EU CAP NETWORK

Farm competitiveness and market orientation

CAP Evaluation Insights

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EU CAP NETWORK

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List of acronyms

AECM	Agri-environment-climate measures
CAP	Common Agriculture Policy
CMEF	Common monitoring and evaluation framework
EIP	European Innovation Partnership
FADN	Farm Accountancy Data Network
FNVA/AWU	Farm net value added per annual working unit
FTE	Full-time equivalent employment
GHG	Greenhouse gas
LFA	Least favoured area
PDO	Protected Designation of Origin
PMEF	Performance Monitoring and Evaluation Framework
PSM	Propensity score matching
QCA	Qualitative comparative analysis
RDP	Rural Development Programme
SO	Specific Objective
TFEU	Treaty on the Functioning of the European Union
TFP	Total factor productivity

Glossary of rural development measures

M3	**Quality schemes for agriproducts and foodstuffs**
M4	**Investments in physical assets**
M4.1	Investments in agricultural holdings
M4.2	Investments in processing/marketing and/or development of agricultural products
M4.3	Investments in infrastructure related to development, modernisation or adaptation of agriculture and forestry
M4.4	Non-productive investments linked to the achievement of agri-environment-climate objectives
M6	**Farm business development**
M6.1	Business start-up aid for young farmers
M6.2	Business start-up aid for non-agricultural activities in rural areas
M6.3	Business start-up aid for the development of small farms
M6.4	Investments in creation and development of non-agricultural activities
M6.5	Payments for farmers eligible for the small farmers scheme who permanently transfer their holding to another farmer
M10	**Agri-environment-climate**
M10.1	Agri-environment-climate commitments
M10.2	Conservation and sustainable use and development of genetic resources in agriculture
M11	**Organic farming**
M11.1	Payment to convert to organic farming practices and methods
M11.2	Payment to maintain organic farming practices and methods
M16	**Cooperation**
M16.1	Establishment and operation of operational groups of the EIP for agricultural productivity and sustainability
M16.2	Pilot projects and for the development of new products, practices, processes and technologies
M16.3	Cooperation among small operators organising joint work and sharing facilities and resources, and developing and marketing tourism
M16.4	Horizontal and vertical cooperation among supply chain actors for the establishment and development of short supply chains and local markets and promotion activities in a local context relating to this development
M16.5	Joint action undertaken to mitigate or adapt to climate change and joint approaches to environmental projects and ongoing environmental practices
M16.6	Cooperation among supply chain actors for sustainable provision of biomass for food and energy production and industrial processes
M16.7	Non-CLLD strategies
M16.8	Drawing up of forest management plans or equivalent instruments
M16.9	Diversification of farming activities into health care, social integration, community-supported agriculture and education about the environment and food
M16.10	Others

European Union (EU) country codes sorted by official protocol order

Member State	Country codes	Member State	Country codes	Member State	Country codes	Member State	Country codes
Belgium	(BE)	Greece	(EL)	Lithuania	(LT)	Portugal	(PT)
Bulgaria	(BG)	Spain	(ES)	Luxembourg	(LU)	Romania	(RO)
Czechia	(CZ)	France	(FR)	Hungary	(HU)	Slovenia	(SI)
Denmark	(DK)	Croatia	(HR)	Malta	(MT)	Slovakia	(SK)
Germany	(DE)	Italy	(IT)	Netherlands	(NL)	Finland	(FI)
Estonia	(EE)	Cyprus	(CY)	Austria	(AT)	Sweden	(SE)
Ireland	(IE)	Latvia	(LV)	Poland	(PL)		

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Questions and suggestions regarding the content of the publication can be addressed to the European Evaluation Helpdesk for the CAP at evaluation@eucapnetwork.eu.

Introduction

Since its inception, one of the fundamental objectives of the Common Agricultural Policy (CAP) has been to strengthen the competitiveness of European agriculture. This goal is anchored in Article 39(1) of the Treaty on the Functioning of the European Union (TFEU), which emphasises the need to increase agricultural productivity and ensure a fair standard of living for farmers while aligning production with market demands.

Over the decades, the CAP has played a significant role in enhancing farm competitiveness by deploying a wide range of instruments. These included direct payments, sectoral support, market measures and Rural Development Programmes (RDP), all designed to help farmers modernise their operations, adopt innovative technologies and respond effectively to evolving consumer preferences and global market conditions. In the current programming period (2023-2027), Specific Objective 2 (SO2) aims to "enhance market orientation and increase farm competitiveness both in the short and long term, including greater focus on research, technology and digitalisation". By supporting increases in agricultural productivity in a sustainable way, the CAP continues to foster a dynamic and competitive agricultural sector within the EU, capable of meeting growing food and industrial demand. [1]

This publication reviews evaluations related to farm competitiveness and market orientation (SO2). These are contained in the CAP evaluation database [2] compiled by the European Evaluation Helpdesk for the CAP in support of the EU CAP Network. Its purpose is to provide a synthesis of findings from Member States' evaluations concerning the effects of CAP interventions on farm competitiveness. These findings are grouped by topic (such as farm productivity, market orientation, and technology and innovation) to identify emerging trends. This publication does not attempt a meta-analysis, which would imply a statistical process of analysing and combining results from several similar studies in order to produce new findings.

The publication also highlights good practices and common challenges encountered during these evaluations, based on a sample of evaluations that have undergone in-depth appraisals by experts in agricultural economics. The aim is to inspire future evaluators by providing references to useful examples and practical ideas for overcoming recurring challenges.

The document is organised in three parts:

1. Overview of the number and type of evaluations related to farm competitiveness and market orientation that have been undertaken in individual Member States.
2. Synthesis and examples of the findings from these evaluations, together with a brief analysis of these.
3. Insights into methodological approaches adopted in a selection of evaluations, which were reviewed in depth, and guidance on addressing common challenges in assessing the CAP's impact on farm competitiveness.

1. Where do we stand?

For this analysis, 49 evaluations published between 2014 and 2024 [3] were identified in the CAP evaluation database [4] (see Annex I). These evaluations, hereafter referred to as farm competitiveness-related evaluations, concern the CAP and its effects on farm competitiveness and/or market orientation over previous CAP programming periods. It should be noted that additional Member State evaluations relevant to this topic may exist; however, these have not yet come to the attention of the Evaluation Helpdesk.

This chapter outlines the main characteristics of these 49 evaluations, which originate from 13 Member States, the United Kingdom, and the European Commission. The highest number of evaluations comes from Italy (18), a regionalised Member State. There are also multiple evaluations from Spain (7), Poland (4), France (3) and the UK (3). For the remaining Member States (Germany, Estonia, Hungary, Lithuania, Latvia, Sweden, Czechia and Ireland), between one and two farm-competitiveness-related evaluations are currently stored in the database (Figure 1).

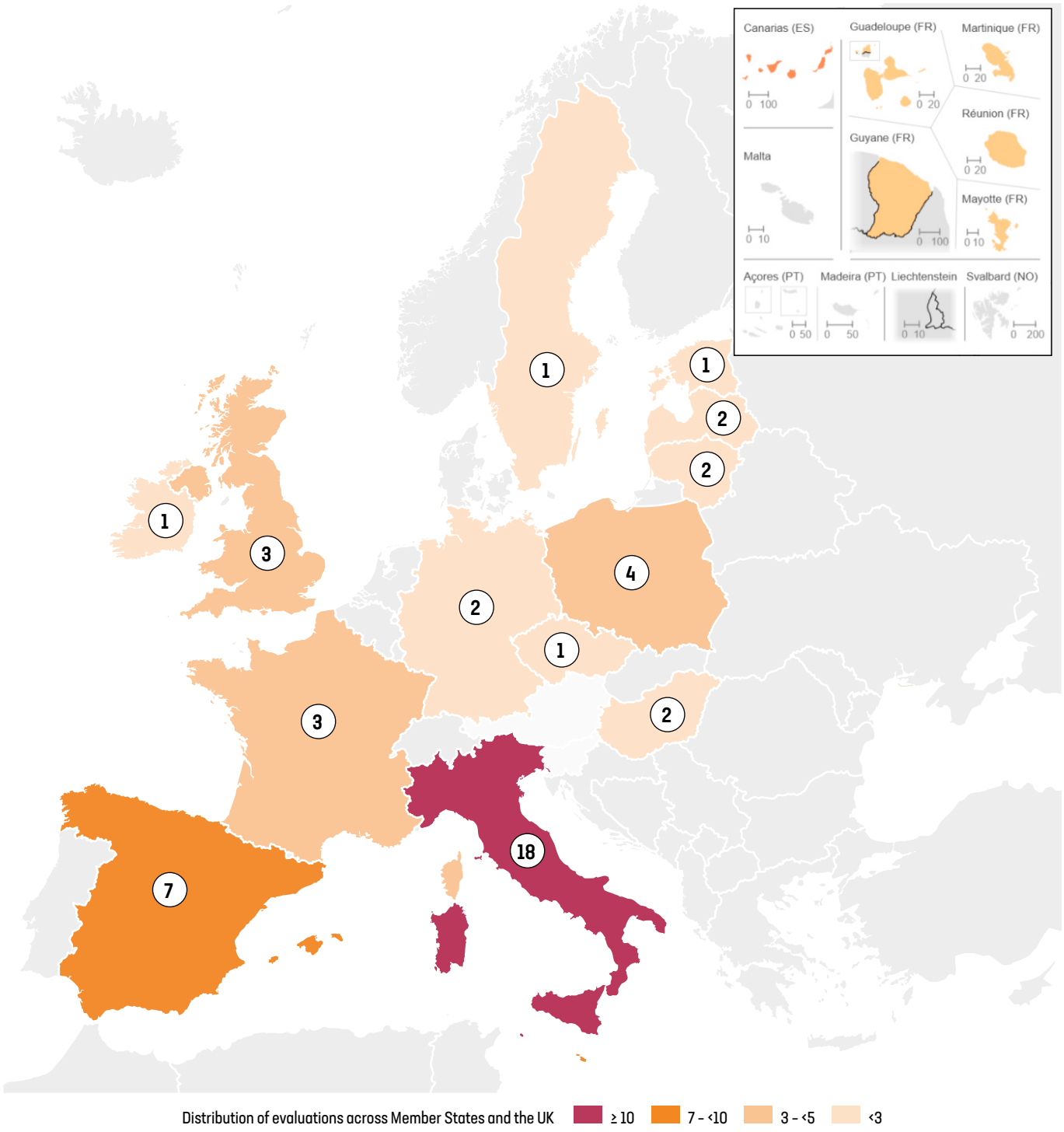
[1] CAP Specific Objectives – Brief No 2 – Increasing competitiveness: the role of productivity. https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-glance/key-policy-objectives-cap-2023-27_en#documents.

