STUDY

Requested by the AGRI committee

European Parliament

Support measures for farmers' income in different Member States in the context of inflation and rising production costs

Policy Department for Regional Development, Agriculture and Fisheries
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Abstract

This study examines recent developments in EU farm incomes, focusing on the heightened price volatility observed since 2020. Sharp increases in energy, fertiliser, and feed costs, driven by multiple factors, have led to significant income variations across Member States and farm types. The report reviews challenges in measuring farm income and proposes improvements to enhance the timeliness, coverage, and policy relevance of income data. It also summarises existing farm income support mechanisms and outlines policy options to improve targeting efficiency, strengthen sector resilience to shocks, and support the long-term economic sustainability and competitiveness of EU farm incomes.

This document was requested by the European Parliament's Committee on Agriculture and Rural Development.

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LIST OF ABBREVIATIONS

AGMEMOD	AGricultural MEmber State MODelling
AGRI	Agriculture and Rural Development Committee
AKI	Institute of Agricultural Economics
CAP	Common Agricultural Policy
COVID-19	Coronavirus Disease of 2019
CAPRI	Common Agricultural Policy Regionalised Impact model
CGE	Computable General Equilibrium
CSP	CAP Strategic Plan
EAA	Economic Accounts for Agriculture
EAAE	European Association of Agricultural Economists
EDI	Electronic Data Interchange
EP	European Parliament
EC	European Commission
EU-27	European Union in its current composition consisting of 27 countries
FADN	Farm Accountancy Data Network
FARMDYN	Farm dynamic optimisation model
FFI	Farm Family Income
FNVA	Farm Net Value Added
FSDN	Farm Sustainability Data Network
IACS	Integrated Administration and Control System
IFM-CAP	Individual Farm Model for Common Agricultural Policy Analysis
MAGNET	Modular Applied GeNeral Equilibrium Tool
MIDAS	Modelling Inventory and Knowledge Management System

MS	Member State
MMF	Multi Annual Financial Framework
OECD	Organisation for Economic Co-operation and Development
Teagasc	Agriculture and Food Development Authority
ToR	Terms of Reference
USDA	United States Department of Agriculture
WSER	Wageningen Social & Economic Research
WUR	Wageningen University and Research

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EXECUTIVE SUMMARY

Background and purpose of the study

The study assesses how recent output and input price movements have affected agricultural incomes across the EU and individual Member States over the last decade and especially in the period 2020 to 2024.

The study examines how aggregate (i.e. national level) and farm-level incomes are measured in order to suggest improvements in this process that would facilitate swifter policy responses when required.

A range of policies currently used in the EU to support incomes, address income volatility and contribute to other objectives of the CAP are reviewed, identifying where policy interventions have occurred and where gaps remain.

Insights are provided on how to direct financial resources more efficiently to support farming incomes given the budgetary constraints that exist. Ultimately the report identifies and evaluates practical options for improving the timeliness, targeting and effectiveness of income support and risk-management instruments in EU agriculture.

What do economic data tell us about farm incomes in the EU?

Price and cost dynamics: Agricultural input prices rose sharply from 2021 onwards, creating an initial squeeze on farm margins. Output prices later increased in many sectors, but those price increases were not uniform in timing or magnitude. In 2023 output values fell in some sectors, while input costs remained elevated, leading to a significant drop in income in some parts of agriculture.

Heterogeneous impacts across Member States and sectors: Income developments differed markedly by sector, farm size and Member State. Real farm income declined across most Member States between 2022 and 2023, particularly in Estonia, Lithuania, Denmark, Hungary, and Ireland, driven mainly by developments on field crops and dairy farm systems. Income growth remained strongest in Belgium, the Netherlands, and Portugal, driven by horticulture, granivore, and permanent crop systems.

Distributional patterns: Income inequality remains pronounced: a small share of farms receive a large share of total farm income.

Role of policy support in incomes: The CAP budget, supplemented by national funds, contribute a substantial share of farm income (around one third on average across the EU). Support payments are largely fixed in nominal value. Recently the real value of these support payments has been eroded more quickly by higher inflation.

Key conclusions from the analysis:

Sustaining viable farm incomes will require the right balance between: (i) exposure to market output and input price developments, which are necessary so that the sector has a market orientation; and (ii) targeted income support which can ensure that the sector remains sustainable.

Key conclusions are:

- **Farm incomes** are **more volatile** now and remain sensitive to sudden input and output shocks.
- **Structural factors** (farm size, specialisation, location) are major drivers of income differences observed across the EU.
- Farmers are, and will continue to be, exposed to economic, **climatic and geopolitical uncertainties**.
- There is a need for **policy mechanisms** that protect both nominal and real farm income.

- The EU's **targeting of agricultural support** has improved, as measures aimed at young farmers, small farms, and disadvantaged areas have emerged. A substantial share of the available support is still derived from the basic income support scheme.
- **Voluntary coupled support and risk management tools** contribute to sector-specific support and income stabilisation. Uptake of risk management instruments in the EU remains low. Implementation is challenging, due to limited availability (e.g. insurance schemes), limitations in data availability, administrative constraints and narrow farmer interest.
- **Existing supports** have mitigated some adverse effects on farm income, but are less effective when a rapid, targeted response is required or where uptake of risk instruments to mitigate farm income shocks is low.
- **Better, timelier farm income data provision** and broader farm household income measures would support more effective policy responses.

What measures are already in place to support farm incomes and what could be done differently?

Current instruments and their strengths/weaknesses:

- **Direct payments – Basic income support (CAP Pillar I):** These raise average farm incomes and provide a greater degree of predictability to income levels. They are simple to administer, but often poorly targeted to actual needs. Their fixed nominal value has been eroded by inflation, and they lack the flexibility to address income shocks.
- **Direct Payments – Eco Schemes (CAP Pillar I):** These remunerate farmers on the basis of income foregone for achievement of environmental actions. Consequently, they offer weaker support to farm income than basic income support.
- **Voluntary Coupled Support:** This is useful in targeting support to vulnerable sectors, or to ensure the strategic supply of particular farm outputs. They can result in perverse incentives when schemes are not well designed.
- **Risk-management tools (insurance, mutual funds, income stabilisation tools):** These are useful in reducing risk exposure, but uptake of these instruments across the EU is low due to cost, administrative complexity, data gaps, imperfect instrument design and poor knowledge of how they operate.
- **National crisis measures and state aid:** These are effective for rapid crisis relief following adverse price or production shocks. These can also be made available to sectors which receive little other CAP supports (e.g. pigs, poultry). However, the application of these instruments is ad-hoc and subject to national fiscal constraints.
- **Market interventions (price support, subsidies):** These may stabilise farm incomes, but they can also be distortionary (influencing the level of production and international trade) and are therefore constrained by international trade rules.

How might policy evolve to deliver better outcomes?

Policy options for the future: What can be done to enhance the efficiency and targeting of income support? One possibility would be to continue the process of aligning payments more closely with farmers' needs rather than associating payments with farm size. Expanding the effective use of risk management tools could further strengthen farmer resilience. Their adoption could be made more attractive through subsidisation, simpler administrative processes and better education and advisory support to help farmers understand them. Some form of indexation of support might be considered to protect its real value.

Complementing income support with measures that promote both sustainability and competitiveness will be essential to deliver long-term economic viability, environmental compliance and social sustainability. These will be essential requirements to ensure generational renewal in the sector so that it can deliver on all its objectives.

A total of 13 policy options have been evaluated on several criteria, namely, transfer efficiency, targeting efficiency and transaction costs. Direct payments score high on transfer efficiency but low on targeting, while counter-cyclical payments and insurance better target adverse events, but imply higher transaction costs and limited uptake (often favouring larger farms). Crisis reserves address deep losses or liquidity constraints, with relatively low public transaction costs.

Considerations in the content of the main areas of current policy debate

The targeting of CAP support needs to include a focus on the definition of an active farmer, how criteria to determine farm viability can be developed, and considerations relating to the capping of support. Policymakers could seek to improve targeting of support, by continuing to pivot away from farm-size based support instruments towards those that are better aligned with identifiable farmer needs.

The uptake of risk management tools could be made more attractive through increased subsidisation, simpler administrative processes and improved farmer education and advisory support. Financial support for some farmers may be necessary to allow them to engage in risk management practices and to allow them to make socially desirable (e.g. environmental or animal welfare) farm investment decisions. Indexation of support would protect its real value.

Overall, a mixed package of policy instruments is required tailored to objectives, taking account of practical considerations in the delivery of support and distributional trade-offs. Challenges that need to be addressed include practical verification, effective management of administrative burdens and the continuing need for monitoring and associated data provision to facilitate this.

1. INTRODUCTION

KEY FINDINGS

This chapter provides the background context for the study on support measures for farmers' income, outlining its aims, objectives, and the overall structure of the report.

This study provides an evidence base to inform EU agricultural policy by analysing how farm incomes have evolved, the sources of income volatility (with particular focus on recent input-price inflation alongside output price and weather variability), and how policy payments to farmers buffer farm incomes and supports farm resilience.

Using Eurostat and FADN data and a literature review, the report offers an EU-27 overview and includes case studies for the Netherlands, Ireland, Spain, Poland and Hungary, as well as a brief comparison with the United States.

The study assesses whether current income measures are adequate and evaluates the effectiveness of an extensive range of policy tools to support farm incomes.

The overall structure of the various chapters of the report are set out.

Key terms used throughout the report are defined in this chapter.

1.1. Background to the study

The production of food is the primary purpose of the EU agricultural sector, but it now faces complex economic, environmental and social challenges. Viable farming is critical to food production and the achievement of the wider sets of societal CAP objectives (encompassing a range of economic, environmental and social considerations) for EU agriculture. Examining how and why farm incomes have evolved is critical in delivering the right policy supports to ensure that EU agriculture can achieve its objectives. Volatile input prices have become a particular challenge for farmers in recent years, adding to the uncertainty present due to already volatile output prices and weather variability (OECD, 2025).

This study provides a robust evidence base to support policymakers in shaping and targeting future support for the EU agricultural sector. The study examines farm income trends and income volatility and their sources. The role of inflation in both input and output prices and the factors behind these is a particular focus. The study provides an EU level overview, as well as a 'deeper dive' for specific EU Member States (see Chapters 2 and 3 of the study).

The study considers whether better measures of farm income can be developed to address any inadequacies identified in current data sources. The effectiveness of existing policy as a means of income support, as an aid to ensuring viability and resilience (Meuwissen et al., 2019) is assessed and suggestions for potential improvements are described.

Box 1: Rationale for selection of the Case-Study Countries

To complement the EU-27 analysis, five Member States were selected for more detailed examination. In part, this was to provide some Member State level diversity in the commentary because, within the constraints of the report it would not be possible to discuss every single Member States in detail. The selected case study countries were, Ireland, Hungary, the Netherlands, Poland and Spain. Together, these countries represent a range of structural, climatic and market diversity within EU agriculture.

Irish agriculture is characterised by a mainly export-oriented livestock system, with only a small crop sector. Farm incomes are strongly influenced by international agricultural commodity price developments, input cost volatility and, increasingly, by environmental policy constraints. Ireland's grass-based dairy sector is particularly sensitive to global commodity markets and faces increasing challenges due to policy-driven limits on farming practice, while its largely extensive beef and sheep sectors rely heavily on support payments as an income source. There is a strong cultural attachment to land in Ireland, which is an impediment to structural change.

Dutch agriculture is both highly land intensive and capital-intensive. It operates under tight environmental constraints, and, given the country's small size and high population intensity, land scarcity (and extremely high land selling prices and land rental prices) is also a feature. Given the sector's strong export focus, international commodity price developments exert a strong influence on domestic prices. While agriculture in the Netherlands receives income support, as a share of farm income this support is among the lowest across the EU Member States.

As a Mediterranean country, **Spain** was chosen in order to capture income volatility linked to climatic risk and resources scarcity (e.g. water), particularly in the context of its substantial fruit and vegetable sector. While Ireland and the Netherlands are quite exposed to international commodity price developments, climate variability and yield risk are linked to income instability in Spain.

Hungarian agriculture was chosen as representative of the arable agriculture that is prominent in much of Central and Eastern Europe. In Hungary farm incomes are closely tied to weather variability, with international cereal and oilseed commodity price developments also of great importance. Direct payments are also an important contributor to agricultural income in Hungary. The sector can be characterised as still being in transition following EU membership in 2004. Large farms co-exist alongside small less efficient farms. EU membership has made commodity prices and farm incomes more volatile.

Poland was chosen as a case study country because of the diversity in its farm structures. Polish agriculture is characterised by a large number of small and medium-sized family farms. Like Hungary, even though it has been an EU member for 20 years, Poland's agriculture sector is still in transition, and it continues to deal with structural and productivity challenges. Farm incomes in Poland are sensitive to volatility in output prices and input costs and as a result, CAP payments play an important role in income stabilisation. Just as in Ireland there is a strong cultural attachment to land which may hinder structural change. As in the case of Hungary, EU membership has made commodity prices and farm incomes more volatile in Poland.

1.2. Study purpose and aims

This study analyses the evolution of farm income and the effectiveness of policy support measures in promoting economic resilience and long-term sustainability within the EU. The research is based on a review of the literature and analysis using Eurostat and Farm Accountancy Data Network (FADN) data.

The goal is to support the European Parliament's contribution to EU policymaking. The analysis explores how farm income has evolved over time, taking account of inflationary pressures and ongoing structural changes within the agricultural sector. The role of support payments is examined, to assess how they buffer farm incomes against income volatility, thereby supporting the resilience of EU agriculture. In broad terms the study relates to the EU, with more detailed case studies focusing on five representative Member States: the Netherlands, Ireland, Spain, Poland, and Hungary.

The study also examines how income trends and policy impacts vary by farm size and farm type, providing greater depth to the insight developed for policymakers.

Comparative analysis in the report contrasts developments in farm income and agricultural support across the EU and the United States (US). This will provide a deeper understanding of the effectiveness of different policy approaches to the challenge of coping with income volatility.

The overall objective is to deliver a set of evidence-based policy options that can guide future agricultural policy in ensuring stable and sustainable farm incomes across the EU.

1.3. Structure of the report

Chapter 2 explores developments in farm income, in aggregate, at Member State level and for various farm systems. It considers both the structural and external factors influencing farm income developments.

Chapter 3 examines the impact of inflation on farm margins and incomes, examining how input expenditure and output value have impacted on farm profitability. Differences in farm income across system, Member States and farm size are outlined. The chapter also briefly contrasts the experience in farm incomes in the US.

Chapter 4 considers the methodological toolbox available for farm income assessment. Current indicators used to monitor and evaluate income developments across the EU are assessed against potential indicators that could be used.

Chapter 5 focuses on the role of support mechanisms in supporting and stabilising farm incomes. The effectiveness of direct payments, risk management tools, and other CAP instruments in addressing volatility are assessed.

Chapter 6 provides policy options for the CAP which could address income volatility and enhance the resilience of EU agriculture.

Finally, the approach and methodology used in the study are presented in the form of an annex. This chapter covers both the data sources and the analytical techniques employed to address the research questions.

1.4. Key terminology used in the report

Key terms used in the report are presented below.

Term	Definition
AWU (Annual Work Unit)	A standardised measure of labour input representing one full-time worker employed on a farm for one year. It is commonly defined as the equivalent of 1 800 hours of labour per year.
Deep risk	It refers to large adverse shock such as catastrophic events, which create a need public support

Factor Income	The net income generated by agricultural production that is available to remunerate the unpaid work of the farm family, the risk capital provided by the farmer, and to cover the return on own land and other fixed factors.
Family Farm Income	The income available to the farm family after accounting for all farm-related costs, including depreciation. It represents the return to family labour, management, and capital. In many national farm accountancy frameworks, it is the key indicator of the economic well-being of farm households.
FWU (Family Work Unit)	A standardized unit of measurement, primarily used in agricultural economics within the European Union (EU) and Farm Accountancy Data Network (FADN), representing the unpaid labour equivalent of one person working full-time on a farm.
Farm Gross Output	The total value of everything a farm produces in a given period before subtracting any costs. It includes the value of crops, livestock, and other farm products sold, plus changes in inventories.
Farm Net Value Added	The total output (total production value), plus direct payments minus intermediate consumption and depreciation. It represents the amount available to remunerate all fixed production factors (land, labour and capital), either owned by the farm or external.
Farm Profitability	A measure of the financial success of an agricultural operation in creating profit margin by comparing its revenues to its expenses.
Farm Viability	A measure of whether a farm can generate a sufficient level of income to remunerate family labour (typically at the average agricultural wage) and provide a return on owned assets. A viable farm is considered capable of sustaining long-term economic activity without depleting resources or relying excessively on off-farm income.
Income Transfer Efficiency	How effectively a policy converts public expenditure into income gains for the intended beneficiaries (farm households).
Shallow risk	This term refers to managing normal, frequent farm losses (like small yield drops or price dips) which farmers can handle using on-farm strategies and savings
Standard Output	The **standard output** of an agricultural product (crop or livestock), abbreviated as **SO**, is the average monetary value of the agricultural output at farm-gate price, in euro per hectare or per head of livestock.
Targeting efficiency	How well a policy directs support towards the intended beneficiaries and the intended policy objectives.
Transfer efficiency	See, income transfer efficiency
Variable costs	Expenses (relating) to the farm that change in line with the level of production, in contrast to fixed costs which remain the same regardless of output.

2. RECENT EVOLUTION OF PRICES AND AGRICULTURAL INCOME

KEY FINDINGS

The recent price shock can be traced back to the post-COVID reopening of economies and the sharp rise in European natural gas price from late-2021 which pushed up nitrogen fertiliser prices and then animal-feed and other input prices.

While farm output values also increased, driven largely by rising prices, there was a timing mismatch between input and output price increases which produced a damaging price–cost squeeze in 2023 which hit farm margins and incomes.

Impacts were uneven across sectors, farm sizes and Member States, with small farms particularly vulnerable because they rely more on fixed support payments whose real value has been eroded by general inflation.

Structural factors in the form of labour shortages, increased emphasis on environmental compliance and associated investment requirement have added to cost pressures

A more detailed understanding of the drivers of change in farm income require examination of income developments by farm type, which is contained in Chapter 3.

This chapter takes us back to the beginning of the price shock that has affected EU agriculture over the last five years. It presents the origins and timing of the input price shock which has affected the sector. The shock began with a rise in natural gas prices which in turn led to an escalation in synthetic fertiliser prices and ultimately animal feed prices. Chapter 2 goes on to describe how output prices eventually increased in response to the rise in input costs. The chapter then describes how a mismatch in the timing of the increase in input and output prices led to a price cost squeeze in 2023. The content of Chapter 2 sets the scene for a deeper examination of the implications for farm incomes which is the subject of Chapter 3.

2.1. Context

Farm incomes are a key consideration for the CAP. Agriculture presents farmers with many risks. Farmers make production decisions without complete knowledge of the extent of their production costs or the value of the farm output in the production season. In some cases, farmers harvest and sell their output on a weekly or monthly basis, while in other cases they may sell their output just once in the production season. Therefore, there can be significant time lags between expenditure on farm production costs and the receipt of farm revenue from the sale of farm outputs. In turn this creates uncertainty about the likely profitability of individual farming activities and farm income overall. Farmers must also cope with weather related production risk. Therefore, challenges presented by volatile production costs and output prices are unwelcome, since they make profitability and farm income even more uncertain.

From stability to volatility

Much of the focus of the CAP in the last century was on stabilising output prices to ensure more predictable levels of farm income, providing farmers with a stronger basis for making their production decisions. A feature of the CAP in that period was its attempt to insulate EU farmers from the volatility in output prices associated with global agricultural supply and demand dynamics.

However, a range of subsequent EU agricultural and trade policy reforms at the turn of the century (reducing the protection of the EU market from the world market) have made EU farm incomes more volatile in the last two decades. Most recently, geopolitical shocks have added to this uncertainty. Also, climate change (irregular weather patterns, droughts) is adding to the uncertainties and shocks farmers must contend with (Boysen et al., 2023). As a result, the resilience of the farming sector, i.e. the ability of farmers to cope with price and yield volatility, has received increasing attention (Meuwissen et al., 2019).

In the first decade of this century EU farm incomes began to become more volatile (Matthews, 2010). Due to a combination of factors, including strong commodity demand associated with rapid economic development in China and India, along with limited commodity supply growth, a surge in energy prices occurred in the 2000s. Crude oil prices reached over US$140 at one point in 2008. This led to a sharp rise in agricultural production costs and subsequently a sharp rise in output prices. However, the subsequent global financial crisis supressed demand and led to a collapse in output prices and farm incomes in 2009 (Lin and Martin, 2010).

The recent inflation crisis of the 2020s has posed further income challenges for farmers. Input prices began to rise sharply over the course of 2022, supressing farm income in 2023. While some output prices subsequently increased, the lag between production cost increases and output price increases resulted in a price cost squeeze in 2023, with adverse consequences for agricultural incomes.

Further aims of the CAP

Aside from ensuring an adequate income for farmers, one of the wider aims of the CAP is that it should provide affordable food to EU citizens and do so in a way that is in harmony with the environment. Hence agricultural support from the EU Budget is provided to EU farmers to ensure that farm incomes are not exclusively dependent on profit margins from food production and to assist farmers in additionally achieving environmental and societal goals.

Dependence on support payments

Persistent income volatility and disparities in income levels between different farm systems and farms of different sizes are a contemporary feature of EU agriculture. Many farms in the EU have a high level of dependence on support payments as an income source, especially smaller farms (Ciaian et al., 2020). There have been uneven income developments given the disparities across sectors and farm size in the EU (Hill and Bradley, 2015).

How have farmers and policymakers responded thus far?

Allied with other farmer concerns, the rise in agricultural costs and resulting pressure on farm incomes led to a series of EU wide farmer protests in 2023 (Matthews, 2024). The subsequent response from EU policymakers has included the Strategic Dialogue on the Future of EU Agriculture (European Union, 2024). The Strategic Dialogue has produced a set of stakeholder-driven proposals and emphasises the need to direct support towards those farms that really need it. This has been followed by the EU Vision for Agriculture and Food (European Commission, 2025a) which places a strong emphasis on ensuring farm viability.

Diversity in EU agriculture

EU agriculture is very diverse. The dominant agricultural activities across the EU vary considerably reflecting the local climate, soil type/quality and topography. Trade between Member States, facilitated by their EU membership has also promoted regional specialisation in particular agricultural activities. One of the motivations for the creation of the EU was to try to replicate the success of the US agricultural system in providing a diverse and affordable range of crops, meat and animal products for its citizens, while providing farmers with better access to a larger market to allow them to benefit from specialisation.

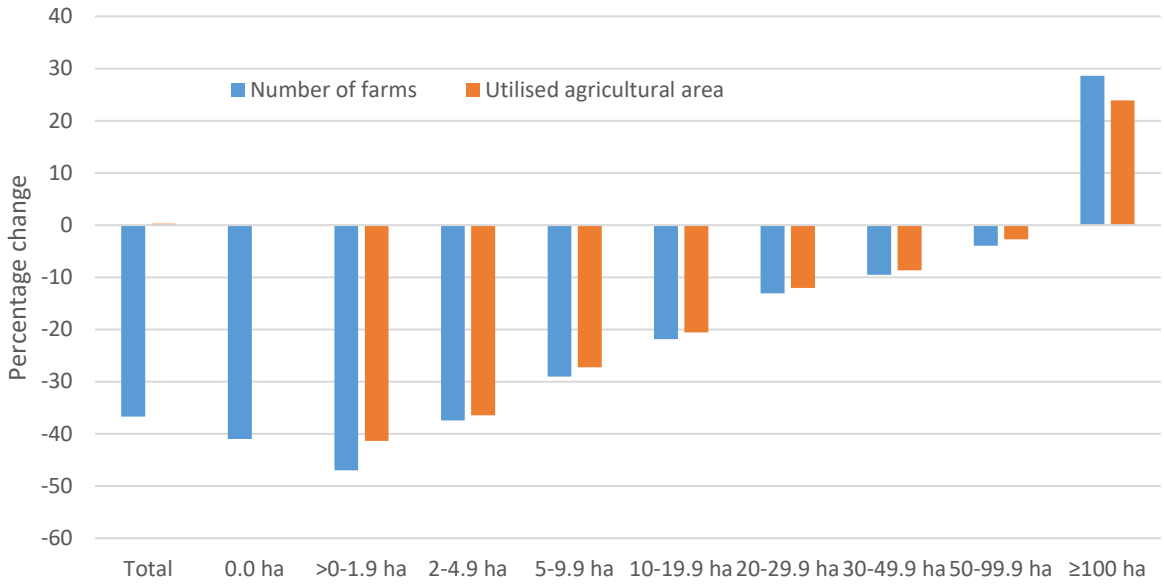
Increasing farm size and declining farm numbers

Farms structures across the EU differ considerably. Small and medium sized farms remain abundant in the EU, but the overall decline in the number of farms in the EU means that there is a growing trend towards larger farms (Piet, 2016). The change in the number of farms by farm size is shown in Figure 1.

Output and input price volatility

From a policy perspective EU agriculture is governed by the CAP and also has a common system of trade tariffs with third countries. A system of common product standards is also in place in the EU to promote trade within the Union. To the extent that any agricultural product produced across the EU can be considered as a commodity (close substitutes), this in turn should lead to price convergence across the EU in the price of that commodity by means of trade. However, differences in farm output prices do exist across the EU, some of it explained by perceived differences in quality and other consumer preferences, while some price differences may be explained by transportation costs and other costs in the agri-food chain. Even if differences in price levels do exist across the EU, we might still expect that Member State level prices would be correlated i.e. that they would move in tandem across the EU.

