfer windows at the EU level.

4.4.3 Greening

Greening covers the operations related to dealing with greening claims, such as calculating and transferring the payments due to beneficiaries and conducting administrative and on-the-spot checks for greening applications.

Costs of management and controls linked to greening

Our study estimates that costs for greening range between **€166m - €186m, accounting for 10% of total IACS cost** at the aggregate (EU) level (excluding set-up costs) and being **one of the major cost items of managing and control** of direct payments.

Bringing such estimates into context depends also on the definition of what exact activities are included in the administration of a task and how data is being collected¹⁰⁹. A previous study by Alliance Environment and the Thünen Institute (2017) for example estimated substantially lower administrative costs for Member States linked to greening ranging from €27 to €76 million for the EU28.¹¹⁰ This estimate includes different items also linked to set-up costs (assessed to be 10-20% of the total)¹¹¹¹¹². The same study concludes that **management and control**

¹⁰⁹ First of all, the capacity to gain insight on the costs of greening may progress over time, along with experience with the actual implementation. The second factor is the 'human factor'. For instance, there is little to no quantitative data available on the costs of greening for the administration. Therefore, the estimates are largely based on the subjective assumptions of the respondents.

¹¹⁰ Alliance Environment and the Thünen Institute (2017). *Evaluation of the payment for agricultural practices beneficial for the climate and environment*. November 2017.

¹¹¹ NOTES: the terminology used in this study slightly differs from the one used in the Thünen study; In the Thünen study, implementation costs entail preparatory costs, set-up costs, information costs and other costs; in our study, items related to implementation are referred to as set-up costs.

¹¹² NOTE: the estimates need to be treated however with care, given that they were based on limited data available.

costs of the greening measures for public administrations correlate strongly with the regulated area.¹¹³ This is not a surprising result, as these costs (e.g. costs for handling applications and performing controls) are strongly linked to the number of farmers situated in the controlled area. However, the share of fixed costs involved in running the system shows that running costs per ha are significantly lower in larger Member States. In a small Member State within the case studies, for instance, running costs amount to €16 per ha, whereas management and control costs account for only €0.12 to €0.60 per ha in most of the larger EU Member States.¹¹⁴ **Moreover, according to the same study, there may be differences in costs due to varying labour costs across Member States.** In particular, handling applications and conducting on-the-spot-checks require substantial labour costs.

The 2017 study from Alliance Environment and the Thünen Institute identifies a number of additional factors complicating the estimation of cost:

- a possible under-estimation of the additional costs of the greening measure, as Member States may experience difficulties to identify cost increases attributed to greening;
- the difficulty to compare results between Member States due to different “business as usual” baselines;
- difficulties related to the possible reallocation of staff due to the establishment of greening measures.

Insights from Member States

A study in the Netherlands (2017)¹¹⁵ estimated the administrative burden of the greening measures for Dutch farmers for 2015. The administrative costs for the PA could not be estimated, at least not at the detailed level of greening measures.

For Poland, the Polish Supreme Chamber of Control estimated the cost of IT system modification linked to the LPIS requirement for greening at €2.26 million. Those costs include the need to construct the EFA layers as well as an additional layer for the permanent grassland requirement. The costs for the on-the-spot-controls of greening were estimated at €1.92 million. If taken as a share of the total amount of direct payments received by Poland (for 2016 PLN21.3 billion, which is roughly €5.08 billion), the total costs for system modification amount to 0.05% of the direct payments, the costs for on-the-spot-controls of greening to 0.04%.

Sources of administrative costs

The main administrative costs related to greening emerging from the case studies are:

- **Adaptation of the administrative system and tools**, for instance the inclusion of the EFA-layer and the preparation of the greening sample for control;¹¹⁶

¹¹³ Alliance Environment and the Thünen Institute (2017). *Evaluation of the payment for agricultural practices beneficial for the climate and environment*. November 2017.

¹¹⁴ Alliance Environment and the Thünen Institute (2017). *Evaluation of the payment for agricultural practices beneficial for the climate and environment*. November 2017.

¹¹⁵ Meulen, H.A.B. van der, A.B. Smit en J.H. Jager, 2017. *Effecten nieuw GLB op inkomens, kosten en administratieve lasten; Gevolgen van aanpassing directe betalingen en invoering vergroeningseisen*. (Effects of the new CAP on incomes, costs and administrative burden; Consequences of changes in the direct payments and introduction of the Greening Regulation; in Dutch, with English summary). Wageningen, Wageningen Economic Research, Report 2017-080

- **Activities to inform farmers** on the changes in the payment system, the meaning of greening measures, the conditions for receiving both basic and greening payments and the changes in the administrative tasks to perform;
- **Communication with and assistance to farmers** with questions about the greening measures, before, during and after fulfilling their administrative tasks;
- **Checks** whether farmers comply with the greening conditions, both from an administrative point of view and, for a sample of farms, through control on-the-spot including communication with farmers and, in some cases, rejecting requests for greening payments, in a limited number leading to appeal or legal challenge.

In 2015, the Member States implemented greening requirements for the first time. That being so, costs for setting up (see also section 4.2) and implementing greening were perceived as particularly high in that year by the paying agencies. This perception may result from the fact that both competent authorities and farmers **had to become acquainted with the new Regulation and the additional administrative tasks** to be performed including rebuilding of IACS as well as measuring and controlling additional indicators like number of crops and EFA-areas per farm.

Even though hard to be isolated from other control costs for direct payments, 5 out of 12 case studies indicated that **greening results in additional on-the-spot-control costs**. This is mainly due to the necessity to carry out inspections at different times of the year (for seasonality reasons) and requirements that impose visual control in case one cannot rely on remote sensing. Especially, on-the-spot controls for EFA are considered a major burden by a majority of the Member States. For instance, area verification and adjustments are difficult to check even when using GSAA.

Given its complexity and thematic link to ambitious policy objectives in the area of environmental protection, greening is also a core area potentially affected by “positive” gold-plating, meaning that additional burden is put on administrations (and farmers) to achieve specific policy objectives. In one case study for example, political actors insisted on more greening activities.

Costs linked to specific greening areas

In their contributions to the broader Public Consultation from 2015¹¹⁷, the various stakeholders consistently point to the significant **administrative burden linked particularly to one of the greening areas, namely the Ecological Focus Areas**:

- For Member State administrations this seems to be mainly linked to the increased cost of complying with control requirements and mapping EFA elements in a dedicated LPIS layer (see also section 4.3.2);
- For farmers this appears to be linked to the correct declaration of EFA (length of declaration, location and dimension accuracy) and increased farm inspections (further elaborated in section 4.5).

¹¹⁶ NOTE: these costs are estimated as part of setup and running costs.

¹¹⁷ SWD(2016) 218 final: Review of greening after one year

From an administrative perspective, especially the **different options for landscape features** (i.e. hedges, wooded strips, etc.) were indicated to be **demanding**¹¹⁸.

The **number of elements included in the EFA layer varies across Member States** (table below). Based on the results from the case studies, few countries have included three EFA elements or less, while most Member States included at least five elements. Land lying fallow, landscape features and nitrogen fixing crops are quite commonly included in the EFA layer, followed by buffer strips, catch crops/green cover and short rotation coppice.

Table 15 EFA elements per Member State

Country/region	EFA elements										Total
	Land lying fallow	Terraces	Landscape features	Buffer strips	Agro-forestry	Forest edges	Short rotation coppice	Afforested areas	Catch crops	Nitrogen fixing crops	
Germany (Bavaria)	x		x	x	x			x	x	x	7
Spain (Andalusia)	x				x					x	3
France (Centre)	x		x	x	x	x	x	x	x	x	9
Netherlands			x	x			x		x	x	5
Poland	x		x	x	x	x	x	x	x	x	9
Greece	x		x	x						x	4
Italy (Emilia Romagna)	x	x	x	x	x	x	x	x		x	9
Sweden	x			x			x		x	x	5
Malta*											0
Bulgaria			x			x					2
Lithuania	x		x				x		x	x	5
Estonia			x								1
Total per EFA element	8	1	9	7	5	4	6	4	6	9	

* There is no EFA control layer in Malta as only 14 farmers are subject to greening provisions. The two EFA-elements are recorded in a graphical crop layer.

In addition, the level of digitisation differs across Member States whereas case studies show a **tendency towards digitisation**. Out of the assessed sample:

- Four Member States have digitised EFA elements to a very high extent;
- Five Member States have digitised EFA elements to a high extent;
- In two Member States parcel-types of EFA (land lying fallow, catch crops, nitrogen fixing crops, buffer strips, field margins, strips along forest edge) are not at all digitised in the layer; and
- In one Member State, the parcel-types of EFA are digitised to a limited extent.

¹¹⁸ Furthermore, the results of the OPC indicated certain aspects of the Crop Diversification (e.g. changing it to crop rotation rather than diversification) and Permanent Grassland (e.g. the 5 year rule, the definition) to be very complex.

Elements digitised in the EFA layer are usually (11 out of 12 cases) automatically shown in the system to the beneficiaries, and beneficiaries can add EFAs themselves, or with the help of an advisor (in a specific example this needs to be a technician).

Besides, Member States may use alternative means to fulfil the EFA obligations via equivalent practices as set out in Annex IX of the direct payments regulation. Three Member States indicated to have introduced equivalent practices to EFA. However, no further details were provided on the administrative burden arising from equivalent practices.

As for the other greening areas, namely crop diversification and permanent grassland, case studies did not provide sufficient data on costs.

Costs specifically linked to farmer support

In all Member States present in the sample, farmers can **receive guidance** to make the best choices as regards the implementation of EFAs. This guidance is provided by:

- the farm advisory services (FAS);
- civil servants who work for the Ministry of Agriculture (or at one of the local offices); or
- (paid) independent private advisory services (a number of which in the Netherlands is recognised as part of the FAS).¹¹⁹

Results from the case studies furthermore show that the vast majority of the paying agencies in the sample also assists farmers to **fill out the application forms** and **to pre-check the forms** of farmers before they are submitted to the authorities.

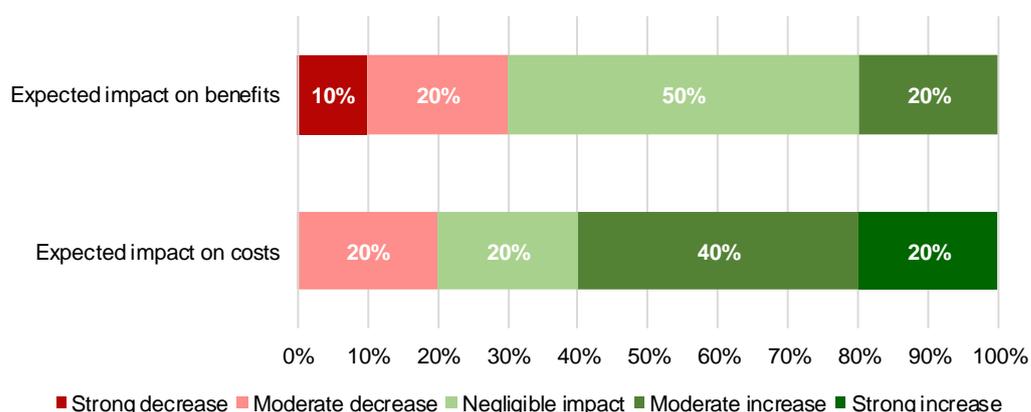
Future CAP and opportunities to reduce administrative burdens

A decrease as regards the level of administrative burden was expected by Member States represented in the case studies from 2016 onwards. The expected decrease by the authorities was based on a normal learning effect throughout the programming period. This effect might however be reduced due to some adaptations to the regulations and the administrative procedures and tools based on the experiences from 2015. In fact, case studies point to an **expected increase in costs due to the 2017 greening review**, due to expected increased control efforts (with benefits hardly being affected according to most respondents). In addition, greening requirements might overlap with other components of the CAP as well as other policies.

Impact of the greening review

Evidence collected in the case studies provides a **mixed picture as regards the perception on the extent to which the Greening review is expected to impact administrative costs and benefits** (see figure below), with a tendency towards an increase of costs.

¹¹⁹ Smit, A.B., H. Prins & M.N.A. Ruijs, (2014). *Inrichting operationeel Bedrijfsadviesstelsel (BAS); Aangepaste opzet naar aanleiding van herziening Gemeenschappelijk Landbouwbeleid*. Den Haag, LEI Wageningen UR (University & Research centre), LEI Rapport 2014-029 (<http://edepot.wur.nl/327077>)

Figure 24 Overview of the scoring (number of Member States, n=12)


Source: Case Studies

Overall, the increased costs are mainly seen due to the ban on the use of plant protection products in EFAs, as it will lead to extra costs for on-the-spot-controls to check compliance with the ban. Member States indicating that the impact is **negligible** base their assessment on the **limited number of farmers impacted** or on the fact that only few adjustments have been made.

As indicated in the descriptive chapter on greening (3.2.6), the greening review after one year aimed both to simplify the greening scheme and to increase its environmental effectiveness (especially the ban of use of plant protection products on productive EFA). The replies collected across the case studies on the higher cost should be seen under this perspective: it is normal that a ban of plant protection products can increase the costs, as administrations will have to adapt their control system.

Streamlining potential with other parts of the CAP and other policies

Greening requirements were introduced in addition to cross-compliance and agri-environmental measures. This has raised the question of potential for better streamlining between these policies. Case studies show that some simplifications have already been successfully implemented, e.g. **some AEC measures have become eligible as greening measures**. This has led to reduced administration costs to a limited extent, but has benefits for farmers implementing the measures, as they can comply with greening requirements through the implementation of AECM. Cross-compliance analysis offers further insight on GAECs, whereas, Rural Development analysis elaborates further on the administrative burden linked to AECMs.

Additional suggestions for simplification and streamlining identified by the cases studies

- Reduce the number of options;
- Less systematic control;
- Avoid changing rules during a programming period;
- Dispensation for small territories to have lower or no greening obligations;
- Establish one administrative system for all green architecture;
- Re-introduction of greening obligations into the cross-compliance regime.

Using EFA/permanent grassland layer to identify similar cross-compliance rules

Using the EFA or permanent grassland layer to identify similar cross-compliance rules is a realistic option, which based on the case studies is perceived by a majority as a positive suggestion. Any change needs to be treated however with care as it would once again require (some) changes in the system. The following table lists positive and negative aspects identified across (regions of) Member States in the case studies.

Table 16 Positive and negative aspects of using EFA/permanent grassland layer to identify similar cross-compliance rules

Positive aspects	Negative aspects
<ul style="list-style-type: none"> • EFA layer is currently used to identify similar cross-compliance rules, for instance, through a landscape element layer and vice versa; • There is an overlap between GAEC 7(Retention of Landscape Features & Designated Habitats and Controlling Invasive Species), 4 (Minimum Soil Cover) and 1 (Establishment of Buffer strips along Watercourses). Currently controls for GAEC 1 and 7 and corresponding criteria for EFAs are carried out at the same time; • Before the CAP 2013 reform, cross-compliance included criteria on permanent grassland (individual ratio). This point has been removed and simplified with the introduction of a regional ratio as one of the greening criteria; • Layers in LPIS are already being used for verification of certain cross-compliance rules. The results from LPIS are used. 	<ul style="list-style-type: none"> • The EFA layer does not apply to all applications and does not contain all EFA fixed elements, so it cannot be 100% used for checking cross-compliance. Besides, very few EFA elements are also protected by cross-compliance. Permanent grassland is also not covered by cross-compliance requirements; • Major differences between greening and cross-compliance.