[2] These evaluations are published on the EU CAP Network website.

[3] Most of the evaluations were published in recent years, with the majority appearing between 2021 and 2024. Specifically, 3 reports were published in 2024, 17 in 2023, 10 in 2022, and 15 in 2021. Earlier evaluations are less frequent, with a single report published in each of the years 2020, 2019, 2017 and 2014.

[4] The CAP evaluation database of the Evaluation Helpdesk consists of CAP-related evaluations carried out by Member States since the previous CAP programming period (2014-2020).

Figure 1. Distribution of evaluations across Member States and the UK*



* This graph does not include the two EU evaluations.

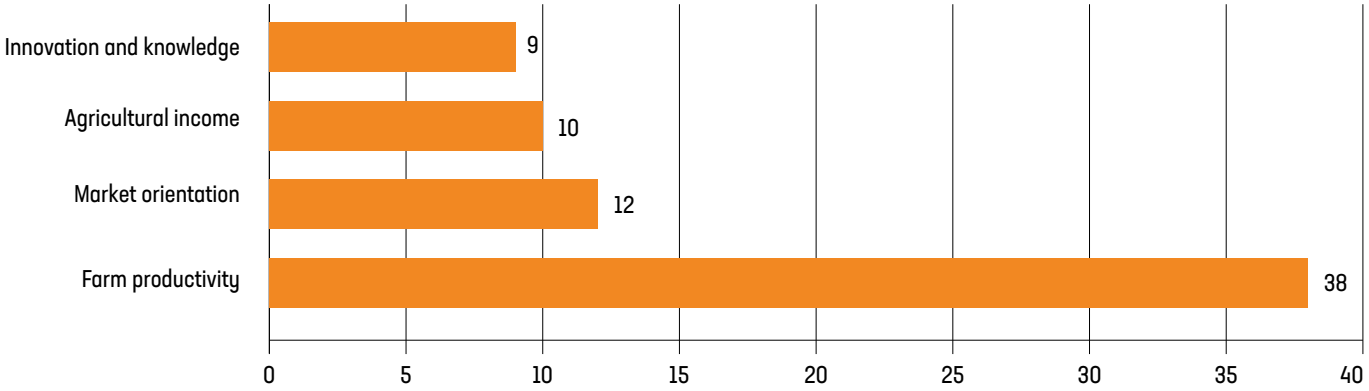
Source: EU CAP Network supported by the European Evaluation Helpdesk for the CAP (2025), based on administrative boundaries ©EuroGeographic ©OpenStreetMap Cartography: Eurostat

Evaluations were selected based on their stated objectives and findings. This includes evaluations explicitly focusing on the CAP's effects on farm competitiveness and/or market orientation, as well as those where farm competitiveness was not the primary focus but was addressed as part of the analysis.

Most evaluations examine the effects of the 2014-2020 CAP programming period and assess achievements against the key priorities defined for that period. The highest proportion of evaluations (18) refers specifically to RDP Priority 2 (farm viability and competitiveness). Fifteen evaluations cover multiple RDP priorities simultaneously. RDP Priority 3 (food chain organisation, animal welfare and risk management) is referenced in six evaluations, while Priority 1 (knowledge transfer and innovation) appears in five. Priorities 4 (ecosystems related to agriculture and forestry) and 6 (social inclusion, poverty reduction and economic development) are each addressed in two evaluations, and Priority 5 (resource efficiency, low-carbon and climate-resilient economy) is mentioned only once. Some evaluations also cover the 2007-2013 programming period. No evaluation considers the CAP effects during the current 2023-2027 programming period.

These evaluations address farm competitiveness from different perspectives (see Figure 2). Among the pool of evaluations, the majority (38) of evaluations covered farm productivity. One quarter (12) addressed market orientation of agricultural production. Ten evaluations also consider agricultural income, which was often examined together with competitiveness under the previous programming period, particularly when assessing RDP Priority 2 (farm viability and competitiveness). Lastly, nine evaluations also examined related topics such as innovation and knowledge.

Figure 2. Topics covered by the 49 farm competitiveness-related evaluations



Source: EU CAP Network supported by the European Evaluation Helpdesk for the CAP (2025)

Evaluations can also be classified by type of evaluation. For this purpose, four categories were identified and are described below (Table 1). Nonetheless, this synthesis primarily focuses on impact-oriented (23) and result-oriented (20) evaluations, in order to provide an overview of the CAP achievements identified in relation to competitiveness and/or market orientation.

Table 1. Farm competitiveness-related evaluations across evaluation types

Type of evaluation	Definition	Numbers of evaluations
Impact-oriented evaluation	Evaluation that captures the higher-level effect (impacts) of a programme/intervention against a baseline situation (with or without a counterfactual approach)	23
Result-oriented evaluation	Evaluation that captures achievements of results by beneficiaries in relation to targets planned, but does not necessarily capture effects against a baseline situation	20
Process-oriented evaluation	Evaluation that assesses how a programme/intervention is implemented (e.g. governance, delivery system, communication, technical assistance, networks)	5
Research study supporting evaluation	Analytical work that supports evaluation without assessing the effect of the programme/intervention (e.g. context analysis, environmental monitoring study, study to develop evaluation methods, identification of data gaps)	1

Source: EU CAP Network supported by the European Evaluation Helpdesk for the CAP (2025)

2. What has been found?

Based on the review of findings in the 49 evaluation studies, this chapter highlights the main effects of previous RDPs for fostering competitiveness and market orientation.

Improved farm competitiveness and market orientation are essential to ensure that significant volumes of EU agricultural products can be sold on EU and world markets. As set out in the EC briefing on SO2 of the CAP for 2021-2027 [5], farm competitiveness and market orientation objectives are all the more important in the context of growing global demand and rapidly shifting consumer preferences and tastes. Increasing agricultural productivity in a sustainable way is thus essential "to meet the challenges of a higher demand in a resource-constrained and climate uncertain world". As detailed below, most evaluations in the database consider changes in productivity as the major indicator for assessing farm competitiveness. Beside productivity [6], other common indicators for assessing farm competitiveness and market orientation are the trend in market shares or the levels of technological and organisational innovation, knowledge management and product quality improvement.

The CAP offers many interventions that can be used to address SO2. Within Pillar 1 support (direct payments), this includes mainly coupled income support and sectoral interventions, while Pillar 2 (rural development) offers several types of investment support, including the potential to use financial instruments, as well as support for cooperation within producer groups or organisations or interbranch organisations. However, since all the evaluations identified relate to previous programming periods, and Member States were at that time required to evaluate only their Rural Development Programs (RDPs), this synthesis reflects exclusively the findings from past RDP evaluations (mainly from 2014-2020 and to a lesser extent, 2007-2013), conducted at EU, national and regional levels. Among these, a large proportion was directly focused on investment support. More precisely, the investment measures that were in scope of the evaluations are in most cases M4.1 (support to on-farm investment) Castilla-la-Mancha (ES) (Ref. 11), Lithuania (Ref. 36, Ref. 37), Lombardy (IT) (Ref. 21), Poland (Ref. 40-43) and Apulia (IT) (Ref. 32) and previous Measure 121 (modernisation of agricultural holdings). However, some evaluations also look at M4.2 (support for the processing, marketing and/or development of agricultural products, while the Lithuanian evaluation (Ref. 37) also analyses the effects of M4.3.1 (support for land consolidation) and M4.3.2 (support for agricultural water management). In addition, several evaluations include the effects of M6 (start-up support). Finally, two evaluations examined the effect of M10 (agri-environment-climate measures (AECM)) on farm competitiveness.

The presentation of the various findings from the evaluations examined is not an exhaustive synthesis of all findings related to farm competitiveness and market orientation, but rather provides some highlights of the main findings from a set of evaluations identified and stored in the Evaluation Helpdesk database. The 49 evaluations differ in scope, objectives, evaluation methods, assumptions and limitations. Moreover, they cover different geographical areas, types of effects and evaluation periods and reflect different study contexts. These differences are not reflected when summarising the findings. Hence, while this chapter provides an overview of the types of findings identified, it does not acknowledge most of the underlying assumptions or consider the context in which these findings were identified. Nonetheless, the presentation of findings from the evaluations shows the variety of topics addressed and aims to encourage the reader to explore the reviewed evaluations further. Although the evaluations in the CAP evaluation database examined effects and impacts related to farm competitiveness and market orientation, these aspects were not always their primary or sole focus.