Figure 1: Developments in the number of farms by size class in EU from 2005 to 2020



Source: Eurostat

The same argument can be made for why we might expect input prices across the EU to be correlated. We would expect this to be true for traded inputs such as animal feed and fertilisers for example.

However, not all farm inputs are traded across the EU. Services (e.g. veterinary, accounting, farm advice) tend to be provided by the local market. Prices for other farm inputs such as electricity depend on the local structure of the energy market as well as international supply and demand for energy commodities. So, a divergence in price movements between Member States could be more likely where trade is less of an option.

Profit margin vs farm income

Movements in both agricultural output and input prices (and the precise timing of such price movements) are a key determinant of EU farm profitability – the profit margin achieved. Here a distinction needs to be drawn between profitability and farm income with respect to EU farm income support, the key difference being that agricultural support payments contribute to farm income but do not contribute to profit margins. Moreover, depending on the farm system in question, decoupled support payments in the EU can be quite substantial (e.g. cattle farms) or practically non-existent (e.g. horticulture, pig and poultry farms).

Farm income volatility

The fixed nature of support payments (farmers know how much decoupled support they should expect to receive in a production season) means that this component of the farmer's income is very predictable. On the other hand, profit margins for agricultural activities are subject to local level production risk (e.g. weather or disease shocks) as well as price risks on both the farm output and farm input side, which are more typically determined by international factors.

If positive farm incomes arise in a predictable manner, this will encourage farmers to engage in agricultural activity, including farm investment, technology adoption and generational renewal, all of which are important for the continued success of the agri-food system. The EU has therefore used agricultural and trade policy to provide stability in farm incomes, particularly for smaller and less profitable farms where income shocks are likely to be more of a threat to the continued success of the farm business.

Farm incomes have become more volatile in the last 20 years, but until relatively recently most EU farmers were still accustomed to relatively small inter-annual changes in output and input prices. As will be observed later in this chapter, movements in output and input prices have become more pronounced since 2020. If output and input prices both change at the same time and the price changes are of similar magnitude and in the same direction, the implications for farm income will be more modest. By contrast, if a fall (rise) in farm output prices coincides with a rise (fall) in production costs or an adverse production shock, this can have significant implications for farm income. Price inflation in either outputs or inputs can therefore have either a neutral, positive or negative impact on farmers' nominal incomes.

Changes in the rate of general inflation

However, farmers' incomes, just like incomes in other sectors of the economy, are also vulnerable to general inflation – the measure of the changes in prices for goods and services in the economy. Inflation in the EU for much of this century was quite low, averaging less than 2% per year in the period 2000 to 2019. However, the level of inflation over the last 5 years has been considerable, averaging close to 4.5% in the period 2020 to 2024. In the context of high inflation, the fixed nominal value of support payments is a concern, since inflation erodes the purchasing power of these fixed nominal payments. This means that if the purchasing power of farm income is to be maintained, farm profitability measured in nominal terms needs to increase to offset the impact of inflation on both nominal farm profitability (farm margins) and the nominal value of support payments.

2.2. Identification and categorisation of key drivers of cost inflation in EU agriculture

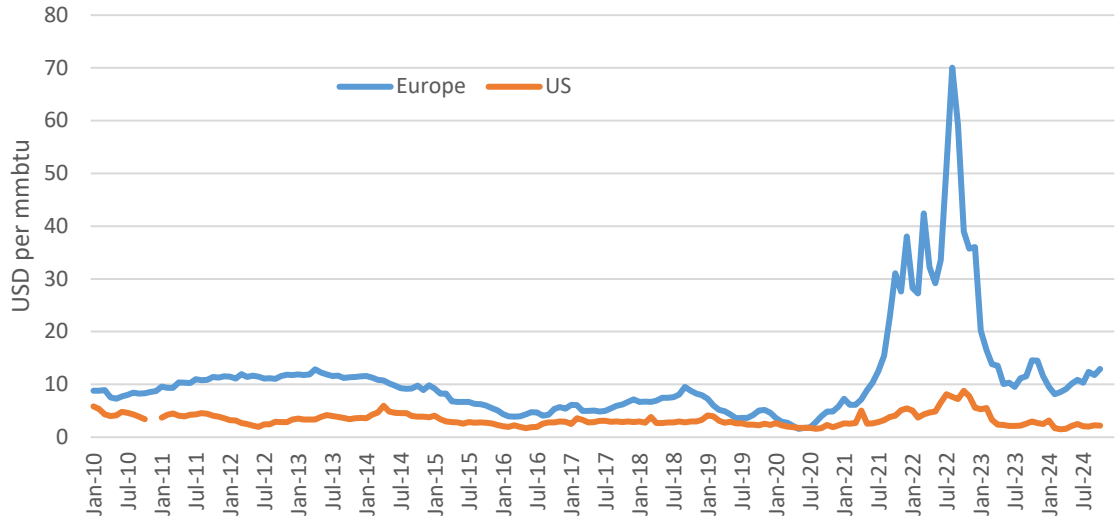
International literature suggests that farm income dynamics are influenced by controllable micro factors and uncontrollable macro factors (Latruffe, 2010; Beckmann and Schimmelpfenning, 2015). The uncontrollable factors include output prices, input prices, weather and policy. In addition, factors relating to the farm, farmer and farm management also play a role in farm income dynamics.

But what exactly has happened to output and input prices in recent years and how has general inflation affected agricultural incomes? In the next section, we examine developments in farm output and farm input prices, dividing the past 10 years into two time periods, 2015 to 2019 and 2020 to 2024, to contrast the changes in both output and input prices that has occurred in these two periods. We also examine nominal agricultural income developments. We do this using EU-27 and Member State level data for output prices, input prices and aggregate agricultural income. However, this data cannot show us what has happened to income for individual farm types since this requires more detailed analysis using FADN which takes place in Chapter 3.

Recent inflationary developments impacting on agriculture

Beginning in 2021 as the COVID-19 lockdown eased, the 2022 Russian invasion of Ukraine led to an escalation in energy prices (most notably in the European natural gas market), which was transmitted to other forms of energy (e.g. electricity) and in turn to general inflation (Vos et al., 2025). This had a substantial impact on agricultural production costs in the EU. Notably the price of natural gas in Europe became far more expensive than in the US, as illustrated in Figure 2.

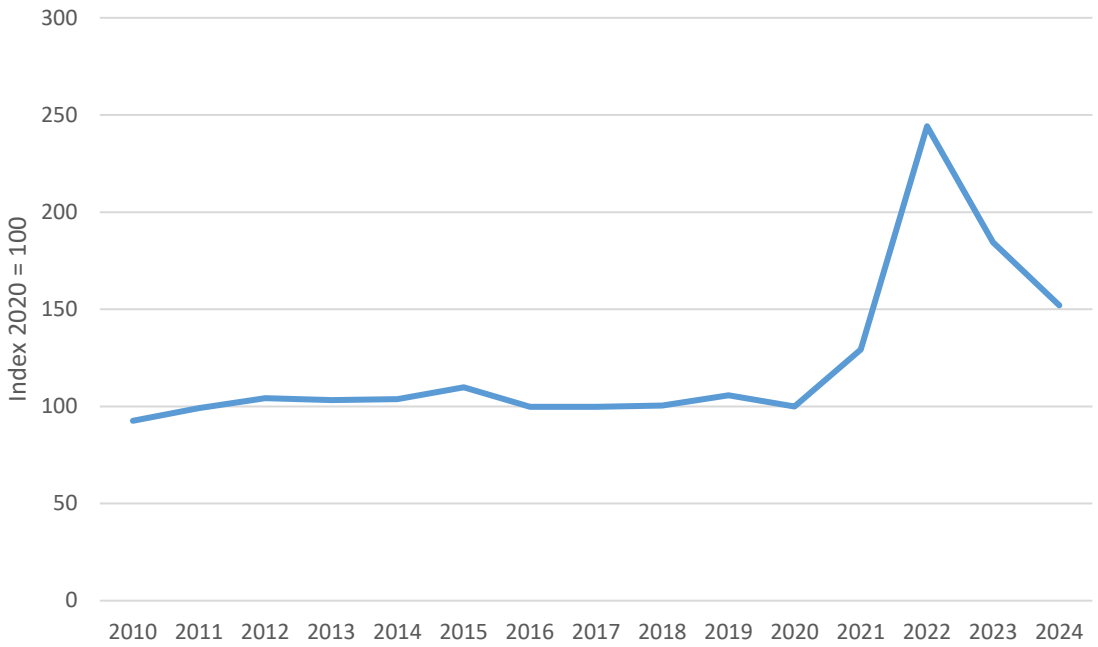
Figure 2: Monthly European and US natural gas prices 2010 to 2024



Source: World Bank

Natural gas is the key ingredient in the production of nitrogen-based fertilisers. There is a strong correlation between natural gas prices and fertiliser prices. Fertiliser prices rose sharply, as illustrated in Figure 3, given that fertilisers became much more expensive to produce which in turn let to lower levels of production and use (Schnitkey et al., 2022). In addition, the EU attempted to reduce its dependency on fertilisers manufactured in Russia and Belarus (Vos et al., 2025).

Figure 3: Index of annual fertiliser prices 2000 to 2024



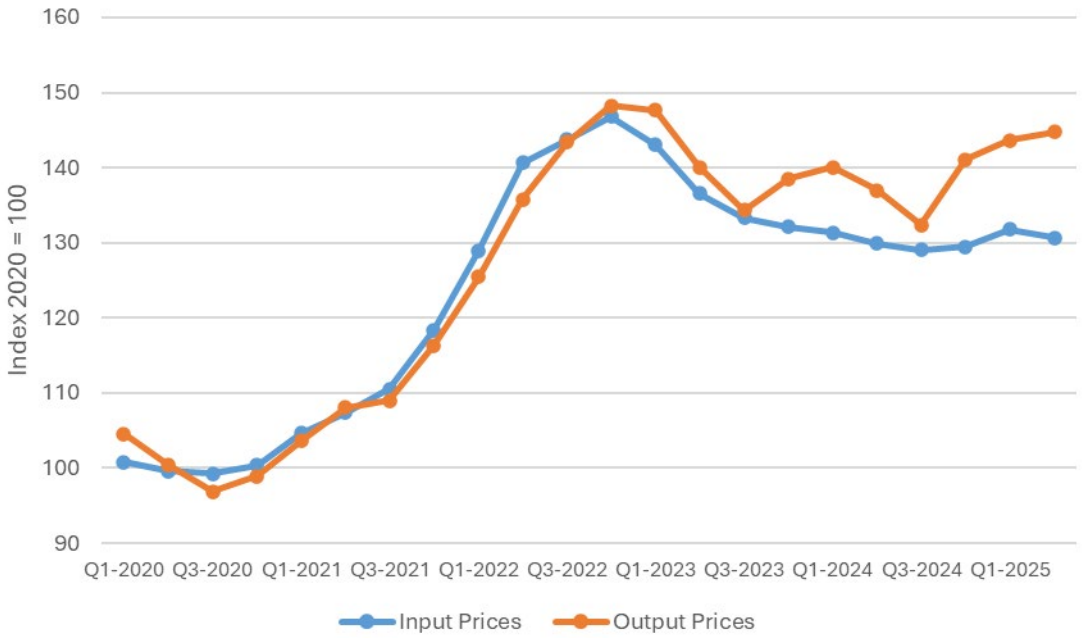
Source: World Bank

Higher prices were observed for electricity, diesel and crop protection products as well as for the wider range of inputs and services required on farms. As these higher costs fed through the production system, prices for cereals and oilseeds increased, which in turn eventually led to an increase in animal feed prices. As general inflation surged, the wage demands of workers increased and in a tight labour market this resulted in an increase in labour costs on farms.

This initial wave of inflation had serious consequences for farm incomes. Farmers are price-takers and therefore have weak market power in the negotiation of farm output prices with food and drinks processors (Deconinck, 2021). Farm output prices eventually began to increase at a faster rate than input prices, but in the intervening period farmers faced higher production costs and sharply lower farm margins and farm incomes. The impact was most acutely felt on small farms, where income levels are normally already low. The importance of the support payments received by these farms became critical. However, in percentage terms larger farms tended to experience larger income reductions, given that support payments are typically a smaller share of income on those farms.

Ultimately farm output prices increased to offset at least some of the increase in agricultural production costs, but in the intervening period some of these farms were at risk of going out of business, due to the price cost squeeze (Beck et al., 2024).

Figure 4: Quarterly developments in EU-27 input and output prices



Source: Eurostat

Summary timeline for the development of the price shock

- **Summer 2021:** Reopening around Europe following COVID-19 restrictions
- **Autumn 2021:** Rise in European natural gas price begins
- **Autumn 2021:** Fertiliser prices begin to increase
- **February 2022:** Russia's invasion of Ukraine
- **February 2022:** European gas prices and fertiliser prices escalate
- **February 2022:** Animal feed prices begin to move upwards
- **May 2022:** Prices for eggs and poultry move upwards
- **March 2023:** Prices for pigmeat move upwards
- **November 2024:** Prices for bovine meats begin to move upwards

Further impacts of commodity markets developments

The overall impact of input price inflation on EU agriculture is complicated by wider commodity market developments. Production volumes in some sectors of EU agriculture are in decline (barley, beef, sheepmeat, pigmeat), while domestic EU demand is relatively stable (or international demand even rising) which has tended to lead to rising EU farm commodity prices. In other sectors, EU production volume is relatively stable (dairy), but domestic and international demand is robust, which again positively impacts on farm output prices.[1] In EU grain and oilseed markets prices are largely determined by global supply and demand conditions.

[1] See, also, Jongeneel et al. (2022) for an assessment of the potential medium-run impacts of the Russia-Ukrainian war on the Dutch agri-food sector.

More general issues facing EU agriculture that lead to cost inflation on farms

There are also broader structural issues affecting EU agriculture that act as underlying drivers of agricultural production cost inflation. The demographic challenge in rural areas—characterised by ageing farm operators, out-migration of young people, and declining population densities—continues to constrain the availability of skilled and seasonal labour. This results not only in labour shortages but also in upward pressure on farm wages and competition for workers with other sectors offering more stable or attractive employment conditions (Gaupp-Berghausen et al., 2022). At the same time, tightening environmental requirements—covering greenhouse gas emissions, ammonia reductions, nitrate management, biodiversity conservation, and soil protection—require farmers to modify production practices, adopt new technologies, or invest in infrastructure and equipment. These adjustments often involve substantial upfront capital costs as well as ongoing compliance and monitoring expenses, thereby increasing the overall cost of production (Matthews et al., 2023). Additionally, growing societal expectations surrounding food quality, traceability, and animal welfare are leading to further regulatory and market-driven changes in production systems. While these measures respond to consumer preferences and ethical considerations, they frequently imply higher operating costs and reduced economies of scale, contributing further to cost pressures on farms (Grethe, 2017).

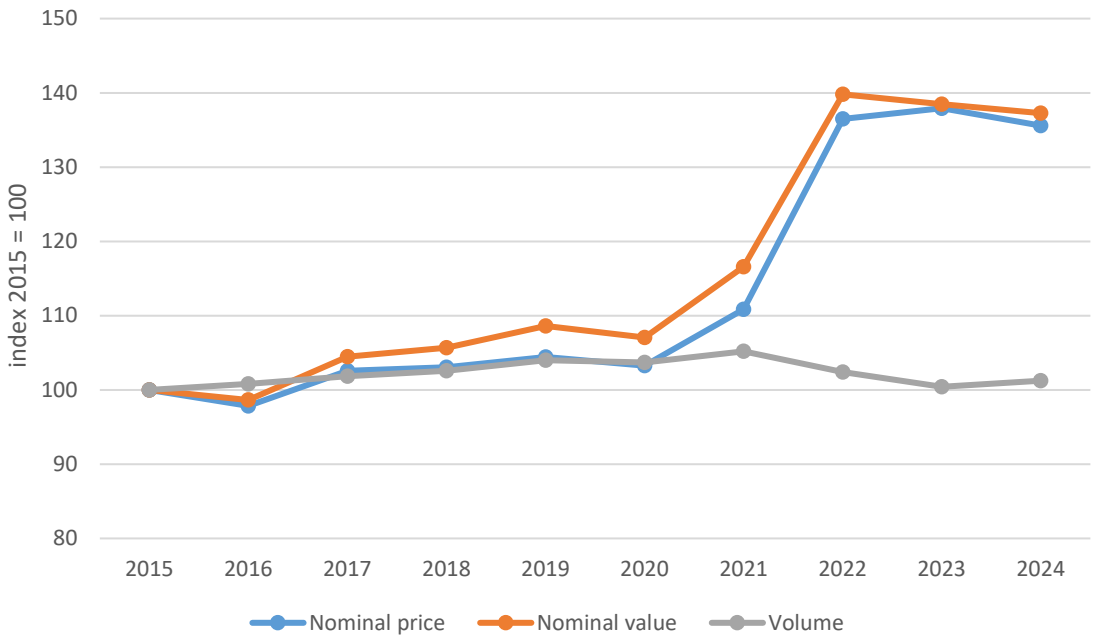
2.3. Evolution of EU output and input prices: trends and inflationary impact

In this section the last decade is divided into two component parts. The price level in 2019 is compared with the price level in 2015 to calculate a price change over that period 2015 to 2019. Similarly, the price level in 2024 is compared with the price level in 2020 to calculate a price change over that period 2020 to 2024.

EU agricultural output dynamics

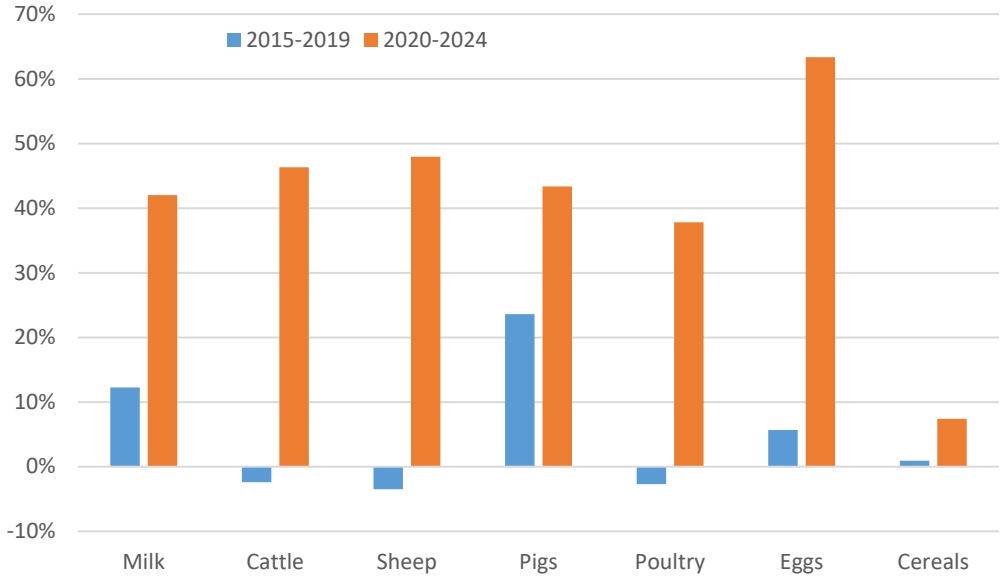
Figure 5 shows the evolution of EU agricultural output in the period 2015 to 2024, aggregating across all categories of farm output. It shows that output value has increased considerably, but also indicates that the volume of output has changed little, implying that most of the increase in output value that has occurred is due to inflation in output prices (the price of the output farmers produce).

Figure 5: Evolution of EU agricultural output value and its decomposition by price and volume



Source: Eurostat

Figure 6: Percentage change in selected farm output prices in the EU-27



Source: Eurostat

The cumulative increase in output value between 2015 and 2020 was less than 8 %. However, by 2022 output value has increased by a further 32 % and remained more or less at that level in 2023 and 2024. It can be concluded that the increase in output value is largely associated with price rather than volume changes. Therefore, the changes in output prices are now explored in more detail.

Figure 6 highlights some of the main elements of farm output in the EU. It shows the change in selected EU farm output prices, dividing the timeframe 2015-2024 into two contrasting periods. There is clear

evidence of a very different level of price movement in the period 2020 to 2024 compared to the period 2015 to 2019. All prices changes shown are in nominal terms. Overall, cereals show the smallest percentage price change in both periods. The prices changes for milk, eggs and meats are much larger, especially in the period 2020 to 2024.

EU agricultural output prices – The importance of international trade

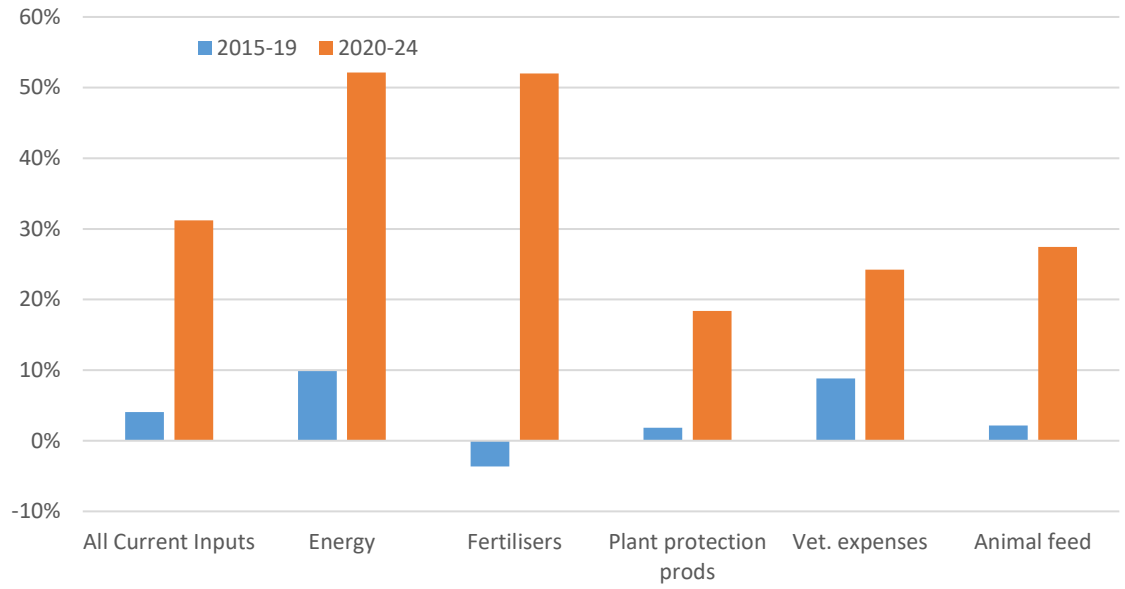
The evolution of EU output prices is influenced by several components, including production and consumption in the EU and international trade. The relative importance of these factors in explaining the rise in output prices varies depending on the commodity concerned. For example, if we consider commodities such as beef, sheepmeat or butter, then the EU market currently has a high level of tariff protection. Limited EU production relative to consumption has led to higher EU prices for these commodities, but this does not tend to stimulate substantial imports due to the EU's high import tariffs on these commodities. This means that EU prices for commodities such as beef, sheepmeat or butter are largely determined by factors influencing internal EU supply and demand.

By contrast there is much less protection of the EU grain market from imports from third countries due to the low level of import tariffs that apply. This means that EU prices for cereals are largely determined by supply and demand at the world market level and therefore the path of cereal prices over time tends to reflect global supply and demand conditions.

EU agricultural input market price dynamics

Data in Figure 7 are reflective of average changes in input prices across the EU. It shows the change in EU "current inputs" (i.e., goods and services currently consumed in agriculture) and selected input items which fall into this category. Again, the years 2015–2024 can be divided into two contrasting periods. There is clear evidence of a very different scale of price movement in the period 2020 to 2024 in most cases, particularly so for key inputs such as energy, fertilisers and animal feed. All price changes shown are in nominal terms.

Figure 7: Percentage change in selected farm input prices (inputs1) in the EU-27

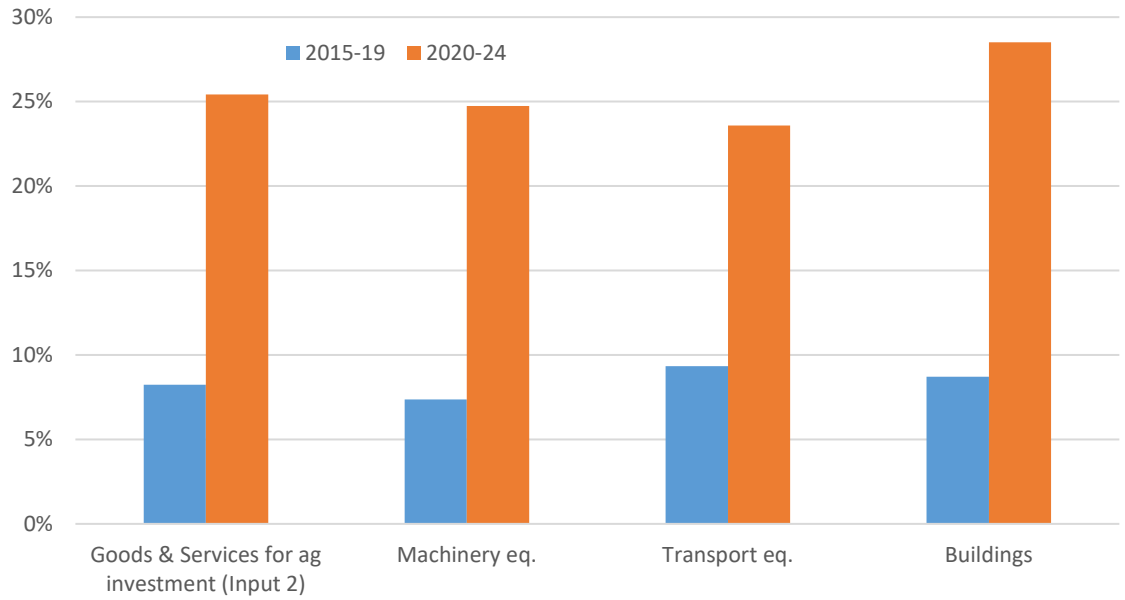


Source: Eurostat
Note: Inputs 1 – Goods and services currently consumed in agriculture

The percentage increase in these input prices in the post 2020 period are unprecedented in this century. The importance of these current consumed input price changes for the agricultural sectors of individual Member States will vary according to the type of agriculture that dominates (i.e. whether it is crop or livestock oriented) and whether it is an intensive or extensive user of purchased inputs (such as animal feed or fertiliser).