Merging GAEC and greening requirements

There is not a clear indication on the impact of changes in terms of merging GAEC and greening requirements. A final **judgement would depend on the concept and conditions of potential changes**. Nevertheless, a number of positive and negative elements of such a merging could be identified across case studies.

Table 17 Positive and negative aspects of merging GAEC and greening requirements

Positive aspects	Negative aspects
<ul style="list-style-type: none"> • Merging could bring simplification due to the reduced diversity and incompatibility of systems. Even though cost reductions are not expected to be higher than 10%, it would be beneficial for farmers, making the rules easier to understand; • It would reduce the number of controls to be performed, although this will depend on the number and types of requirements that have to be controlled. Cross-compliance is less costly to control as the percentage of on-the-spot controlled farms is lower for GAEC than for greening. 	<ul style="list-style-type: none"> • The percentages of control are different for GAEC and greening. If both types of requirements are merged, costs of control will be less but only if the control rate for greening is brought down to the rate for cross-compliance; • The decisive factor will be the level of detail required. Greening and cross-compliance complement each other.

Moreover, most case studies highlighted **differences between a low-entry scheme and the AECM, which would hamper additional efficiency**. However, some suggested elements that could help to improve efficiency:

- potential for simplification of the baseline design;
- a more ambitious minimum setting, which would increase the level of AECM requirements and the ease for the control of AECMs.

Overlaps with other policies

Overlaps of greening with other policies appear to **depend substantially on the national setting**. While about half of the Member States under investigation do not observe overlaps, the other half did indicate overlaps of greening administrative arrangements with other policies. While not specifying details of such overlaps, the following areas were mentioned:

- Natura 2000 (without any further comment);
- Overlap of greening administrative arrangements with those of the Rural Development Plan, mainly afforested areas which can also be categorized as EFA elements if established after 2008;
- Overlap of greening requirements and cross-compliance: the Birds Directive requirements can also be a part of EFA, especially in the buffer zones;
- Part of the areas under Natura 2000 are categorised as sensitive permanent grassland;
- Regional soil and water protection measures, which is also a permanent grassland maintenance basic requirement.

4.4.4 Cross-compliance

Cross-compliance covers the execution of all compliance checks required under GAEC and SMR, as well as the relevant reporting and follow-up.

Costs of management and controls linked to cross-compliance

Estimated costs for **cross-compliance range between €130 m - €152 m, accounting for 8% of total IACS cost at the aggregate (EU) level**. A previous study assessing the administrative burden on farms arising from the CAP¹²⁰ in 2007 concluded that the burden of **red tape from cross-compliance was rather limited**, i.e. between 0.3% and 4.3% of the overall burden. Verket (2011)¹²¹ also confirms that the additional costs of farmers for complying with the SMRs are on average low based upon an in-depth assessment of Sweden, yet finds them to be heterogeneous between different types of farms. Based on our estimates building on data from the DG AGRI Survey and comparing them with the previous assessments, **we conclude that cross-compliance costs as a percentage of direct payments received have decreased**.

¹²⁰ Directorate-General for Agriculture and Rural Development (DG AGRI) (2007). Study to assess the administrative burden on farms arising from the CAP. https://ec.europa.eu/agriculture/external-studies/burden_en

¹²¹ Jordbruks Verket (2011). Environmental Effects of cross compliance. http://www2.jordbruksverket.se/webdav/files/SJV/trycksaker/Pdf_rapporter/ra11_5eng.pdf

Table 18 Cross-compliance cost development

	2015	2017
Costs as a percentage of direct payments	<ul style="list-style-type: none"> below 0.1% for two Member States; range from 0.1% to 0.3% in six Member States; are estimated to be 1.15% in one Member State. 	<ul style="list-style-type: none"> below 0.1% for three Member States; range from 0.1% to 0.3% in five Member States; are estimated to be 0.4% in one Member State.
Costs in the form of FTEs (FTE/1,000 euro of direct payments)	<ul style="list-style-type: none"> 0.02 to 0.07 FTE for six Member States; to 0.15 FTE for two Member States; 0.44 FTE for one Member State.¹²² 	<ul style="list-style-type: none"> 0.02 to 0.06 FTE for seven Member States; 0.1 to 0.15 FTE for two Member States.

Source: Ecorys based on the information obtained from the DG AGRI Survey

Sources of administrative costs

As regards public authorities, costs for cross-compliance are mainly due to the specific OTSCs, not already required by underlying sectorial legislation. We distinguish between costs incurred from controls of SMR and GAEC.

Costs incurred from controls of SMRs

The following key cost items of controls of SMRs as perceived by the Member States have been identified based on the case studies:

- **co-ordination** with sectorial control bodies provided their control results are used for achieving the cross-compliance' minimum control rate;
- **costs for involving (SMR) experts** in the control team, if Member States opt for not using results from sectorial controls¹²³;
- **investments**;
- **animal identification** (seen as a high cost), in particular in areas where herd size is important;
- **on-the-spot controls**; and
- **amortisation of IT applications**.

In addition, the following cost factors are mentioned:

- veterinary controls, which also require additional equipment to meet bio-security requirements;
- risk analysis, in particular the different risk analyses needed due to a variety of regulations.¹²⁴

¹²² NOTE: This calculation is based on the number of FTE involved in the controls, times the cost per FTE (as indicated by the Member State). However, it should be noted that the cost per FTE vary per Member State, due to differences in labour costs. Also, differences in costs may arise due to differences in the calculation basis; that is in some Member States the costs appear to include costs for equipment used, in other Member States the costs per FTE only relate to labour costs. To adjust the calculations for this, we have also calculated the number of FTE needed per 1,000 euro of direct payments. These costs are rough estimates, and merely indicate a range. It does however show that overall the administrative costs for cross-compliance may be considered relatively low.

¹²³ NOTE: These are not costs related to cross-compliance, as these control bodies have to be established due to sectorial legislation anyhow

¹²⁴ NOTE: costs mentioned related to maintaining the relevant regulations and these costs would have occurred also in the case that cross-compliance had not been introduced.

Table 19 Sources of costs from controls of SMRs at Member State level

Sources of costs mentioned by (regions of) Member States	Number of times mentioned in case studies
For coordination of sectoral and cross-compliance controls with regard to SMRs	
Required correspondence and notification/information of the relevant results and their integration in the IT-system	1
Controls on the subcategory environment which include a control of land plots	1
Animal identification, including the additional equipment for bio-security purposes	2
No noteworthy costs	2
Personal/running costs	
For farmers for compliance with SMRs	
No further obligations other than those included in the relevant legislation	3
Differences in control due to stricter national than EU legislation	1
Control pressure is considered to be higher for breeders and on aspects related to phyto-sanitary products use	1
Evaluation of non-compliance, determination and application of penalties	
On-the-spot inspections, including risk analysis for selection of farmers	5
Costs of assessing non-compliance, determining and enforcing sanctions	1
The system for cross-compliance penalties includes numerous parameters stemming from the SMRs and GAECs, where there is a continuous need to evaluate and group different non-compliances, like reoccurrence early warnings, that the paying agency also needs to store for three consecutive calendar years. The matrix becomes difficult to oversee by the administrations and in practice, impossible to grasp for the farmers.	1
No noteworthy costs	1
Outsourcing of laboratory examination of food/soil samples	1
Adjustment and maintenance of IT-systems	1
Appeals against cross-compliance penalties	1
Personal costs and running costs	2
Amortisation of IT applications	1

Source: Ecorys based on case studies

Costs of controls of cross-compliance are strongly integrated in regular controls of payments. Consequently, it is difficult to extract what share of costs is related purely to cross-compliance controls. An indicative observation shows, however that such additional costs appear to require 1.5% of an FTE per year.

Costs incurred from controls of GAECs

GAECs are requirements linked to environment not referred to in the Unions environmental legislation, contrary to the SMRs. The GAECs are to be defined by Member States at national or regional level, taking account of the specific local and climatic conditions of the areas concerned and the farms' structure. However, despite their responsibility to define them, some Member States still see GAEC requirements as quite rigid, stating that requirements not adapted to local circumstances still have to be implemented. Sources of costs with respect to GAECs are similar to SMRs covering key items such as IT costs and costs of OTSCs.

Several Member States simply state that the main sources of costs for GAEC are similar to those for SMR. Other Member States give more detailed answers, which have been summarised in the table below.

Table 20 Sources of costs stemming from compliance with GAECs

Sources of costs mentioned by (regions of) Member States	Times mentioned
For sampling selection	
Development and updating of appropriate system plus employment of relevant staff	4
Inflexible rules and conditions from the auditors	1
No costs, as all data are stored in IACS	2
Technical staff and control management tools	1
Combination of risk-based and random sampling	1
For control associated with GAECs	
On-the-spot-controls	5
GAECs defined by Member States in a way ¹²⁵ not adapted to local circumstances, hence one needs to create a system to record issues that are non-existent	1
Personal and running costs	1
Field staff, technical staff, control management tools	1
Risk-based sampling process	1
For sanctioning and evaluation	
Correspondence between auditors and auditees	1
Appeals	1
Personal and running costs	2
Issuing the payment order	1
For follow-up after detected non-compliance and sanctioning	
Negligible	1
Increased inspection levels /additional on-the-spot-controls	3
Personal and running costs	2

Source: Case studies

According to some cases, there are high costs for risk-based and random sampling (however, these remarks are not confirmed by data). The **main costs arise through the risk-based sampling process**, because establishing the risk profile is relatively time-consuming. It is estimated by one Member State that 1 FTE (€150,000 per year) could be saved if risk-based sampling was abandoned, in favour of random sampling. However, other Member States do not mention this cost of risk-based sampling as an important item and indicate that the GAEC sample is selected in the area controls sample.

Follow-up costs after detecting non-compliance are mainly related to the new controls which Member States in some cases implement to check whether the recommendations provided during the previous control were met.¹²⁶ Costs of appeal are mentioned as well (according to interviewees there may be high levels of appeal against cross-compliance penalties). There are also costs for sanctioning

¹²⁵ Article 94 of Regulation (EU) No 1306/2013.

¹²⁶ If an infringement was of a minor character an early warning is applied, but there is no legal obligation for Member States to carry-out a follow-up control. Similarly, in cases where an administrative penalty was applied, it is not mandatory to perform a follow up on-the-spot check., however, the beneficiary is attributed a higher risk in the "risk analysis".

that arise from issuing the payment order, which are estimated at about €250 by one Member State.

Coordination of controls

Sectoral bodies sometimes cooperate to avoid duplication of efforts. Such cooperation differs however between Member States. **For SMRs, the case studies suggest an equal split** between those countries having a high or very high extent of sectoral control bodies involved for cross-compliance controls, and those which do not involve sectoral control bodies. In four cases, the administration (paying agency) is the sole responsible for the cross-compliance controls of SMRs, hence no specific costs for coordination are involved. Cooperation is also not always easy, given its controls being very complex and specific. In the Member States where sectoral control bodies carry out controls, no major costs of coordination could be identified. **For GAECs, the picture appears to be mixed with a slightly more negative trend** than for SMRs, indicating less involvement of sectoral control bodies.

Future CAP and opportunities to reduce administrative burdens

Following its introduction, cross-compliance was a highly debated subject. The 2007 assessment showed that farmers perceive the many checks related to cross-compliance as a burden. The length taken for the checks and the perceived unpredictability of unannounced controls annoyed farmers in the Member States studied.¹²⁷ After the health check, the Commission allowed advance notice for OTSCs ("early warning system" – renamed as mandatory follow-up visit) and the abolition of a reduction of payment for minor infringements a *de minimis* limit of €100¹²⁸. Existing sanctioning costs of €250 were estimated in the case studies. This estimate would imply that increasing the 'bagatelle limit' could lead to less costs. Previous and ongoing improvements allow farmers to better plan their activities, demanding less paperwork to solve small infringements and remove the threat to be penalised for trivial infractions. The measure also simplifies the task of national administrations. Yet, the European Court of Auditors pointed out in their 2016 report¹²⁹ that despite their similarities, the compulsory GAEC and greening rules are checked under two control systems. This may lead to inefficiencies in the control systems and an additional administrative burden.

In general, given the interlinkage with other policies, the cost-effectiveness and thus 'regulatory fitness' of cross-compliance require detailed assessment as regards to what extent they complement one another and to what extent synergies exist.

4.4.5 IACS-based rural development measures

This section covers the management and controls of IACS-based rural development measures, such as managing the open calls, selecting the applications, processing the payments etc.

¹²⁷ Directorate-General for Agriculture and Rural Development (DG AGRI) (2007). Study to assess the administrative burden on farms arising from the CAP. https://ec.europa.eu/agriculture/external-studies/burden_en

¹²⁸ European Commission (2011), Impact assessment Common Agricultural Policy towards 2020 Commission staff working paper. Annex 8 Simplification of the CAP. https://ec.europa.eu/agriculture/sites/agriculture/files/policy-perspectives/impact-assessment/cap-towards-2020/report/annex8_en.pdf

¹²⁹ European Court of Auditors (2016). Making cross compliance more effective and achieving simplification remains -challenging. https://www.eca.europa.eu/Lists/News/NEWS1610_27/SR_CROSS_COMPLIANCE_EN.pdf

Costs of management and controls linked to IACS-based RDP measures

Estimated costs for IACS-based rural development measures range between €558m - €626m, accounting for **32% of total IACS cost** at the aggregate (EU) level. From a very rough estimate, based on budget allocated to rural development measures reported in 2016, management and control costs are most frequently in a range between 5 and 15% of the amount of payments, but variability per Member State is much higher than this range. The number of FTEs are more frequently in the range of 300-500 per year and per billion Euro of total budget over the 7 years of programming.

According to past reports of the European Court of Auditors¹³⁰ **the EAFRD is one of the funds most prone to error rates**, often due to its complex rules and eligibility conditions. The EAFRD is a fund with a relatively high administrative burden, if compared to other EU co-funded programmes, which is in part inherent to the specific type, size, variety and conditionality of its interventions and some related gold-plating¹³¹ practices (see also previous section). Errors add a further layer of burdens and costs for both beneficiaries (i.e. farmers and business) and public administrations. Once such errors occur, additional clarifications and further exchanges of data are required. **Administrative burdens in Pillar II can therefore be further reduced throughout its implementation**, by improving clarity and appropriateness of information obligations across EAFRD measures and operational requirements.

In our study, cost of controls are found to be higher for the Pillar II measures than for direct payments. This is also confirmed by the qualitative feedback provided in the case studies. Depending on the requirements to be inspected, OTSC can require 1 to 3 physical visits on the same farm while Pillar I controls can (at least) partially be performed through remote sensing. This is not surprising given the combination of very specific and often one-off measures. Costs are particularly high for the agri-environmental-climate measure. These stem from the complexity of some types of operation and changing eligibility requirements, items to be checked can be numerous and different according to the type of commitment and require specific field investigation (late mowed, verification of fertiliser / phytosanitary inventory books and storage premises, etc.).