The findings identified are set out per type of competitiveness indicator (i.e. productivity, market orientation, technology and innovation, product quality improvement). Other indirect economic effects attributed to instruments supporting competitiveness are often identified in the evaluations reviewed, e.g. on farm income and viability, on farm structure and on employment and rural development, as well as effects on the environment and animal welfare. In addition, evaluation findings regarding evaluation criteria other than effectiveness are also presented.

2.1. Effects of the CAP support on farm competitiveness and market orientation indicators

2.1.1. Effect on factor productivity

Total factor productivity (TFP) can be defined as the ratio between the change in production volumes and the corresponding change in inputs to produce them (labour, capital, land, intermediate consumption). It measures the change in the efficiency of production factors and/or technological progress [7].

Overall, EU TFP in the agricultural sector is relatively high but tended to stagnate since 2015 [8], as in other developed countries. In the EU, productivity growth is mainly led by labour and land productivity. Indeed, the agricultural workforce has significantly declined in the last 25 years and labour has been replaced by capital (with consequences on employment and rural development), which explains a significant part of EU productivity growth. EU land productivity (i.e. yields) is significantly higher compared to its main competitors [9], partly due to farmland restructuring. Intermediate consumption includes energy, fertiliser and plant protection products, as well as feed and veterinary expenses. Of these, feed and energy costs are respectively the most significant costs and have tended to increase over the last few years.

[5] See Footnote 1.

[6] The concept of sustainable productivity was introduced in the 2023-2027 programming period. Although previous CAP programming period promoted the sustainable development of the agricultural sector by pursuing economic, environmental and social objectives, Member States only had to assess the effects of the RDP on productivity.

[7] See also the EU CAP Network guidelines on 'Assessment of CAP contributions to sustainable productivity'.

[8] An annual TFP index and percentage changes for each Member State are published and regularly updated on the Commission's Agri Food Data Portal until 2022 (see CMEF indicator C27 Total factor productivity in agriculture).

[9] As developed in (EC, 2019), the main competitors are the USA, Canada, Russia and Ukraine.

Within the EU, two main patterns can be isolated regarding productivity: EU-15, where TFP is significantly higher than in the rest of EU but stagnating, and EU-13, where productivity is low but improving as a result of the restructuring of the sector, in particular the decrease in labour intensity. In terms of sectors, the EU has a relatively high productivity in wheat and field crops but the productivity in the dairy sector is lower than that of its main competitors (e.g. USA, Canada), due to a lower average farm size and more grazing.

At EU level, an impact evaluation (Ref. 46) **assessed the effect of all RDP payments on agricultural productivity**, grouping measures into four categories: physical capital investments (mainly on-farm investments), human capital development (such as training and farm advisory services), agri-environmental measures and payments aimed at broader rural objectives (for instance, support for business start-ups in rural areas). **The evaluation identified a moderate positive effect on productivity** from the first three categories, whereas payments under the fourth category showed no significant impact on agricultural productivity, as they primarily target non-agricultural sectors such as transport and tourism. It is estimated that doubling the share of these subsidies in total agricultural output would increase productivity by an additional 3% to 5% [10], which is consistent with the findings reported in the literature (Ref. 46). Increases in quantities produced were also observed and attributed to the RDP measures in Lombardy (IT) (Ref. 21, Ref. 22) Lithuania (Ref. 36, Ref. 37), Pays de la Loire (FR) (Ref. 14) and Wales (UK) (Ref. 48) [11]. Although higher production does not necessarily result solely from improved productivity, such increases may at least partially indicate enhanced productivity.

Positive effects of RDP support on the TFP were reported in several evaluations [12], that evaluate the effects either of all RDP measures or of investment measures. However, the extent of the effects identified is very varied, from +4% in Lithuania (Ref. 37) to +23% in Hungary (Ref. 38) and +24% in Poland (Ref. 40), although the difference may come partly from the difference in the indicators used to account for TFP. Depending on the evaluation considered, this overall estimation of productivity is then detailed per various types of production factors (although no quantitative evaluation of capital productivity was identified in the evaluation database).

Positive effects of RDPs on yields, i.e. on land productivity, were reported in the Balearic Islands (ES) (Ref. 7), England (Ref. 47) and Poland (Ref. 40), as well as in Castilla-la-Mancha (ES) (Ref. 11), where investments in land improvement or restructuring were financed. In Lithuania (Ref. 37), the rationalisation of farmland areas, financed by M4.3.1, led to land becoming less fragmented, better used and more easily accessible. At EU-level, a specific positive effect of AECMs on land productivity was identified. Although counterintuitive, the study (Ref. 46) demonstrates that "agro-environmental payments relate to implementation of more inputs with less land". **Positive effects are also reported regarding animal productivity**: the Irish Beef Data Genomics Programme 2015-2021 (M10) enabled an increase in yields with an increased number of calves per cow per year and a decrease in the age of first calving (Ref. 5).

The effects on labour productivity were often assessed as positive in the evaluations considered, most of the time monitored through the production value per annual working unit in England (UK) (Ref. 47), Hungary (Ref. 38, Ref. 39), Lombardy (IT) (Ref. 21, Ref. 22) and Poland (Ref. 43). In Hungary (Ref. 38, Ref. 39), the net impact of the RDP was estimated at +22.9 % on the agricultural factor income per labour unit.

Several evaluations reported an overall reduction in farm costs (Castilla-la-Mancha (ES), (Ref. 11), Lombardy (IT) (Ref. 22), England (UK) (Ref. 47)), assessed at between 20 and 80% at EU level (Ref. 45). Several evaluations mention **in particular decreases in fuel and water consumption** (Balearic Islands (ES) (Ref. 07, Ref. 10), Castilla-la-Mancha (ES) (Ref. 11), Lithuania (Ref. 37), Wales and all UK more generally (Ref. 47- 49). This is explained in the Balearic Islands (ES) (Ref. 7) by investments in new and more efficient machinery as well as in photovoltaic panels. In Lithuania (Ref. 37), improved fuel-use efficiency is attributed to the implementation of M4.3.1 (support for land consolidation), as it enables more rationalised travel between parcels.

Finally, in the Balearic Islands (ES) (Ref. 7), 40% of surveyed beneficiaries of M4.1 (on-farm investment) indicate that the investments supported (purchase or renewal of machinery, improvement, extension or construction of infrastructure) led to an **improvement in farm management and operation**, which cannot be quantified but contributes to the overall improvement of productivity and, thus, of profitability and income (see Section 2.2.1).

Besides the positive effects mentioned, some **evaluations point to a time lag between the implementation of measures and effective results**. In Sweden (Ref. 44), the effect of investment support was assessed as "not significant or even significantly negative in the first years after the companies received support, [but positive afterwards, indicating that] supported companies are going through a **transition period**, and that it takes time for the investment to be traced in terms of increased competitiveness".

2.1.2. Effect on market orientation

The main indicator used to assess the degree of market orientation in agricultural production is usually the **change in market share**. Although there is a dedicated CMEF/PMEF indicator (I.7 Agri-food trade imports and exports), market shares **are not directly analysed in the RDP evaluations screened for this synthesis**. Since a high share of these evaluations is carried out at the regional scale, one reason may be the difficulty in identifying products originating from one specific region in trade statistical databases (except maybe for PDO products).

Although turnover can be influenced by many factors, its growth can, to some extent, indicate that production corresponds to market demand. This was identified in Lithuania (Ref. 37) and Sweden (Ref. 44), while in Hungary (Ref. 38), the multiplier effect of agricultural investments on the sector's output is estimated at 2.6 for 2017.

[10] i.e. the elasticities for the impact of human capital, physical capital, and agro-environmental payments on productivity range from 0.03 to 0.05.
[11] Depending on the evaluation, the scope is either the whole RDP or restricted to investment measures.
[12] See Hungary (Ref. 38, Ref. 39), Lithuania (Ref. 37), Lombardy (IT) (Ref. 21, Ref. 22), Poland (Ref. 43), Sweden (Ref. 44) and Wales (Ref. 48).

In addition, other indicators can provide information on the extent to which agricultural production became more oriented toward market demands. In particular, the market can request or value higher quality products or more specific products such as organic. **Several evaluations note the positive effect of rural development measures on the quality and diversification of agricultural production.** This was identified in the Balearic Islands (ES) (Ref. 7) and in Lithuania (Ref. 37). This was confirmed at the Commission level (Ref. 45) and attributed in particular to support for investment in storage capacity and food processing. In Pays de la Loire (FR) (Ref. 14), M4.2 (investments in processing/marketing and/or development of agricultural products) also enabled the development of short supply chains, which, alongside improving farmers' revenue, also helped address a specific demand from the market. In Apulia (IT) (Ref. 32), M4.1 (on-farm investment) contributed to the integration of additional production stages at farm level: beneficiaries surveyed mention the use of investment support to pursue diversification, certification of production, innovation in production processes and creation of points for direct sales on the farm. Finally, in Latvia (Ref. 34) (and probably in other locations, although not highlighted in the reviewed evaluations), M11 (organic farming) contributed to an increase in the volume of organic production, also reflecting a better orientation towards market demand.