Figure 8 shows the change in EU "investment inputs" (goods and services contributing to agricultural investment) and selected elements contributing to this category of inputs. It shows clear evidence of higher price increases in the recent years compared with those observed between 2015 and 2019. This applies to key items such as machinery, transport equipment and buildings. All price changes shown are in nominal terms.

Figure 8: Percentage change in selected farm input prices (inputs 2) in the EU-27



Source: Eurostat
Note: Inputs 2 – Goods and services contributing to agricultural investment

2.4. Evolution of Member States output and input prices: trends and inflationary impact

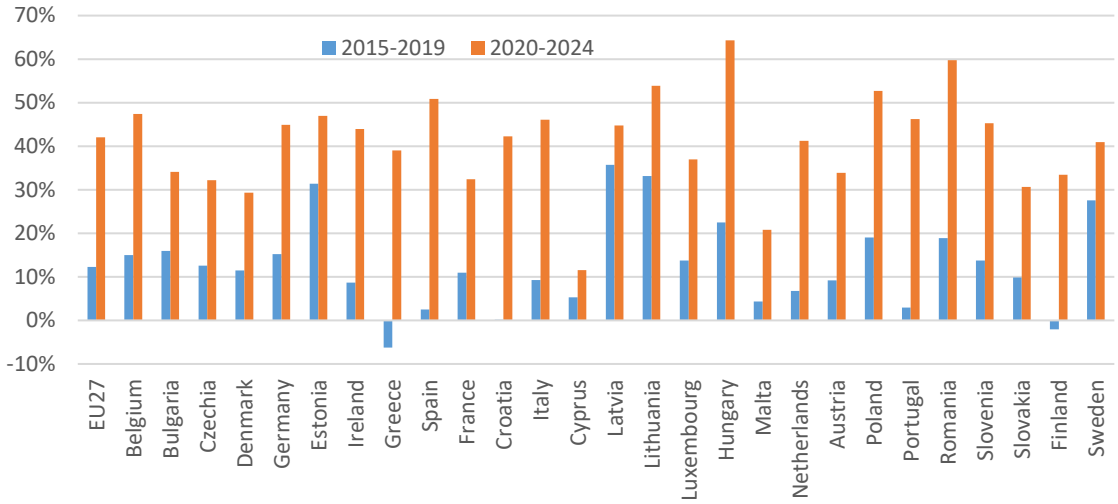
In this section the last decade is divided into two component parts. The price level change in 2019 is compared with the price level in 2015 to calculate a price change over that period 2015 to 2019. Similarly, the price level in 2024 is compared with the price level in 2020 to calculate a price change over that period 2020 to 2024.

Farm output prices – Developments in milk, cattle, pig, poultry and cereals

The changes in milk prices that occurred in the EU-27 and in each Member State are shown in Figure 9. For the EU as a whole milk prices increased by 12% in the period 2015 to 2019, whereas their increase in the period 2020 to 2024 was 42%. Variations in milk prices occur from year to year in response to international supply and demand for dairy products. Some Member States have milk prices which are more volatile than in other Member States, especially those that have higher levels of dairy exports as a share of their national milk production, such as Ireland and the Netherlands.

While there is some variation between Member States, broadly the rate of milk price inflation was much higher in the second period.

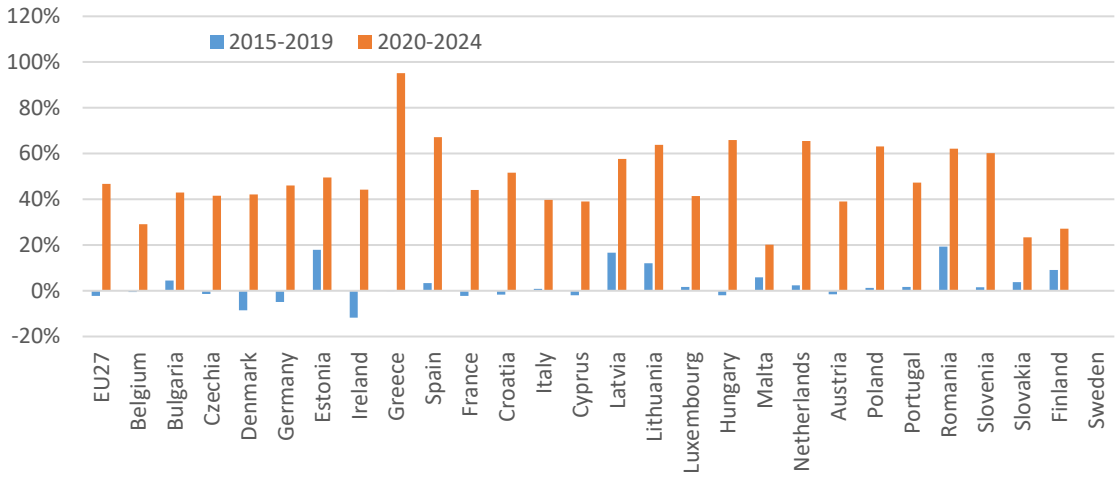
Figure 9: Percentage change in milk prices in EU-27 and by MS



Source: Eurostat

Figure 10 further illustrates the percentage change in cattle prices across the EU-27 over the period. For the EU as a whole, cattle prices fell by 2% in the period 2015 to 2019, whereas they increase in the period 2020 to 2024 was 47%. Variations in cattle prices occur from year to year in response to international supply and demand for beef and in particular the supply and demand balance in the EU. Again, the extent to which Member States export to other countries influences the volatility in prices. Also the level of prices is influenced by the quality of the beef produced in the various Member States. The first period is characterised by price stability, whereas the inflation in cattle prices in the second period is quite pronounced. Without exception cattle prices have risen considerably across the EU.

Figure 10: Percentage change in cattle prices in EU-27 and by MS

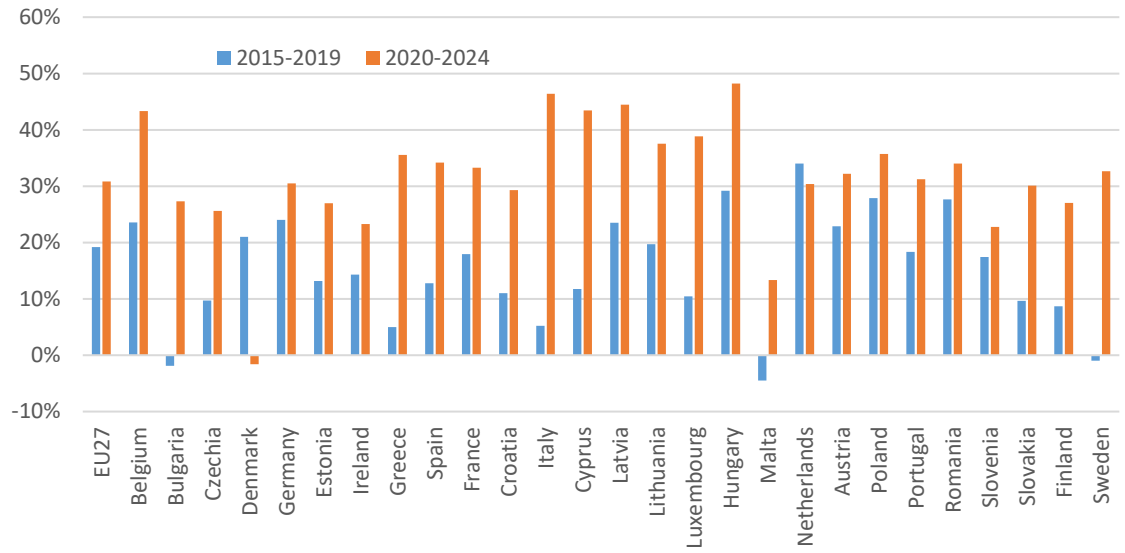


Source: Eurostat

Figure 11 illustrates the percentage change in pig prices across the EU over the period. In contrast to cattle prices, both the first and the second period pig prices show quite a lot of movement. Pig prices are noted for being quite volatile due to a phemomenon known as the pig cycle, where high pig price trigger increased production of pigs which then tends to reduce pig prices. A disease outbreak in a major pig producing country can trigger culling which reduces the international supply and leads to

increased pig prices internationally. The price of pigs in the EU over the last decade has been highly influenced by fluctuations in demand for pig meat imports in China. A major outbreak of African Swine Fever in China in the period 2018 to 2020, led to a sharp reduction in its pig production and an increase in its pig meat imports. This is turn led to a sharp increase in EU pig prices. While China's import demand has decreased in the subseqeunt years, the decrease in the size of the EU pig herd along with higher pig production costs has resulted in generally higher pig prices in the period 2020 to 2024 relative to the period 2015 to 2019 (Jongeneel et al., 2020). Pig production costs are highly influenced by the costs of pig feed and to a lesser extent the cost of energy which is responsible for lighting, heating and cooling pig farms facilities. For the EU-27 pig prices rose by 19% in the period 2015 to 2019, while pig prices rose by 31% in the period 2020 to 2024. Across the EU this pattern of price movements was broadly consistent, with some Member States recording increases above and below the EU-27 average price movements.

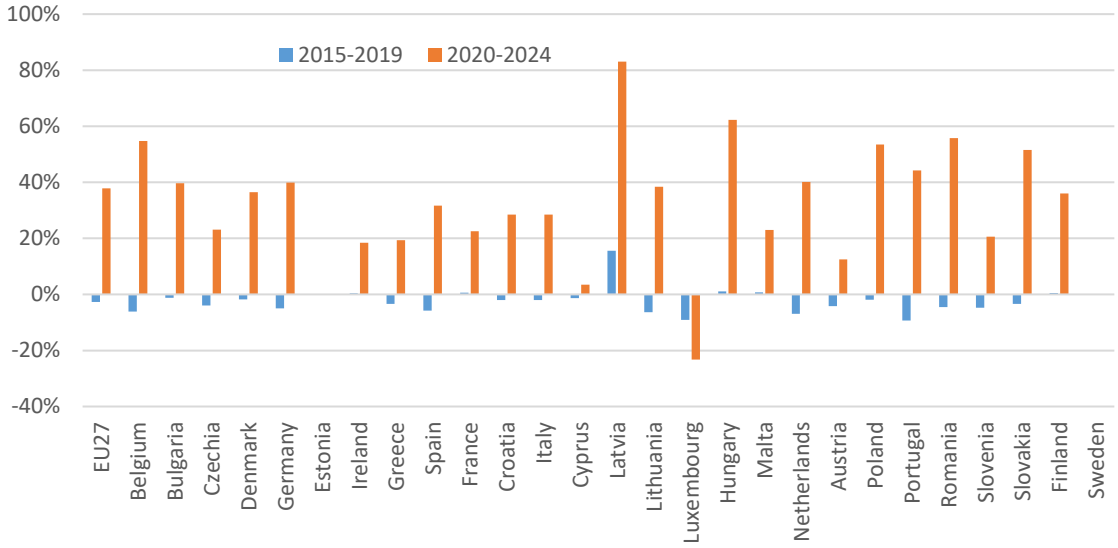
Figure 11: Percentage change in pig prices in EU27 and by MS



Source: Eurostat

Figure 12 illustrates the percentage change in poultry prices across the EU over the period. Similar to pig production, the costs of feed and electricity are the major drivers of poultry production costs. Consumer demand for poultry meat has been growing in the EU and this contrasts with developments in the demand for beef in the EU. For the EU-27 poultry prices fell by 3% in the period 2015 to 2019, but prices increased by 38% in the period 2020 to 2024. The price of poultry meat has increased due to higher poultry production costs, but also due to Avian Influenza disease outbreaks which has limited production growth which have increased considerably since 2020. This marked contrast in price developments in the first period relative to the second, is generally repeated across the Member States, with just a few expections. Much larger output price movements are observed in the period 2020 to 2024 in comparision with 2015 to 2019.

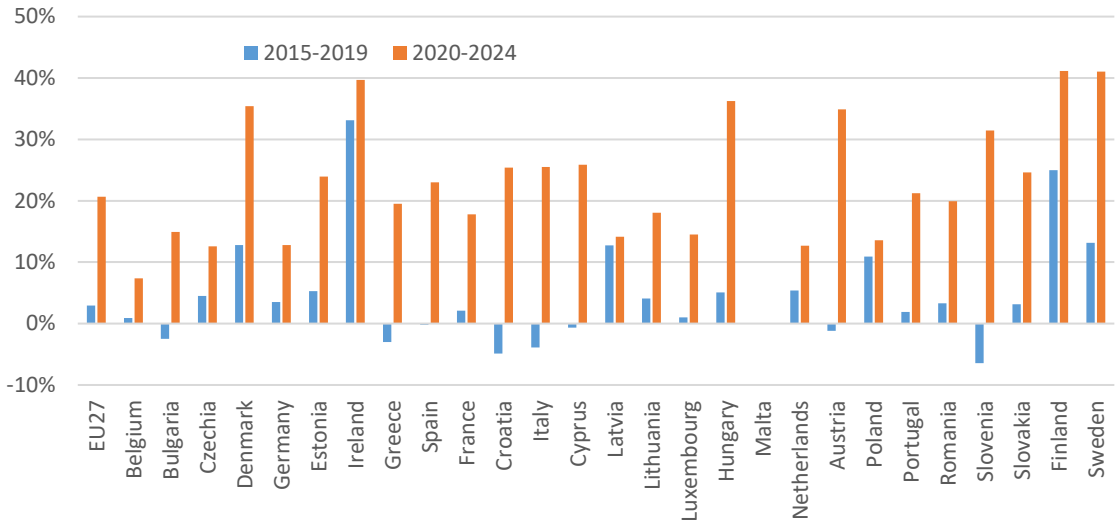
Figure 12: Percentage change in poultry prices in EU-27 and by MS



Source: Eurostat

Figure 13 illustrates the percentage change in cereal prices across the EU over the period. For the EU-27, cereal prices increased by 3% in the period 2015 to 2019, whereas their increase in the period 2020 to 2024 was 21%. Again, with some exceptions, the relatively small change in prices observed in the first period is in marked contrast to the large jump in prices observed in the second period. Differences in the magnitute of the change in prices across the Member States can be explained in part by local supply shocks influencing production levels. In addition, countries which are significant net importers or net exporters of grain will find that their domestic prices are influenced to a greater degree by international supply and demand conditions relative to Member States that are self sufficient in their cereal requirements. The general increase in production costs in the EU has also contributed to the increase in EU cereal prices. However, the EU cereal market is quite open to global cereal trade, as most cereals enter the EU at low or even zero import tariff rates. As a result global cereal supply and demand exerts a strong influence on EU cereal prices.

Figure 13: Percentage change in cereals prices in EU-27 and by MS

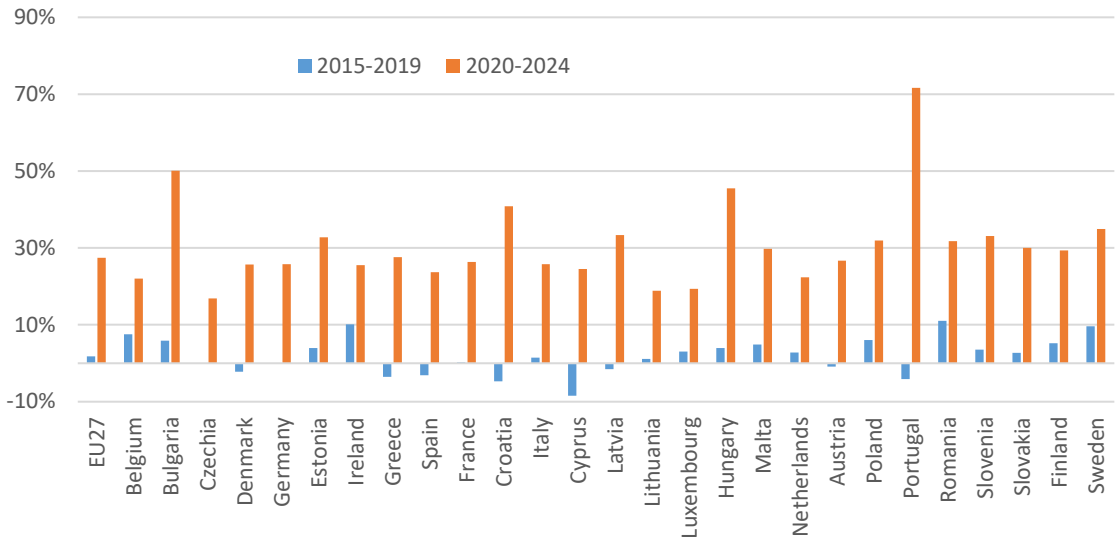


Source: Eurostat

Farm input prices: developments in feed, fertilisers, electricity, plant protection products and veterinary expenses

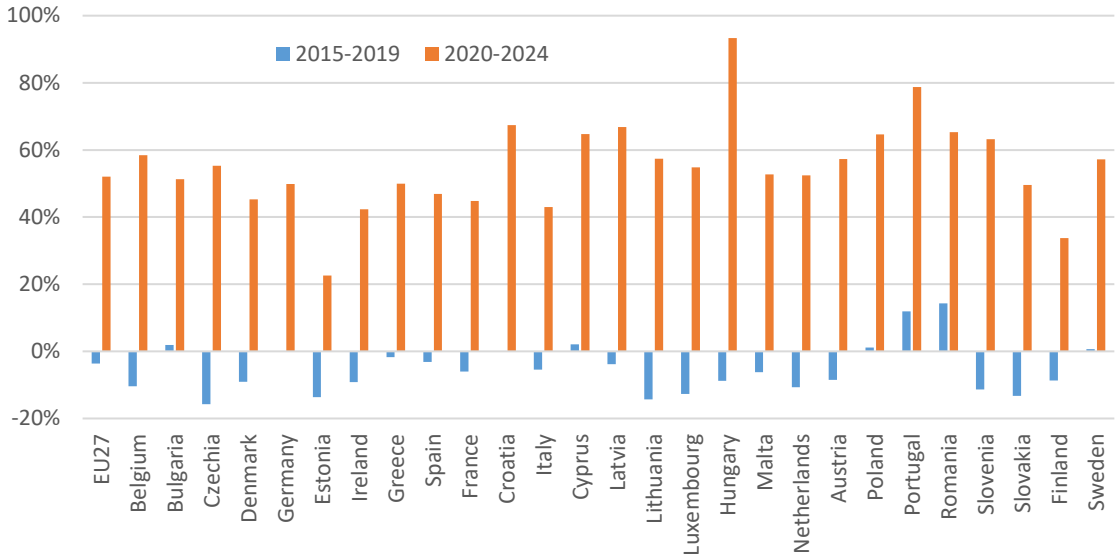
Figure 14 illustrates the percentage change in compound feed prices across the EU over the period. For the EU-27, compound feed prices increased by 2% in the period 2015 to 2019, whereas their increase in the period 2020 to 2024 was 27%. Increases in compound feed prices are heavily influenced by movements in cereal prices which represent a key ingredient in compound feed production. With some exceptions, the changes observed in compund feed prices at Member State level are largely consistent with developments in cereal prices.

Figure 14: Percentage change in compound feed prices in EU-27 and by MS



Source: Eurostat

Figure 15: Percentage change in fertiliser prices in EU-27 and by MS



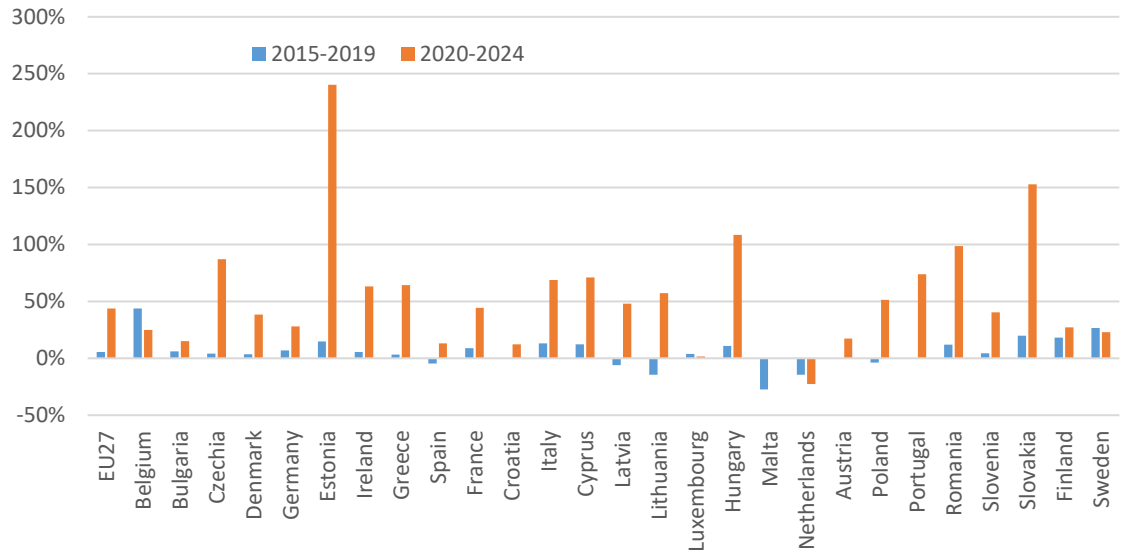
Source: Eurostat

Figure 15 illustrates the percentage change in fertiliser prices across the EU over the period. There is a marked contrast in price developments in the first period relative to the second, with much larger price movements observed in the second period. For the EU-27, fertiliser prices fell by 4% in the period 2015

to 2019, whereas their increase in the period 2020 to 2024 was 52%. There are some differences in the magnitude of the changes observed in individual Member States. Some Member States are heavily dependent on imported fertilisers which makes them more exposed to rising international prices and rising transportation costs. Member States with a greater dependence on energy intensive nitrogenous fertilisers (such as urea or ammonium nitrate) will have experienced a larger increase in fertiliser prices following on from Russia's invasion of Ukraine and the increase in natural gas prices which resulted.

Figure 16 illustrates the percentage change in electricity prices across the EU over the period. For the EU-27, electricity prices increased by 5% in the period 2015 to 2019, whereas their increase in the period 2020 to 2024 was 44%. The escalation in European natural gas prices in recent years has greater implications for electricity prices in some Member States relative to others, as the structure of the electricity pricing in not uniform across the Member States and the extent to which Member States' electricity markets are integrated with neighbouring countries also differ (Zakeri et al., 2022).

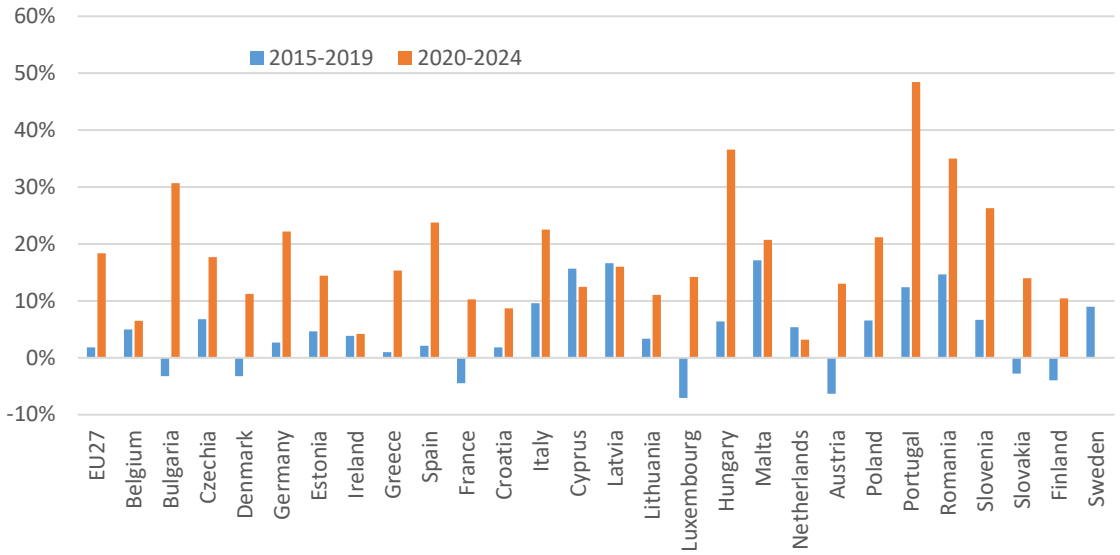
Figure 16: Percentage change in electricity prices in EU-27 and by MS



Source: Eurostat

Figure 17 illustrates the percentage change in plant protection products across the EU over the period. Again larger price movements are generally observed in the second period, but price developments are not particularly consistent across the Member States. The largest price increases appear to have occured in Portugal, Romania, Hungary, Slovenia and Bulgaria. To some extent, the price increase may be influenced by general inflation with consumer price inflation being particularly high in some of these Member States. In the case of Portugal, the increase in prices is cited as a cause of decline in pesticide usage (European Commission 2024b).