Insights from the case studies

According to a study carried out by a paying agency in 2015, on-site visits also tend to take longer for Pillar II controls than for Pillar I, when they are not combined. For instance, about 70% of Pillar II IACS-based controls are combined with Pillar I controls.

For animal-related measures, in both cases (Pillar I and II), controls include database related checks and the verification of the adequacy between recorded data and animals present on the farm. The main issue raised is the fact that additional controls are necessary for LFA because of the requirement to control the stocking density in a given year, while controls for the Pillar I depend on data of the year before.

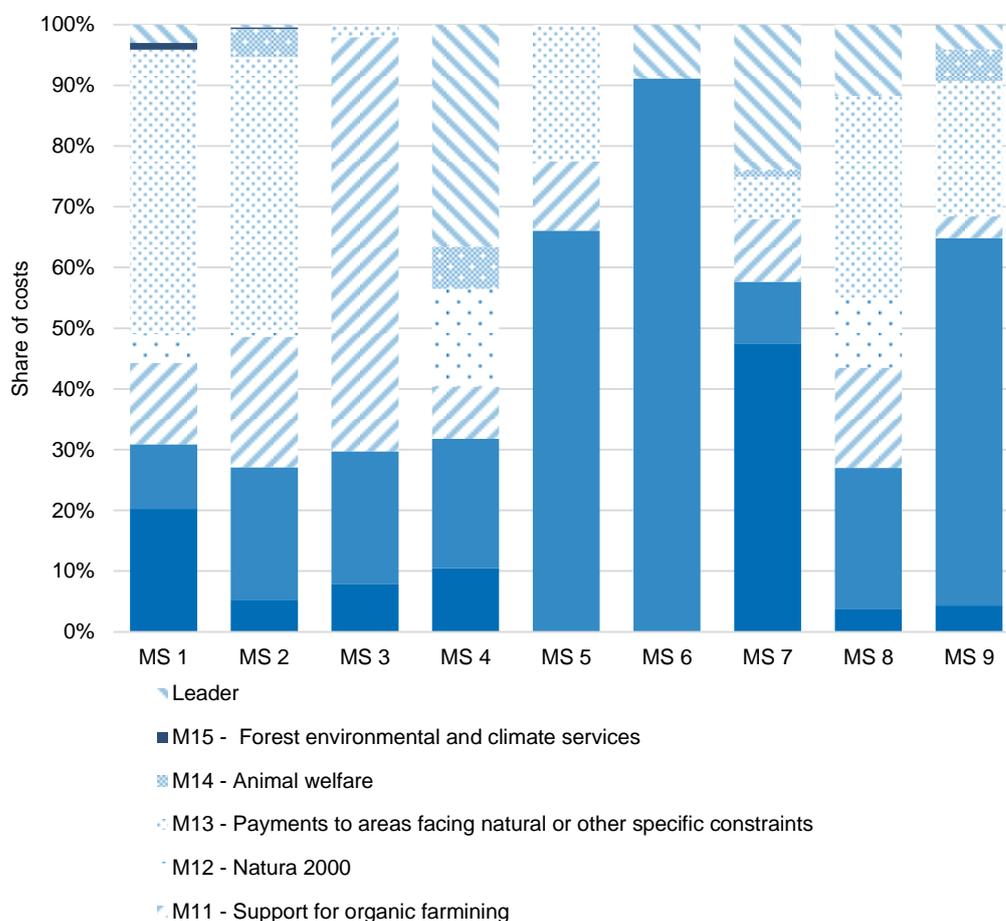
¹³⁰ Court of Auditors Annual Report (2011), Par. 4.5.

¹³¹ transposition of EU legislation, which goes beyond what is required by that legislation

Sources of administrative costs

Analysing costs in terms of absolute numbers shows that particularly M10 – agri-environment schemes are causing high personnel costs in most Member States.

Figure 25 Distribution of personnel costs by RDP measures (% share)



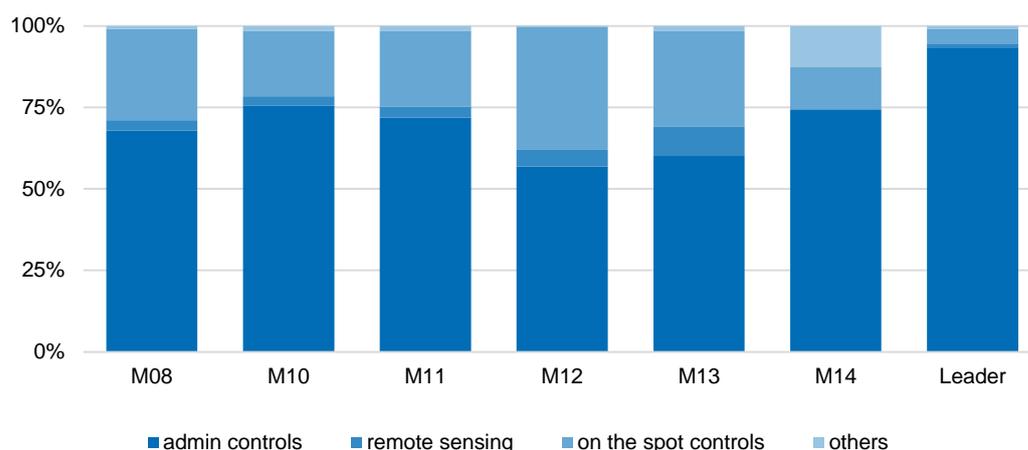
Source: DG AGRI: Data Collection on Administrative Costs for Programme Management – EAFRD funds – January 2018

NOTE: Costs are those reported by programming authorities to the Commission without adjustment by income level and mostly refer to year 2016.

The overall cost and the distribution of these costs among measures largely reflects the importance of each measure in the Member States. The distribution of the effort in FTE is roughly in line with these costs.

Breaking down personnel costs in terms of activities shows that a major source of personnel cost is represented by **administrative checks** (carried out on 100% of applications for support and payment claims), regardless of the measure. **On-the-spot controls** are the second most relevant cost driver (carried out on 5% of the beneficiaries).

Figure 26 Share of control cost by type of cost and measure – average of the observed countries (%)

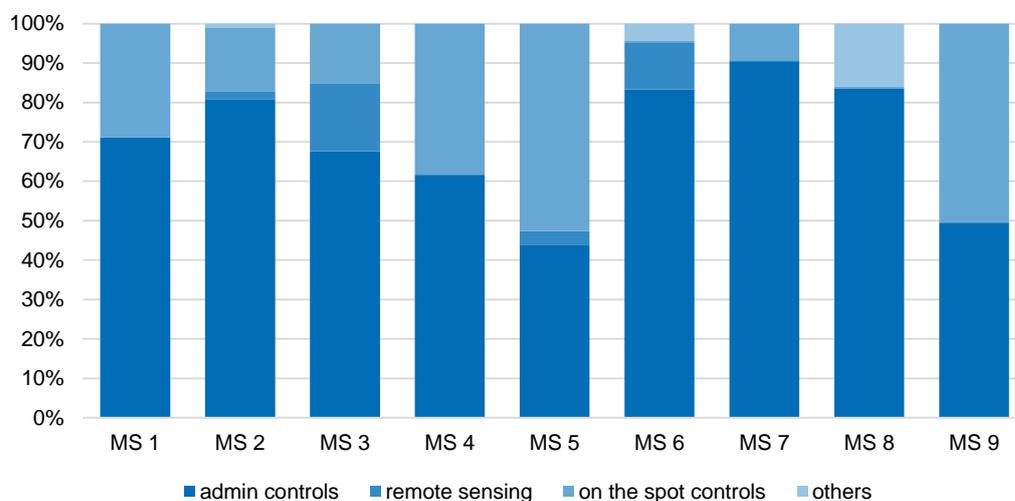


Source: DG AGRI: Data Collection on Administrative Costs for Programme Management – EAFRD funds – January 2018

Differences between Member States

Differences between cost items across Member States can be observed. **Administrative checks remain the most important item**, though in some cases OTSCs account for roughly the same (or even higher) share of costs.

Figure 27 Share of control cost by type of cost and country – average of the observed measures excluding leader (%)



Source: DG AGRI: Data Collection on Administrative Costs for Programme Management – EAFRD funds – January 2018

Remote sensing has an important share of costs in only two of the assessed countries. In terms of personnel, the effort (FTE dedicated) on remote sensing is second only to administrative checks (about one tenth of personnel effort dedicated to remote sensing), while OTSC are much lower in one of these Member States and roughly of the same amount in the other. These figures, though not conclusive, hint that **remote sensing can indeed contribute to overall cost reduction**.

Explanatory factors for cost and cost-effectiveness differences

Differences of costs among regions can be due to a number of reasons:

- Each region has a different number of measures;
- Measures within the region can be more or less differentiated (e.g. with respect to eligibility conditions, sub-measures and types of operation);
- The set of measures in different regions may differ by design, with more or less complex sets of eligibility conditions.

The **complexity of measures** is the **primary reason for higher costs** of controls. Especially the number of eligibility conditions add to this complexity, as each requires additional information and controls. The costs for controls of measures supporting areas facing natural or other specific constraints are relatively low. Here, only the area's location needs to be checked. The costs of controls for measures supporting ecological agriculture, such as the AECM, are much higher. Numerous specific checks that lead to higher costs for performing the control activities are required.

It is reported that the **most costly activities for the administration are performed under measures related to cross-compliance and environmental payments**. In multi-annual measures, the requirements can be numerous and very specific, and in this case, the cost increases. Some measures need several visits to be controlled, and some territories, like mountain regions, are more difficult to control. This has an impact on the cost of controls. Among individual measures, e.g. measure 10, the high level of flexibility given to the local level and the large number of types of operation proposed generate an higher administrative burden compared to other measures, as there are a lot of specifications to take into account and thus a lot of control items.

In addition to measure design and to the number of measures, the following factors are relevant to determine administrative costs:

- **Different regional contexts** and the special territorial features of each specific area, with higher heterogeneity or location in remote areas leading to higher costs of implementation;
- **Degree of integration** of additional regional parameters and local legislation with the IACS;
- **Requirement for different control rates** (depending on measures and regions) and equipment needed by inspectors for certain measures;
- Small extra costs related to **laboratory samples examination** when needed;
- Need to conduct a **supplementary public procurement procedure** for some of the measures;
- **Link and consistency with the baseline**, which also stems from national legislative procedures;
- **Commitments** including dates or a seasonality constraints, that impose to perform controls in a certain period, which generates complexity (AECM, greening);
- **Priority systems in the selection** (measure 10) or after the aid processing (measure 11), which generates costs as many applicants do not fit with the eligibility criteria.

Cost development and linkages to error rates

Comparison with previous period

Changes of costs between programming periods depend on a large number of factors, from regulatory aspects to implementation decisions on the national and regional level. It is thus hard to give an overall assessment whether costs have increased or decreased. Anecdotal evidence suggests that cost did not decrease.

Insights from the case studies

One (regional) paying agency estimated a cost increase of some 20%. The distribution of costs (for measures 10, 11 and 13) provides an indication of the order of magnitude also to be expected in other regions/Member States:

- **Specifications** (transposition of EC requirements, setting up of selection criteria when they apply, etc.) (4-8%);
- **Management of the open calls** (publication, reception of application, provision of information, responses to farmer requests, etc.) (4-8%);
- **Selection of applications** (applications ranking when applied, communication and appeals, etc.) (40-45%);
- **Payments** (management of payments, refunds, controversies, etc.) (40-45%).

Linkages between administrative burden and error rates

The **relationship between error rates and administrative burden is not clear** due to limited information available. In general, control rates have not increased (are constant everywhere), while error rates, reported only in a couple of country cases, are mostly stable or in some cases decreasing. In one region, the error rate is increasing, but remains at a comparatively very low level.

Insights from the case studies

An example of **an action plan to reduce error rates had been reported for Spain**. The error rates decreased from 4.93 to 2.7% in 5 years (and much more from 2011 onwards), not only due to an increased number of controls, but also because of the implementation of an action plan, which included measures to improve the quality of the system of controls (such as training of public servant and beneficiaries, improved reports and documents, guidance, IT tool improvements, revision of the sanction system, etc.). Precise costs are not available, but the measures listed are likely to bring some relevant administrative costs.

Suitability of IACS for rural development measures

In general, the IACS framework is reported to be **suitable for area-based rural development measures and no major specific problem has been detected** on this regard. Moreover, there are no major differences in the way Member States manage IACS in relation to rural development measures compared to the way they manage the system for direct payments (Pillar I). In some cases, the responsible bodies are the same in both situations. In other cases, the distribution of responsibilities is more complex. This has implications for the total administrative burden for design and implementation, or at least for the cost distribution (but the effects are not necessarily linked to the IACS *per se* - some examples follow).

Insights from the case studies

In one Member State, the responsibility of IACS measure controls is shared between the national and regional level boards. No significant increase in control activity (and hence burden) is observed, since the measures are IACS based.

Another Member State adopted a new model for AECM payments in 2015, the so-called collective approach. Before 2015, payments were granted to individual farmers, endorsing certain commitments, to compensate them for all or part of the additional costs and income foregone resulting from the commitments made. That model led to a low share of participation on high productive soils, as the AECM payment was insufficient to compensate the higher compliance costs (mainly due to higher income forgone, so lower profitability of participation) of these soils. In the new model, AECM-payments are now awarded to regional cooperatives of farmers (the collectives) instead of individual farmers. The agri-environmental-climate commitments are specifically focused on the conservation of species of the Birds and Habitat Directive and only farmers in habitats that are favourable for certain species can apply for AECM payments. In this model, the collective is the beneficiary and acts as an intermediary between the paying agency and the farmers. The payments are maximised according to the highest compensation rate allowed (based on cost incurred and income foregone) and fixed based on the agreement between the cooperatives and the regional government.

In a third example, of a regionally organised country the administrations involved are the same for procedures and management of IACS in Pillar I: the regional governmental body and paying agency for CAP measures. Public officers of the territorial delegations carry out controls: the same control team carries out controls for both the Pillar I and rural development programmes, hence control procedures are not outsourced for RD measures. Cross-compliance controls are carried out by another department.

The organisations involved in the implementation of IACS based RDP measures for a Member State implementing measures 10, 11 and 13 are:

- **Regional Councils.** They have been designated as EAFRD managing authorities for the 2014-2020 period (on the previous programs, the managing authority was the State and there was only one national rural development program). They are in charge of the writing of the RDPs, the steering and coordination of all actors involved in the implementation, and the monitoring and evaluation of measures. As regards the implementation of IACS based RDP measures, Regional Councils are responsible for launching the call for projects, the selection of agri-environmental schemes and the establishment of requirements specifications (updated yearly as for measures 10 and 11). They are also involved in the configuration of regional parameters for measures 10 and 11 in the IACS .
- **Decentralised State services.** These are in charge of processing applications (once farmers have applied online), administrative checks and on-the-spot controls returns. DRAAF The Decentralised State services are involved in the design and implementation of national framework schemes . They also participate in regional committees for the selection of agri-environmental and climate projects and contribute with regional councils to the setting of regional parameters in the IACS.
- The **payment agency** is responsible for on-the-spot controls on second pillar area-based measures (IACS based RDP measures).