2.1.3. Effect on technology and innovation

At the Commission level, the study (Ref. 46) indicates that support for human capital promoted technical changes requiring more human resources, while support for physical capital encouraged capital-augmenting technical change. The evaluation concluded that, "**technological progress in agriculture during the period 2007–2013 was mainly directed towards labour**, at the expense of land and capital, reflecting the occurrence of labour-saving technical change in European agriculture".

In addition, several evaluations reported the fact that **investment support increased the willingness of beneficiaries to adopt new technologies** ((England, UK) (Ref. 47)) in particular regarding Information and Communication Technologies (Ref. 11), improved working conditions, process (milking robots) and product innovations, such as more environmentally friendly processing and practices (Lombardy, (IT) (Ref. 21)). This is particularly true for established farms whereas young farmers rather invested in facilities and buildings (Ref. 11). **In particular, at the scale of the EU (Ref. 45), RDP support allowed technology to be upgraded in bovine and pig and poultry sectors.**

2.2. Other economic effects

2.2.1. Effect on revenue and farm viability

A significant number of evaluations also highlight simultaneous effects on farm profitability and income, likely stemming from improvements in farm competitiveness. When quantitatively assessed, the increase in profitability, most of the time expressed in terms of farm net value added per annual working unit (FNVA/AWU), ranges between 15.5% in Lombardy (IT) (Ref. 21), 23.6% in Hungary (Ref. 38), or 31% in Poland (Ref. 40) during the period evaluated, typically 2014–2020. In Pays de la Loire (FR) (Ref. 14), a majority of beneficiaries surveyed also reported a positive evolution of their financial situation. Similar improvements are also reported in Lithuania (Ref. 37) and England (UK) (Ref. 47). Similarly, several evaluations report an increase in income (Balearic Islands (ES) (Ref. 7), Hungary (Ref. 38), Lithuania (Ref. 37), Lombardy (IT) (Ref. 21), Normandy (FR) (Ref. 13) and Poland (Ref. 40)). In Hungary (Ref. 38), the net impact of support provided via RDP is estimated at +5.2% for agricultural entrepreneurial income per unit of family labour (+6 400€/year). As well as resulting from the direct effects of improved competitiveness, higher incomes for farmers also derive from a higher demand for agricultural production from agri-food industries supported (M4.2), as in Pays de la Loire (FR) (Ref. 14).

Besides RDP measures that enable a higher profitability of usual agricultural activity, some evaluations highlight the role of the investment support in diversifying income sources. At EU level (Ref. 45), it allowed a diversification into the renewable energy sector, yielding additional income.

In addition, several evaluations underline the long-term nature of the income effect, helping improve long-term farm viability (Poland (Ref. 43), Sweden (Ref. 44), England (UK) (Ref. 47)). In Sweden (Ref. 44), for farms that benefitted from investment support during the 2007–2013 period, there is no deceleration of the income effect identified after a ten-year period, concluding that the competitiveness and income effect are sustainable over time. In addition to its effect on competitiveness, the support to investments allows for a reduction of the investment return time, from 24 to 13 years, as estimated at the Commission level (Ref. 45), compared to the time during which a farmer would have reimbursed loans for a similar investment without support. Thus, the period during which an investment provides a financial return is longer thanks to the support. In Poland (Ref. 43), the increase in added value was assessed as particularly persistent in the dairy sector. Finally, the Lombardian evaluation (IT) (Ref. 21) attributes greater farm resilience during the COVID-19 crisis to the receipt of support under RDP measures.

2.2.2. Structural effect on the expansion/enlargement of farms

Several evaluations report an expansion in the number of farms supported. In some cases, this concerns the economic size of the holding (Lithuania (Ref. 37), Umbria (IT) (Ref. 30)). But this effect also concerns the area of farms: two Spanish evaluations in the Balearic Islands (Ref. 7) and Castilla y Leon (ES) (Ref. 8) mention the tendency to increase the area of farms (and the number of animals in the case of the Balearic Islands (Ref. 7) among beneficiaries of M4.1 (on-farm investment) and M6.1 (on-farm start-up support), which is done to increase production and profitability, and taking advantage of the fact that many farmers are retiring and leaving their land, which subsequently become available for others. In some places (eastern Member States, i.e. Lithuania (Ref. 37)), increasing average farm size was one objective of the programme, as a way to improve competitiveness.

2.2.3. Effect on socio-economic development of rural areas

Most evaluations provide conclusions relevant at the farm micro-level. **Depending on the context, the evaluations show mixed consequences of farm competitiveness and income effects on rural development at a larger scale.** In England (UK) (Ref. 47), "there is evidence of spillovers, whereby farmers were sharing the knowledge gained and equipment purchased with other farmers in their community, and benefits to equipment suppliers". Spillover effects at the scale of the whole community are also acknowledged in Apulia (IT) (Ref. 32), where surveys identified a willingness from farmers not just to promote their own products but also to move toward the coordinated offer of territorial products and services from a supply chain perspective. In the evaluations analysed, the phenomenon of aid capture by equipment providers was not identified, i.e. where price increases result from the support provided, thereby capturing a part of the support.

However, one Lithuanian evaluation (Ref. 37) highlights that **the productivity gains of supported farms do not translate into broader improvements in productivity or the overall economic situation of small farms**, nor of the agricultural sector as a whole. This is particularly true for small farms and most livestock subsectors, which require more comprehensive and better-designed support to see their situation improved. This can be explained by the small scale of investments into small farms (only 17% of small farms benefited from investment support). It seems that the amount and uptake of support have to reach a certain threshold to allow development at a larger scale. This is also explained in the evaluation by the limited success of the support system to address the problems and issues of the whole livestock sector, despite an adaptation of the schemes to these sectors (i.e. higher intensity of support, priority to small farms). The study also attributes this result to the low level of cooperation between farms and the insufficient focus on innovation in the livestock sector. Indeed, the scale of changes in cooperation initiated by investments (M16.1 and M16.3) is limited, so the investments did not create a significant impetus for the development of cooperation in the context of the entire agricultural sector.

Furthermore, evaluations identify mixed effects of rural development (RD) measures supporting competitiveness on employment. At the Commission level (Ref. 46), technological progress in agriculture during the period studied was mainly directed towards labour, at the expense of land and capital, indicating the occurrence of labour-saving technical change in European agriculture. This is confirmed in Sweden (Ref. 44), where "an increase in output per employee may be partly due to a decrease in the number of employees", and in the Veneto region (IT) (Ref. 18), where young farmers supported by M6.1 during the previous programming period decreased their average demand for labour during the following period. In Lithuania (Ref. 37), investment support has also contributed to improving labour productivity in the forestry sector. The correlation with employment level is mixed in the Balearic Islands (ES) (Ref. 7), where, among M4.1 beneficiaries that have paid labour, 20% report an increase in labour requirements and 23% a decrease. Similarly, in Normandy (FR) (Ref. 13), both increases and decreases in employment were identified depending on farms, but the overall effect of the support is estimated to be negative, leading to a decrease in employment. In Lithuania (Ref. 37), a specific and positive role of support for the setting up of young farmers has been identified. By creating jobs for themselves and hiring local manpower, the support provided 3 146 jobs in rural areas in 2021. In addition, the increased labour productivity translated into increased wages. An improvement of working conditions, thanks to investments in milking robots, was also noted in Normandy (FR) (Ref. 13) (and may also be valid for other contexts).

In Pays de la Loire (FR) (Ref. 14)**, the support to agri-food industries (M4.2) generated a significant employment impact** (estimated at 400 additional FTEs in the food industry) along with increased demand for agricultural production and on-farm jobs. By contrast, evaluations in Hesse (DE) (Ref. 2) and Normandy (FR) (Ref. 13) found no significant effect of agro-industry support sectoral structure. In Hesse (DE) (Ref. 2), this outcome was attributed to the limited budget allocated to the measures, as well as to the small number of projects implemented.

2.3. Other indirect effects

2.3.1. Effect on climate and environment

Overall, and logically, the effect of RDP measures supporting farm competitiveness on climate and environment is low. The most direct and positive effect relates to greenhouse gas (GHG) emission reductions deriving from a higher efficiency in fuel use, reported in Wales (UK) (Ref. 48) in particular (but also valid in other locations where related investments were supported), and from investments in renewable energy solutions (Balearic Islands (ES) (Ref. 7) for instance). In the Balearic Islands (ES) (Ref. 7), M4.1 was also reported to have contributed to an increase in the number of crops cultivated.

In addition, more general effects on the use of sustainable practices are reported in a few evaluations. In Liguria (IT) (Ref. 24), the slowdown of the depopulation of inland areas, attributed to RDP support to improve farm competitiveness, contributed to the maintenance of its valuable landscapes. In Wales (UK) (Ref. 48), the mandatory knowledge transfer events associated with investment support led to a modest increase in sustainable business practices and investments (declared by 22% of supported farms). In Lithuania (Ref. 37), a competitiveness index including a sustainability dimension with various sustainability indicators (pesticide use, GHG and ammonia emissions, etc.) has been developed. Using this index, a counterfactual analysis indicates that Lithuania's (Ref. 37) sustainability performance has improved at a faster pace compared to most Member States as a result of the RDP support. On the other hand, the Normandy evaluation (Ref. 13) underlines the poor environmental impact of RDP instruments other than organic farming, support for quality schemes or AECM, and the lack of incentives to initiate changes in practice.