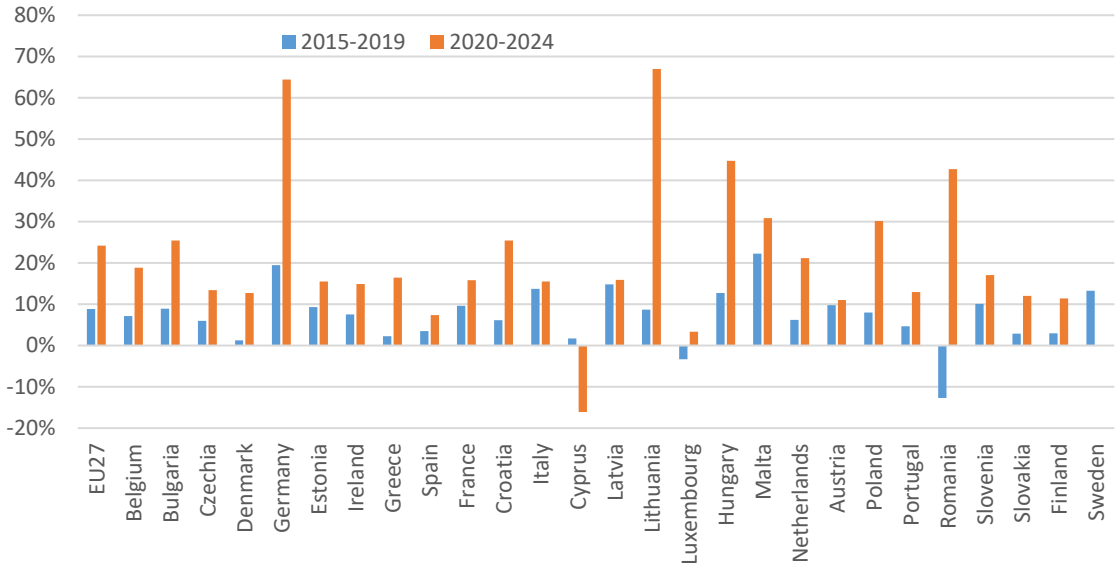
Figure 17: Percentage change in plant protection product prices in EU-27 and by MS



Source: Eurostat

Figure 18 illustrates the percentage change in veterinary expenses across the EU over the period. In contrast to other input item prices veterinary expenses are a service where prices are more likely to be determined by local factors, giving rise to large differences in price developments across the Member States. Price developments have generally been upward in both periods, with stronger price movements observed in the second period.

Figure 18: Percentage change in veterinary expenses prices in EU-27 and by MS

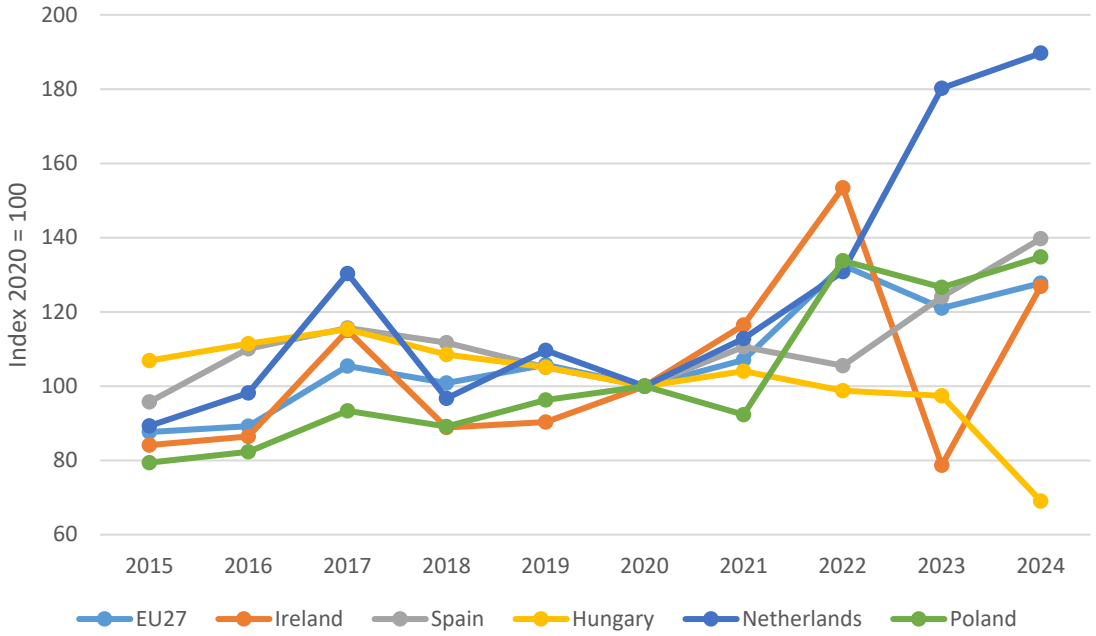


Source: Eurostat

2.5. Implications of changing output prices and input prices for agricultural incomes

Figure 19 presents estimates of factor income for the EU and selected Member States, which illustrates both the volatility of Member State level agricultural income and the differences that exist in the patterns of annual income changes across the EU.

Figure 19: Agricultural Factor Income for EU-27 and selected MS from 2015 to 2024



Source: Eurostat

Differences in aggregate Member State level income developments will be examined in greater detail later in the report and can also be explored in the companion Data Dashboards that are associated with this report. Difference in agricultural income developments at Member State level can be explained by several drivers. These drivers include heterogeneity in the types of agriculture found across the Member States, the relative importance of particular agricultural sectors within Member States and the extent to which support payments contribute to agricultural income in individual Member States. Summarising the basis for changes in agricultural income over time for individual Member States is quite challenging. Some examples are provided in the rest of this section.

For example, the inter-annual variability in factor income in Irish agriculture is largely associated with changes in the level of profitability of the dairy sector in Ireland, with 2023 an example of a year when dairy profitability dipped sharply. In addition, the significant level of support payments available to Irish agriculture (typically representing about one third share of agricultural income) acts as a buffer against changes in the level of profitability of Irish agriculture generally. The Irish agriculture sector is heavily export-oriented meaning that international commodity prices movements also exert a strong influence on income levels. The rising cost of inputs and the time lag between those increases and increases in output prices has also been a factor.

In the Netherlands, given that it too has a high export orientation, international commodity prices exert a strong influence on developments in agricultural income. However, in contrast to Ireland, agricultural support payments typically comprise a very low share of agricultural income (typically about 10%), due to the high value intensive nature of much of the agricultural production. Environmental regulation has had an impact on the evolution of Dutch agricultural income, due to the production restrictions it has imposed. The rising cost of inputs and the time lag between those increases and increases in output prices has also been a factor. Some elements of Dutch agriculture are particularly energy intensive. It follows that energy prices have also had a significant influence on the profitability of Dutch agriculture generally. The sharp rise in Dutch agricultural income in 2023 in particular can be attributed to lower energy and fertiliser costs than in 2022.

In the case of Hungary agricultural income has generally been more stable than in the case of Ireland or the Netherlands. However, agricultural incomes in Hungary dipped considerably in 2024, due to lower crop production volumes associated with a weather-related reduction in yields and lower crop prices. Agricultural support payments typically comprise about one third of agricultural income, meaning that such supports provide a significant buffer against volatile profitability.

Spain's agriculture sector is characterised by quite a high share of output value derived from fruits, vegetables, olive oil and pig production, none of which attract significant levels of agricultural income support. As a result, only about 20% of Spanish agriculture income comprising support payments. However, incomes in Spanish agriculture are less volatile than in Ireland, partly because the range of agricultural outputs is so diverse.

Agricultural incomes in Poland is a mix of animal-based agriculture (pig production and dairy in particular) but crop-based agriculture is also significant. However, its animal-based agriculture sector is more diverse than in the case of Ireland (bovine agriculture is not so dominant). The share of support payments in agricultural income is around 30%, meaning that it is close to that of Ireland or Hungary. Polish agricultural income has generally been on an upward trajectory over the last 10 years. This is partly due to increased levels of agricultural income support, productivity improvements and the expansion of sectors with a higher value-added component.

2.6. Conclusion to Chapter 2

Farm incomes in the EU have become increasingly volatile due to rising exposure to market forces (variations on supply and demand which impact on the prices of outputs and inputs), inflationary shocks and production cost pressures. The 2020–2023 period was marked by exceptional inflation in energy, fertiliser, feed and labour costs, driven initially by post-pandemic disruptions and the war in Ukraine, creating a price–cost squeeze for many farms. Although most output prices subsequently also increased, input costs have remained elevated, creating the potential to erode margins if output prices weaken.

Having now explained how the price shock emerged and how its impact varied across both Member States and agricultural commodities, Chapter 3 turns to farm-level financial data (FADN) to show how those aggregate price developments translated into income developments, focusing on farm system, size and Member State, including the distributional consequences for real farm incomes.

3. DRIVERS OF FARM INCOME DYNAMICS

KEY FINDINGS

The 2020–23 input and output price shocks translated into large and uneven changes in farm incomes across EU farming systems, sizes and Member States.

At EU level input expenditures and output values moved broadly in step through 2022, but diverged in 2023 as output values fell while input spending remained elevated.

High consumer-price inflation amplified real income declines between 2020 and 2023, but there was substantial heterogeneity in developments across Member States and farm systems.

Observed income inequality and volatility are significant, with the top 20% of farms capture roughly 60% of total farm income, and roughly 10% of farms remaining in the bottom quintile in both 2020 and 2022.

Further analysis shows income volatility in the EU is generally higher than in the US for several farm types.

More timely provision of income data would be useful for policymakers.

Having established the origins of the shock and its timing in Chapter 2, this chapter examines the implications from the input and output price shocks for farm finances, taking account of differences in farm systems, sizes and Member States. The chapter highlights where the largest income declines were experienced and implications for how income is distributed across the farm population. Drawing on published FADN data and FADN microdata obtained specifically for this report, this chapter identifies and analyses the key factors driving farm income across the EU, including market-related drivers such as production costs and output prices, as well as additional factors like farm structure. Several literature sources were identified which focused on factors such as market dynamics/fundamentals in input and output markets, subsidies, farm size, productivity, and policy impacts as drivers of farm income volatility over time (Rys-Jurek, 2024; Biagini et al., 2020).

A comparison of the trend in farm income in the US over the recent past is also outlined. It includes comparative case studies across selected EU Member States and farming systems.

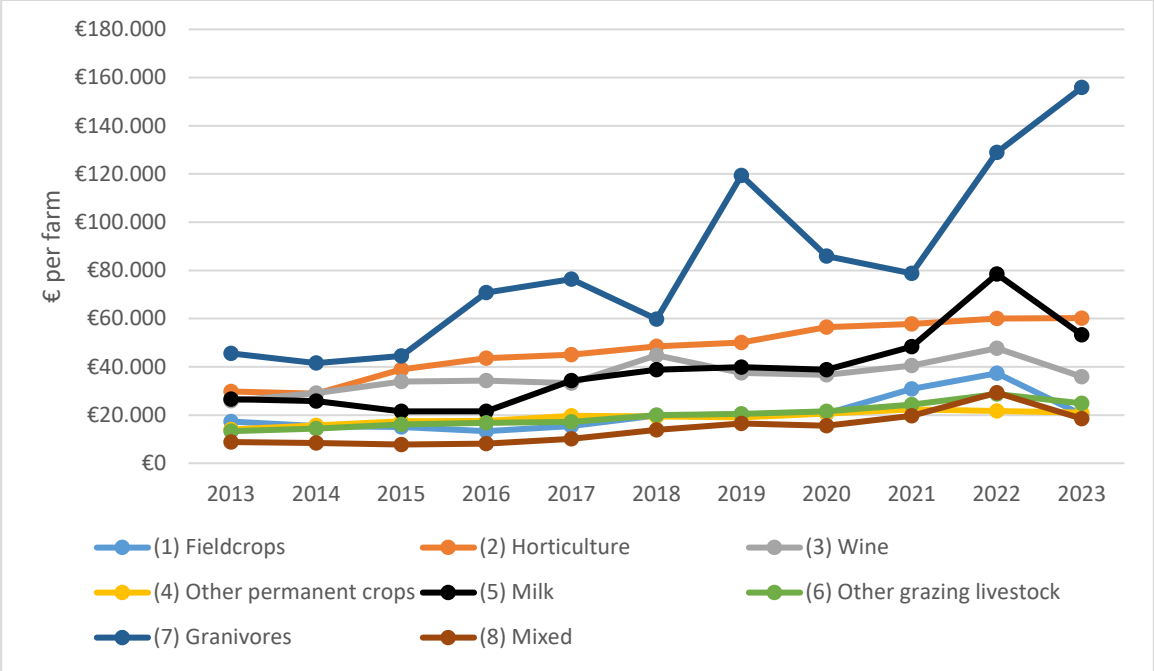
Trends in farm income in different farming systems in the EU and in the US

To set the scene, Figure 20 shows the volatility in farm net income by type of farm systems in recent years. It indicates relatively high volatility in farm net income for farms specialising in the production of milk, field crops and specialist granivores. The volatility in income is particularly evident for specialist granivores and this is also apparent across alternative economic indicators – such as farm gross output minus variable costs (homegrown feed excluded). In contrast, the average farm net income appears much less volatile for farms specialising in the production of horticulture and other permanent crops.

In 2023, the average farm net income declines notably for milk, fieldcrops, wine and mixed farm types. In contrast, the average farm net income increases notably for the granivores farm type, but this farm type appears to be an exception in this regard. This is because pig prices in the EU increased by over

20% in 2023 relative to 2022 (following a strong supply contraction due to the collapse in profitability in 2022), whereas prices for milk and fieldcrops generally fell in the same period. The number of livestock farms in the EU declined significantly during this time and to an even greater extent in the case of specialist granivores farms. The average incomes on the 'Other grazing livestock' farm type appear low although relatively stable through this period. The average statistics may not have been influenced to a great extent by the reduction in farm numbers. However, the reduction in farm numbers may have influenced the extent of growth in average incomes on specialist granivores and specialist milk producing farms although this requires further research.

Figure 20: Average Nominal Farm Net Income by farm type system for EU-27 (2013-23)

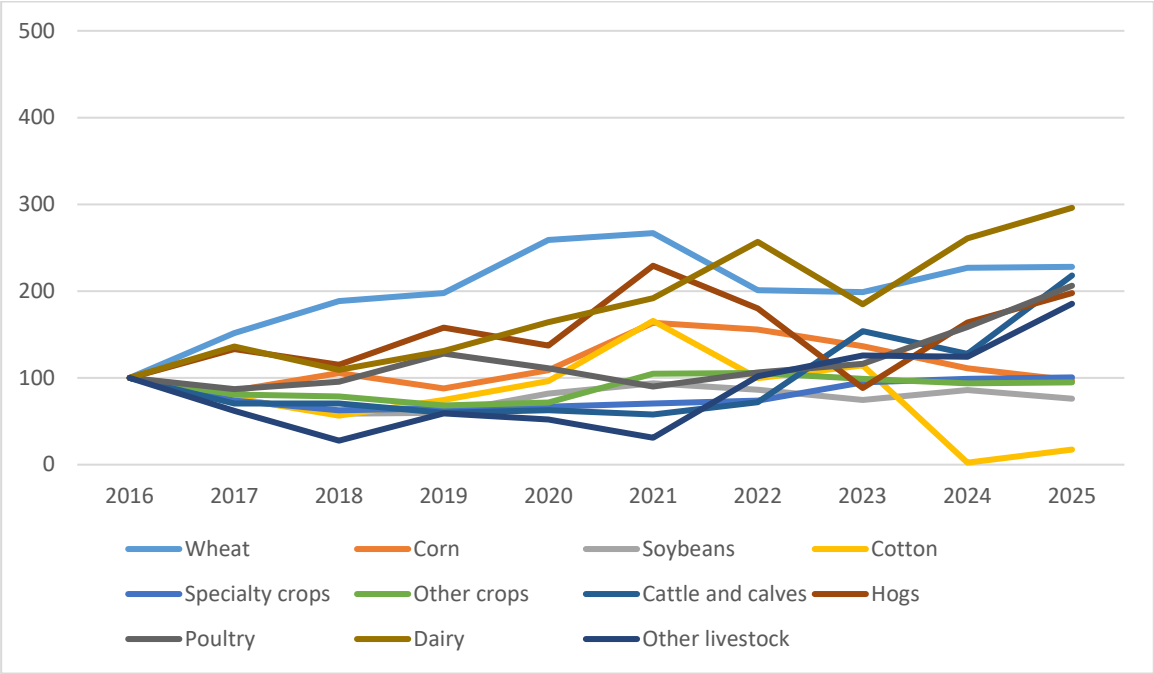


Source: FADN

Whilst harmonisation of data sources across geographic regions internationally is problematic because of differences in variable definitions, system definitions, time periods etc., here we report data from the United States Department of Agriculture (USDA), at the farm level and by farm type level, indexed to a baseline year, to illustrate the trend in US farm incomes in comparison to the EU. The data is presented in nominal terms and real terms (adjusted for inflation) below.

Figure 21 and Figure 22 outline nominal and real net cash farm income across farm types, where farms specialising in the production of cotton and other livestock illustrated the highest volatility across the years examined. The influence of inflation has the effect of reducing volatility across most farms systems, as evident in the trend difference between Figure 21 and Figure 22. While not identical, this definition of US farm income is close to the definition of farm income used in the EU.

Figure 21: US Nominal Net Cash Farm Income Index (2016-2023) 2016=100

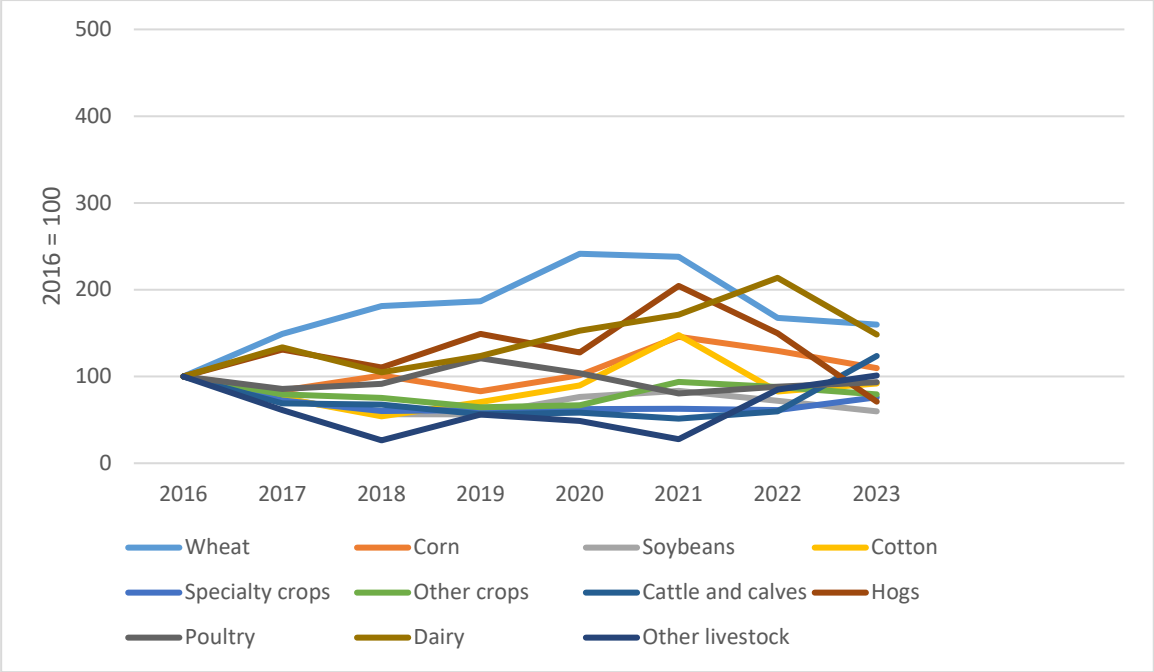


Source: USDA

In contrast, the average farm net cash income appears less volatile for poultry, specialist crops and other crops. Overall, the trend in volatility in US net income terms appears less pronounced compared to the EU situation across farm types.

The policy mix in the US and the EU is quite different and may go part of the way towards explaining the differences in volatility experienced in the two regions. However, further research would be required to investigate the source of the differences in detail.

Figure 22: US Real Net Cash Farm Income Index 2016 -2023



Source: USDA

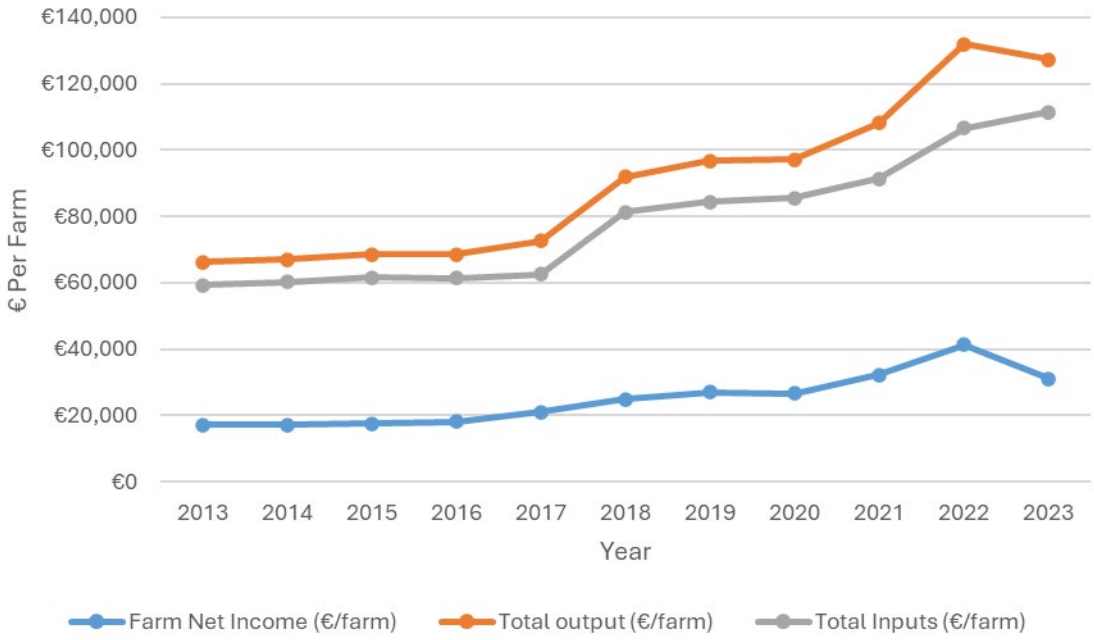
3.1. Comparative analysis of output prices, input costs, and income developments across Member States

Prices developments are an important determinant of farm income developments, but they are not the only determinant of farm income developments. Changes in the volume of output produced and the volume of inputs used can also have an impact on farm income.

It is noteworthy that the aggregate picture of output and input prices, as reported by Eurostat (and which was the basis of the analysis in Chapter 2), is not necessarily analogous to expenditure on input items and output value, on an annual basis at EU and Member State level, due to factors such as volume of purchases and output and seasonality of input usage and output production. While output and input price indices track changes in the prices that farmers either receive or pay over time, such price indices do not incorporate changes which can occur in output volume (due, for example to favourable or adverse weather conditions) or changes in the volume of inputs used (promoted by the change in input prices). Furthermore, some farm inputs can be produced on the farm itself (forage crops grain for animal feed) and are therefore not purchased at prevailing market prices. The relationship between output and input prices movements and the ultimate impact on farm incomes can therefore be complex.

To take both price and volume changes into consideration, requires the examination of output and input values. Data from EU FADN is used in this section to explore how total input expenditure, output value and farm net income at farm level has evolved across Member States over the past decade.

Figure 23: Nominal input value, output value and Farm Net Income (EU-27) 2014-2023



Source: FADN

The aggregate picture for the EU-27 shows that there was a similar trend in output value and input expenditure between 2014 and 2022. Both series track each other closely, with an upward trend evident over time. The resulting evolution in farm net income reflects the movement in output and input value changes that is observed. In addition, farm net income can be influenced by subsidies although these tend to be much more stable than the evolution of total output and total inputs. Notably, there was

some divergence in the trend in output and input value between 2022 and 2023, with the drop in output value not matched with any fall in input expenditure.

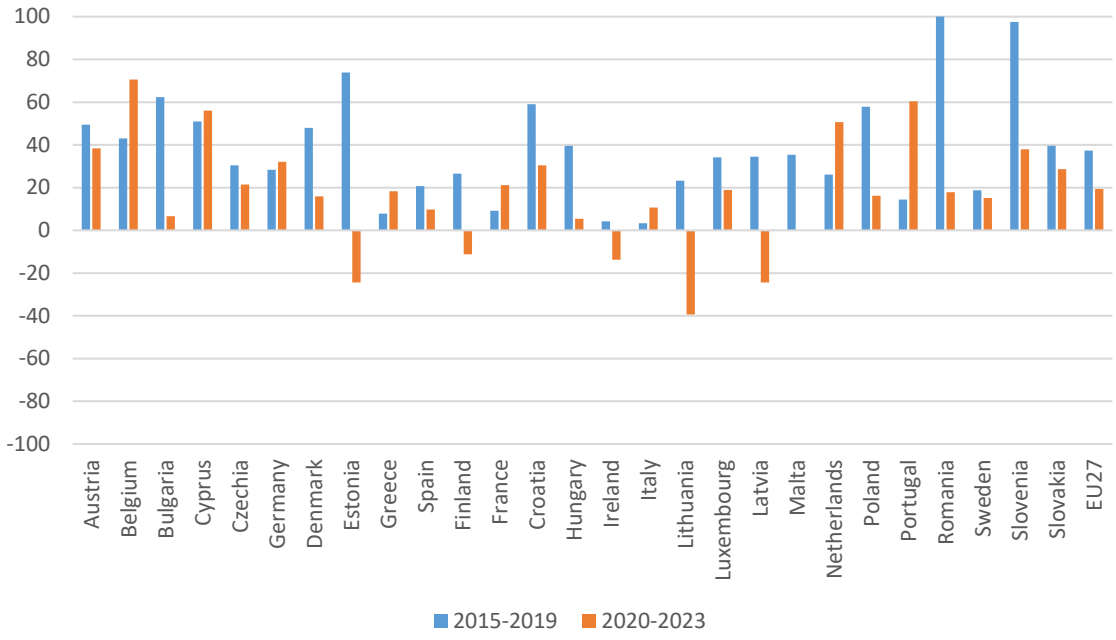
Changes in income in Member States

In this section, the last decade is divided into two component parts. The income level in 2019 is compared with the income level in 2015 to calculate an income change over that period 2015 to 2019. Similarly, the income level in 2023 is compared with the income level in 2020 to calculate a price change over that period 2020 to 2023. The analysis of income levels for 2024 is out of the scope of this study due to limited data availability (please see Chapter 4 for more details on data issues).