These different models reflect different ways of adapting to the implementation of RDP measures based on existing institutional design and responsibility. Based on

the information available so far, it is not yet possible to give a judgement about the different performances and the role of IACS.

Usability of IACS and LPIS to check commitments and room for cost reductions

The extent to which IACS and LPIS are useful to check commitments under RDPs also in the coming programming period **depends on how Member States will choose their future programmes and to what extent the measures would be area-based.**

In general, the ability to better check commitments at lower costs depends on the future quality and availability of information supplementing the LPIS, e.g. new data layers and better monitoring through Copernicus Sentinels' data to provide more frequent images, thus allowing more frequent analysis across time periods. In this respect, evidence from the experience carried out until now strongly depends on the starting point. Concerning digitalisation of processes, responses in the case studies are divided between two main positions:

- Those **countries in which digitalisation was already advanced**, where the new system has brought little effect;
- Those **countries where the system is new**, in which costs are higher but also value added from the new system are more often recognised .

There are **diverging opinions about the extent to which satellite based information can improve the quality of checks and reduce**, to a relatively high extent, **costs** of monitoring Rural Development commitments.

Insights from the case studies

A Member State using satellite based information to a high extend, indicated that they can decrease costs. However, the views of paying agencies in other Member States show that, on the one hand side, geo-tagged pictures could be improved to make it possible to identify crops (with current IT tools, it is not always possible to identify crops according to the period and the type of crops). Therefore, the requirements should be adapted to the quality of the geo-spatial pictures.

Two Member States identified no cost savings due to the fragmented agrarian structure and high levels of cloud coverage. As a result, a dual system of controls that still includes traditional on-the-spot controls would still be required in addition to any controls managed via Sentinels satellites. Other Member States identified technical issues, such as new technologies/satellites not being able to measure things that move, such as cattle.

In addition, new technologies require appropriate legislation changes ensuring their consistent use. One paying agency is expecting to use drones in the future to carry out more controls, but do not expect to have any efficiency improvement/saving from this solution.

Methods to overcome lack of controllability of certain environmentally valuable commitments

Overall, the controllability and verifiability of measures is duly discussed and taken into account when designing the schemes. Therefore, there is **often no clear evidence of explicit problems of rejection of measures due to non-verifiability or non-controllability** (but such information is hidden in the details of the process).

Insights from the case studies

In several cases, it is explicitly stated by local experts that there were no commitments that were not accepted because they were considered non-controllable. On the contrary, one paying agency gave examples of types of operations that have been discarded due to controllability issues. These are:

- An AECM type of operation on permanent grassland for the protection of ground breeding birds was proposed, that would oblige farmers to start mowing from the centre of the plot and spiral outwards;
- A minimum animal stock per area was suggested. However, too much effort was required to perform the physical checks of animal stocking density;
- For the mountainous region, a payment for areas with natural constraints dependent on animal stocks was considered (maintenance of alpine pastures).

In order to overcome this issue, **additional simplification and flexibility would be essential**; more complex requirements can only be implemented if control requirements are reduced. Indeed, this highlights the point of the risk that **Member States only design measures that can be easily checked rather than those that result in the greatest benefit**. However, given the current (local and EU) legislative framework, it does not seem possible to overcome this issue.

4.5 Administrative burden: farmers' perspective

About 2% of the total of aid received	Not perceive a substantial increase since previous programming period
Compliance cost of higher relevance than administrative burden	GSAA is considered as a useful tool
Admin burden higher when several applications necessary (Pillar II)	

This section considers the administrative burden borne by farmers. It identifies the key aspects adding administrative burden for farmers and provides estimates for the burden in terms of time spend and costs for farmers. The section further provides qualitative information on the perceptions of farmers on specific schemes and tools and suggests possible improvements for the future.

Farmers' perspectives on administrative burden were collected through semi-structured interviews of 122 farmers distributed more or less evenly over the 12 Member States selected for the case studies. The sample is reflective of the diversity of the agricultural sector in the EU. It covers farmers with various

characteristics, including different farm sizes and participation in different support schemes.

4.5.1 *Farmers' understanding of the definition of administrative burden*

People might have a different opinion on what the term "administrative burden" entails. Interviewers therefore asked farmers about their understanding of the term. Most interviewed farmers understand administrative burden as various **obligatory, recurrent tasks as well as the time needed for their execution**. Such tasks may include registration of agricultural practices (e.g. for use of phytosanitary products or animal registration) or completing an aid application. However, many farmers refer to any type of paperwork, bureaucratic process, or office work as administrative burden. Some interviewees also identified CAP penalties as part of administrative burden. None of the interviewed farmers confused administrative burden with compliance costs or any other unrelated types of costs.

In Member States with a longer CAP tradition, farmers generally perceive such CAP-related tasks as 'part of the job'. In contrast, some farmers, mostly from the newer Member States (EU13), are not fully aware of CAP processes and the workload these entail. Furthermore, when administrative tasks are 'outsourced' to private companies, cooperatives or other associations, farmers often have no clear perception of the associated administrative burden.

Among interviewed farmers, there are some aspects of administrative systems that appear to cause confusion:

- As **national authorities administer CAP payments**, some farmers do not make a distinction between EU and local administrative requirements;
- Where **tasks linked to the CAP resemble other administrative tasks**, farmers do not always distinguish between CAP-related administration (e.g. completing an annual declaration for CAP payment purposes) and other administrative requirements and constraints (e.g. to comply with other EU directives, or to apply for technical programs linked to an agri-environment measure, etc.);
- With **unclear separations between EU rules and national implementation choices**, one-in-ten of interviewed farmers stated that they did not understand all CAP payment rules, including the distinction between EU and national-level rules implemented by local administrations. For example, in transmission or creation cases, both national and EU administrative requirements must be fulfilled; first, to establish clearly that the farmer owns or rents the parcels (national level) and, second, to record them in the CAP digital system (EU level). In this kind of situation, each step creates an administrative burden that may not be clearly separated in the mind of the farmer.

Interviewers discussed administrative burden with farmers in detail to avoid any confusion and clearly distinguish burden stemming from CAP related activities from other activities. This ensures that results from the interviews are comparable across farmers and countries.

Where part of the time was clearly allocated for different purposes (e.g. checking the regulation on phytosanitary), it has been deducted from the time spent on

administrative burden for IACS aid (only 4 cases). Other than this, we took the option to keep all the data, including extreme value as it gives an information on farmers' perception even when it seems overestimated.

4.5.2 Sources of administrative burden

A distinction can be made between costs for farmers related to administrative activities and compliance costs. Only the former will be considered in this analysis and was therefore discussed during interviews.

Farmers identified several administrative tasks which are linked to the CAP aid, ranging from filling in forms, to double-checking information and time spent on official controls. Across the interviews, **five main activities** were identified:

- 1) The filling in of aid applications, either online, on paper, or in an administration office;
- 2) The collection of important documents, to keep an oversight and have documents ready if controls occur;
- 3) Checks of data, i.e. the comparison of data from IACS with data from the farmers' own records;
- 4) Measurement of land to provide correct information in the applications, an activity that is less frequent but usually very time-intensive;
- 5) Modifications to land areas in IACS, which may involve the redrawing of parcels and can be time consuming.

Generally, farmers do not spontaneously include activities related to controls (such as collection of documentation, attending the controls) as part of the administrative tasks related to aid management. However, even if they are no regular activities, the preparation for and participation in controls can represent a significant administrative burden on farmers.

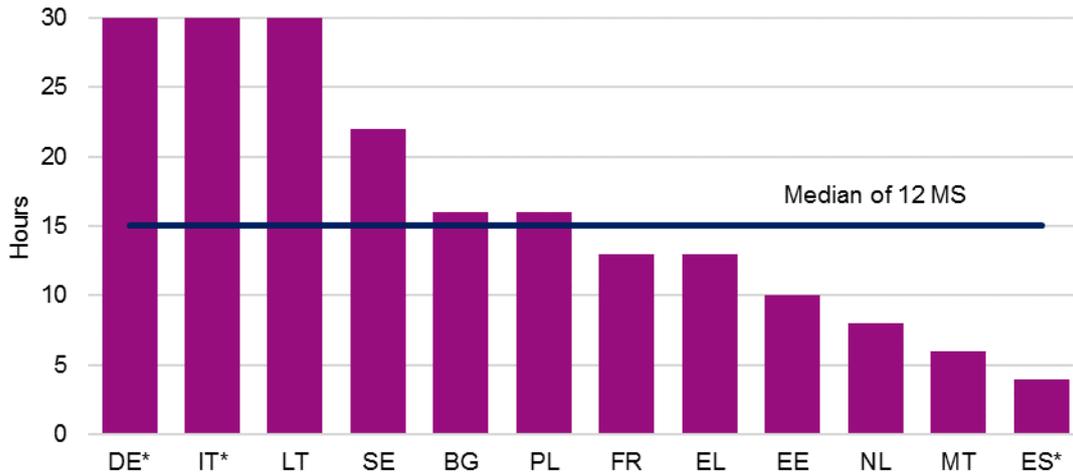
Many farmers rely on external support for the aid application and management. Support can be provided by cooperatives, associations, banks, or other entities and might shift the administrative burden in terms of time spent from farmers to the external support. The analysis therefore also differentiates between costs for internal activities and external services.

4.5.3 Estimates of time spent on CAP related administrative tasks

Overall time spent on CAP related administrative tasks

For the whole interviewed sample of farmers, the **median time spent on CAP-related administrative tasks is 15 hours per year**. This includes all the time the farmer, potential family members or paid workers spend on administrative tasks. However, the time farmers report varies significantly. The minimum of declared time ranges of 0.5-5 hours per year to a maximum range of 260-350 hours. The median time per Member State ranges from 4 hours in Spain to 30 hours in Germany, Lithuania and Italy (see figure below).

Figure 28: Median number of hours spent in administrative tasks

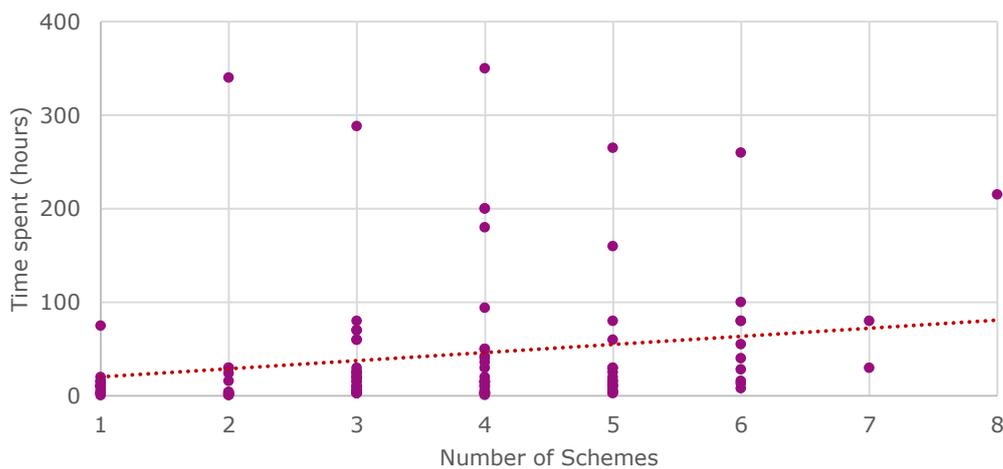


*Bavaria (DE), Emilia Romagna (IT), Andalusia (ES)

Source: Farmer interviews

Several factors might explain the variation in the time farmers spend on administrative tasks. For example, farmers owning larger farms (measured in UAA) tend to face greater administrative burden in terms of hours spent. In addition, the time farmers spend on administrative tasks also increases with the number of schemes under which they receive aid (see Figure 29), as the overall complexity of the application process increases. Farmers receiving aid under one scheme spend on average 14 hours on administrative tasks, while this number increases to about 40 hours for farmers receiving aid under five schemes. **The help of external consultants does not appear to have an effect on the administrative burden on farmers in terms of time spent.**

Figure 29 Relationship between the time spent on administrative tasks and the number of schemes



Source: Farmer interviews

In the interviews, farmers provided additional factors that could influence the overall time spent on CAP related administrative tasks:

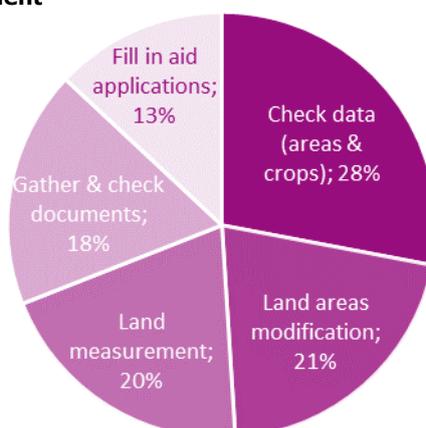
- Applications related to Pillar II measures are generally considered more complicated and time consuming than for Pillar I measures;
- Gathering and preparing documentation can be very time consuming for some farmers, particularly documentation on animal health and crop protection;
- Specific regulatory requirements, including the registration of fertilisers or crop protection practices, can require significant work;
- Checking the accuracy of pre-filled aid application forms, including verifying field measurement, is reported by some farmers as taking a lot of time;
- Submission of applications can be time consuming if farmers need to travel repeatedly to local administrative offices.

Breakdown of the time spent on CAP related administrative tasks

The **time spent on the five main activities** related to the aid administration ranges on average between 5 and 11 hours. Filling-in applications is less time-consuming, whereas the time associated to land measurement is the highest. As regards aid application, in Estonia, France, Greece, Malta, the Netherlands, Spain and Sweden only one application is submitted for all schemes. In other Member States, different applications have to be fulfilled each year, usually, one application for direct payments and one application for each Pillar II measure.

Overall, the checking of data and activities linked to the modification of land areas takes up almost half of the time farmers spend on the aid management (see figure below). With approx. 13%, filling in the aid applications accounts for the smallest share of time farmers spend on administrative activities linked to the CAP.¹³²

Figure 30 Breakdown of time (number of hours) spent on the main activities related to aid management



Source: Farmer interviews

In most cases, the **time spent on controls** varies between one or two hours to half a day, depending on the type of control. Animal controls, Pillar II controls and cross-compliance controls are mentioned as being the most time consuming. Particularly for animal controls and cross-compliance, the time required for

¹³² Note that it was not always possible in interviews to clearly differentiate between the five tasks. Thus, there might be some overlaps between the five main activities and they are not completely mutually exclusive. Consequently, the shares presented in Figure 23 should be treated with caution and present estimates.

preparation, which mainly consists of gathering the relevant information, is greater than the time spent on the control itself (one to two days of preparation for half a day of control).

Typically, farm owners have the main responsibility for aid-related administrative tasks; from the interviewed sample, **farm owners account for 83% of the total time dedicated to aid administration** (ranging from 47% in Lithuania to 100% in Malta and Sweden). The most frequently mentioned activities carried out by farmers are filling-in aid applications, followed by land measurement. Other activities include gathering and checking documents, checking data (areas and crops) and modifying areas.