2.3.2. Effect on animal welfare

Several evaluations reported a positive impact of RDP measures focused on improving farm competitiveness on animal health and welfare, in particular due to large-scale investment in milking robots (Lombardy (IT) (Ref. 21), Wales (UK) (Ref. 48) and England (UK) (Ref. 47)). This is coherent since a good animal health is a factor of increased productivity.

2.4. Coherence and efficiency of CAP support targeted to SO2

Overall, the evaluations reviewed mainly deal with the effectiveness of CAP support while other evaluation criteria are not much discussed. However, some of their findings can be interpreted to inform these other criteria. The main elements emerging are set out below.

2.4.1. Coherence

Overall, the evaluations reviewed provide few details regarding the coherence of instruments targeted to SO2 with other instruments, either RDP measures or other instruments. M4.1 (on-farm investment) is the main measure analysed (sometimes under the previous version from the 2007-2013 programming period). It is often evaluated along with M6.1 (on-farm start-up support). **M4 and M6 are complementary by enabling the targeting of support to specific needs**. **In addition, investment support and training support measures are complementary.** For instance, in Emilia-Romagna (IT) (Ref. 25), 40% of farms that have made modernisation and restructuring investments attended and completed a training course. Furthermore, although not elaborated much in the analysed evaluations, support targeted at SO2 is overall coherent with environmental and climate objectives as explained in Section 2.3.1. Indeed, it is sometimes used to finance investments in cleaner technologies.

In addition to the examples of complementarity between measures, **some areas were identified where there was a lack of coherence**. In particular, and as highlighted above, the effect of **measures supporting competitiveness is sometimes not coherent with the objective of rural development** since they can lead to a lower demand for on-farm labour. Only in some specific cases, the effect on on-farm employment has been counterbalanced by some knock-on effects of productivity improvements at sector and territorial level.

2.4.2. Efficiency

Overall, the support, in particular for investments, was moderately effective in supporting competitiveness improvement at beneficiary level. Thus, **the value for money of the support is estimated to be medium**, between 0.43 for 1€ of expenditure at the EU level (Ref. 45) and 1.91 in the UK (Ref. 47).

In addition, the Hessen (DE) evaluation (Ref. 2) identifies **deadweight effects that substantially decrease the net effects of the support**. Such deadweight effects were also mentioned in Lithuania (Ref. 37). Indeed, several evaluations report that, **the largest farms are often over-represented among the beneficiaries of the support** (Hungary (Ref. 38), Lithuania (Ref. 37), Poland (Ref. 43), Wales (Ref. 48)), sometimes despite the targeting at farms most in need, and that they may have carried out the investments even without support. **However, deadweight effects were not reported in all cases**. On the contrary, the England (UK) (Ref. 47) evaluation reports that farmers would not have invested without support. Similarly, there was a leverage effect of the support in Lombardy (IT) (Ref. 21), where beneficiaries made additional investments to those co-financed by the RDP. In Normandy (FR) (Ref. 13), a proportion of young farmers establishing businesses with M6 support reported that they would not have started their activities without this support.

The medium efficiency of the support can also be attributed to the low number of farms benefitting from investment support compared to the targets set and needs identified for the measures: in Lombardy (IT) (Ref. 21), only 46% of the number of beneficiaries planned were supported, 74% in Lithuania (Ref. 37). In Hesse (DE) (Ref. 2), the low uptake is also mentioned, with only 43 projects approved by the end of 2021, a small number compared to the size of the food sector. The Normandy (FR) (Ref. 13) evaluation explains that the programme suffered due to its complexity and most farmers had to be assisted to submit their application for support, a possible explanation for low uptake levels (although this was not elaborated in other evaluations).

In most cases, the farms most in need were targeted by selection criteria (for instance, small farms and the livestock sector in Lithuania (Ref. 37), and LFAs in Emilia-Romagna (IT) (Ref. 25), as well as through the maximum amounts allocated. Higher-value investments were achieved in the livestock sectors in Hungary (Ref. 38) and Wales (UK) (Ref. 48). However, the targeting was not always well conceived; for instance, in Wales, the minimum spending threshold was reported to be too high for smaller farms to benefit from the support.

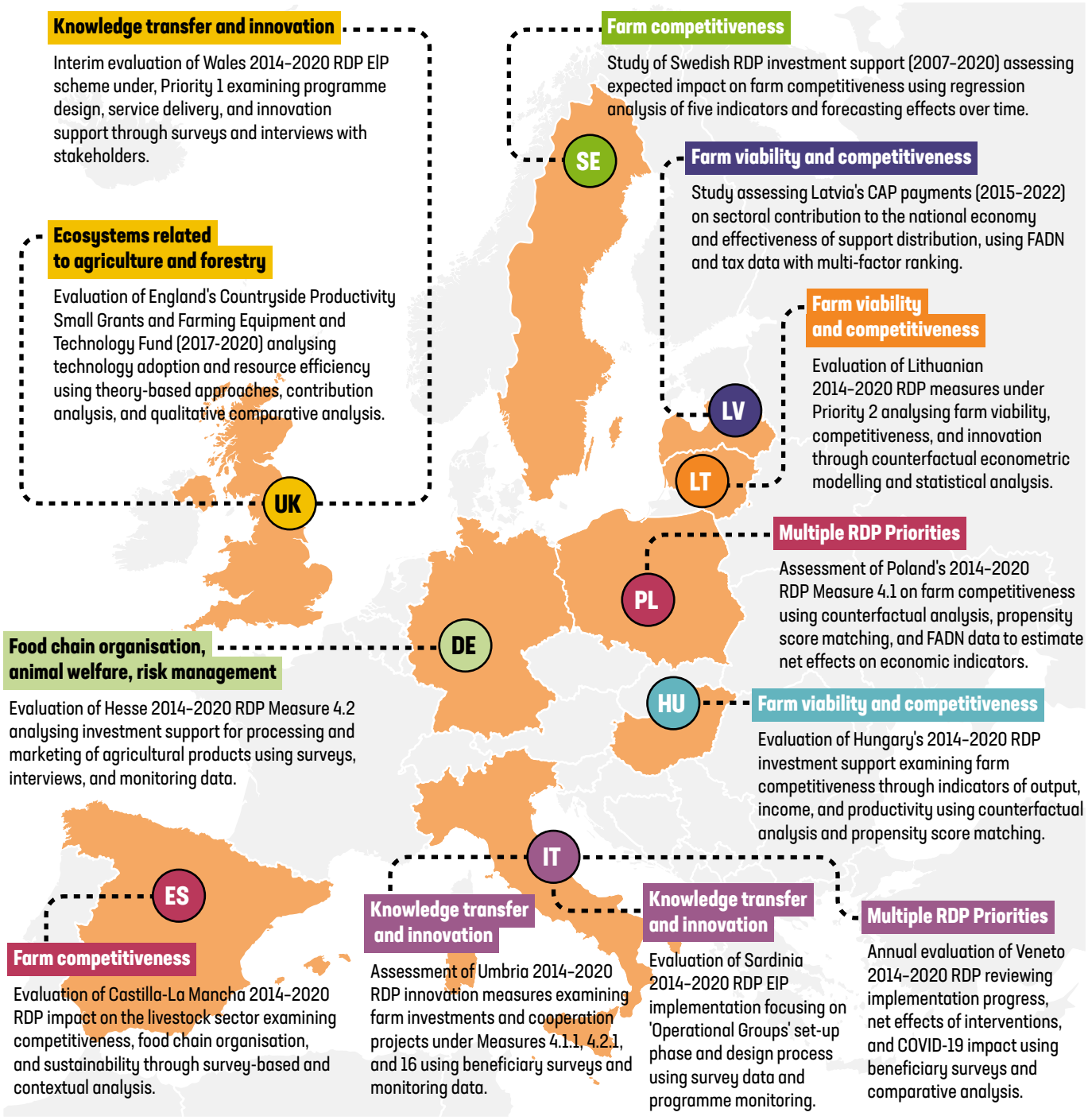
3. How were the evaluations done and what can we learn?

Of the 49 evaluation studies on farm competitiveness and market orientation available in the CAP evaluation database, fourteen were appraised in-depth by evaluation experts focusing on the evaluation framework, data and methodologies (see Figure 3 below) [13]. As detailed further, these fourteen evaluation studies vary in scope in terms of geographical coverage, types of supports evaluated, objectives and sub-objectives, evaluation criteria and evaluation period. [14] However, the in-depth appraisals identified common challenges in assessing CAP effects on SO2 and highlighted best practices for addressing them.

[13] The map only presents twelve of the in-depth appraised evaluations. Indeed, two of the evaluations appraised are at EU scale: (Ref. 45) and (Ref. 46).

[14] During the programming period 2014-2020, managing authorities had to define which measures would contribute to the RDP priorities set out in Regulation (EU) No 1305/2013. The evaluations appraised often refer to Priority 1 (fostering knowledge transfer and innovation in agriculture, forestry, and rural areas), Priority 2 (enhancing farm viability and competitiveness of all types of agriculture in all regions and promoting innovative farm technologies) and Priority 3 (promoting food chain organisation, including processing and marketing of agricultural products, animal welfare and risk management in agriculture).

Figure 3. Overview of evaluations appraised



Source: EU CAP Network supported by the European Evaluation Helpdesk for the CAP (2025)

This chapter aims to provide Managing Authorities and evaluators with practical advice on how to approach competitiveness-related evaluations, outlining the decisions to be made, the challenges to be addressed, and the best practices to be adopted. The following sections also propose some recommendations for evaluating the effects of CAP support on SO2.