Figure 24 indicates that nominal incomes, as based on Farm Net Value Added (FNVA), increased at a slower rate between 2020 and 2023 relative to 2015 and 2019, albeit that the former represents a slightly longer period. In particular, significant declines in average net income value added were evident in countries such as Estonia, Lithuania and Latvia between 2020 and 2023 in the aftermath of strong income growth in the preceding four years. Between 2020 and 2023, average farm income appears to decline notably in Member States where there is a high proportion of farms in the field crops farm type and where this type of farming is relatively more profitable in comparison to other farm types. This is the case in the above-mentioned Member States. For Ireland, the decline in nominal FNVA can be mainly attributed to lower dairy farm and livestock farm incomes.

Figure 24 also indicates that average FNVA (per AWU) increased strongly for a number of Member States including Belgium, the Netherlands and Portugal. To some extent, this may be related to the relative importance of the horticulture and particularly the granivores farm type in these Member States. In the case of Portugal, the relatively strong improvement in average farm income is influenced by the importance of permanent crops and horticulture farm types.

Figure 24: Percentage change in Average Nominal Farm Net Value Added per AWU, by MS

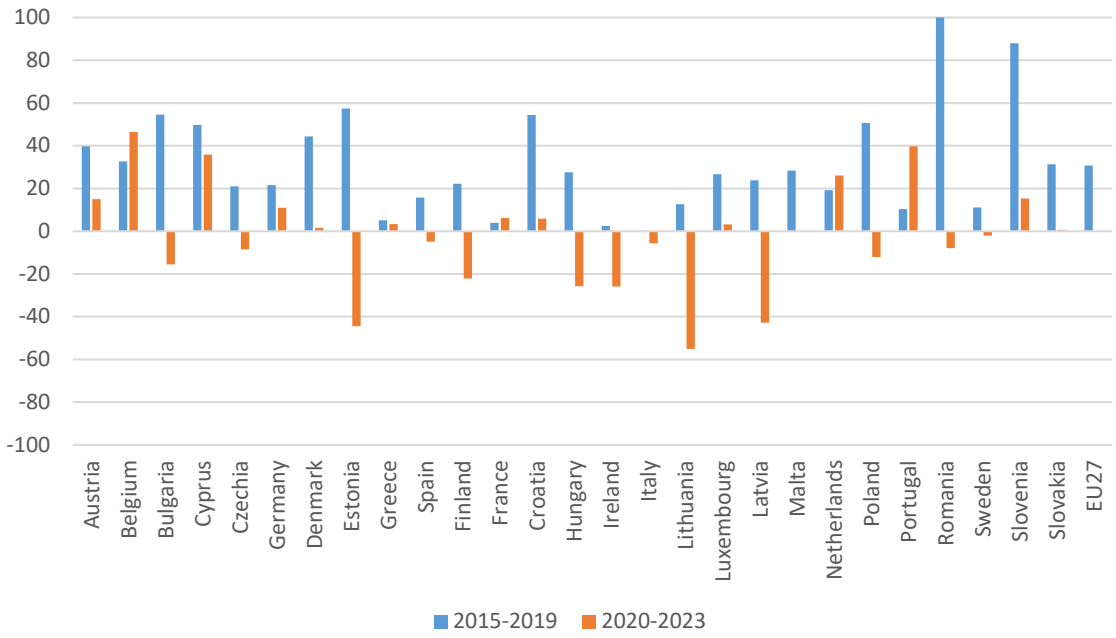


Source: FADN

Figure 24 shows that the changes in FNVA (per AWU) at Member State level is quite heterogenous over time. The extent to which consumer price inflation has impacted income changes over the time period

was examined by converting the nominal income data in Figure 24 to real income data in Figure 25. Consumer price inflation refers to the overall change in the prices of goods and services that people typically buy over time. As in the case of other households, farm households purchase goods and services and the extent of consumer price inflation can have important effects on the standard of living for farm households. This is separate to the potential influence of farm input price inflation, which can also be detrimental to farm incomes and the overall household economic situation.

Figure 25: Percentage change in Average Real Farm Net Value Added per AWU, by MS



Source: FADN

Note: Romania increased by 1451% between 2015 and 2019. This is top-coded at +100%.

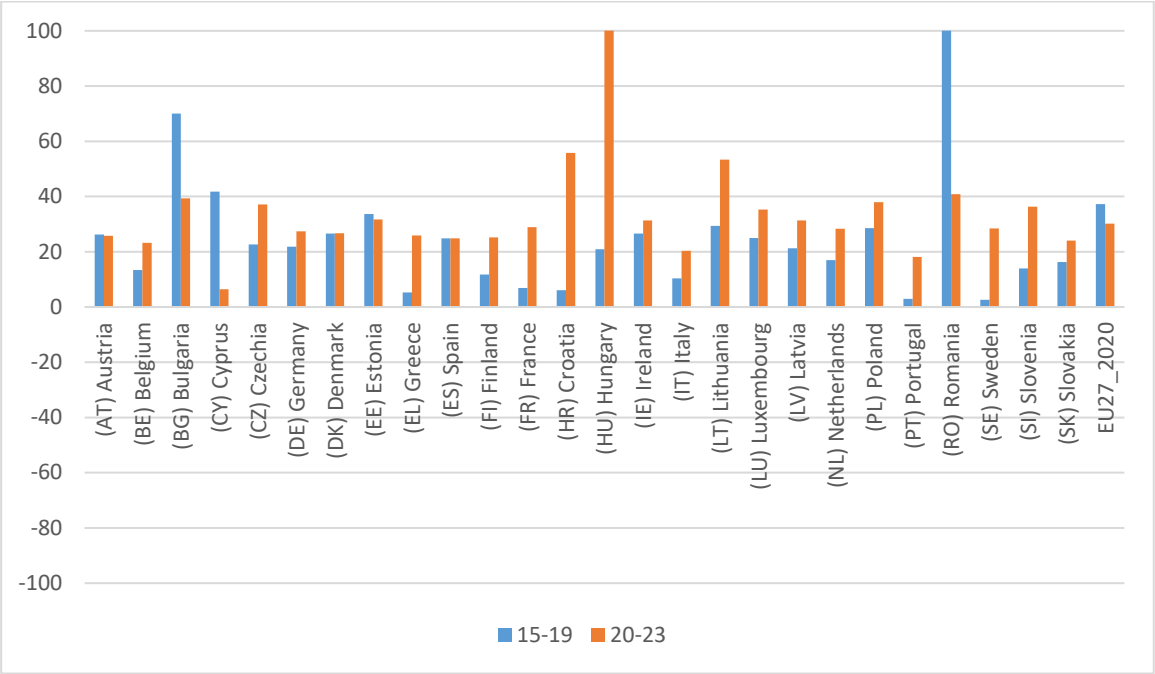
There are large differences between Member States in the evolution of average real farm incomes. Between 2020 and 2023, the decline in average real income (FNVA) was influenced by declines in both nominal farm incomes and a period of unusually high consumer price inflation, both of which vary between Member States. Real farm incomes appear sharply lower in 2023 relative to 2020 for some Member States, including Estonia, Finland, Lithuania and Latvia. Average real FNVA also declined to a notable extent in other Member States, including Bulgaria, Hungary and Ireland.

Changes in output prices and input costs in Member States

It is interesting to examine whether the aggregate average picture at an EU-27 level was replicated at individual Member State level.

Some reasons as to why input and output values are not analogous across country boundaries relate to differences in farm system type, size and the physical volume of input use and output volume changes from year-to-year.

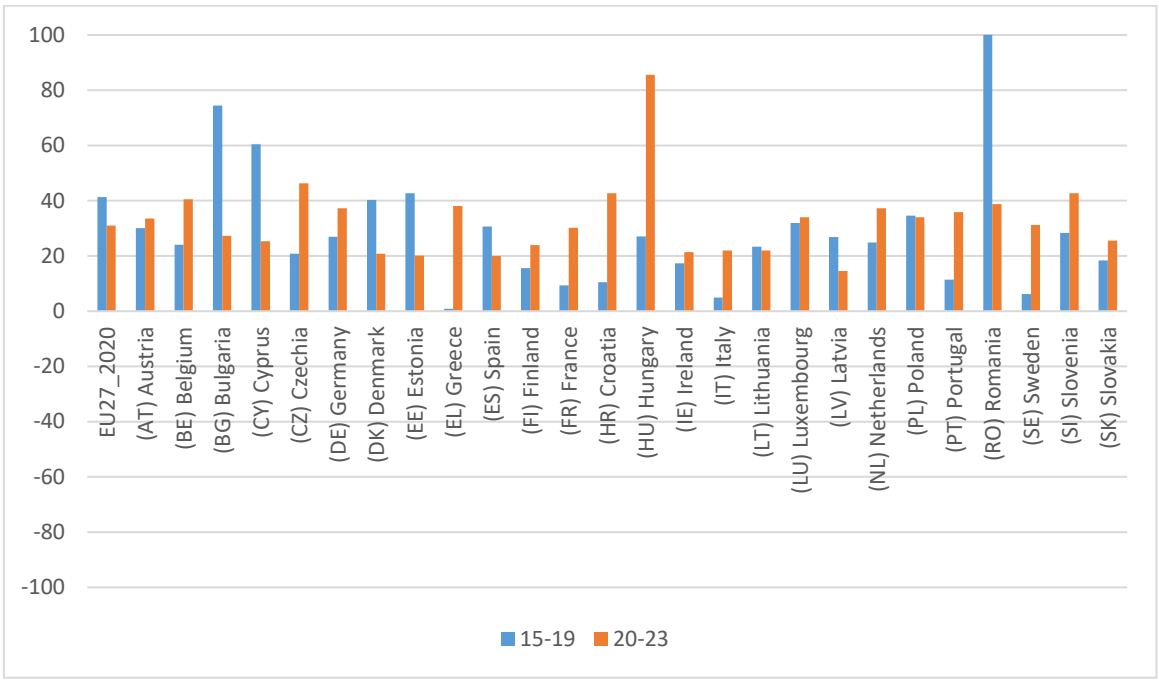
Figure 26: Nominal changes in input expenditure by MS



Source: FADN

Note: Romania increased by 107% between 2015 and 2019. Hungary increased by 183% between 2020 and 2023. These are top-coded at +100%.

Figure 27: Nominal changes in output value by MS



Source: FADN

Note: Romania increased by 182% between 2015 and 2019. These are top-coded at +100%.

The data in Figure 26 and Figure 27 provides the reader with an understanding that heterogeneity across Member States is common. Differences in the direction of change at EU Member State level provides some insights into the significant range of experiences across Member States, from 2015 to

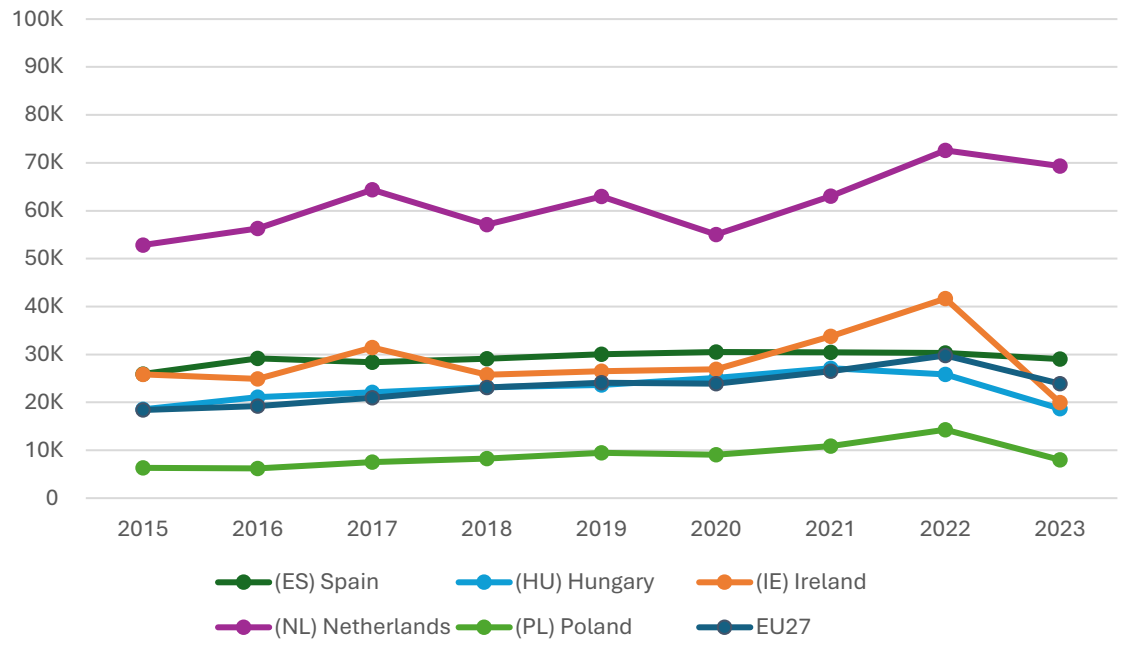
2023, with some countries experiencing much higher levels of change in income from the beginning to the end of this period.

- Of note is the significant volatility experienced in the income indicator in Denmark. Thorne et al. (2017) and Hill and Bradley (2015) associated this variability with the system of land transfer in Denmark which can result in low levels of income remaining after interest is paid on farm transfer. Overall, farms in Denmark tend to have relatively high external costs including interest repayments, the remuneration of paid labour and land rental costs. This raises the impact of output price volatility on farm incomes.
- Of additional note is the tendency of Member States which have joined the EU in 2004 and after to have higher degrees of change in income over the period examined.
- Particular farm types have also been identified previously as having higher volatility, with granivores and field crops tending to experience higher degrees of income change over time compared to farm systems such as horticulture and other permanent crops, thus impacting income levels in Member States where these farm types prevail.

3.2. Income developments in case study countries

This section focuses on the income developments in the five case study countries. Under both income definitions, FNVA and FFI (Family Farm Income), real farm income appears to decline sharply in 2023 relative to 2022 for Ireland, Hungary and Poland. For Netherlands and Spain, the extent of the decline appears dependent on the choice of income indicator. At an EU level, real farm income declines notably in 2023 and to a level below 2021.

Figure 28: Real FNVA per AWU for EU-27 and selected MS (Base Year = 2015)

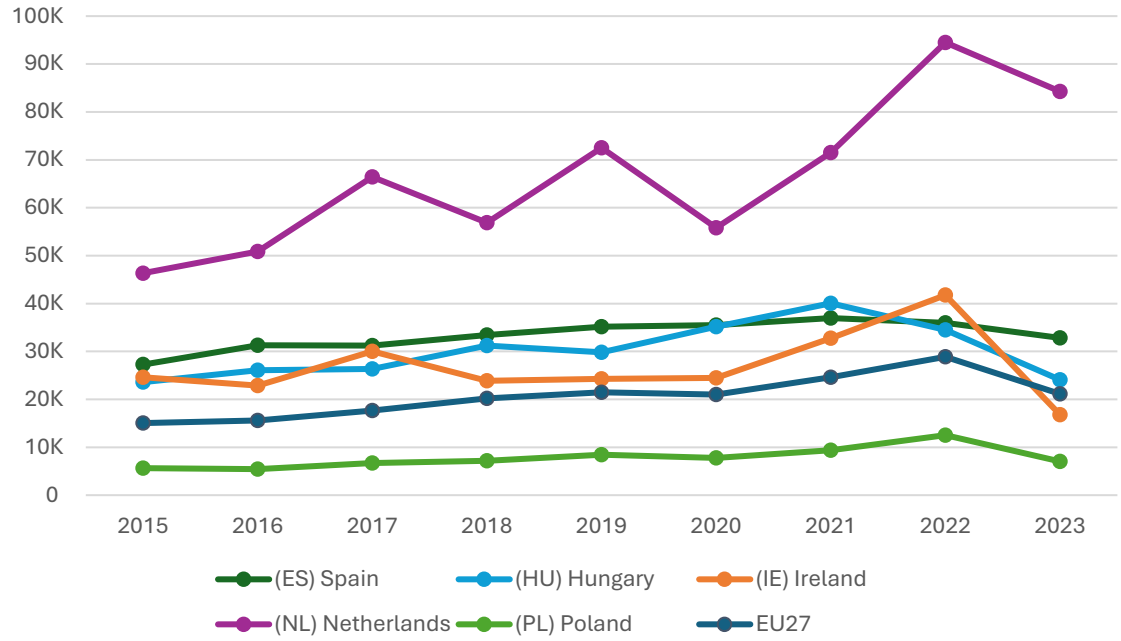


Source: FADN and Eurostat

Between 2020 and 2022, there was strong growth in average real farm income for Ireland and the Netherlands. This was influenced by rising dairy farm incomes in both Member States and by improvements in average incomes for the granivores farm type in the case of the Netherlands. The improvement in real incomes for field crops was more influential in the case of the Netherlands than in

the case of Ireland, due to the prevalence of the system in the respective regions. The volatility of average real farm income appears much less apparent in Spain relative to the other four case study countries. In both Poland and Hungary, there was steady improvement in real farm incomes between 2015 and 2022, but average real incomes dropped notably in 2023.

Figure 29: Real FFI per Family Work Unit (FWU) for EU-27 and selected MS (Base Year = 2015)

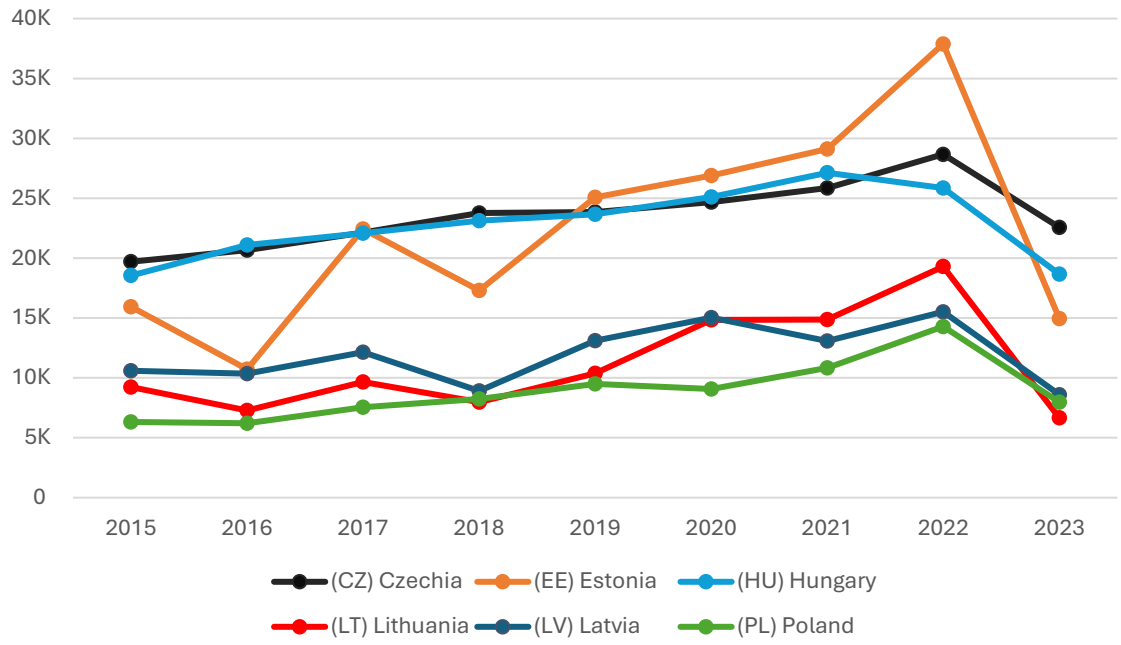


Source: FADN and Eurostat

It must be borne in mind that both income definitions provided in Figures 28 and 29 are not strictly analogous and more detail on their definitions can be found in Chapter 1 and further detail in Chapter 4.

Figure 30 shows the evolution of farm net income for the six Member States with the highest inflation between 2020 and 2023. These Member States (including case study countries Poland and Hungary) experienced some growth in average farm incomes during 2015 and 2022. However, the average farm income (in real terms) decreased sharply in 2023 in all of these Member States and particularly in the case of Estonia. In the latter case of Estonia, part of the explanation can be explained by sharply lower field crops output value in 2023. In all six of these Member States, consumer prices increased by more than 25 % between 2020 and 2022 and this helps explain the extent of the declines in average real incomes. Hungary had the highest increase in consumer prices with an increase of 41.9 %.

Figure 30: Real Farm Net Value Added per AWU for Six MS with the highest Inflation (Base Year 2015)



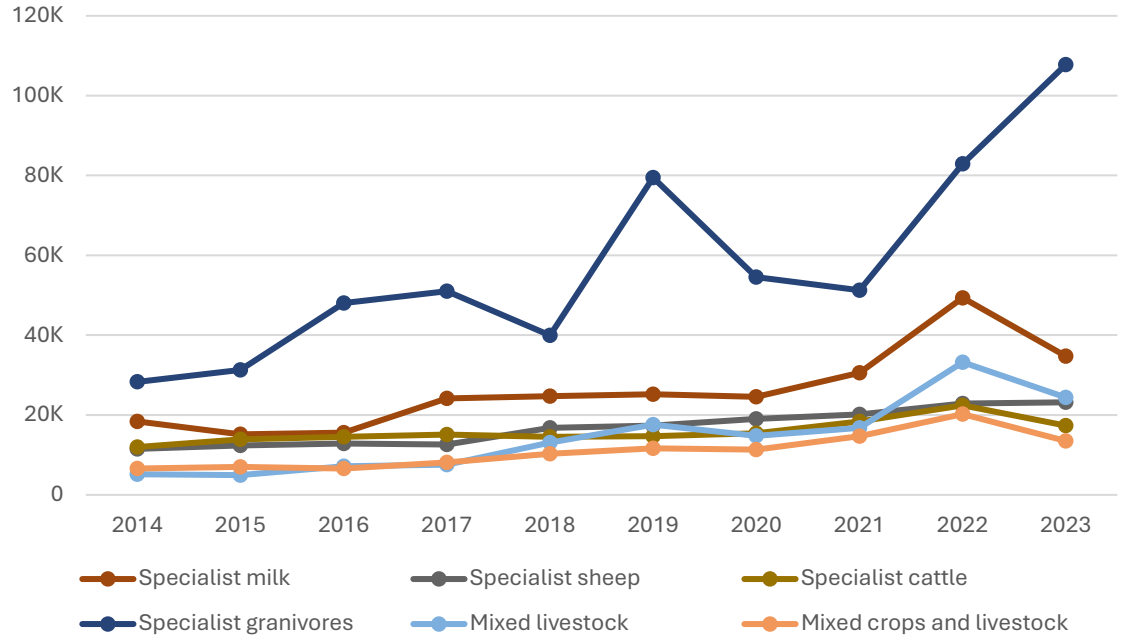
Source: FADN and Eurostat

3.3. Comparative analysis of output prices, input costs, and income developments by farming system

Figure 31 shows the evolution of nominal farm income according to livestock farm type for the EU-27. Average income appears highest for specialist granivores with specialist milk performing better than the other farm types. Average income is lower for specialist sheep and specialist cattle farms although these farms achieve much lower average incomes over time. However, incomes on cattle farms declined notably in 2023, which is likely to be associated with rising input prices.