4.5.4 Estimates of financial costs of administrative burden for farmers

Using the information of the interviews, it was also possible to monetise the administrative burden for the farmers of the sample. The analysis differentiates between

- **internal costs**, that is the value of the time spent by farmers, their families and employees on administrative tasks; and
- **external costs**, i.e. costs for externalised services.

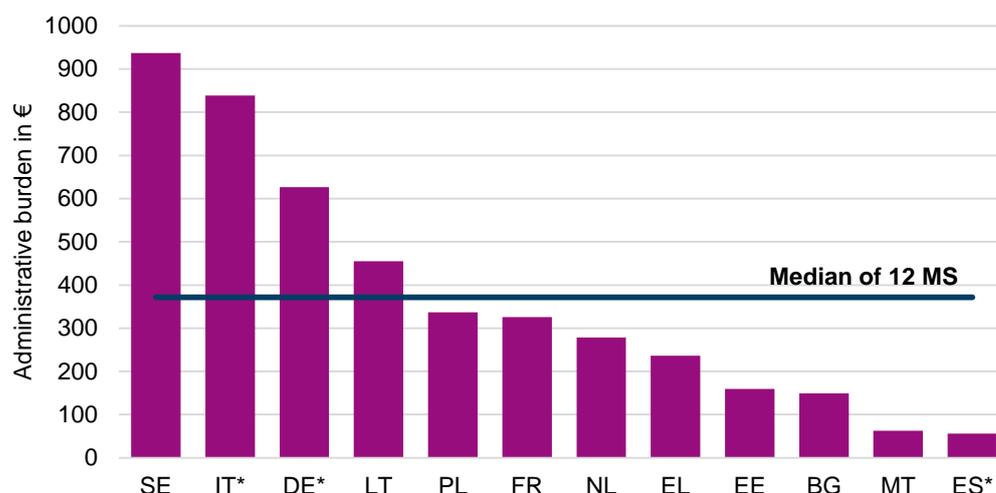
To estimate the internal costs, Eurostat data on the hourly labour cost (hourly earnings plus non-wage labour costs and 25% overhead) for skilled agricultural and fishery workers were used. These values were multiplied with the amount of time indicated by farmers in the survey (see above). During the interviews, farmers were asked to estimate their external costs in local currency. To allow for comparison, the costs were then transformed into Euro.

Total costs for CAP related administrative tasks

The total estimated cost of administrative burden ranges from €12.5 in Malta to €10,308 in Germany¹³³ per year. Overall, the median total costs are €236 per farmer and year. The highest median values per country are observed in Sweden and Italy. The lowest median costs are found in Spain and Malta (see figure below). This estimate combines internal costs (i.e. the monetised time spent by the farmer, their family and employees) and external costs (i.e. costs for externalised services). For three quarters of the sample, the estimated total administrative burden is less than €1,000. For 90% of the sample it is below €2,000. Excluding extreme values, the average cost related to aid administration is about €220.

¹³³ In this case, the cost mainly come from external services, and it is possible that it includes other services than just the aid management.

Figure 31: Median amount of costs related to IACS aid in €

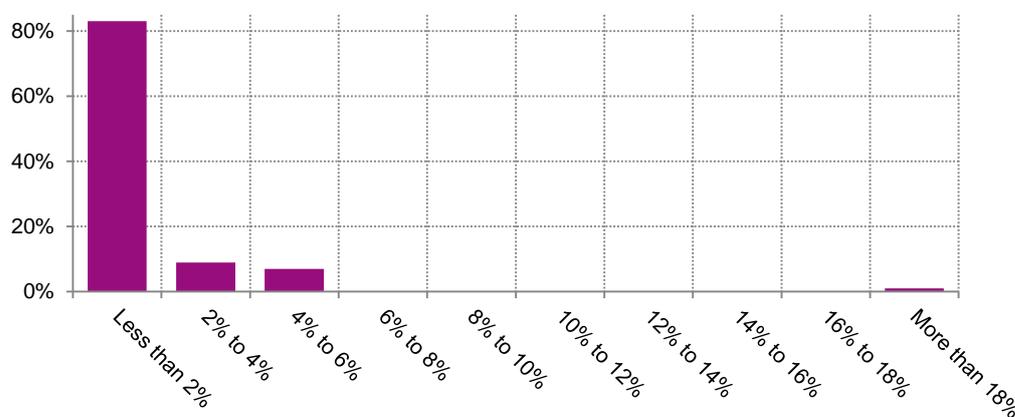


*Bavaria (DE), Emilia Romagna (IT), Andalusia (ES)

Source: Farmers interviews

As a proportion of total farm costs, the median cost share for CAP-related administrative burden is estimated at about 0.4%. For about 85% of all interviewed farmers, administrative burden stemming from the CAP accounts for less than 2% of total farm costs. Comparing across Member State, the median administrative burden cost share varies from 0.05% in the Netherlands to 0.7% in Lithuania.

Figure 32 Distribution of observations for the ratio administrative burden / total costs (%)

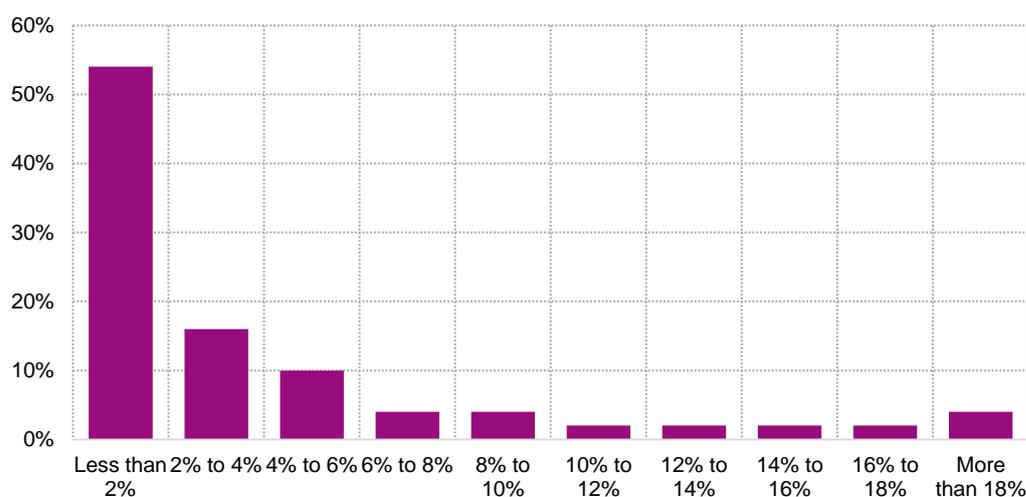


Source: Farmer interviews

As a proportion of total CAP aid received, the median cost of administrative burden is estimated at 2%. For around 54% of interviewed farmers, the cost of administrative burden represents less than 2% of the total aid received. It is below 4% for more than two thirds of all farmers. Situations where the cost of administrative burden represents more than 10% of the total aid received arise mostly where farmers declare significant own time for aid administration in combination with recourse to external support and limited aid received (i.e. less than a few thousand euros).

Across countries, the median of the ratio of the cost of administrative to total aid received varies from 0.3% in Spain to 5.7% in Estonia. Both France and Spain have significantly lower median values for the ratio of administrative burden costs to aid received than is observed in other Member States. In France, the relatively low amount of time spent on administrative tasks for aid applications can be attributed to electronic aid application systems that are quick to complete, while received aid amounts are relatively high. In Spain, it is related to the fact that farmers often receive assistance from their banks for no additional cost (or the cost is included in the general fees paid to the bank).

Figure 33 Distribution of observations for the ratio administrative burden / total of aid received (%)



Source Farmer interviews

Adding these costs to the administrative costs of administrations means a rough total in the range of 5-6% of administrative burden of the CAP. It needs to be noted however that such an aggregation has to be treated with care given that the farmers survey is not based on a representative sample, focuses on administrative burden and not compliance costs and captures overall costs and not only those emerging from IACS-related measures.

Breakdown of money spend for CAP related administrative tasks

For the **internal administrative tasks** carried out by the farm owner, family members, employees, costs of administrative burden range between €8 and €7,308, with a median of €178. For about 80% of the farmers, the estimated cost is under €750. Lower internal costs typically arise when administrative tasks are 'outsourced' to an external provider and, consequently, the farmer (or other people working on the farm) has little involvement in the aid administration. As described before, the burden in terms of hours spent on administrative tasks is greater for large farms and farms which receive aid under several schemes. This translates into higher internal administrative burden in absolute terms, but not necessarily as a share of aid received.

Within the sample, 43% of the farmers use **paid external support** for aid-related administrative tasks. This support is frequently provided by cooperatives or

professional organisations and, to a lesser extent, by banks or other service providers. Often, such services are covered through membership fees of cooperatives or included as part of bank charges. Use of external support appears more prevalent in Italy, Spain and Sweden, where aid applications are rarely done internally. In Bulgaria, Greece, Lithuania and Poland, more than half of the interviewees use external support. While external support is used by less than 30% of interviewed farmers in Malta, France, the Netherlands, Germany and Estonia.

The highest observed costs of administrative burden are usually found for among farmers that make use of external services provision, though costs of external services probably also cover services other than aid administration. External support costs, vary considerably within the sample and range from €4 on average in Bulgaria to €6,500 in Lithuania.¹³⁴ Among those farmers using external support, half pay less than €620 and 72% less than €2,000. Where high costs are observed, these may be due to additional services, such as administrative support for control, accounting or bank services, beyond support provided for the CAP aid applications.

Specific cases of high administrative costs are associated to various changes to parcels and aid systems:

- Parcel-related changes include creation of new parcels, transfer of parcel ownership, or other changes affecting parcel registrations. For the latter, while digitalisation of registration systems can generate time savings for routine activities, it can require more effort when implementation of new or revised registration software is required;
- Changes in compliance rules can create additional administrative costs. This is a reason for some farmers to ask for consistent rules at least throughout a specific programming period;

A particular irritant for many farmers arises when they are required to repeat or resupply information that has already been provided; for example, filling in new forms information that has been previously supplied or re-drawing parcels limits. In Member States with a highly digitised systems, complaints tend to focus on parcel limit issues, whereas for Member States with “paper-based” systems, complaints about fulfilling in forms are more frequent.

4.5.5 Farmers’ perspectives on specific tools and instruments

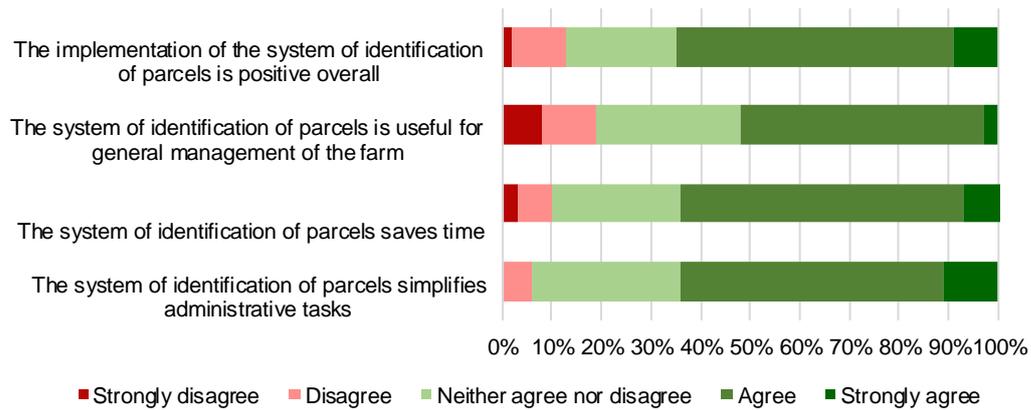
Farmers’ perspective on LPIS

Although LPIS is free of charge and free applications are provided by national authorities in some Member States, many related applications and programmes are supplied on a commercial basis. From the limited information collected from farmers, the medium cost for such applications is estimated at around €600-€700 per year.

Within the sample of interviewees who responded to the question, a majority of farmers indicate that **LPIS contributes to a reduction of administrative burden**. Nearly two-thirds indicates (‘agree’ or ‘strongly agree’) that LPIS saves time and/or simplifies their administrative tasks.

¹³⁴ A higher number of respondents indicated they use outsourcing for a variety of tasks in Lithuania.

Figure 34 Perceived benefits of LPIS



Source: Farmer interviews

However, farmers do not appear to utilise the transferability of the information as much as possible. Only one third of the farmers using LPIS indicate that they use the information from the system for other digital or manual farm management applications and tools. Where this is done, LPIS data is usually used for technical management of parcels (rotation and history, fertilisation management, rearing management, etc.). Here, farmers appear to rely on software provided by private companies or professional organisations.

Technical challenges relating to the use of LPIS mentioned by interviewees include, for example, difficulties in transferring data from one tool to another or the need to duplicate work. Some farmers indicated that they prefer “the old way” in order to avoid “mistakes”.¹³⁵ Several farmers said that they do not use LPIS because other services (banks or cooperative) do it for them.

Farmers’ perspective on GSAA

Within the sample of interviewees responding to the question, **two-thirds of farmers consider that the GSAA is a useful tool**. In Member States where it has been operating for several years (France, Spain, Germany, Greece, Estonia), farmers have a very positive opinion of GSAA. In Member States where use of GSAA is more recent, not widespread, or where it is implemented exclusively by administrations (Poland, Malta, Lithuania, Bulgaria, the Netherlands), views on its usefulness are more divided.

Among farmers using the GSAA, there is a close to even split between those submitting their aid application autonomously and those using external support. In France, Germany and the Netherlands, most farmers indicate that they do not have specific difficulties with GSAA and do not need external support. In these countries, when external support is used it is usually for a final check to make sure that no mistakes have been made. Sometimes, administrations provide free support but it is not always available to all farms (e.g. support is reserved to old farmers or

¹³⁵ In several interviews, farmers expressed their mistrust in digital tools: less control than with ‘paper method’, fear that in the medium- long term, farm history will not be saved (with the paper note book, all past practices and decisions are simply recorded and stored, with the digital data, no one knows how much time present hardware and software will be in use).

smallest farms). In Malta and Bulgaria, administrations provided almost systematic support for farmers to make their aid applications. In Italy, applicants are always helped by agricultural advisors, while aid applications in Spain are always made by an external service provider, either a cooperative or bank, with the cost included in the membership fees or bank charges. Generally, farmers with limited computer skills will often prefer to use external support to submit their applications, as will farmers that want to be sure of the conformity of their applications.

Among interviewees that stated an opinion, two-thirds of farmers consider that GSAA is 'user friendly'. In Member States where the tool is widely used, farmers recognise that improvements have been made since the first implementation of GSAA and the use of computer forms is preferred to paper applications.

Farmers with a negative opinion, tend to underline that the application is not intuitive to use and could be improved, thereby reducing learning times. Furthermore farmers often pointed out that the usefulness of GSAA is hampered by their limited computer skills and, accordingly, their needs for training and support, other farmers point to internet connections that make use of the technology very slow, in particular when approaching the deadline for submitting the application. Some farmers also mentioned as a 'technical problem' the fact that further filling in of applications can be blocked when a small error is detected. Also, a few respondents consider it difficult to obtain assistance from the administration when needed. Finally, some farmers consider that having information in a paper form is a safer back-up than digital storage.