3.1. Creating a robust evaluation framework

3.1.1. Defining the scope of an evaluation in terms of objectives and types of interventions to be assessed

The fourteen in-depth appraised evaluations related to SO2 differ greatly in scope, covering a wide range of geographical and sectoral contexts, instruments assessed, time periods, evaluation objectives and evaluation criteria, as summarised in Table 2:

- Two were carried out at EU level, with the remaining twelve coming from eight Member States plus the UK (five national evaluations and seven regional).
- Two analysed the effects of the whole CAP support, three focused on RDP payments, while the nine remaining evaluations examined the effects of specific measures, in particular investment and/or cooperation measures (M4.1 On-farm investment, M4.2 (investment in product development), M16.1 (EIP groups) and M16.2 (pilot projects)). Most of them analyse M4.1, but, depending on the evaluation, some also focus on one or more of the other measures.
- Some do not only evaluate effects on SO2 but also include the analysis of the economic viability of farms.
- In terms of time period, a majority concerned the 2014-2020 programming period, with the exception of evaluations from Sweden and the two EU ones that focused on the previous programming period 2007-2013 (Ref. 44, Ref. 45, Ref. 46).
- In terms of types of evaluation criteria assessed, the effectiveness of the support for reaching its objectives is the principal criteria evaluated, while some of the in-depth appraised evaluations also look at the efficiency and the coherence of the support.
- Finally, the evaluation from Castilla-la-Mancha (ES) (Ref. 11) focuses on the livestock sector, while other ones are not sector-specific.

Table 2. Scope of the evaluations selected for in-depth appraisals

	Geographical scope (EU: EU-wide, N: national, R: regional)	Instruments evaluated					Sub-objectives evaluated		
		All CAP	All RDP measures	Farm-level investment measures (M4.1, M6.1)	Wider measures (M4.2, M6.2, M16)	Other RDP measures not directly targeted at SO2	Farm competitiveness	Market orientation	Technology and innovation
Ref. 2	R/Hesse (DE)				X		X		
Ref. 11	R/Castilla-la-Mancha (ES)		X				X		
Ref. 18	R/Veneto region (IT)			X					
Ref. 29	R/Sardinia (IT)				X				X
Ref. 30	R/Umbria (IT)		X				X		X
Ref. 35	N/Latvia	X							
Ref. 37	N/Lithuania		X				X		X
Ref. 38	N/Hungary			X	X		X		
Ref. 40	N/Poland			X			X		
Ref. 44	N/Sweden			X			X	X	
Ref. 45	EU			X			X	X	X
Ref. 46	EU		X				X		
Ref. 47	R/England (UK)			X			X		X
Ref. 49	R/Wales (UK)				X				X

Source: EU CAP Network supported by the European Evaluation Helpdesk for the CAP (2025)

The variety in evaluation scope strongly influences both the data used and the choice of evaluation method. Consequently, the fourteen evaluations exhibit significant methodological variation in assessing CAP support to SO2. In summary:

- **EU or national-level evaluations** enable the assessment of macro-economic effects at the scale of a Member State or the EU. They allow consideration of market orientation impact. Indeed, in a common market such as the EU, indicators like self-sufficiency, market shares and trade balance are rarely available at regional level in standard databases.
- **Evaluations focused on M4.1 (on-farm investment)** often apply micro-economic approaches, as this measure typically represents a large share of RDP budgets and involves many beneficiaries. The Farm Accountancy Data Network (FADN) database facilitates the identification of non-beneficiary farm samples for applying quasi-experimental methods. However, at regional scale, small FADN sample size can limit the feasibility of such approaches.
- **Evaluations targeting collective projects or other supply-chain levels** require more ad-hoc and qualitative approaches. These measures generally involve fewer projects or beneficiaries and greater variability in project types. Furthermore, effects on technology and innovation are somewhat less quantifiable than those on productivity.

Thus, the scope of the evaluation, set by Managing Authorities based on the specific needs of the territory and the types of measures implemented, provides a first indication of the methodological approaches available to evaluators.

In that respect, the EU-level study (Ref. 45) serves as a valuable methodological guide. It lists, explains and assesses **a range of methods for evaluating investment support**, judging their relevance for measuring effectiveness, efficiency and impact. Practical examples illustrate the application of individual or combined methods across eleven EU Member States or regions, tailored to objectives and data availability. The study also thoroughly describes data sources and highlights recurring data limitations, emphasising the persistent challenge of inadequate data. The authors point out very large data requirements, which should be considered in the choice of the methodology to be applied, advising that evaluators restrict their choice to one or two methods aligned with the purpose of the evaluation.

Similarly, another EU-level study (Ref. 46) provides a very good overview of data sources used and limitations for evaluating agricultural productivity.

3.1.2. Analysis of the intervention logic and definition of the evaluation framework

The precise identification and analysis of the evaluation scope provide an initial indication of the most relevant methodological approaches. These methods must then be refined through the analysis of the intervention logic and the definition of the evaluation framework. **Adapting the intervention logic to the specific scope of the evaluation is essential for assessing the effects of each measure studied and for developing a robust evaluation framework**.

Good practices have emerged in several appraised evaluations:

- The evaluation from Lithuania (Ref. 37) applied a theory-based impact assessment to understand why, how, for whom, and under what conditions an intervention produces impact. This assessment, grounded in the RDP's theory of change, identifies causal links and necessary conditions for achieving final goals.
- One EU-level evaluation (Ref. 45) developed intervention logics for each investment type and demonstrated how these apply in different country contexts, referring to the appropriate methodologies to be applied.
- The other EU study (Ref. 46) does not develop intervention logics as such, but groups RDP payments into four categories (human capital, physical capital, agri-environmental payments and rural development) and designed a framework to compare their effects on agricultural productivity.

The analysis of intervention logic allows clarifying evaluation questions and refining judgement criteria and indicators [15]. Evaluations from Castilla-la-Mancha (ES) (Ref. 11), Veneto region (IT) (Ref. 18) and Sweden (Ref. 11, Ref. 18 and Ref. 44) provide a detailed evaluation framework, incorporating CMEF target, result and impact indicators, as well as additional indicators tailored to the evaluation scope. Methodological and indicator choices should be grounded in desk research and literature reviews, as done at EU level (Ref. 46), and in evaluations for Umbria (IT) (Ref. 30) and England (UK) (Ref. 47). Conversely, insufficient justification of methods undermines transparency and may cast doubt on validity.

Many of the in-depth appraised evaluations focus primarily on **effectiveness**, following the common evaluation framework proposed by the regulation. However, information on **efficiency, coherence or relevance** is equally important for improving policy design. For example:

- Examining complementarity and coherence between measures supporting on-farm investments (i.e. M4.1 (on-farm investment) and M6.1(on-farm start-up support)), and more generally, between measures programmed to address the same priority or focus area (or SO in the 2023-2027 programming period), could yield valuable insights.
- Analysing coherence between measures supporting competitiveness and broader rural development objectives (e.g. on employment) is highly relevant, especially since some of the evaluations analysed reported mixed effects. Managing Authorities should consider these aspects when defining evaluation questions.

Similarly, **analysing efficiency is particularly relevant** for instruments supporting farm competitiveness, especially investment support. Several evaluations highlight issues such as deadweight effects and low uptake, underscoring the need for well-defined eligibility and selection criteria and aid intensity levels. In this respect, the EU-level study (Ref. 45) provides methodological guidance on **cost-effectiveness analysis** (CEA) and examples of its application in various regional contexts.

[15] During the 2014-2022 programming period, the intervention logics and evaluation frameworks were pre-defined by the EU regulation, although some flexibility was left to Member States for assessing their RDP.

3.2. Challenges and limitations related to data and methodology

3.2.1. Quantitative macro-economic approaches

Although relatively rare, **a few in-depth appraised evaluations implement macro-economic approaches**:

- EU-level study (Ref. 46), conducted by the European Commission's Joint Research Centre (JRC), applies an **econometric approach to measure changes in factor productivity** using regional (NUTS-2) level data from 84 EU regions. This method captures factor productivity changes at the sector level rather than at farm level, offering a broader perspective.
- The evaluation from Hungary (Ref. 38) complements micro-level counterfactual analysis with an estimation of indirect macroeconomic effects of investment aid. **Using the balance of sector relations (TSM) and the Leontief input-output inverse matrix**, the evaluation calculates production, employment and value-added multipliers. This approach enables estimation of complex effects of changes in final consumption (household, government, accumulation of assets, exports), i.e. direct and circular spill-over effects within the sector.
- The EU-level study (Ref. 45) tests **input-output analysis in Austria**, a quantitative technique that examines interdependencies between producing and consuming units within an economy, including agricultural sectors. This method allows **assessment of CAP support effects on exports**, as an indicator related to market orientation.

Although less advanced methodologically, the evaluation from Lithuania (Ref. 37) supplements its micro-level analysis with **a competitiveness index for the agricultural sector**, enabling comparison with other Member States. This practice of contextualising local results against broader EU benchmarks is considered a good approach.

3.2.2. Quantitative micro-economic approaches: the challenge of evaluating against a counterfactual using rigorous statistical methods

Determining what would have happened in the absence of an intervention (i.e. the counterfactual situation) and estimating the net effect of an intervention is a challenge in every evaluation. **Most appraised evaluations attempt to assess policy effects against a counterfactual scenario**, yet few are able to net out the effects of the policy from those of external factors. Although obtaining data on comparable non-beneficiaries or building a sufficient time series from the start of the intervention can be difficult, these steps are essential for meaningful assessment. Evaluators should try their best to incorporate counterfactual analysis into their methodology.