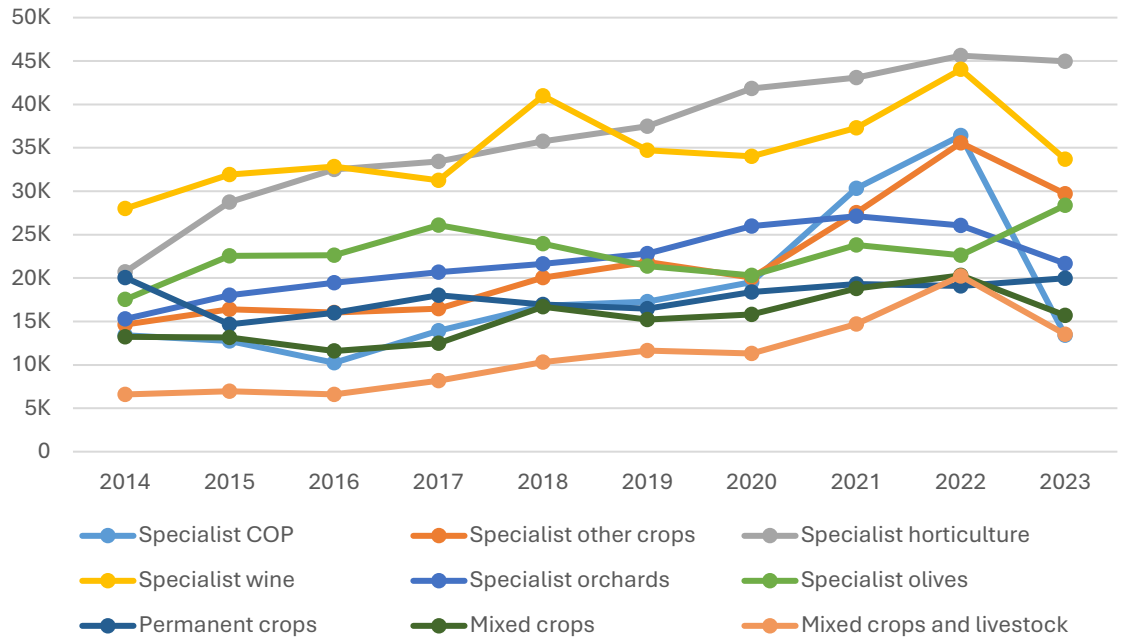
Whilst the data in Figure 31 indicates the volatility in income across systems, there is also significant heterogeneity by Member State across farming systems. Annex III outlines the data on farm net income per FWU, by farm system, for the average across years 2022/2023. The differences in farm income levels between Member States and farm system can partly be explained by farm size and also reflects national farm income levels and prevalence of systems in Member States.

Figure 31: Nominal Net Farm Income per FWU by livestock farm type in EU-27



Source: FADN

Figure 32: Nominal Net Farm Income per FWU by crop farm type in EU-27



Source: FADN
Note: Specialist COP: Specialist Cereals, Oilseeds and Protein

Figure 32 shows that the changes in farm income vary notably between crop farm types. From 2014 onwards, the average nominal farm income appears to increase steadily for horticulture and for mixed crops and livestock, although incomes appear to decline for the latter farm type in 2023. In 2023, the largest declines in farm income appear to occur on farms in specialist cereals, oilseeds and protein crops. In 2023, the average income appears to increase for specialist olives with a smaller increase for

permanent crops. These farm types are exceptions with average nominal farm income declining for all other crop farm types.

For field crops, the highest incomes are seen in Denmark, the Netherlands, Ireland and Belgium. The Member States with above EU-27 average incomes tend to be from the long-standing EU Member States, with the exception of Czechia, Hungary and Slovenia. The average size of farms in Czechia and Hungary may go part of the way towards explaining their above average income levels. For horticulture the largest incomes are found in Slovakia, the Netherlands, Belgium and Denmark, with no other EU Member States which have joined the EU in 2004 and after (later referred to as post-2004 Member States) having an income level above the EU-27 average apart from Slovakia. In the wine sector FFI/FWU is highest in Luxembourg followed by France.

For other permanent crops, FFI/FWU is again relatively high in long-standing EU Member States, in this case Belgium, Denmark and Germany. Incomes in Greece and Portugal are below the EU-27 average and comparable with the levels in many post-2004 Member States. In the milk sector FFI/FWU is highest in Denmark, Spain, Luxembourg and Belgium. No post-2004 Member States have an income level above the EU-27 average for the milk sector.

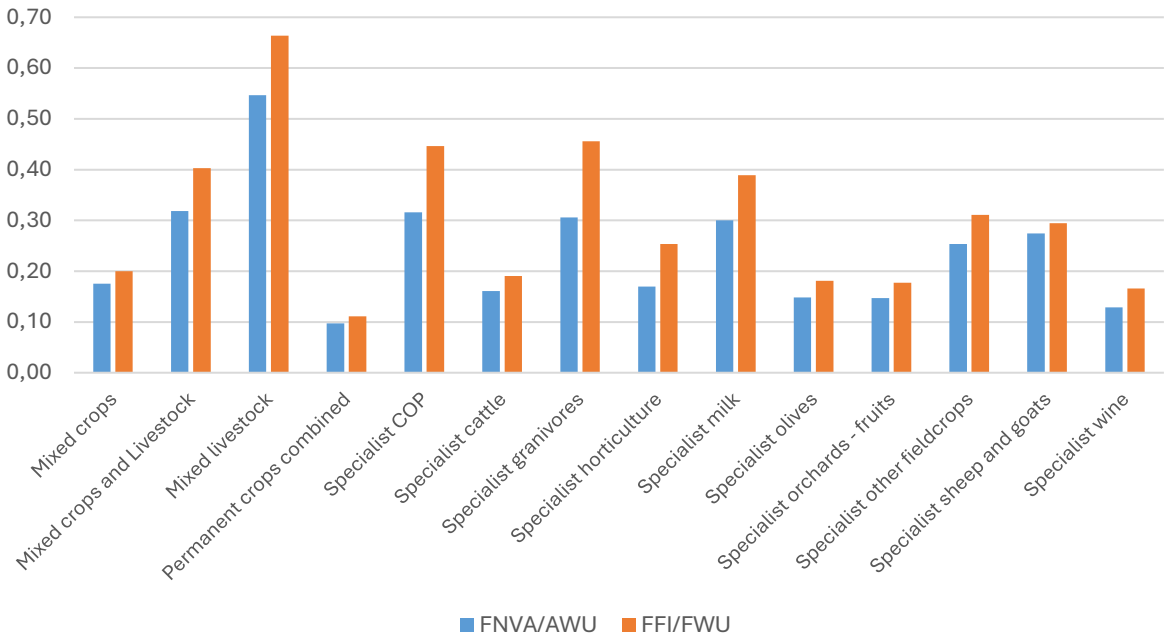
FFI/FWU in the other grazing livestock sector appear less heterogeneous than in many other sectors. However, Denmark stands out as having had substantially higher FFI/FWU for the 2022-23 period. A number of post-2004 Member States have incomes above or not far below the EU-27 average (Cyprus, Czech Republic, Hungary and Slovakia). FFI/FWU in the granivore sector is highest in Denmark, the Netherlands and Belgium. Cyprus was the only post-2004 Member State that had an income level higher than the EU-27 on granivore farms. FFI/FWU is more than five times higher than the EU-27 average in the Netherlands and Denmark mixed farm sectors. The significant heterogeneity on mixed farm systems in the FADN data has been attributed previously by Hill et al. (2015) to the structure of farms within FADN, with a large number of mixed farms in the sample coming from post-2004 Member States which reduces the EU-27 average considerably in this farm system.

The coefficient of variation (CV) has previously been used to measure the extent of farm income volatility (Key et al., 2017; Aleksandrova et al., 2024). The CV is a measure of income volatility relative to average income. The definition of the CV means that it is unitless, which allows comparison of income variability across farm types with very different income levels, such as is found in EU agriculture. For this analysis, the CV is calculated using average incomes according to farm type. Consequently, the results are much less susceptible to the presence of small or even negative (i.e., total farm inputs exceed total farm output) farm incomes on individual farms.

Based on the CV, Figure 33 provides a comparison of income volatility according to farm type and indicates that volatility was relatively high for some farm types including mixed livestock, specialist granivores and specialist milk. This graph indicates that farm income volatility has been relatively low for some farm types including permanent crops, specialist olives and specialist wine. There is some variation in the results depending on the choice of income indicator. For some farm types, the extent of volatility appears higher for FFI/FWU relative to FNVA/AWU (e.g. specialist granivores). A similar exercise, examining CV on data from the USDA on net cash farm income over a slightly shorter time frame, 2016-2023, indicates a slightly lower level of farm income volatility across certain US farm types, the crops sector in particular. For example, the CV for specialist cropping systems in the US were generally in the region of 0.17 to 0.27, with the exception of cotton which was 0.34. In contrast the CV on EU farms was between 0.32 and 0.45, depending on the income variable examined. Likewise, the CV for granivores tended to be lower in the US, at 0.32 for pigs and 0.13 for poultry, whilst the CV for the EU systems was in the region of 0.31 to 0.45. The drystock CV in the US did appear somewhat higher

at 0.39, compared to the EU where specialist cattle had a CV of less than 0.20. The dairy CV was quite similar in the EU and US.

Figure 33: Coefficient of variation by farm type in the EU-27, 2013-2023



Source: DG Agri EU-FADN

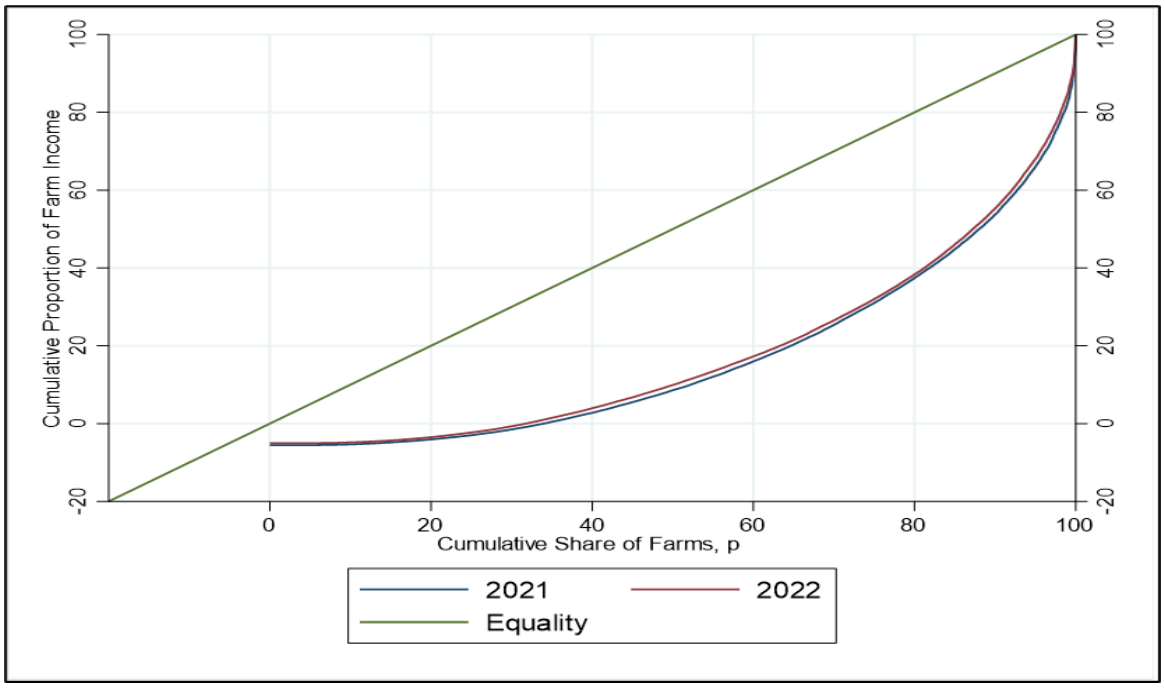
3.4. Distribution of farm income

Figure 34 (see next page) shows the distribution of farm net income (per FWU) for the EU-27 in 2021 and 2022 using a Lorenz curve diagram. This diagram indicates that the highest income quintile (i.e., the highest 20 % of the range of income values) accounts for approximately 60 % of farm net income. The second highest quintile accounts for approximately 20 % of farm income. This is based on Farm Net Income per FWU.

A Lorenz curve is a simple way to show how farm income is distributed across farms. It was developed in the early 20th century by an American economist (Max Otto Lorenz) who used it to understand changes in the concentration of wealth. It can be used to understand income inequality in agriculture. In the diagram, the horizontal axis represents the total population of farms, from the lowest income up to the highest, while the vertical axis shows the share of total income these farms earn. If every farm earned the same income, the curve would be a straight diagonal line (labelled as Equality in the diagram). However, the more the Lorenz curve bends below this straight line, the more unequal the income distribution.

The lowest 40 % of the distribution accounts for a very small cumulative share of farm income. The Lorenz curves appear similar for both 2021 and 2022 thereby indicating very little change in the farm income distribution between these two years for the EU as a whole. Most of the inequality in farm income is due to differences in income levels within Member States, although differences between Member States are also important. While the overall distribution of farm income did not change much at the EU-27 level, this hides the fact that there were some changes within individual Member States.

Figure 34: Lorenz Curve of the Distribution of Farm Net Income per FWU in the EU-27



Source: Authors' own elaboration based on FADN data

Due to the presence of negative farm incomes on some farms (i.e., farms where farm net income is less than zero due to total farm inputs exceeding total farm output), the curve does not begin at the origin. Total farm income is reduced by the presence of farms with negative farm incomes. As a result, the share of income due to the highest income quintile is slightly higher than would be the case if the farms at the bottom of the distribution achieved slightly positive or zero incomes. However, this has little impact on the general pattern.

We find that a Lorenz curve diagram based on FNVA per AWU rather than FFI per FWU provides a similar picture to Figure 34 although the share of income for the top quintile tends to be slightly lower for the former. This is due to the relatively high number of paid labour units on farms with the largest FNVA. In addition, the presence of negative values is less prevalent with FNVA than with FFI.

We have also used farm-level FADN data to calculate the percentage share of farms, which remained in the lowest income quintile in both 2020 and 2022. This provides some indication about the 'farmers who need it most', which is mentioned in the strategic dialogue of the future of EU agriculture, the Vision for food and agriculture and elsewhere (please see further in Chapter 6).

At the time of research, there was no available farm-level data for 2023. We therefore focused our attention on 2020 and 2022. In general, we find that the share of farms in the bottom quintile in both years is approximately 10.6 % for the EU-27. This points to some degree of income mobility with incomes on farms falling into and out of the lowest income quintile. There is some variation between Member States in terms of the precise share, ranging from 8.3 % in the case of Slovakia to 13.4 % in the case of Austria. Interestingly, it appears that these farms receive notably less in terms of total subsidies (total subsidies divided by AWU) than other farms within the same Member State. This is an area for future research given the importance of targeting resources towards those farms facing the greatest economic challenges.

3.5. Comparative analysis of income developments by economic size

Annex III presents data on FFI/FWU in all Member States for the six economic farm size groups. This data is presented in index form (EU-27 = 100) to allow comparison between size groups. Whilst the analysis was not carried out for the alternative income indicator (FNVA per AWU), it is not expected that the results would differ significantly within size classes.

The data presented in Annex III shows less heterogeneity in income levels across Member States as that which was witnessed in the previous section, where income levels were examined across farm systems and Member States. For example, in the standard deviation (i.e., the dispersion of the data around their mean) in FFI/FWU within specific size classes is much reduced within size classes, compared to the average across the farm systems as outlined earlier. This finding was also found by Hill et al., (2015) when income levels were examined across size class and MS. Hill et al., (2015) concluded that '*a key factor in differences between Member States by farm type actually reflect the different size structure which itself is influenced by the size thresholds used in FADN. In other words, a comparison between Member States of a specific farm type is confounded by the difference in size structure*' (p.94).

Another noteworthy point in relation to income developments by size class relates to the fact that as economic size increases, it becomes more common for farms from the post-2004 EU Member States to show higher income than farms in the long-standing EU Member States. For the largest size group, only farms in Denmark, Spain and the Netherlands had income levels higher than the EU-27 average.

3.6. Conclusion to Chapter 3

Farm income across the EU is shaped by production costs, output prices, farm structures, and policy supports, with notable volatility evident in milk, field crop, and granivore systems. Between 2013 and 2023, income trends varied widely across Member States and farm types. In 2023, average farm income declined sharply for milk, field crops, wine, and mixed farms, while granivores were a notable exception. Compared to the EU, some differences in trends in US farm income volatility was displayed, with crop farms in the US displaying lower levels of volatility compared to systems in the EU, but caveats around harmonisation of data must be borne in mind. EU farm input costs and output values rose broadly in parallel until 2022, but diverged in 2023 as output values fell and input costs remained elevated.

Real farm income declined across many Member States between 2020 and 2023, with inflation amplifying these effects, particularly in Estonia, Lithuania, Denmark, Hungary, and Ireland. Income growth remained strongest in Belgium, the Netherlands, and Portugal, driven by the horticulture, granivore, and permanent crop systems. Larger farms generally recorded higher and more stable incomes, with less heterogeneity across Member States than seen by farm type. Overall, income inequality within Member States remains pronounced, with the top 20% of farms capturing roughly 60% of total farm income, as defined by farm net income per FWU.

Chapter 3 has shown which farms were particularly affected and in which Member States. However, it also draws attention to limitations in how quickly adverse farm income developments could be detected using existing indicators, with official income data only available up to 2023. Chapter 4 will therefore investigate the existing measurement toolbox and offer practical steps that could be taken to provide a more rapid method to identify income developments to inform policymakers. This would allow policymakers to quickly know whether impacts such as those identified in Chapter 3 could/should trigger immediate interventions.

4. METHODOLOGICAL TOOLBOX FOR MEASURING FARM INCOMES

KEY FINDINGS

Accurate, timely and appropriately-defined data are essential for diagnosing farm income shocks and designing appropriate policy responses.

There are conceptual challenges in measuring farm income and farm viability. Different measures of income exist at farm and aggregate level which complicates the interpretation of the conclusions that can be drawn from farm income data.

Information on farm income developments could be made more timely and this would be of value to policy makers in tailoring effective policy responses. Modelling tools could assist in the provision of more timely information on farm income developments.

Approaches to improving the timeliness and coverage of income developments which are already in use in some Member States could be adopted more widely across the EU.

Other farm income data limitations exist. The dominant farm income measures focus on agricultural receipts (not household disposable income). There are also data coverage gaps, which mean that little data is available for some categories of farms (small or semi-subsistence farms).

Income measurement must therefore be strengthened.

Better environmental, social and basic off-farm indicator data will emerge as part of the transition to the Farm Sustainability Data Network.

It is possible to make improvements to farm income monitoring to speed up the provision of data and, were this achieved, policymakers could respond more quickly to income shocks.

Rapid warning systems could be developed to flag income developments which are a cause for concern.

In the broad sense, accurate and timely availability of data are two key requirements necessary for the provision of reliable evidence to support decision making. This general statement also holds for policy making associated with farm income support. Chapter 4 therefore examines the data and metrics that are required to allow the prompt assessment of the impact of shocks in the agriculture sector, in order to facilitate the timely provision of appropriate policy responses. Chapter 4 can be viewed as a bridge (in the form of a data gap) that needs to be crossed in order to move from the diagnosis of the problem identified in Chapters 2 and Chapter 3 towards the identification of potential remedies in Chapter 5 and Chapter 6.

Defining and measuring farm income is not straight forward. Income can be measured in different ways and this chapter examines the limitations that are inherent in the measurement of income. This chapter addresses concepts that are key to policy evaluation such as farm viability. The chapter describes how the term viability cannot be simply defined. Understanding the limitations of income indicators and

data sources is important to ensure that subsequent analysis is rigorous and that later discussion of policy options to support farm income have a good foundation.

This chapter reviews the current methodological toolbox for measuring farm incomes, including existing data sources (Section 4.1.1) such as FADN and Eurostat, and assesses their strengths and limitations. Data sources provide information on the development of farm incomes in the (recent) past. Models (Section 4.1.3) provide the opportunity to make short- and long-term predictions of future income developments as a consequence of the evolving policy and economic landscape. This chapter also provides recommendations for improving the future monitoring and evaluation of farm incomes.

4.1. Review of the Existing Methodological Toolbox

4.1.1. Existing EU-level data sources: FADN/FSDN, Economic Accounts for Agriculture

Farm incomes are a central element in the design and evaluation of the CAP. Monitoring systems have been developed to track income development and forward-looking models have been developed to evaluate the potential impact of external developments and policy measures on the income situation of farmers. At the EU level, there are two key monitoring systems to track the economic situation in agriculture, the Farm Accountancy Data Network (FADN) – set to be replaced by the Farm Sustainability Data Network (FSDN) as of reporting year 2025 data – and the Economic Accounts for Agriculture (EAA).

Farm Accountancy Data Network (FADN)

The European FADN provides detailed financial, economic and structural information at farm level on around 80 000 farms in Europe. FADN was established in 1965 (Council Regulation EEC/79/65), and ever since then FADN has been an important tool in the design and evaluation of the CAP.

In the FADN system, the information collected from each sample farm exceeds 1 000 variables. The data are collected in a systematic way on an annual basis for all EU Member States. The system is harmonised in the sense that uniform data elements and underlying bookkeeping principles are used in all countries. The data to be submitted to FADN and the exact definition of each data element is defined in the FADN Farm Return, under EU legislation. This includes, for example:

- Physical and structural data, such as farm location, crop areas, livestock numbers, labour force, etc.
- Economic and financial data, such as the value of production of the different crops, animals, stocks, sales and purchases, production costs, assets, liabilities, production quotas and subsidies, including those connected with the application of CAP measures.

The liaison agency in each Member State is responsible for the compilation, quality control and supply of the farm data to the European Commission's services. Upon submission of the data, numerous validation checks are conducted for quality control purposes. Once the data have passed these validation checks and is finally accepted by the Commission's services, they are used to calculate standard results for each individual farm (see Figure 35 for the logic of some key indicators). Finally, grouped farm results are calculated and made available to the general public through the agri-food data portal (European Commission, 2025).

Income indicators in FADN

In FADN, a set of standard results are produced annually. Standard results are a set of indicators calculated from the Farm Return data available at:

https://agridata.ec.europa.eu/extensions/FarmEconomyFocus/FarmEconomyFocus.html

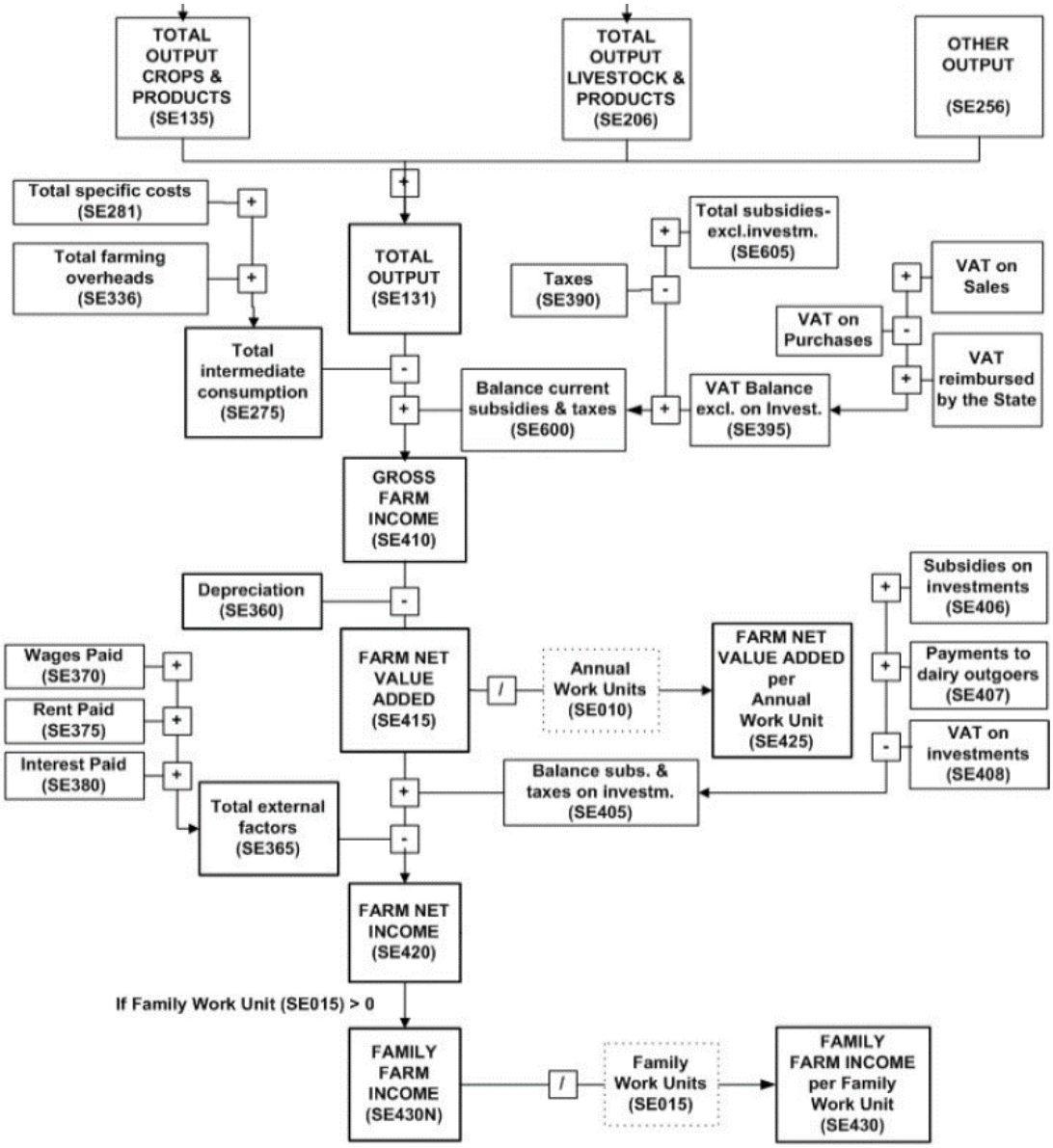
The key income indicators which are produced are:

- **Farm Net Value added** (at farm level and per work unit) is the remuneration attributable to the fixed factors of production (work, land and capital), whether they be external or family factors. As a result, holdings can be compared irrespective of the family or non-family nature of the factors of production employed.
- **Farm Net Income** (at farm level and per annual working unit) equals the Farm Net Value added minus all paid factor costs (wages paid, rent paid, interest paid). This is similar to business profit in other sectors of the economy.
- **Family Farm Income** (at farm level and per unpaid working unit) is the reward for family-owned fixed factors of production (work, land and capital) and the reward for the entrepreneur's risks (loss/profit) in the accounting year. Family Farm Income expressed per family labour unit takes account of differences in the family labour force to be remunerated per holding. Family farm income is calculated on a subset of farms having unpaid work, that is where the indicator on Unpaid labour input is greater than zero.