One specific source of dissatisfaction arises when, in some cases, satellite pictures give different results for field calculations, which requires reinvestigation by authorities and farmers and adds to the administrative burden.

Opinions on the impact of GSAA on farm productivity and on the suitability of the system for all farmers are mixed. Interviewed farmers largely have a positive opinion on the GSAA compared to the paper system, with the main advantage that GSAA saves time, in particular due to pre-filled information, and due to the reactivity of the system when changes or updates have to be made. Many interviewed farmers also mentioned that GSAA limits the risk of error in relation to warning systems. Some respondents also point to time savings from reduced travel needs, while some think that it allows payment to be made more quickly. A further advantage comes from the possibility for several persons to work on the forms, while the availability of historical data is also appreciated.

Farmers' perspective on greening

Findings from the interviews indicate that **administrative burden related to greening mostly stems from compliance with requirements and declaring EFAs**, rather than from submitting an aid application. Almost all farmers that benefit from exemptions indicate that submitting the aid application for greening did not result in a higher administrative burden, as it forms part of the application for direct payment and is automatically informed through the areas declaration.

Around 55% of interviewed farmers subject to greening obligations do not identify additional administrative tasks related to their greening payment. Among them, many report that it is not possible to isolate an extra-cost, as submission is included in the annual aid application and data (crop, surfaces) are also used for direct payment calculation. The remaining 45% tend to identify additional tasks linked to compliance with greening requirements rather than to the aid application itself.

The main compliance requirements mentioned by interviewed farmers include maintaining permanent grassland and creating ecological focus areas; i.e. compliance with rules on prohibitions of phytosanitary products and fertilisers, sowing and ploughing dates in areas declared as EFAs, in particular for catch crops. Tasks linked to creating an EFA tend to imply a heavy workload in the first year of implementation of the system but become more systematic and less burdensome thereafter.

Beyond compliance requirements, the main administrative task mentioned by farmers is the measurement and declaration of areas corresponding to EFAs. The complexity of this task depends on the agricultural system; for example, breeding farms with important permanent grassland seem to have less difficulty to comply with greening requirements and thus, a more limited administrative burden. In some cases, during the first year of implementation of greening, farmers were provided with training (usually for a half-day) by the administration.

Overall, greening is seen as a quite complex scheme, particularly as concerns the definition and rules applying for EFAs. However, **criticisms of greening mainly relate to the scheme definition** rather than to the associated administrative burden. The objective of the measure is not always well understood and its environmental value added is sometimes questioned. Moreover, the calculation of the financial amount corresponding to the greening payment is not well known. In terms of compliance, requirements for sowing or ploughing dates are considered as being too rigid, as well as conditions on pesticides and fertilizers use. In some cases, to be sure to reach the 5% criteria, greening requirements led farmers to dedicate land to EFAs, by converting it to set-aside.

Concerning aid administration itself, the level of accuracy required for the declaration of EFAs has been mentioned as an issue, with the introduction of a tolerance threshold perceived as a good option. Numerous farmers also ask for a stability of the scheme across the programming period; for example, changes (increase) to the percentage of EFAs generates additional work for farmers needing to identify new possibilities on their farms.

Farmers' perspective on penalties

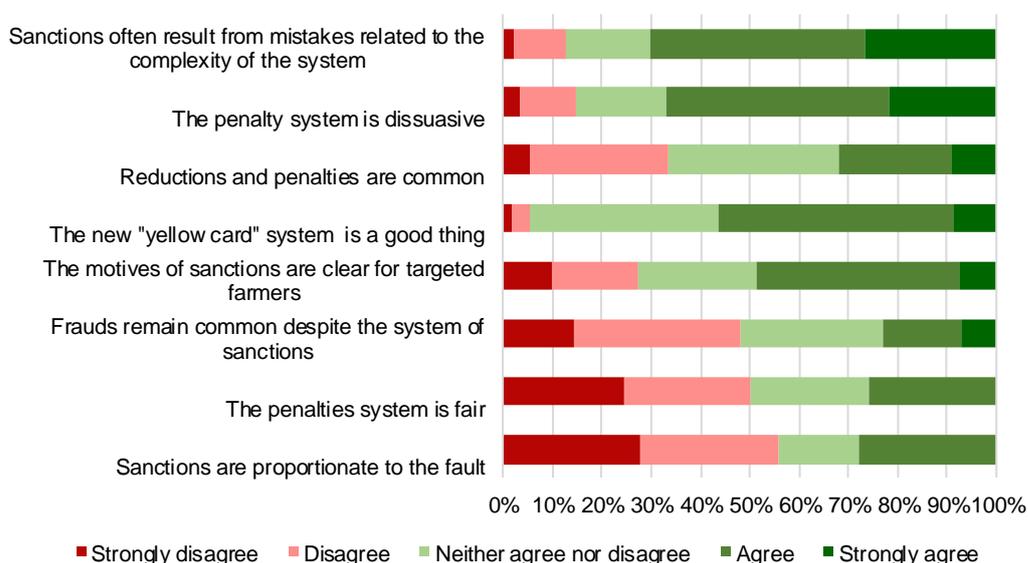
Findings from the interviews indicate that most **farmers consider that penalties are too high**, as mistakes are mostly involuntary and linked to the complexity of the system. Only half of farmers indicate that they know precisely how their payments are calculated; although the rate varies between Member States, from 20% in France to over 70% in Italy and Germany. Among reasons for lack of understanding are: errors in national digital system for payments, the complexity of certain situations (addition of many measures to be paid and the fact that no

detailed information is communicated when payments are made), and overlaps of two or more application years.

Only a third of interviewees stated that they are informed about their payment calculation by an official letter. For interviewees stating that they understand their payment calculation, common information sources are advisors, information leaflets, explanations given by state agency, specialised press, calculation given when declaration is made, legal documentation and Internet.

Similarly, only one third of interviewees understand how penalties are calculated, mostly because they never had to face such a situation. Notwithstanding this limitation, although not contesting the principle of penalties, most farmers think that penalties are too heavy and that punishment is disproportionate to mistakes. Only 22% of interviewed farmers agree that sanctions are proportionate.

Figure 35 Opinions on penalties



Source: Farmer interviews

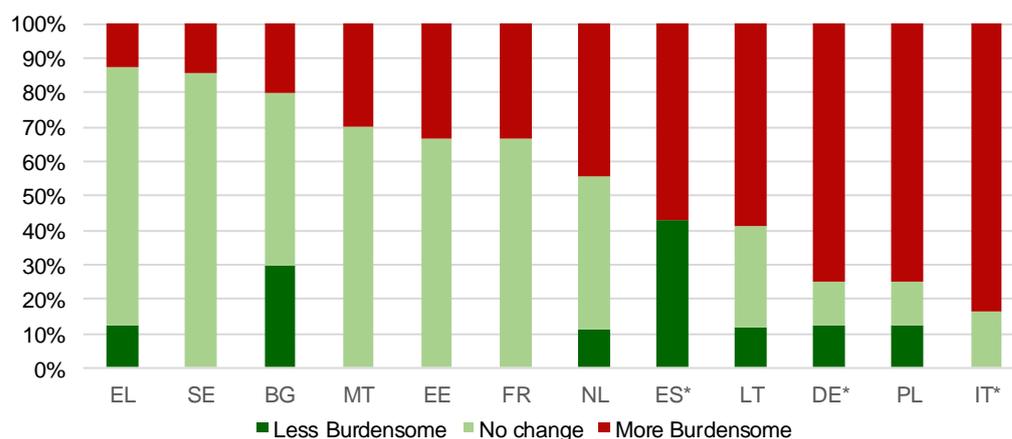
Farmers criticise that compliance rules are very complex and lead to involuntary mistakes in declaration or implementation. 61% of farmers declare that they agree or strongly agree with the statement that sanctions often result from mistakes related to the complexity of the system. Especially procedures for the delimitation of parcel are often seen as problematic, as different field measurement tools may provide different results. This is seen as an automatic source of dispute and an issue for which farmers would like to see a legal threshold of tolerance.

Finally, farmers think that penalties' system is very dissuasive and limit frauds (59% of farmers). They also state that the system can cause stress if farmers are not sure if they complied with all the rules and fear that an involuntary mistake will make them lose a significant amount of aid.

Changes in administrative burden by 2013 CAP reform

Findings from the interviews indicate that **only a minority of farmers think that the administrative burden has decreased since 2015**, with new rules and new requirements (greening, cross-compliance) contributing to a greater burden in many cases. Overall, a large majority of farmers indicate that there has either been no change or an increase in administrative burden. However, as shown in the figure below, there is substantial variation in the balance of responses across Member States.

Table 21: Answers to the question "How has the administrative burden related to direct payments and IACS-based rural development measures evolved since 2015?"



Source: Farmer interviews

The main elements that are considered to have increased the administrative burden on farmers are:

- **New rules and requirements**, both in general and in particular for greening, cross-compliance and insurance applications: it takes time for the new rules to be assimilated by the administration and then by farmers; new rules are perceived as creating increased complexity, especially when the administration itself does not seem to fully understand them;
- **More paperwork**, despite the development of IT tools as more documents are required for administrative checks and OTSC;
- **Delays in payments**;
- **Increased quantity and accuracy of data requirements**; in particular for land measurement.

Conversely, where farmers identify improvements, they link these to enhanced online application systems.

4.5.6 Future CAP and opportunities to reduce administrative burdens

The analysis shows that on average **the administrative burden for farmers**, in terms of time spent and costs, **remain at reasonable levels**. However, there are specific situations where they can be disproportionately high compared to the amount of aid received. More specifically, the system is efficient when:

- The farming system is simple;
- Parcels boundaries do not raise issues (e.g. overlaps with neighbours, difficulties to precisely identify the limits due to specific landscape characteristics, fragmented parcels, etc.);
- The farm benefits from a limited number of CAP measures, especially under the Pillar II;
- There is no change to declare; and
- The relationship with the administration is good.

It can become more burdensome for farmers when:

- Parcels limits are complicated or when they change;
- The farming system is complex;
- The farm benefits from various aid schemes;
- The farm is small;
- The relationship with the paying agency has deteriorated.

There are opportunities during the development and implementation of the future CAP to address some of the administrative burden issues identified from the survey of farmers and wider study:

Tailoring Solutions to Farmers' Needs

Administrative burden depends on several factors, and there is not one solution which will reduce the burden for all farmers. Rather, a tailored approach is necessary which is reflective of the differences across farmers, farm holdings, and types of administrations.

Dependent on the Member State or region this could require authorities to undertake or refresh **segmentation analysis** of the beneficiaries so that solutions can be tailored to their needs. This could be performed on the basis of the size of the holdings, the complexity of holdings (livestock, arable, permanent crops, mixed), the number and the types of schemes as well as the payment value. The analysis has highlighted that all of these factors affect the administrative burden for farmers. In addition, solutions will vary for beneficiaries, more exactly for

- those making direct electronic applications (including those using technological aids or farm software for other parts of their business),
- those using agents or other intermediary bodies to submit their claims electronically, and
- those who need assistance to submit their claims or submit them on paper forms.

The analysis identified several key areas of considerations for Member States:

- There is a significant variation in the levels of electronic uptake between Member States. In some instances all key transactions are managed electronically, whilst in other cases take up is extremely low (less than 1%). Supporting the farming population sufficiently could require structural and infrastructure improvements, such as improving the access to broadband services in remote rural areas;
- The cost for this external support is a major variable that need to be factored into the solutions Member States provide. We found that costs ranges from an average of €4 to €6 500 between the Member States surveyed. Half of the farmers pay less than €620 for this service, but costs were more than 10 times higher for individual cases. The variability observed is mainly due to the scope of the support contract concerned. Member States will need to reflect whether beneficiaries will perform tasks themselves or if they opt for options to outsource administrative tasks;
- The level of local physical support for farmers in managing transactions and applications can act as a disincentive to using electronic tools. For instance, some Member States provide "Front Office" facilities to farmers. While these offices present an easy access-point for farmers to receive or communicate information, they can also present an obstacle to the development of more advances online tools;

Each solution should have a **tailored advice and support service** to farmers which should include support on filling in applications, regulatory and interpretational guidance and mapping changes. Member States will need to recognise that some of the opportunities presented by technology such as fewer physical OTSC may reduce the opportunities for farmers to have face to face dialogue on rule interpretation and other issues. Training and support will need to be enhanced for those with limited computer skills to encourage greater electronic enablement and use of innovations such as GSAA. Technology also allows new opportunities to reach and educate, such as interactive on-line tools and videos.

Use of Technology Enhancements

For those farmers and beneficiaries that have direct or indirect access to electronic services, there are a range of measures that should be encouraged and used to reduce the administrative burden for farmers:

GSAA

GSAA provides several attractive features for farmers, including on-line crosschecks with paying agency databases and instant anomaly warnings. These features can help to reduce mistakes in declarations. It also reduces the number of errors and checks paying agencies need to perform between receipt of the application and the payment. Therefore, GSAA has the potential to speed up the whole payments process. GSAA could also reduce travel time and allows several people to work on one application or to update data.

Sentinel and other remote inspection and monitoring tools

Physical OTSC and other controls add burden on farmers who need to be present. In the future, a greater share of controls could be performed remotely. In-person inspections could then focus on specific anomalies rather than more general and comprehensive checks. This in turn would reduce the burden for farmers and most likely also for authorities.

The move to a monitoring approach however and the frequency with which Member States receive, interpret and update changes in land use will make changes in control data on farms far more dynamic than some farmers are familiar. Member States will need to train and support farmers in the consequence of the move to monitoring systems and clarify the obligations for farmers to minimise any administrative burden in the transition period.

Geo-tagging

Geo-tagging provides for an **effective means to reduce the burden on farmers from physical controls**. It allows to clarify eligibility anomalies under controlled conditions without the need for a field inspection. It is also a value-added supplementary route to provide secondary information for certain crops or schemes such as details of seed labels. However, its use is not without challenges. Technical capacity needs to be stepped up to provide an authoritative set of images that can be used to assure the accuracy of control or declared areas. This may limit its usefulness in some Member States where technology skills are not yet sufficiently developed. Again, Member States and paying agencies will need to invest time and effort to provide help and support so that benefits can be realised.

Integrated farm technology

Member States and paying agencies collect and maintain a significant amount of spatial and other data which they primarily use for control and monitoring purposes. The amount of data is likely to increase in future as monitoring systems will be embedded and new schemes established. These data have **the potential to provide added value to farmers if made available**. For example, in areas such as precision farming these data could help farmers obtain information they may be unable to source by other means or only at significant cost.

Some farmers expressed frustration that **while control data are available, it is often too difficult to transfer these to other applications**. For instance, only a third of LPIS users use the system to feed other digital applications used in farm management (or manual management tools). Others were able to access software solutions which make use of LPIS data to manage parcels (e.g. rotation and history, fertilisation management, rearing management, etc.). These tools are developed by private companies or national professional organisations. The limited information collected from farmers show that the medium cost of these services is around €600-€700 per year. In some Member States, free applications are provided by national authorities.

To maximise the potential benefits for farmers, Member States should seek opportunities to provide access to data where possible. They should work with farmers, third parties and commercial companies to ensure that farmers can obtain

and integrate these data into wider farm management solutions as cost-effectively as possible.