Some of the evaluations from Hungary, Lithuania and Poland (Ref. 38, Ref. 37 and Ref. 40), especially those focused on M4.1, apply advanced techniques such as **propensity score matching (PSM)**. In Hungary (Ref. 38), careful selection of matching variables ensured meaningful comparison between treatment and control groups. In Poland, equal-sized treatment and control groups can be seen as good practice, although a small sample size limits the reliability of results. Greater details on the counterfactual analysis process, including challenges encountered and solutions applied, would improve replicability. Desk research on independent variables used in similar studies is also recommended to justify variable selection.

The FADN database provides a detailed micro-database across the EU, enabling the construction of a sample of non-beneficiaries for robust counterfactual impact assessments. Several evaluations (Ref. 11, Ref. 35, Ref. 37, Ref. 18, Ref. 40) use FADN to calculate impacts on CMEF indicators. For competitiveness analysis, the FADN is particularly valuable as it includes:

- individual data on quantities produced by product type (facilitating the calculation of yields and productivity);
- intermediate income balances (such as output, gross farm income, and farm net value added);
- extensive list of cost items; and
- aid amounts received.

However, evaluators often face **sample size limitations and/or data protection constraints**. For instance, in Lithuania (Ref. 37), micro-level data requirements triggered restrictions which limited the available information. Where FADN data are unavailable, alternative sources, e.g. through surveys, case studies or focus groups, can provide insights, although they rarely offer the quantitative depth of data needed to apply rigorous statistics-based methods.

For instance, the evaluation in Veneto region (IT) (Ref. 18) combines **beneficiary surveys with a comprehensive set of secondary data sources**, including statistical data and the FADN for non-beneficiaries. It uses a non-econometric approach, comparing indicator values before and after intervention and between beneficiaries and non-beneficiaries over time. While this approach has limitations regarding validity and reliability, the attempt to approximate a hypothetical counterfactual situation is valuable.

3.2.3. Other approaches mainly based on primary data and/or qualitative analysis

Regardless of whether rigorous statistical methods can be applied, it is good practice to use **multiple methods and data sources (triangulation)** to enhance reliability and ensure consistent findings. Furthermore, **ad hoc and qualitative approaches are particularly relevant for evaluating less standardised measures**, such as M4.2 Investment in product development, M16.1 (EIP groups) and M16.2 (pilot projects), which typically involve fewer projects or beneficiaries and greater variability in the types of projects supported.

A key source of primary data comes from policy implementation register, often provided by Managing Authorities. For measures targeting SO2, some typical output indicators include the number of projects and beneficiaries, their distribution by type of support, the number of young farmers involved, the share of the budget paid before the start of the study and the amount received by beneficiaries. Such data provide useful contextual information on the budget and implementation, making PSM results easier to interpret and report findings easier to understand for readers with limited background knowledge.

However, access to implementation data is not always straightforward. For instance, in Lithuania (Ref. 37), when assessing the effect of the entire RDP on farm competitiveness and economic viability, evaluators requested detailed information for each beneficiary on RDP measures and direct payments received. Due to data protection constraints, only data on measures supporting physical investments (M4.1, M6.1, M6.3, M8.6 and M16.3) were provided. From these, evaluators built a consolidated database covering projects implemented under RDP Priority 2, expenditure by category and county, support received under other measures, and interim/final performance indicators. This enabled preliminary analyses of the financial scope of the measures implemented and, later, **a counterfactual impact assessment, using a non-personalised database combining M4.1 implementation data with monitoring data** on all Lithuanian agricultural holdings from 2014–2021, covering registration details, declared agricultural land, and other relevant components.

When no existing dataset is available, surveys remain a useful data source, though costly for the evaluator in terms of time and resources. Moreover, representativeness is often a challenge, as seen in Castilla-la-Mancha (ES) (Ref. 11), Sardinia (IT) (Ref. 29), Veneto region (IT) (Ref. 18), Umbria (IT) (Ref. 30) and Wales (UK) (Ref. 49), due to low response rates. Good practice includes:

- Explaining the overall approach for the collection of primary data, justifying the use of a survey.
- Reporting the confidence levels and margins of errors, for the reader to be able to assess the validity of the survey results.
- Expressing sample sizes as a percentage of beneficiaries (as in the evaluation from Veneto region).
- Using stratified sampling techniques, which consist of dividing the population into homogenous subgroups in order to sample respondents that are representative of the various subgroups (as applied in Umbria (IT) (Ref. 30) and Veneto region (IT) (Ref. 18).

Despite representativeness issues, surveys can uncover insight beyond CMEF indicators, e.g. on other qualitative and quantitative aspects of interventions and their effects. In the case of the Veneto region (IT) (Ref. 18), the survey revealed effects of M16 on relationships within the production chain.

Case studies and interviews provide essential qualitative insights. In particular, **in the absence of public databases on innovation and cooperation, the assessment of RDP measures relied heavily on qualitative sources, surveys and interviews**. In Lithuania (Ref. 37), case studies explored reasons for low participation among certain farm groups (e.g. small farms), including perceived risks and complexity of requirements. This qualitative approach complements quantitative findings and deepens understanding of the competitiveness effects.

An interesting approach comes from England (UK) (Ref. 47), where **qualitative comparative analysis (QCA) was applied in case studies** to assess causal conditions. QCA identifies multiple pathways leading to the same outcome, offering a nuanced view of how and why interventions succeed or fail. This method is particularly useful for small or intermediate samples and was applied to 30 case studies, providing robust evidence on context-specific impacts.

3.3. Key messages for future evaluations

To address the identified challenges, future evaluations should adopt good practices that strengthen methodological rigour and reliability. This includes incorporating unbiased counterfactuals, applying econometric techniques to assess additionality, and combining quantitative and qualitative methods to contextualise findings.

Specific methodological recommendations for assessing CAP impact on SO2 are suggested for Member States and evaluators:

- **Decide and delimit the scope** of the evaluation in terms of instruments and Specific Objectives (SOs) and/or sub-objectives. The choice of scope determines data needs and methodological options. For example, evaluating standard farm-level measures (e.g. M4.1 (on-farm investment)) requires different approaches than assessing ad hoc measures (e.g. M16 (cooperation)). In addition, it is to be decided whether the evaluation should consider market orientation effects, taking into account the geographical scope, as well as the time and resources available for the evaluation.
- **Broaden evaluation criteria beyond effectiveness**. Include efficiency (e.g. analysing the targeting and aid intensity of investment supports), for instance, and/or external coherence with other SOs, considering in particular the mixed effects on employment linked to labour productivity improvement, reported in some evaluations.
- **Benchmark results** against indicators available at EU level and for other Member States or regions, even when assessing SO2 is not possible at a macro-economic level, especially in the case of a regional evaluation.
- **Explore advanced quantitative methods** (e.g. matching, quasi-experimental designs) to isolate the net effects of support. In particular, check the availability of FADN data for non-beneficiaries and include the findings of this investigation, along with relevant recommendations, in the evaluation report (even if these methods are not ultimately applied). This practice facilitates the accumulation of knowledge and improves datasets for future evaluations. It is particularly important for measures with large numbers of beneficiaries, such as M4.1 (on-farm investment).
- **Prepare implementation datasets in advance**, including typical output indicators: number of projects and beneficiaries, distribution by support type, number of young farmers involved, share of budget disbursed before the study, amount received by beneficiaries, etc.

By integrating these critical components, evaluators can establish robust evaluation frameworks, apply advanced methodological approaches and strengthen data systems. This will enable future CAP evaluations to better unravel the complexities of CAP support to SO2.

Conclusion

The Evaluation Helpdesk reviewed and extracted findings from 49 evaluations related to SO2 stored in the CAP evaluation database. These evaluations mainly examine the effects of RDP measures during the 2014–2020 programming period, and in some cases the previous one, at national and regional levels. A significant proportion of these evaluations focused on investment support. Although the 49 evaluations differ in scope, objectives, evaluation methods, assumptions and limitations, common effects on farm competitiveness can be identified.

One of the two EU-level evaluations appraised reported a moderate positive productivity effect from RDP measures at EU level. Several other evaluations confirmed these positive impacts. Positive effects were noted on yields, i.e. land productivity (including from AECM), livestock productivity and labour productivity. Several evaluations also highlighted cost reductions, in particular through lower fuel and water consumption, as well as improvements in farm management and operations, all contributing to enhanced productivity. No quantitative assessment of capital productivity was identified.

As regards the potential effect of RDP measures on market orientation, changes in market shares were not directly analysed in the evaluations. However, several evaluations reported positive effects of RDP measures on the quality and diversification of agricultural production, as well as technological adoption. At the EU scale, RDP support facilitated technology upgrades in the cattle, pig and poultry sectors, with progress mainly directed towards labour efficiency.

As competitiveness increased, many evaluations highlighted positive effects on profitability and income, often persisting in the long term. However, impacts on rural development were mixed, as improvements in labour productivity sometimes led to ambiguous effects on employment.

In terms of efficiency, the value for money of the support was generally assessed as moderate. Deadweight effects, linked to larger farms being over-represented among beneficiaries, reduced the net impact of the support. Furthermore, targeting was not always optimal, and the number of farms benefitting from investment support sometimes fell short of the targets set.