In interpreting results, it is important to be aware that FADN covers commercial farms producing for the market. Small hobby or semi-subsistence farms are not included in the field of observation. For each Member State a minimum threshold in economic size is determined to provide a lower bound on the field of observation. Furthermore, to enhance the sample's representivity, FADN is based on a stratified sampling approach. The stratification is based on region, type of farming and size of farm.

From the reporting year 2025 onwards, FADN will extend beyond its core objective of economic monitoring to become the FSDN, with the inclusion of a broad set of environmental and social variables, along with some additional economic variables. The deadline for submission of the first enhanced dataset is December 2026. This implies that the extended set of data will become available for research and evaluation in 2027.

Figure 35: Definition of variables used in the standard results of FADN



Source: Definitions of Variables used in FADN standard results, European Commission.

Economic Accounts for Agriculture (EAA)

The EAA is a satellite account of the European system of national and regional accounts, adapted to the specific nature of the agricultural sector (Eurostat, 2024a). The EAA provide important annual macroeconomic data to European policymakers, with three estimates of agricultural output, input and income produced for each year (advance estimate, preliminary estimate and the final estimate).

The EAA focuses on the agricultural sector in aggregate, which is defined by grouping all economic units 'local kind of activity unit' (local KAU) engaged in agricultural activities. Effectively it treats agriculture in each Member State as one single farm. The agricultural holding, as used in the Integrated Farm Statistics (IFS)/agricultural census, is the logical starting point, but the agricultural sector also contains activities like wine and olive processing and contract work which are not covered by these agricultural holdings. Furthermore, an agricultural holding can consist of different KAUs if the holding is involved in other economic activities.

Although the EAA defines the agricultural sector based on an aggregation of local KAUs, the data used in the compilation of these accounts is not based on micro data, due to the perceived difficulty of compiling agricultural accounts based on representative samples of farm business accounts. Instead, other official statistics, such as crop area, milk volumes and animal slaughter figures, trade data or aggregated sales data, from relevant branches within agriculture are used.

One of the principal objectives of the EAA is to measure agricultural income and changes therein. The EAA provides a production account, generation of income account and an entrepreneurial income account. These accounts result in a number of income measures with individual definitions: net value added, net operating surplus (net mixed income) and net entrepreneurial income for the agricultural industry as a whole as described in Figure 36 below.

The **Net value added** of the agricultural sector measures the value created by all the agricultural local KAUs, after the consumption of fixed capital. Net value added measures the remuneration of all factors of production (land, capital, labour) and can be termed 'factor income', as it represents all the value generated by a unit engaged in an agricultural production activity.

Once the Net value added is established, the **Net operating surplus**, which measures the return from land, capital and non-salaried labour can be derived.

Finally, **Net entrepreneurial income** measures the compensation of non-salaried labour, remuneration from land belonging to units and the return arising from the use of capital. It is obtained by adding the interest received by agricultural units organised as companies to the net operating surplus and then deducting rent (i.e. farm and land rents) and interest payments.

Figure 36: EAA provides a production account, generation income account and the entrepreneurial income account

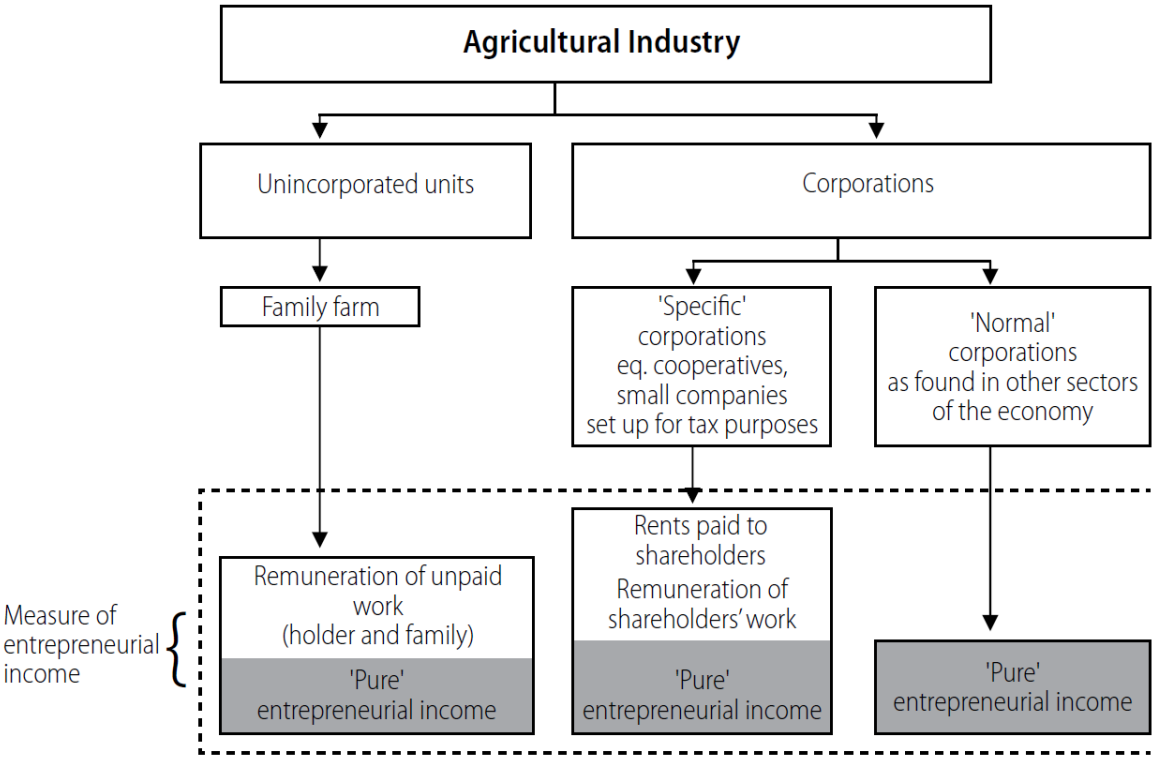
Production account			Generation income account			Entrepreneurial income account		
P.1		Output	B.1n		Net value added	B.2n B.3n		Net operating surplus/ net mixed income
P.2	–	Intermediate consumption	D.1	–	Compensation of employees	D.41	+	Interest receivable (1)
P.51c	–	Consumption of fixed capital	D.29	–	Other taxes on production	D.41	–	Interest payable
			D.39	+	Other subsidies on production	D.45	–	Rent paid
B.1n	=	Net value added	B.2n B.3n	=	Net operating surplus/ net mixed income	B.4n	=	Net entrepreneurial income
D.29	–	Other taxes on production						
D.39	+	Other subsidies on production						
	=	Net value added at factor cost/factor income						

Source: Eurostat, 2024a

For the interpretation of entrepreneurial income in the EAA, it is important to appreciate the different organisational structures of farms in Europe. A large percentage of farms (>90%) are organised as family farms, where labour is to a large extent provided by family members and unpaid (at least 50% of the agricultural labour force is provided by family members). Within this group, the share of labour

provided by family members differ, and this should be taken into account in the interpretation of results. For family farms the entrepreneurial income provides the remuneration of unpaid work. On the other side there are an increasing number of farms organised as legal companies, where all labour is paid and the definition of entrepreneurial income is in line with other sectors of the economy. The cooperative farm structure represents a middle category of organisational unit in the agricultural sector, where there are payments for rents and remuneration of shareholders' work besides the 'classical' entrepreneurial income.

Figure 37: Measures of entrepreneurial income per organizational structures of a farm



Source: Eurostat, 2024a

Income indicators in EAA

EAA results in two main indicators of agricultural income

- ***Indicator A*:** an index of the real income of factors in agriculture per Annual Work Unit (AWU)

  Indicator A corresponds to the development of the real net value added at factor cost of agriculture per total AWU, where the AWU is the annual working unit, total labour input of paid and non-salaried labour.

- ***Indicator B:*** an index of real net agricultural entrepreneurial income, per non-salaried AWU

  This indicator presents the changes in net entrepreneurial income over time, per non-salaried AWU. When converted into the form of an index for each Member State, it provides information on trends rather than on income levels.

4.1.2. Comparison of FADN and EAA indicators

FADN and the EAA are the two main data sources providing information on the economic situation in agriculture. Both sources define several key indicators to measure and monitor the development of

farm incomes. In comparing FADN and EAA and the income indicators used in both systems, a number of important observations can be made:

- EAA results in aggregated national agricultural income figures, FADN provides farm level figures of farm incomes, allowing analyses of differences between farms and the distribution of incomes and aggregation to different farm types or size classes.
- FADN covers commercial farms producing for the market. Small hobby farms or semi subsistence farms (below a Standard Output threshold) are not covered. EAA covers the agricultural industry, including some additional economic activities/enterprises.
- FADN is based on individual farm accounts. EAA compiles data from other statistics and data sources to estimate sector income.
- Income figures from both systems focus on income from agriculture and some closely related activities. Other income sources (off-farm income) are not included.
- Both systems try to adapt to the increasing complexity of the farming sector. Especially the difference in family farms with unpaid family labour versus legal entities where all labour paid labour requires a careful choice of indicators. The increasing complexity of farms in terms of several households or several entrepreneurs will have an impact on the reported income figures (Poppe and Vrolijk, 2019).

4.1.3. Existing modelling tools for agricultural and farm income estimates

Farm income has been an important objective in the CAP, emphasising that farmers should have a fair standard of living. The monitoring systems described in the previous section provide valuable information on the development of farm incomes in the (recent) past. For ex-ante policy evaluations and scenario studies it is important to take into account the future developments in farm economics. Agro-economic models play a key role in this type of evaluations. Agro-economic models have been used to project the impact of policy changes or market developments on agriculture and farm incomes. Different modelling approaches exist. Some modelling activities estimate the income of the agricultural sector as a whole (creating results resembling the EAA) while others estimate the impact at farm level (creating results with an FADN/FSDN level of detail).

In the European Commission's modelling inventory and knowledge management system (MIDAS) several models have been included that evaluate impacts on farm income. MAGNET, CAPRI and AGMEMOD are aggregated models (sector models) estimating the economic impact on agricultural sectors at national or regional level. By contrast, IFM-CAP and FARMDYN are models that makes estimates of impacts at farm level.

MAGNET is a global whole-economy model used to analyse policy scenarios relevant to agricultural economics, bioeconomy, food security, climate change and international trade. As it is a Computable General Equilibrium (CGE) model, it covers factor markets (land, labour, capital) as well as upstream and downstream supply chain stages and how these are impacted under different policy scenarios. The model has quite an aggregated representation of EU agriculture and agricultural, environmental and food policies. Therefore it gives the economic impact at a higher aggregation level than some of the other models. Relevant outputs of MAGNET at a macro level are Gross Domestic Product (GDP) and added value, and for the production factor labour, labour input and wages.

CAPRI is a global agro-economic model, with a strong focus on the EU, and is used to assess impacts of agricultural, trade, environmental and climate policies on the agricultural sector. The model can provide projections and scenario outputs for economic and environmental variables over both medium and long run perspectives. CAPRI generates outputs on agricultural income as part of its comprehensive assessment of agricultural, trade, and environmental policies. The model specifically

evaluates how different policy measures and scenarios impact farmer's income, from a global to a regional scale.

AGMEMOD covers agricultural production, demand and trade at EU and at Member State level, and also has a detailed agricultural policy representation (including measures of the Member State-specific CAP Strategic Plans, like (de)coupled support). The model has a farm income-module, which translates changes in market prices and policy measures into the (first order) impacts on farm incomes, for (about 20) different farm types and (about 10) farm size classes.

IFM-CAP is an EU-wide farm level model used to assess the economic and environmental impacts of the CAP by providing changes in land and input use, crop and animal production, farm income and CAP expenditures. The model aims to generate policy scenarios, or 'what if' analyses. It simulates how a given scenario, for example, a change in prices, farm resources or environmental and agricultural policy affects a set of performance indicators IFM-CAP is able estimate the impacts of CAP changes for individual FADN farms in terms of farm level production and farm incomes.

The FARMDYN model is used for farm-scale analysis, simulating profit-maximizing decisions while considering farm resource constraints, available technology, and market conditions. The model has a detailed representation of agricultural production activities. FARMDYN maximizes a combination of farm-household income and value of leisure time. Farm-household income is the difference between market revenues of products sold and CAP payments, minus the cost of variable inputs, hired labour, and depreciation. Variable inputs include fertilizers, plant protection, seeds, diesel, and possibly manure plus application cost. In the case of farms with an animal-based enterprise, costs also include purchased feed and the cost of own-farm feed production.

4.1.4. National initiatives for income monitoring

At national level, private sector and/or governmental monitoring systems exist which provide data on farm incomes.

Income data from tax data: combining tax data with agricultural census data

Netherlands

Statistics Netherlands combines data from the agricultural census (AC) and tax data[2]. The fiscal data contain income tax returns and corporate tax returns.

For each partnership and each legal entity, every partner, associate, or co-owner submits a tax return. As a result, the dataset initially contains many multiple (non-unique) tax returns per fiscal entity. Subsequently, only one tax return per fiscal entity is selected based on a set of established criteria. The objective is to link the fiscal data of each individual agricultural enterprise to its structural data in the AC.

When the linkage is successful, the financial data are transferred and assigned to the corresponding AC enterprise. The financial data of AC enterprises that cannot be linked are imputed based on key figures per standard output, derived from the data of successfully linked AC units.

[2]Available at: https://www.cbs.nl/nl-nl/onze-diensten/maatwerk-en-microdata/microdata-zelf-onderzoek-doen/microdatabestanden/lbt_fd-landbouwbedrijven-fiscale-gegevens (downloaded at 13/10/2025)

Each record in the final dataset contains variables from the AC. A linked record additionally includes fiscal data on agricultural, other, and total economic activities. The unlinked records from the AC are imputed with financial data to approximate the missing fiscal information.

Although this approach results in a complete data set and allows the analyses of farm and non-farm income, the impact of certain decisions in this procedure is not clear, i.e. the number and impact of imputed values and the impact of the selection procedure to select only one tax report connected to the fiscal entity, the farm.

Statistics Netherlands[3] conclude that in 2022, 0.7 % of agricultural households were poor. They were consequently less likely to be poor than an average household in the Netherlands (4.0 %) and households of self-employed individuals (3.3 %). Of the total income that agricultural households collectively have, 64 % came from entrepreneurial activities, 27 % from work as an employee (wages), and 9 % from benefits and pensions received

France

To understand the composition of household income, Delame (2021) combined accounting data from the FADN with tax data. Results confirm the year-to-year variability of agricultural income, which *de facto* leads to significant variability in overall income. Analysing the income composition of farm households results in an estimate of the share of agricultural income in overall income of 60 % for the period 2010-2016. Supplementary wages, for the households concerned, provide a "cushion effect" to reduce the volatility of agriculture incomes.

4.1.5. National initiatives for farm income estimates

FADN is sometimes criticised for the timeliness of data. The final results are only available in the second year after the reporting year. To address this issue, several countries make income estimates before the farm accounts of all individual farms have been finalised. Examples are the Netherlands and Ireland.

Netherlands

In the Netherlands at the end of each year[4], the farm income situation for the calendar year is estimated. The final income results (based on FADN data) are only known at the end of year t+1, when all farm accounts have been finalised. For the income estimation, up to date information on the structure of farms (agricultural census) and market information (prices and yields) are used to calculate the income in year t at the end of year t.

Based on the profit and loss account of each individual FADN farm from the previous year, changes in the revenues and costs for the current year are estimated. For farm revenue (output value produced by the farm), price and quantity changes for each important farm output (milk, potatoes, tomatoes, wheat etc.) are considered. On the input side, the price and quantity changes for the major inputs (energy, fertiliser, feed, labour etc.) are taken into account. At the individual farm level, no structural

[3] Available at: https://www.cbs.nl/nl-nl/nieuws/2025/11/weinig-armoede-onder-agrarische-huishoudens?pk_campaign=social_share (downloaded at 12/12/2025)
[4] Available at: https://www.wur.nl/nl/onderzoek-resultaten/onderzoeksinstituten/social-economic-research/show-ser/inkomensraming-2024.htm (downloaded at 13/10/2025)

changes are assumed since these would be difficult to anticipate at that point in the process, but at the sector level structural changes are considered through adjustments in the relative weighting factors of individual farms. These calculations are carried out with the Financial Economic Simulation model (van der Meulen, 2016) which is a farm level simulation model developed especially for the Dutch FADN dataset.

The results are published for each agricultural sub sector. For each sub sector the average farm income is estimated, as is the income distribution.

Ireland

In Ireland, at the end of year t, estimates of average farm income in year t for the main farm systems are produced. The final income results, based on the Teagasc National Farm Survey (which forms the Irish element of the EU FADN), only become available in the middle of year t+1, once all farm accounts have been fully processed and validated. To provide earlier insights into the likely evolution of farm incomes, Teagasc prepares annual income estimates for year t using a combination of historical data and up-to-date market information, from both official sources (e.g. monthly price and volume indices) and informal sources, such as reports from food processors.

The estimation process begins with the average income for each farm system (dairy, cattle rearing, cattle other, sheep, and tillage) from year t-1. Using this as a base, adjustments are made to account for expected changes in output and input values in year t. These adjustments are based on estimates and assumptions regarding output and input prices and volumes, informed by the latest monthly market data and other relevant indicators.

On the output side, price and volume changes are applied to the key farm outputs, such as milk, cattle, sheep, cereals, and other crops, reflecting developments in both domestic and international markets. On the input side, the main cost components, such as feed, fertiliser, energy, and other variable and fixed costs, are adjusted according to current price and usage trends.

Unlike the approach in the Netherlands, the approach in Ireland does not incorporate structural changes, since the overall objective is to capture as accurately as possible the likely change in average farm income by system relative to the previous year.

The results are presented in the annual Teagasc Situation and Outlook Report (Buckley et al., 2025) and at an associated conference for stakeholders, which provides detailed income estimates for each farm system and discusses the key market and policy factors influencing farm performance in the current year.

4.1.6. (National) initiatives on other indicators for income measurement

Farm Viability

Closely related to farm income is the concept of the financial viability of a farm. Three applications of this viability concept are described here, suing two examples from the Netherlands and one from Ireland.

Farm Viability in the Netherlands

Using the micro economic data in FADN, the impact of an event on the viability of each individual farm can be determined based on viability classes. An event could take the form of a weather disaster, a market price shock, a change in policy instruments, impact of off-farm income sources or external economic developments. Examples of these viability classes (Vrolijk et al., 2010) are summarised below:

- Family farm income is positive following a policy change, a distinction is made between:
    - Family farm income is higher than the opportunity costs of own labour and own assets (category 1). These farmers are in a position to save money for investments in the farm and have *good prospects*;
    - Absolute level of family farm income is positive, but does not cover all opportunity costs (category 2). These farmers have *rather good prospects*;
- Family farm income is negative after a policy change, but postponing depreciation is an option (category 3). These farmers experience *difficulties to modernise* and to adjust their farm;
- Family farm income cannot be compensated by postponing depreciation. Unless the farmer has liquidities to compensate for the negative income, financial distress will be the result (category 4). These farms have *rather bad prospects*;
- Family farm income is already negative before the change; the change worsens the situation (category 5). These farms have a weak position and bad prospects. Many of these farmers will have to terminate their farming activities.

In Vrolijk et al. (2010) this approach has been applied in estimating the impact of abolishing direct payments. Similar approaches have been applied to estimate the impact of off-farm income on the viability of farms (O'Donoghue, 2016) and the impact of the withdrawal of the United Kingdom from EU (Van Berkum et al., 2016).

Farm Viability in Ireland

In Ireland the Teagasc National Farm Survey (NFS) classifies Irish farms into three viability categories, viable, sustainable, and vulnerable, based on economic performance. The terms and their definitions have been in use for 30 years and were first developed and used by Frawley and Commins (1996). A viable farm earns a Family Farm Income (FFI) sufficient to provide a remuneration for family labour at least equal to the average agricultural wage plus a 5% return on non-land capital. A sustainable farm does not meet this income threshold, but has a significant off-farm income source, ensuring that the household's overall income is adequate. A vulnerable farm meets none of the conditions to be considered either viable or sustainable. A vulnerable farm is not economically viable and lacks off-farm income, leaving it most exposed to financial stress and farm exit.

These measures are valuable because they offer a clear, evidence-based way to assess the economic sustainability and resilience of Irish family farms. They enable policymakers to monitor structural change in agriculture, identify income vulnerability, and design targeted supports. The inclusion of off-farm income provides insight into both the diversification strategies of farm households. In this context, off-farm earnings act as a crucial buffer in more challenging farm-income years. The presence of off-farm income has been particularly important in recent years given increased farm income volatility. The framework is widely used in Teagasc sustainability reporting and policy analysis as it effectively links farm income and household well-being, while communicating these complex relationships in an accessible way to policymakers and the public.

Critical Milk Price in the Netherlands

The critical milk price[5] provides information about the milk price that a dairy farmer needs to keep their business running. The long-term critical milk price includes all costs paid, the (normative) repayments and family expenditure. Replacement investments are also taken into account. While the critical milk price is calculated by the Wageningen Social Economic Research (WSER) based on FADN data, the concept is also used by accounting offices and farm advisors. In the Netherlands, the long-term critical milk price for conventional specialized dairy farms increased, on balance, from 30 to almost 50 euros per 100 kg of milk between 2001 and 2023. The long-term critical milk price is calculated to be lowest for large farms. At a milk price of 50 euros per 100 kg (in 2023), 50% of conventional specialised dairy farms in the Netherlands would have difficulty meeting all their financial obligations.

4.2. Evaluation of strengths and limitations of current income data

The EAA and FADN are the two major sources of data on agricultural income. FADN takes a micro-economic perspective by collecting data at farm level and the EAA applies an aggregated approach. The advantage of the micro-economic approach is that it allows analysis of farm system level incomes, the income distribution across the farm population, the composition of incomes (including subsidy payments) and analysis of the development of incomes over time.

In the case of the EAA, income indicator B can be biased if there is a substantial number of companies which generate entrepreneurial income exclusively with paid labour. This could limit the validity of a comparison of income levels between Member States if the proportions of companies with only paid labour differ considerably.

Both FADN and the EAA collect data on the income from agricultural activities (FADN focuses on the more commercial farms within the farm population, while the EAA reports on income in the entire agricultural sector). However, neither of these two sources provide full information on the total income or household income of those active in agriculture.

The incomes and standard of living of farmers are an important element in the EU treaty and the CAP. In 2016, the European Court of Auditor (ECA, 2016) assessed whether the Commission's performance measurement in relation to farmers' incomes was well designed and based on sound data.

The Court concluded that the Commission's system for measuring the performance of the CAP in relation to farmers' incomes was not sufficiently well designed and the quantity and quality of statistical data used to analyse farmers' incomes had significant limitations. A limitation of FADN and the EAA is that neither measures the disposable income of farm households. If both data sources did measure disposable income, then this would better facilitate the assessment of whether the treaty objective of ensuring a fair standard of living for farmers is being achieved.

With respect to the statistical data on farmers' incomes, the Court recommended the development of a more comprehensive framework for providing information on disposable income and for comparing

[5] Available at: https://agrimatie.nl/SectorResultaat.aspx?subpubID=2232&sectorID=2245&themaID=2272&indicatorID=3214 (downloaded at 12/12/2025)

farmers' incomes with incomes in other sectors of the economy. The Court recommended further development of the EAA and FADN so that their potential could be better used.

In 2018, the Court (ECA, 2018) further evaluated the fair standard of living and the contribution of the CAP basic payment scheme. The basic payment scheme aims to provide a basic income support to farmers and thus contribute to viable food production in the EU, without distorting production decisions.

The Court concluded that the basic payment support is a significant source of income for many farmers, but has inherent limitations. The Court found that the level of the payment does not take account of market conditions, the use of agricultural land or the individual circumstances of the holding, and it is not based on an analysis of the overall income situation of farmers. As payments essentially relate to areas farmed, the Court concluded that basic payment support tends to favour larger farms.

For the future, the Court recommended that the Commission should analyse the factors impacting income for all groups of farmers, their income support needs and the value of the public goods that farmers provide, and that it would link the proposed measures to appropriate operational objectives and baselines against which the performance of the support could be compared.

European administrative systems, monitoring systems and statistics are adapting to new policy needs. For income monitoring, the developments in EAA and FADN/FSDN are highly relevant. EAA strengthens the importance of regional account allowing the analyses of regional agricultural systems. FSDN introduces new variables on economic and social sustainability. FSDN will now collect data on the existence of off-farm income when surveying farms. FSDN will not collect precise data on exact amounts of off-farm income but, some indications of the existence and amount of additional income sources will be provided. This will allow for a more extensive analysis of the economic sustainability of farms (see for example O'Donoghue, 2017) which takes into account the off-farm income in determining the viability of farms.

Box 2: Liquidity monitoring in the Netherlands

Wageningen Social & Economic Research (WSER) monitors the cash position of Dutch farmers on a monthly basis to develop more timely insights than are available from the standard annual FADN economic statistics. Of approximately 1 200 farms participating in the Dutch FADN, credits and debits on the current account are digitally received each month via Electronic Data Interchange (EDI) messages from all Dutch banks. The average liquidity in each agricultural sector is benchmarked against previous months, as well as against similar months in previous years, allowing the identification of (abrupt) changes in liquidity positions. For example, in the initial year during the COVID-19 pandemic, the cash position on dairy farms was negatively affected (Figure B1) and this was also the case in many other Dutch agricultural sectors.