Procedural and Administrative Enhancements

The forthcoming reforms introduce the potential to reduce the administrative burden on farmers. These opportunities can arise either from the new regulations itself, or from Member States adapting their national procedures and policies. The national approach will become even more important. The move towards national Strategic Plans places greater responsibility on Member States to define appropriate monitoring, control and administrative systems and processes. The Strategic Plan requirement also obliges Member States to explicitly identify the steps and measures they aim to take to simplify the rules and to reduce administrative burden for beneficiaries. The following sections explore options how to further enhance the procedural aspects.

Preventive approach

There has been a move from a detective control approach to more preventative control approach. Farmers are encouraged and assisted to get their applications right before submission or adhere to control deadlines. This approach needs further development to help farmers avoid penalties and delays.

The study found that several Member States adopted an approach where farmers were encouraged or required to update and **confirm key data on an on-going basis**. This reduces the amount of anomalies found and the effort required to manage these. As control data gets updated more frequently, the level of in-year change will increase. This further emphasises the benefits for farmers who will be able to access and manage their holding data on an on-going basis rather than in the relatively short timeframe of applications.

Member States have established **alert systems** to notify farmers by e-mail or text when they have deadlines approaching if farmers did not demonstrate compliance. For instance, one Member State contacts farmers two weeks before a mowing deadline to remind them, using spatial information to locate the areas concerned. The stated aim of the Member state is to expand this feature to crop group identification and to explore other potential uses, including the detection of nitrogen fixing crops and cultivated fallow land.

Payment Transparency

Farmers interviewed appear to have a **limited understanding** on the level of **penalties** and their rationale. In addition, the overall calculation of the **value of payments** was also not fully clear to many farmers. Calculations are often complex and require clear explanation. An overall Direct Payment can be composed of several elements from different schemes, each with their own penalty calculations. Rates of aid and entitlement values dynamically changed each year in a number of instances. Elements of this (such as a greater application of the use of payment capping and redistribution of funds) will persist in future. Member states should ensure that their technical solutions and approaches allow easy access for farmers and that that calculations and any penalties are clearly explained and easily understood.

Simplification of Proposals and Applications for Funds

Both the interviews with farmers and the study identified opportunities to reduce administrative burden for farmers by simplifying proposals and applications for funds:

Farmers **identified the application for IACS Rural Development Measures as the most burdensome**. In particular, the process to initially access and have multi-annual measures and commitments approved account for around 80% of the total administrative burden measured. Member States should target this as an area for simplification in their Strategic Plans.

Member States that integrated annual IACS aid and payment claims into a single application process showed greater efficiency and administrative benefits for farmers. Member States should seek opportunities to minimise the amount of duplication that farmers have to undertake when making their applications and claims.

Regulatory Enhancements

Similar to procedural enhancements, the analysis points towards regulatory enhancements that could reduce the administrative burden for farmers.

Stability of Rules and Transitional Measures

Farmers provided clear feedback that there was **a greater burden upon them as a consequence of the frequent changes of the rules of the CAP**. The interviewed farmers also note that the rules are regularly adjusted throughout each programming period. This may be due to regulatory changes, but could also result from clearer or revised interpretations of requirements by Member States. Nevertheless, changing rules after few months or few years of implementation are a cost driver and increase the administrative burden for farmers. The objective should be to keep the regulatory framework as stable as possible through the programming period and to reflect on the potential additional administrative burden of changes if these are necessary.

Transitional measures could help to reduce the administrative burden for farmers. Farmers often suffer from a (in their view rushed) implementation of major regulatory changes within short timeframes. This results in imperfect or delayed IT solutions, incorrect or delayed payments. The introduction of the forthcoming changes involve significant scheme changes and a change in approach, where Strategic Plans delegate more competences to Member States. These changes should be introduced over a timeframe providing administrators and farmers with sufficient time to prepare. Suitable transitional measures should be put in place to ensure that farmers continue to get legitimate access to payments in the meantime.

Clarity of Regulatory Changes

The study highlighted issues where **different CAP measures might be overlapping or incoherent** (e.g. AEC measure, greening and cross-compliance). This creates a risk for double funding, increases "grey zones" and raises confusion among farmers and beneficiaries. Avoiding these overlaps and inconsistencies could enhance clarity and reduce administrative burden. The reforms propose a modified

approach to the current regime where cross-compliance and elements of greening are combined under “conditionality”. In addition, a new ECO-scheme is introduced to be tailored by each Member State and the IACS-related Rural Development Measures are largely retained. There is a risk that these arrangements will perpetuate or even increase the described issues for farmers. It is important that farmers are provided with clear opportunities and obligations to ensure this risk is avoided.

Farmers criticised that the stacking of different rules related to CAP instruments and the lack of transparency in controls increase complexity and the risk for penalties. Many of the responses in the interviews indicate that the burden related to Greening is considered to be disproportionate to its environmental impacts. Specific reference is made to the definition of Permanent Grassland and the Ecological Focus Areas. Farmers expressed their opinion on opportunities for simplification. They ask for more flexibility when implementing environmental measures and in a more results-based approach, which has the potential of being more effective.

Regulatory Simplifications and Tolerances

The study identified **simplification opportunities** to reduce the administrative burden on farmers whilst taking a proportionate view of overall risk to EU funds. These include:

- The introduction of de minimis levels of up to 100 m² per ineligible feature;
- Enhanced use of permitted tolerances around the levels of precision required;
- Further development of the use of the “yellow card” system, a more proportionate and simpler penalty regime;
- Potential aid threshold below which requirements for farmers controls are simplified.

Farmers expressed concerns that complex, incomplete or ambiguous national legislation can lead to inefficiencies and confusion. This translates in significant time losses to interpret and understand requirements and can lead to higher error rates. Opportunities to address these issues include the following:

- A discretionary timing and of payment claim deadlines and penalties at Member State level, rather than centrally legislated;
- A more flexible scheme calendar: strict deadlines can significantly increase the burden to implement and perform controls without contributing to the reliability of the system;
- Greater use of flat rates within Rural Development Measures through flat rates;
- Greater reliance upon or use of national or private certification organisation by Member States either to access confirmation of eligibility, such as organic schemes, or as alternatives to inspection where these bodies perform similar assurance checks for their own purposes.

Impact of Proposed Regulatory Changes on Administrative Burden on Farmers

Elements of the proposed regulatory changes have the potential to have a significant impact on the administrative burden placed on farmers in the future:

- The potential for Member States not to use payments entitlements. This could greatly reduce the administrative burden for farmers who have to manage their entitlements and have to report entitlement transfers to other farmers;

- Several proposals could increase administrative burden, such as rules on “genuine farmers” and the proposals for payment reductions. This would translate into additional proof of eligibility or the manual reduction of payments based on complex criteria.

5 Conclusions and recommendations

Considerable efforts to simplify the CAP have been made over the past decades and will continue in the years to come. These have included policy level initiatives through the amendments made as part of the Omnibus Regulation in 2018. At a technical level, Member States are also working together to share best practice experiences and identify opportunities for simplification and modernisation; for example, through the CAP “Learning Network” or regular conferences such as “Panta Rhei” for IT. The application of ICT solutions and the use of advanced GIS tools offer great potential for simplifying CAP systems and procedures and, thereby, reducing the administrative burden for both administrations (Managing and Paying Agencies) and beneficiaries. Administrative burden will also be affected by the introduction of new interventions as well as the move towards a more results-based policy. Similarly, the increased flexibility and responsibility given to Member States will have implications for the future costs of managing and controlling CAP expenditures.

The following sections provide the key findings from this study including their implications for future policy as well as the overall conclusions

5.1 Key findings and implications for future policy

Overall, 94% of expenditures under the European Agricultural Guarantee Fund (EAGF) and 53% of expenditures under the European Agricultural Fund for Rural Development (EAFRD) are subject to IACS system and cross-compliance controls. For Member States’ competent authorities, total annual administrative costs of IACS are estimated at between €1.7bn and €1.9bn, corresponding to 3% – 3.3% of the CAP budget or 3.5% - 3.9% of IACS managed CAP budget. Compared to other funds, the administrative cost of CAP is below the overall rate for European Structural and Investment Funds (ESIF), which are estimated at 4% of the public expenditures. It is also below the administrative costs of the EU, which represent around 6% of the total EU budget. Within this amount, 14% is attributed to annualised set-up costs¹³⁶, 12% to running costs, and 74% to management and control costs.

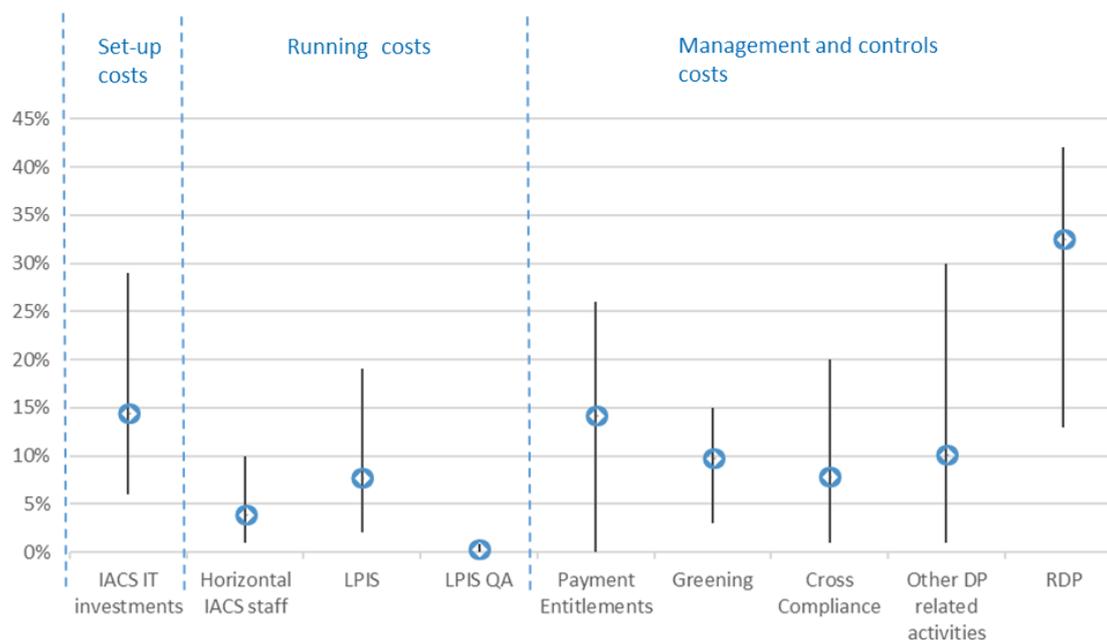
For the EU as a whole, the average annual cost of IACS administration is estimated at €10 per hectare of Utilised Agricultural Area, with a range across Member States from €2 to €200 per hectare. Administrative costs per hectare of UAA are particularly high for small MS.

When compared to the previous programming period, and excluding set-up costs, IACS-related administrative costs are estimated to have increased by one third; with a range at the level of Member States from an increase of 15% to as much as 60%.

¹³⁶ Corresponding to total cumulative set-up costs over a seven-year period divided by seven.

Within management and control costs, the main cost items are staff costs related to rural development (~ 32% of the total costs), payment entitlements (~14%), greening (~ 10%) and cross-compliance (~ 8%). Case study findings suggest that administrative checks represent about two-thirds of control costs (excluding IT costs), primarily due to time spent on manual checks (see Figure below).

Figure 36 Breakdown of IACS related costs borne by national administrations



Control costs are higher for Pillar II measures and environmental schemes than direct payments. Although previous studies have suggested that Greening is a major driver of higher administrative costs (set-up, management and control), the present study could not separately identify administrative costs for Greening, as these tend to be incorporated in the administrative costs for direct payments and overall investments. For cross-compliance, the main sources of costs of Statutory Management Requirements are: personnel costs, IT investments, and risk analysis. For GAEC, the main cost sources are on-the-spot-controls and risk-based sampling.

Implications for future policy

Robust and more comprehensive monitoring and assessment of IACS administrative costs would be facilitated through establishing an agreed set of comparable data metrics and a baseline calculation of administrative costs for each Member State/paying agency. This would facilitate better reporting and evaluation of cost changes resulting from future policy and implementation reforms, which could be measures against the established baseline cost estimates.

Improved measurement of time-related costs of IACS administrative tasks and activities would support more robust and accurate assessment of IACS administrative costs, while providing administrations with improved information on the staffing needs and costs of different administrative tasks. To this end, administrations could be encouraged to develop monitoring frameworks to keep track (over an extended period) of the time spent for different administrative tasks.

Undertaking an ex ante assessment of the task requirements – i.e. new tasks and changes to existing tasks – for implementing changes resulting from legislative reforms could support better assessment of their cost impact, and help to identify areas where new rules impose significant additional administrative burden, and where it may be appropriate to assess options that could deliver a better balance between costs and benefits of changes to legislation.

Institutional arrangements from Member States (centralised operational model with a single paying agency or regional model) have a significant impact on the administrative costs of IACS. To the extent that a decentralised model inhibits economies of scale or raises transaction costs (e.g. through less cost-effective and more burdensome administrative structures and processes) it can introduce additional overhead costs.

Choices over information technology solutions and systems architecture are another area with an important bearing on administrative costs. When faced by major reforms, both the level of integration and the modernity of IT systems affect the speed and cost of development and adaptation of administrative systems. Member States covered by the study reported development cycles of between one and four years, with an average of three years for implementing changes to meet the requirement of the CAP reforms. Using packaged solutions can have the advantage of sharing the costs of development, reducing and simplifying integration development and testing costs. However, there is a risk in exposing administration to high costs and managerial challenges by introducing major changes to IT when CAP reforms are being discussed.

Implications for future policy

MS should be encouraged to share best practice around system development lifecycles and innovative approaches that have the potential to speed up IT delivery times and reduce administrative burdens. Member States should carefully assess the impacts of IT changes with respect to major regulatory change. *Panta Rhei* is an appropriate forum for this.

The study finds that establishing an IT module for registering payment entitlements did not pose any particular difficulties for Member States, which were often able to adapt existing IT systems. The main sources of difficulties have come from the initial allocation of entitlements and the ex-ante determination of eligible area. Some Member States also struggled with the technical definition and assessment of eligibility of active farmers, young farmers and new entrants, as well as the validation of land for the national reserve.

The study finds that a variety of set-up factors affect the cost structure of Member States, ranging from geographic considerations (e.g. mountainous areas), historical factors (e.g. continuity of funding), structural conditions (e.g. regionalisation), technological advancements (e.g. adoption of GSAA) to political ambitions (e.g. environmental conditions). Particularly the latter combined with flexibility in the interpretation of legal prescriptions, fears of auditors and lack of alignment between stakeholders lead to what is often interpreted as gold-plating. Concrete examples of gold-plating could however not be quantified in this study as it is often the outcome of intentional choices with expected benefits (and can as such not be declared

“unnecessary”) or overcompensated by other implementation decisions. A particular role therein plays the adoption of technologies (including technological uptake).