Of the 49 evaluations, fourteen were appraised in-depth, focusing on the evaluation framework, data and methodologies. These in-depth appraisals identified common challenges, best practices and recommendations for assessing CAP support effects on competitiveness. The fourteen evaluations varied significantly in geographical and sectoral scope, instruments assessed, time periods, objectives and evaluation criteria. This diversity strongly influenced data availability and methodological choices, resulting in a wide range of approaches for assessing CAP support to SO2.

In-depth appraised evaluations provide several interesting examples of intervention logic and a detailed evaluation framework, useful for further defining the methodology. In particular, while effectiveness was the main evaluation criterion assessed, some evaluations also explored coherence and efficiency, offering valuable insights.

Advanced macro-economic approaches were applied in a few cases to assess the CAP effects on competitiveness and market orientation at Member State level, requiring specific skills from the evaluators. At micro-level, the FADN database, available all over the EU at national and regional level, proved particularly useful for rigorous counterfactual analysis, enabling the construction of non-beneficiary samples, and providing relevant data for assessing competitiveness (e.g. on quantities, intermediate income balances, costs and aid received). However, challenges such as small sample sizes and data protection constraints were noted, especially at regional level.

Where rigorous statistical methods are not feasible, triangulation (combining multiple methods and data sources) remains a good practice to enhance reliability. Furthermore, ad-hoc and qualitative approaches are particularly relevant for less standardised measures (e.g. M4.2 (investment in product development), M16.1 (EIP groups) and M16.2 (pilot projects)), which involve fewer projects or beneficiaries and greater variability in the types of projects supported. Several interesting examples illustrate innovative use of implementation data, surveys and case studies, offering inspiration for future SO2 evaluations.

Annex I: List of Member State evaluations related to farm competitiveness analysed in this report and available in the CAP evaluation database

The Member State evaluations below are those identified in the CAP evaluation database as relevant to farm competitiveness, and thus analysed in this paper. Across this publication, the reference number, rather than the full study reference, is included for ease of reading.

Reference n.	Member State	Year of publication	Title (English version)	Author	Publisher
1	CZ	2022	Czechia Rural Development Programme (RDP) Interim Evaluation Report	Naviga 4 s.r.o. a Naviga Advisory and Evaluation s.r.o.	Ministry of Agriculture of the Czech Republic
2	DE	2023	Evaluation of the promotion of investments in the processing and marketing of agricultural products	Thünen Institute	Hessen region
3	DE	2022	Evaluation of the RDP EULLE in Rhineland-Palatinate	IfLS, PRAC	Ministry of Economy, Transport, Agriculture and Viticulture of Germany
4	EE	2021	Study of the competitiveness and development prospects of the food industry	Põllumajandusuuringute Keskus	Agricultural Research Centre
5	IE	2022	Review of Ireland's 2015-2021 Beef Data Genomics Programme	Irish Government Economic and Evaluation Service	Department of Agriculture, Food and the Marine, Ireland
6	ES	2021	Evaluation report of Euskadi RDP Measure 16 (cooperation)	University of the Basque Country	Managing Authority of the Basque region
7	ES	2021	Thematic evaluation: impact of the RDP of the Balearic Islands on energy use	Red2Red	Ministry of Agriculture, Fisheries and Food of Spain
8	ES	2021	Castilla y Leon 2021 interim evaluation report	Red2Red	Ministry of Agriculture, Fisheries and Food of Spain
9	ES	2021	Analysis of investment types supported by Measure 4.1 of Murcia's RDP	Red2Red	Ministry of Agriculture, Fisheries and Food of Spain

Reference n.	Member State	Year of publication	Title (English version)	Author	Publisher
10	ES	2021	Analysis of the COVID-19 crisis in Balearic rural areas and the implementation of the RDP	Red2Red	Ministry of Agriculture, Fisheries and Food of Spain
11	ES	2023	Impact of the Castilla la Mancha Rural Development Programme on the livestock sector.	Tragsatec	General Directorate of Rural Development of the Ministry of Agriculture, Water and Rural Development of Spain
12	ES	2024	Gender mainstreaming in the Rural Development Programme (RDP) of Castilla y Leon	Red2Red	Ministry of Agriculture, Fisheries and Food of Spain
13	FR	2021	Impact evaluation of the Rural Development Programme on the competitiveness of agricultural holdings	Oréade-Brèche	Normandy region
14	FR	2021	ERDF and EAFRD impact assessment on resource efficiency, low-carbon economy and climate change resilience	Teritéo	Pays de la Loire region
15	FR	2023	Intersection of dynamics and investment logics in Breton agricultural enterprises: Analyses of agricultural trajectories 2014-2021	AND-International, Edater	Brittany region
16	IT	2022	Updated interim report for the 2014-2020 period	Agriconsulting	Emilia-Romagna region
17	IT	2024	Annual evaluation report 2023	Lattanzio KIBS	Ministry of Agriculture, Food Sovereignty and Forests of Italy
18	IT	2021	2020 annual evaluation report of the Veneto region	Agriconsulting	Veneto region
19	IT	2021	Thematic report on the competitiveness of insured companies	Lattanzio KIBS	Ministry of Agriculture, Food and Forestry Policies of Italy
20	IT	2022	Thematic report: support for the start-up of Sardinian young farmers	ISRI, Intellera consulting, Interforum, Primaidea	Sardinia region

Reference n.	Member State	Year of publication	Title (English version)	Author	Publisher
21	IT	2021	2020 annual evaluation report of the Lombardy region's RDP	Agriconsulting	Lombardy region
22	IT	2022	2021 annual evaluation report on LEADER	Agriconsulting	Lombardy region
23	IT	2022	Analysis of labour needs generated by area-based measures	ISRI, Intellera consulting, Interforum, Primaidea	Sardinia region
24	IT	2023	Liguria catalogue of good practices	Lattanzio KIBS	Liguria region
25	IT	2022	Synthesis of the 2020 intermediate evaluation report for the Emilia Romagna region	Agriconsulting	Emilia-Romagna region
26	IT	2023	2023 VII Summary Contribution of programmes in the 2014-2020 programming period	ISMERI Europa	Friuli Venezia Giulia Region
27	IT	2024	Thematic report: the added value generated by the integrated supply chain projects	ISRI, Intellera consulting, Interforum, Primaidea	Sardinia region
28	IT	2023	Annual Evaluation Report 2023 of Marche RDP	Lattanzio KIBS	Marche region
29	IT	2023	RDP support for establishing and implementing EIPs	ISRI, Intellera consulting, Interforum, Primaidea	Sardinia region
30	IT	2023	Effects of innovative investments in Umbria RDP 2014-2022	Lattanzio KIBS	Umbria region
31	IT	2023	Emilia-Romagna annual evaluation report 2022 (June 2023)	Agriconsulting	Emilia-Romagna region
32	IT	2023	2023 annual evaluation report of Apulia	Lattanzio KIBS	Apulia region
33	IT	2023	2023 annual evaluation report of Umbria	Lattanzio KIBS	Umbria region
34	LV	2019	The impact of 2014-2020 RDP support on the development of organic farming	AREI	Ministry of Agriculture, Latvia

Reference n.	Member State	Year of publication	Title (English version)	Author	Publisher
35	LV	2023	Evaluation of the effectiveness of support allocated to the agricultural sector	AREI	Ministry of Agriculture, Latvia
36	LT	2023	Evaluation of the Lithuanian Rural Development Programme for 2014-2020	UAB „ESTEP Vilnius“	Ministry of Agriculture of Lithuania
37	LT	2022	Evaluation of the impact of enhancing farm viability and competitiveness and promoting innovative farm technologies	UAB „BGI Consulting“	Ministry of Agriculture of Lithuania
38	HU	2021	Impact of agricultural investment on competitiveness (2021)	Field Consulting, Collectivo	Ministry of Agriculture of Hungary
39	HU	2021	Impact and involvement of food processing on producers in the food chain	Field Consulting, Collectivo	Ministry of Agriculture of Hungary
40	PL	2021	Net impact of RDP support for farm competitiveness in Poland	Institute of Agricultural and Food Economics – National Research Institute	Ministry of Agriculture and Rural Development, Poland
41	PL	2021	Net impact of support implemented under the young farmer premium sub-measure	Institute of Agricultural and Food Economics – National Research Institute	Ministry of Agriculture and Rural Development of Poland
42	PL	2023	Final Report on the effects of the implementation of Measure 4.1 (modernisation of agricultural holdings)	Institute of Agricultural and Food Economics – National Research Institute	Ministry of Agriculture and Rural Development of Poland
43	PL	2022	Sustainability of operations financed under the 2014-2020 RDP	Institute of Agricultural and Food Economics – National Research Institute	Ministry of Agriculture and Rural Development of Poland
44	SE	2020	Evaluation of the expected impact of investment support from Sweden's RDP	Jönköping International Business School	The Swedish Board of Agriculture
45	EC	2014	Investment Support Under Rural Development Policy	Metis GmbH, Austrian Institute of Economic Research and AEIDL	European Commission

Reference n.	Member State	Year of publication	Title (English version)	Author	Publisher
46	EC	2017	Impact of CAP Pillar II Payments on Agricultural Productivity	Joint Research Centre	European Commission
47	UK	2023	Evaluation of the Countryside Productivity Small Grants and the Farming Equipment and Technology Fund	SQW	Department for Environment, Food and Rural Affairs (Defra)
48	UK	2023	Farm Business Grant Evaluation	Wavehill	Welsh Government
49	UK	2023	European Innovation Partnership Wales Evaluation Phase 2: Interim Evaluation Report	Wavehill	Welsh Government

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