Excluding compliance cost related to the implementation of CAP measures, the estimated burden of CAP administrative requirements for farmers corresponds to about 2% of total of aid received. Contrary to administrations, most farmers do not report a substantial increase in their administrative burden due to the rules and new requirements (greening, cross-compliance) introduced by the CAP 2013 reform. For farmers, compliance with greening regulation generates greater costs than the administrative burden from submitting their aid applications. In those Member States with experience of GSAA, the system is considered as a useful tool for farmers that provides time savings compared to a paper system. The administrative burden for farms is higher when several applications need to be made, particularly where Pillar II applications are involved, and when the farm has complex land plots requiring extra effort to check and/or modify pre-filled land areas.

The study finds that changes aimed at simplifying obligations on farmers can sometimes lead to additional administration costs for Member States needing to adapt IT systems (e.g. yellow card). For the administration, the retrospective element is considered particularly difficult to implement. Also, Member States indicate that they frequently find it necessary to initiate developments of their IT systems based on assumptions made in advance of regulations being agreed, which can necessitate subsequent adaptation causing implementation delays.

Implications for future policy

Continued engagement with and among Member States is important to identify cost-efficient approaches for implementing CAP regulations and reforms. Consideration should also be given to the length of development cycles for the IACS IT system, and the IACS annual cycle, to ensure that IT systems can be developed and/or adapted in time to meet the entry into force of new legislative provisions.

Both administrations and farmers view the LPIS as an important tool for reducing administrative burden. LPIS quality has improved greatly since its inception, mostly due to technological advances in aerial photography such as higher resolution images and more frequent acquisition. Similarly, the LPIS QA is seen as a positive influence on overall quality and accuracy. Of the LPIS models in use, the Agricultural Parcel (single crop) and the Farmer’s Block are regarded as the most effective for administrative checks due to the tighter delineation of eligible land and the direct link to a particular beneficiary. However, in terms of administrative maintenance cost and efficiency, the Physical Block system is more stable, with faster and cheaper update requirements.

The GSAA system can substantially improve cost-effectiveness at national/regional level, bringing benefits in terms of time saving and better information quality, providing stable information at farm and land parcel level. The cost savings due to GSAA vary between Member States depending on the timing of its introduction. Compared to Member States with GSAA in place for several years, costs of controls are about 50% higher in Member States that have only recently implemented GSAA. Given that the majority of Member States are recent adopters, the full

benefits of GSAA are not yet visible. Nevertheless, there appears to be a general consensus that GSAA reduces errors in aid applications, increases the uptake of electronic applications, reduces digitisation costs, and reduces administrative and on-the-spot controls.

Practical use, together with pilots and evaluations, has shown the impact of Sentinel monitoring systems in reducing administrative burden, including: the potential to simplify the annual claims process, increased accuracy and simplification of farmers' aid application, with the opportunity to replace on-the-spot checks, which are required to cover 5%¹³⁷ of applications". The introduction of Sentinel monitoring poses some challenges: monitoring via satellites may require significant additional specialised labour; Sentinel is unlikely to fully replace other forms of imagery used to accurately validate parcel boundaries and features, particularly parcels of less than 0.5 ha, which could create additional administrative costs. Sentinel is most likely to be cost-effective for Member States with large numbers of farmers and corresponding high volumes of checks.

Spatial software tools used in tandem with Sentinel imagery use probability assessments where land changes are flagged as potential anomalies often using "traffic light" coding. The higher the level of probability required then the greater the number of potential anomalies that may require follow up or investigation. This in turn can drive up administrative costs and burdens for both administrations and farmers.

Implications for future policy

To derive the benefits of monitoring and investment in spatial software tools, probability levels for the investigation of anomalies by field visits or other means should be set at proportionate levels between the cost-effectiveness of the control and providing assurance to the fund

Geotagging technology is seen as a promising addition to the tools for spatial and technical monitoring, providing an effective means to monitor areas that are not fully covered by imagery and for validating crop types and features, while providing administrative savings for farmers. However, challenges exist, such as the technical skill needed by farmers, and ensuring that technology applications are tamper-proof. Benefits arising from the use of drones are seen to be more marginal, with their most realistic use being for targeted campaigns on specific areas where physical access is difficult for traditional on-the-spot controls. Drones are considered less cost-effective than other technologies (e.g. geotagging, Sentinel, robotics) and they face legal and privacy limitations. Robots can be usefully deployed to check calculations and evaluate applications; a robot can handle a daily workload of 6 employees evaluating more than 400 applications.

Implications for future policy

Member States should examine the cost-benefit opportunities presented through the integration and optimisation of new technologies in the administration and control systems.

¹³⁷ Lower control rates are permissible in certain circumstances - in accordance with Article 36 of Regulations 809/2014

To incorporate results-based RD schemes, IACSs need to be expanded to enable access and cross-checking of secondary databases, which may be managed by other state bodies. This requires developing new solutions fitting to new measures, and providing new interfaces to external data sources required for independent validation, which may not be available in a format suitable for performing automated checks. Where this is not possible, manual administrative checks and/or physical validation in the field will still be required to confirm results. Feedback from organisations that have trialled result-based approaches or are considering them indicates that implementation of ambitious result-based schemes may be difficult. In particular, results-based measurement requires solid indicators (accuracy, reliability, precision, timeliness etc.) that can be difficult to obtain for aspects such as water pollution, carbon storage, etc.

Implications for future policy

When designing CAP strategic plans, Member States should be encouraged to take account of the technical and information requirements for monitoring of results-based interventions, including estimation of the associated administrative costs. These estimated costs should be included in the overall assessment of the cost effectiveness of proposed interventions.

The study included a wider survey of Member States that was conducted in September 2018. The survey revealed high levels of uncertainty about the possible administrative burden of the CAP post 2020. The following points were highlighted by the survey:

- System development and set-up of new systems will most likely continue to place an important burden on administrations. There are concerns over high development costs necessary to establish adequate monitoring systems, which are likely to be additional rather than replacement systems. There is also concern about the costs of transition from old to new rules and control systems;
- The CAP post 2020 is expected to lead to additional data collection requirements for information that is not currently being captured; for example, data collection will be required for the set-up of Farm Sustainability Tool for Nutrients or Eco-Schemes;
- Accompanying the proposed new conditionality requirements, several Member States anticipate a shift in the balance of administrative costs away from Greening towards cross-compliance, with GAEC taking up slightly more of the administrative burden than SMR. In addition, if current exemptions on controls for small holdings are abandoned, this would significantly increase the costs of controls of the new conditionality requirements for recipients of direct payments and rural development measures, which would cover a greater number of farmers.
- The proposals covering payment reductions and “genuine farmers” could create additional administrative burdens, particularly due to taking into account salaries, labour costs and incomes in the implementation of these provisions. Collating and maintaining a database of individual salary and labour cost calculations could be administratively burdensome for some MS;
- There are concerns that the inclusion of conditionality rules and eco-schemes will potentially increase compliance costs for farmers.

Overall, Member State recommendations concerning opportunities to reduce administrative burden are consistent with the approach envisaged for the CAP post 2020; for example, greater use of monitoring techniques and other technologies to allow a reduction of traditional inspections. For policy evaluation and environmental monitoring, the proposal for the CAP post 2020 includes possibilities for the re-use the information managed in the IACS system.

5.2 Overall conclusions

This study offers the first attempt to measure and gather evidence on the costs related to the implementation of IACS following the CAP 2013 reform. There are four key lessons learned from this analysis:

- Overall, the **CAP 2013 reform led to an increase of the administrative burden on administrations (managing authorities and paying agencies). This has however, helped to avoid a significant increase of the burden on beneficiaries.** For the administrations, the total annual administrative costs of IACS are estimated to represent around 3% of the CAP budget. For farmers, the share of the administrative burden (without compliance costs) corresponds to about 2% internal costs and 3% if including external costs out of the total aid received. Adding up all administrative cost estimates would lead to a rough total in the range of 5-6% of administrative burden of the CAP. It needs to be noted however that such an aggregation has to be treated with care given that the farmers survey is not based on a representative sample, focuses on administrative burden and not compliance costs and captures overall costs and not only those emerging from IACS-related measures;
- **There is considerable variation in the costs between Member States.** The cost drivers can vary depending on governance structures and scale (territory covered);
- Increased automation, digitalisation, and **the use of new technologies for management and controls of the CAP are not only expected to create benefits for the future but have proven to do so already.** The use of digitisation, GSAA or LPIS is shown to be a key factor in mitigating a further increase in administration costs. Nevertheless, there are concerns that the CAP post 2020 might not decrease the burden for administration and farmers;
- **Finally, the study reveals that there is limited availability and inconsistency of data on administrative costs related to CAP implementation.** The reduction of the administrative burden of the CAP has been a priority for many years and one would expect a good knowledge base on the topic. The EC has already taken actions to collect information on a regular basis, particularly through the annual survey on costs of controls. This survey, however, focuses only on the costs of measures and does not collect evidence on the drivers of these costs.

Four main recommendations are drawn from these lessons:

Member States should consider the administrative cost implications of CAP post 2020 interventions. Administrative costs assessment should be integrated in Member States' CAP strategic plans. According to article 95(1) of the proposed Regulation¹³⁸, each CAP strategic plans should include "*a description of the elements related to simplification and reduced administrative burden for final beneficiaries.*" The results from the present study demonstrate that the administrative burden of final beneficiaries is interconnected to the administrative costs of the competent authorities. It is thus recommended to consider both the public sector and the final beneficiaries in this section of the CAP strategic plans. The section should also describe the strategy proposed to collect evidence on the evolution of the two costs over time.

Member States should seize the opportunity offered by the proposed CAP reforms to reduce the administrative burden on farmers. In the short term, the EC should encourage knowledge exchange and capacity building to support Member States' efforts to reduce the administrative burden of the CAP. Areas where Member States could work to enhance support and engagement with farmers could include:

- Undertaking or refreshing segmentation analysis of their beneficiaries so that solutions can be tailored to their needs (e.g. segmented by size of holding, complexity or level of technical enablement);
- Offering tailored advice and support service to farmers, which should include support for filling in applications, regulatory and interpretational guidance, and mapping changes;
- Supporting beneficiaries (and their agents) with guidance around more proactive management and resolution of anomalies and the interaction between data from monitoring and their geo-spatial aid applications. They may also need to be trained/guided in the use of geotagging where systems allow this type of submission;
- Using opportunities to provide open access to data, where possible. Member States should work with farmers, third parties and commercial companies to ensure that farmers can obtain and integrate these data into wider farm management solutions as cost-effectively as possible;
- Moving from a detective to a more preventative control approach. Before submission, farmers should be assisted to correctly complete their applications by encouraging or requiring them to update and confirm key data on an on-going basis rather than just at the time of application;
- Establishing alert systems (e.g. email or text messaging) to notify farmers when deadlines are approaching, and farmers have yet to demonstrate compliance;
- Ensuring that technical solutions and approaches are easy for farmers to access and that payment calculations and any penalties are clearly explained and easily understood;

¹³⁸COM(2018) 392 final - Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing rules on support for strategic plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulation (EU) No 1305/2013 of the European Parliament and of the Council and Regulation (EU) No 1307/2013 of the European Parliament and of the Council

- Using opportunities to minimise duplication of activities and information provision by farmers when making applications and claims.

The use of technology should be encouraged as it has a positive influence on the mitigation and/or reduction of the administrative costs. In particular, the adoption of innovations related to Sentinel, geotagging and spatial software capable of automatically interpreting land use and landscape features should be supported. Further development and enhancement of the GSAA also has the potential to reduce administrative burden.

Using new technologies allows a move from a traditional IACS approach of sequential compliance control followed by penalties to continuous monitoring that can proactively provide warnings at application stage and throughout the season to prevent unintended non-compliance.

The combination of Sentinel satellite imagery, spatial software capable of analysis and assessing the eligibility of features and land uses based upon probability assessments and geotagged photography under controlled conditions together present the opportunity to minimise the need for traditional on-the-spot controls:

- The move to monitoring introduces significant cultural and business process change for administrations especially during the transition from the use of imagery updates provided cyclically over a period of up to three years (which will need to continue in tandem for boundaries and other areas of eligibility) to provide continuous monitoring. This is likely to produce short-term spikes in activity which will need to be managed and will require a different approach once this transition has been achieved.

Those Member States that have systems designed to allow or to require beneficiaries to update details of their holding on a continuous basis are likely to have a smoother transition and less cultural change to manage than those systems that deal with most changes as part of annual aid application submissions. Key areas for consideration in establishing and agreeing national strategic plans and guidelines for Member States will be:

- Ensuring that there is an appropriate agreement of residual risk. Audit control expectations or fear of financial corrections could negate the benefits from investments needed to establish and maintain these systems;
- Tailoring of solutions to meet the specific needs of Member State and the interventions they chose to implement. Each Member State will have different geographical and climatic conditions that will influence environmental, cross-compliance and rural development measures. IT solutions that are capable of easily identifying, capturing and maintaining spatial and non-spatial data sources tailored to specific local needs are likely to be well placed to support future requirements.

Finally, the EC could consider establishing a reporting system to track the evolution of CAP administrative costs. As the proposed reform for the CAP post 2020 introduces more flexibility in Member States' implementation choices, it is urgent to initiate the development of such a framework to avoid inconsistent cost recording approaches. The methodology implemented in this study, including the new LPIS Cost-Effectiveness Framework, provides a basis for the establishment of such a recording system.

As part of the study a cost framework was developed for use in those Member States participating in case studies to seek to identify specific costs and areas of administrative burden. It became clear that Member States had no standard method of identifying their costs and rarely detailed costs at a disaggregated level. If there is an ambition for meaningful recording of administrative burden going forward Member States should be able to use and report using a common framework. Such a framework could have the following elements:

- Build upon and adapt the cost and cost effectiveness models used in the study;
- The ability to separately identify development costs from running costs at an aggregated and disaggregated level;
- Be able to track benefits and savings over time, for instance reductions in costs of administrative and on-the-spot checks;
- The ability to model estimated costs of change as well as account for the actual costs of implementation;
- Be capable of identifying aggregate costs by Member State and costs per region with an agreed method of apportionment of centralised costs;
- Have an agreed methodology that allows the apportionment of costs where they are not easily itemised. Likely metrics could include headcount with a common method of apportioning direct and indirect numbers and costs e.g.:
 - o Fully dedicated to IACS work; (e.g. LPIS digitiser, caseworker);
 - o Partially dedicated to IACS work; (e.g. Co-ordination or senior paying agency and policy management roles);
 - o Overheads (e.g. Finance, HR, IT support and maintenance etc.);
- Metrics could also include units of work. For instance, the following:
 - o average time spent per type of control;
 - o the number of checks and transactions performed per application period;
 - o average transaction times (e.g. entitlement transfer, land transfer, aid application).

The model should come with a comprehensive user and support guide. It would be sensible to work with some willing Member States in the development phase to identify and resolve implementation issues. There is also the potential to build on the work done in this study to develop a standardised model to quantify the administrative burden and the impact of simplification of farmers and beneficiaries. This could be used to support contributions by Member States towards regulatory obligations in Strategic Plans going forward. Both should be capable of being adapted for use for other non-IACS areas of CAP expenditure where there was an identified beneficial use.

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