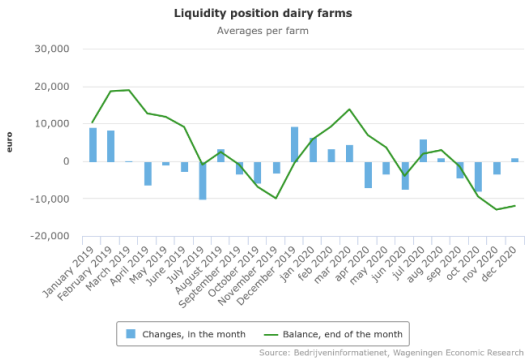


Figure B1: Average liquidity position

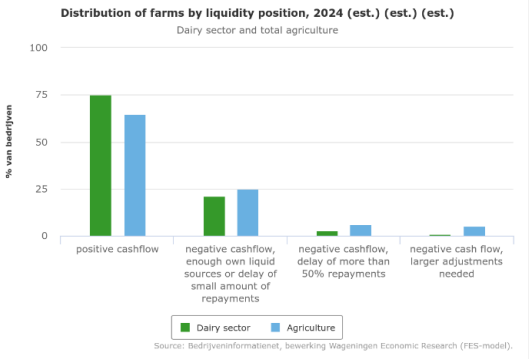


Figure B2: Distribution of liquidity position

The distribution of the liquidity position can be further analysed using the following categories (see Figure B2):

- Positive cash flow;
- Negative cash flow, but the deficit can be absorbed by using liquid assets or by deferring repayments (up to 50% of the repayments);
- Negative cash flow and more than 50% of repayments are deferred (without large farm adjustments);
- Negative cash flow and structural adjustments are required to absorb the deficit, such as refinancing or the sale of parts of the farm assets.

See also for example applied WSER liquidity studies on the impact of changes in farm payments (Vrolijk et al., 2010), Brexit (van Berkum et al., 2016) and COVID-19 (van der Meulen and van Asseldonk, 2020).

Source: Authors

4.3. Recommendations for future data collection and CAP monitoring

Ensuring that farmers have a fair level of income is a key CAP objective. Fair incomes can ensure that production remains economically sustainable and that future generations of farmers will be attracted to work in the sector. The way in which we measure farm income could be improved. Two main approaches to measuring farmers' incomes are in use, one which assesses the aggregate income across all of farming and the other which specifically focuses on the income of individual farm types and individual farms. Both of these measures of income could be enhanced if a wider definition of farm household income were used, in particular if income from non-farming sources were also captured in official statistics.

The timeliness of the delivery of farm income data could also be improved, as is the case in several EU Member States. This might be challenging to achieve in a uniform way across the EU without a very significant and co-ordinated investment in data collection and processing technology. Examples from the Netherlands and Ireland demonstrate that one pragmatic solution would be to make use of agricultural price and volume statistics which are produced on a more timely basis to provide preliminary estimates of incomes for the various farm sectors several months ahead of the publication of the official farm income data. Another solution to provide early earlier estimates of farm incomes could be to make use of modelling tools which can provide projections on market prices. A requirement would then be that such tools are regularly updated to capture short-term market developments reasonably well. Some models are better able to do this than others. Such solutions would assist policymakers in recognising the scale and extent of farm income developments at an earlier point and could then allow for more timely and more targeted interventions if required. Examples of how early estimates of farm income by farming sector are already produced in some Member States have been presented in this chapter.

The increasing complexity of the farming sector (family farms vs legal entities, farms where several family households contribute, or farms that are run by a number of entrepreneurs) will need continued attention to make sure that the farm income indicators continue to reflect the priorities of agricultural policies.

This chapter has illustrated the importance of accurate and timely data in the creation of decision-support hub for policymakers. It has assessed the strengths and limitation of the main data sources and models (EAA, FADN/FSDN and national initiatives). It has also compared alternative indicators, and has described feasible approaches (price/volume updates, liquidity monitoring) that can deliver earlier warnings of adverse developments in the economic sustainability of farms. Having established in Chapter 4 how more timely and more inciteful farm income data provision is feasible, Chapter 5 moves to the policy toolkit and evaluates which instruments represent appropriate interventions.

5. PROVISION OF POLICY SUPPORT TO FARM INCOMES

KEY FINDINGS

EU and national policy instruments remain a central mechanism of support for farm incomes, but there are limitations in these mechanisms in terms of coverage, targeting and uptake.

Even though their purpose is to support the level of farm income, CAP direct payments, and other income supports, continue to be a major buffer against farm income volatility.

By contrast, CAP risk-management measures, which could be applied to address income volatility, play a much more secondary role in addressing income risk, with a low uptake by farmers observed across the EU.

There is a wide variation across Member States and sectors in terms of the dependency on support payments.

Income support is effective in raising average incomes and buffering "shallow" shocks, but support continue to favour farms that are larger in size. Better-off farms receive income support that they may not need.

Data limitations and administrative barriers are an impediment to the design and deployment of more sophisticated income support tools.

Deficiencies exist in the effective targeting of support and in the capacity to deliver timely support to address adverse income shocks.

Overall, this signals the need to better target scarce budgetary resources. New measures, if administratively feasible, could result in policy that improves farm resilience.

Given the evolution of farm income already described, Chapter 5 assesses the role of policy. It reviews the role and scale of income support (EU direct payments and national state aid), evaluates the CAP risk management toolkit (insurance, mutual funds, income stabilisation tools) and examines national crisis measures, showing where policy interventions have occurred and where gaps remain. It also provides insights on how to direct financial resources more efficiently to support farming incomes given budgetary constraints. It includes insights from the current CAP cycle (which began in 2023) as well as from the previous CAP (2014-2020).

5.1. Introduction

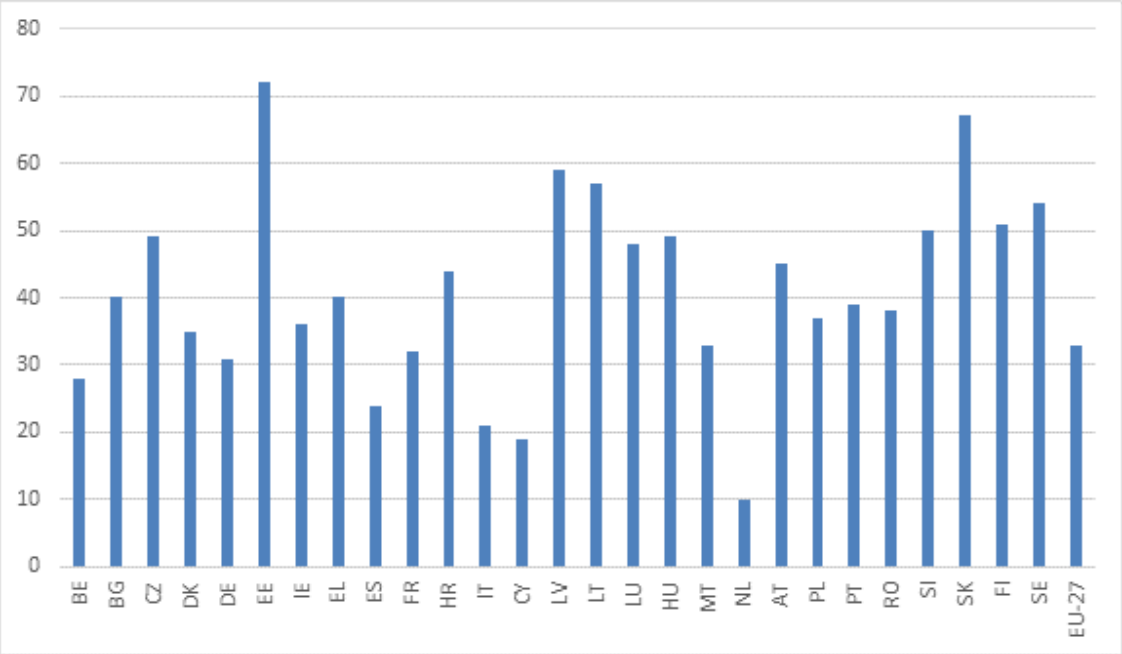
Income support payments play an important role in EU agriculture. Firstly, they support the level of farm income. Secondly, they play a critical role in buffering farm incomes from the full extent of output and input price volatility. This is because support payments generally have a fixed (stable) monetary value determined by policy (and budgetary processes), whereas margins from agricultural production are volatile for the reasons already outlined in Chapter 2 and Chapter 3. Since farm incomes are the sum of production margins and support payments, the overall volatility in farm incomes is therefore less than the volatility in farm production margins.

Across EU farm systems and farm sizes there is a wide variation in the share of farm income that is denoted by support payments. Support payments generally play a more significant role in contributing

to income on smaller farms, partly because some supports are targeted towards smaller farms, but also because smaller farms can be less efficient than larger farms and therefore less capable of achieving profitable (positive) margins. Nevertheless, it is the case also that some large profitable farms receive substantial amounts of support payments. There is considerable variability across EU Member State agriculture in the share of income that is derived from support payments.

Figure 38 shows the average percentage of farm income accounted for by agricultural support by Member States over the period 2018 to 2022.

Figure 38: Share of subsidies in agricultural factor income (2018-22)

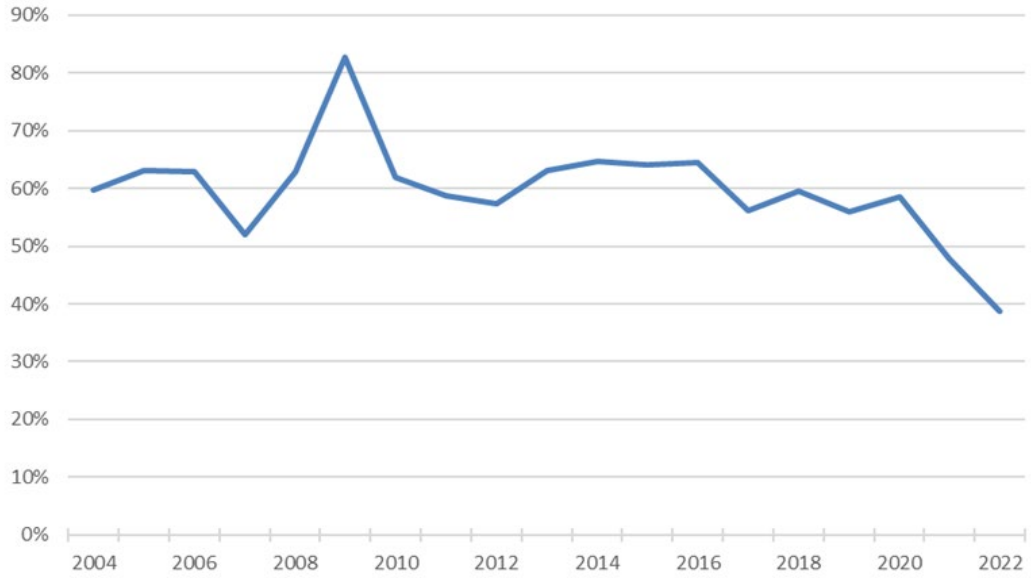


Source: CAP expenditure: European Commission, Directorate-General for Agriculture and Rural Development (Financial Report), including Next Generation EU payments for 2021-22.

On average total support payments represented in excess of 30% of average farm income in the EU over these years. However, there is a large variation across Member States around this EU average, partly for historical reasons which meant that some components of EU agriculture were subject to higher levels of support. The better supported sectors of EU agriculture are not uniformly distributed across the EU.

The level of support has not remained stable over time. Figure 39 shows the variation in the share of support payments in farm income over recent decades. Over time, especially in recent years, this share has been in decline. This is due to a combination of factors, including a decline in support levels, as well as increases in farm margins (excluding policy support payments) and price inflation.

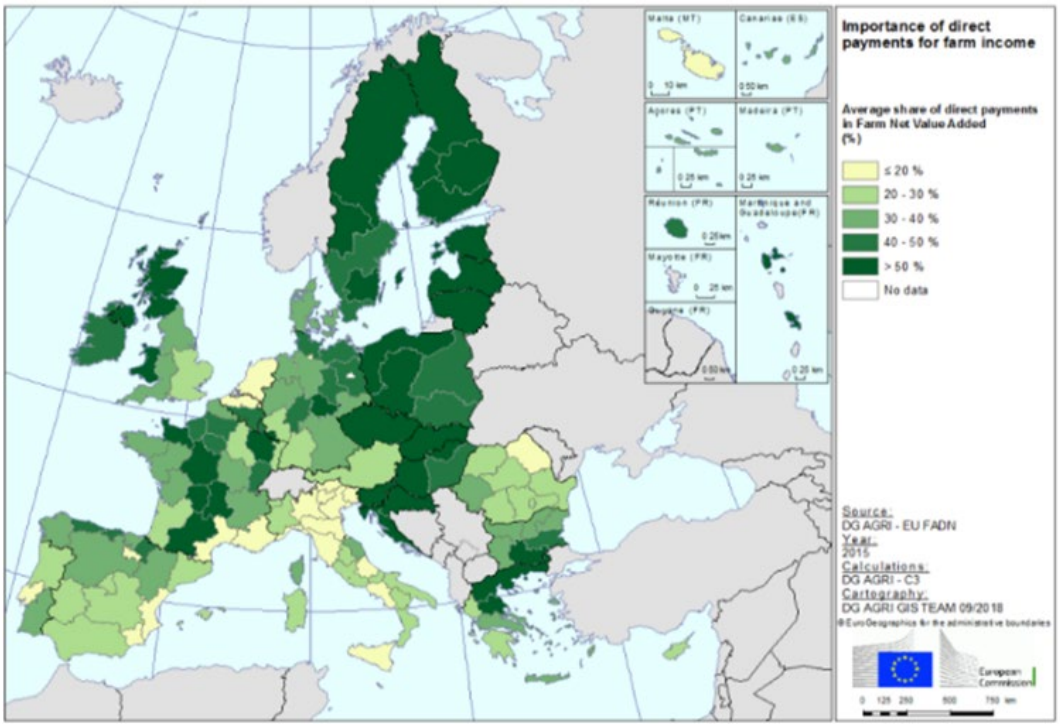
Figure 39: Share of support payments in EU-27 farm income 2004 to 2022



Source: Extracted from EU Farm Accountancy Data Network Portal.

Figure 40 shows the importance of direct payments as a percentage of farm income at a higher level of spatial detail using calculations from the FADN database. As the figure shows, there is significant variability both between and within EU Member States in the period 2015-2020, and it is unlikely that this has changed much in recent years.

Figure 40: Importance of direct payments in farm income



Source: CAP Explained – Direct Payments to Farmers 2015-2020

5.2. Policy instruments aimed primarily at supporting farm income

As the key focus of this study is on available support measures to bolster farmers' income, the discussion will focus on those instruments that specifically aim at supporting farm incomes. Table 1 provides an overview of relevant instruments. From CAP Pillar I (direct payments and market support) this includes the various direct (per hectare) payments. From CAP Pillar 2 (rural development) this includes policy instruments that are focused on improving farm income, by enhancing its productivity and supporting modernisation.

Table 1: Policy instrument of the CAP that aim to support farm income

CAP Pillar 1 Instruments	CAP Pillar 2 Instruments	CAP Pillars 1 and 2 instruments that target income support as well as other objectives
Basic income support BISS	Young farmers support	Sectoral support
Coupled income support (CIS)	Productive investments	Market measures
Complementary redistributive income support (CRISS)	Cooperation (EIP)	Non-productive investments (nature and landscape)
Complementary income support for young farmers (CIS-YF)	Risk management	Agri-Environment and Climate Measure (incl. organic farming)
Complementary income support for small farmers (CIS-SF)		Cooperation (EIP)
Direct support provided to areas facing natural or other area-specific constraints (ANC) and areas with specific disadvantages (ASD)		

Source: Authors

Farm income support and direct payments

Table 2 provides the budget expenditure for the various Pillar I measures for 2022. The direct payments per hectare targeted at supporting farmer income (BPS, SAPS, VCS, RPS, YFS) amounts to about 70% of the total, considering that the Greening payment (up till 2023 this includes the Green premium and from 2023 onward this has been replaced by the eco-scheme hectare payment) has a sustainability focus, rather than an income support focus. For comparison, the total expenditure on direct payments for 2023 and 2024 amounts to 38.2 and 37.4 billion euro respectively.

Table 2: Distribution of direct payment expenditure by scheme

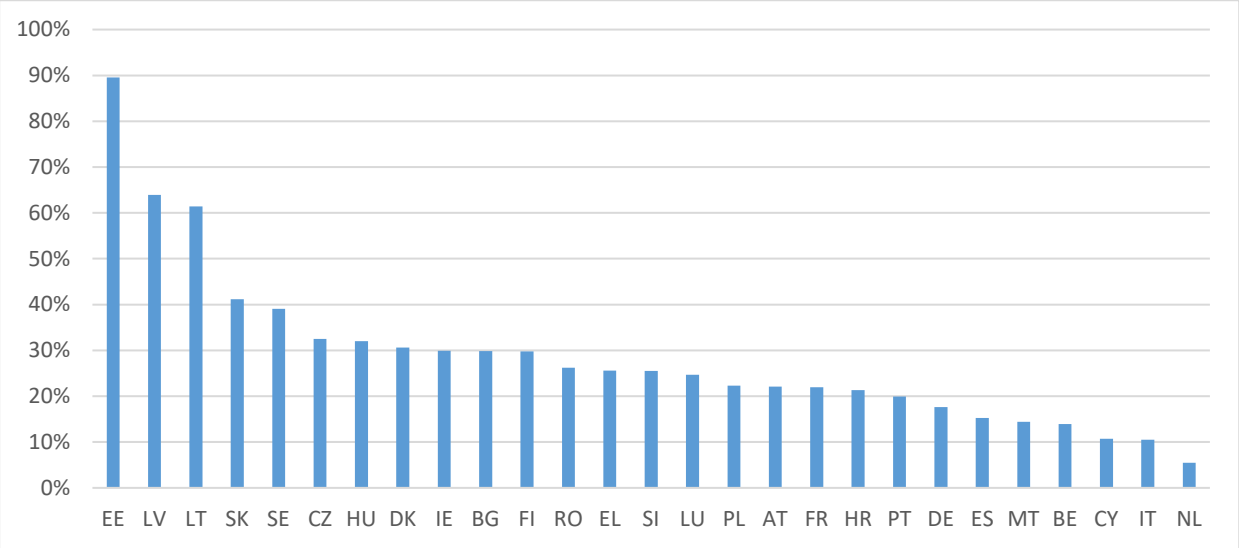
Income Support Measure	Budget (€ Billion)	Share
Basic Payment Scheme (BPS)	14.826	40%
Greening (GP)	10.898	29%
Single Area Payment Scheme (SAPS)	4.475	12%
Voluntary coupled support (VCS)	4.080	11%
Redistributive payment (RPS)	1.653	4%
Small farmers' scheme (SFS)	609	2%
Payment for young farmers (YFS)	459	1%
Crop specific payment for cotton	242	1%
Payment for areas with natural constraints	5	0%
Total expenditure	37.247	100%

Source: Own calculations based on info from CAP expenditure – European Commission

The relative contribution of farm income support to farm income by Member State

To assess the role of CAP support in bolstering farmer income, Figure 41 shows the share of direct payments in farm income at Member State level in 2022. The average share for the EU is 19.1%, with the highest shares observed for the Baltic countries Estonia, Latvia and Lithuania, and relatively low values observed for The Netherlands, Italy and Cyprus.

Figure 41: Share of direct payments in farm income in 2022



Source: Eurostat.

Income support and sectors

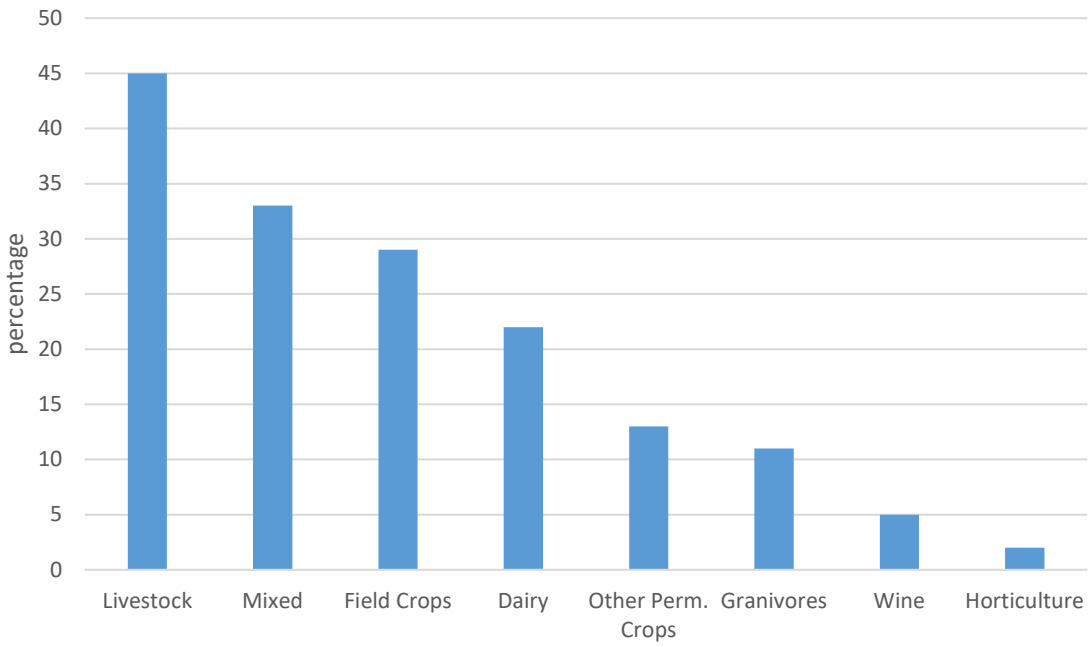
Because direct payments are in general decoupled from production, they cannot be linked to specific sectors. The key exception here is the payment made under voluntary coupled income support (VCS), which is targeted at specific sectors facing difficulties, or that need to improve sustainability or maintain a certain level of production. Common sectors supported through VCS include livestock (beef, dairy, sheep, and goats), protein crops, and some specialised crops like potatoes, vegetables, and starch potato production. Across the EU, the livestock/livestock products sector is the most commonly supported sector through VCS, especially so for beef and dairy, followed by sheep and goats. The

current CAP also includes a strengthening of the VCS allocation to protein crops and legumes. Some countries also offer support for specific fruit and vegetable sectors.

In the current CAP (2023-2027), in most Member States most of the financial allocations are provided for the livestock ruminant sectors (notably beef and dairy). Some Member States only provide support to the livestock ruminant sectors, whereas Ireland (a Member State where ruminant agriculture dominates) is the sole Member State to only provide coupled support linked to area/crops. Greece (55%) and Italy (58%) are the only two other Member States where most of the coupled support financial allocations are linked to area/crops. The goal is to support important economic, social, or environmental sectors that might otherwise decline, ensuring supply chains and competitiveness.

Even though, due to decoupling, only a minor portion (about 12%) of direct payments can be linked to specific sectors, this does not preclude the assessment of the extent to which farmers in different sectors benefit from direct payments. Figure 42 provides data on the share of direct payments in farm income (measured in terms of FNVA). The highest share (46.5%) of direct payments in farm income is associated with the grazing livestock sector (aside from dairy), followed by other land-based forms of arable and animal (dairy) production. For the intensive livestock sectors (e.g. granivores such as pigs and poultry) or sectors with a low land-intensity (e.g. wine and horticulture) the share of direct payments is relatively low. The evidence is that the smaller the economic size, the higher the share of direct payments in farm income (European Commission, 2023a).

Figure 42: Direct payments to FNVA (in %) by sector in 2021



Source: European Commission (2023a).

Income support and farm size

As the farm income support payments are area-based, there is a natural link with farm size, measured in terms of their land base. Table 3 shows that close to half of all beneficiaries had a farm size of 5 hectares or less (Matthews, 2025). There are a large number of such farms in the EU: according to the Farm Structure Survey (FSS) the EU had 9.1 million farms in 2020, of which 63.8% were smaller than 5 hectares. The distribution of small farms is highly uneven across EU Member States, with high shares of small farms (under 5 hectares) in Romania (>90%), Malta, Cyprus, and Greece (all >75%). As Table 3

shows the share of these farms in EU agricultural area is less than 5 %, and also their share in total EU direct payments is only 5.5 % (Eurostat, 2024b). Farms having a land-base between 5 and 250 hectares, receive almost three quarters of direct payments. The share of very large farms (>250 hectares) in the direct payments envelope is close to one quarter, even though their number is relatively small (1.3 %). Most of the payments go to commercial family farms (see size class 5 – 250 hectares), but the distribution is uneven (see also Chapter 3 of this report on income distribution and Matthews, 2025). As a further illustration: in the financial year 2022 more than three quarters of the beneficiaries of direct payments received amounts of less than EUR 5 000 (corresponding to 16 % of the total direct payment envelope) (European Commission, 2024c). Table 3 also shows that the so-called 80/20-rule (80 % of the support going to 20 % of the largest farms) can be explained by the relatively large number of very small holdings (Matthews, 2025). Note that the area-based distribution data may be subject to some bias in that farm area and economic size (as measured for example by standard output) are not synonymous, especially in the case of sectors which have farms with a relatively small land base (e.g. granivores, vegetable production).

Table 3: EU direct payments, beneficiaries, farm size and area

Farm size class	% of beneficiaries	% of area	% of direct payments
<= 5 ha	48.3	4.7	5.5
5 – 250 ha	50.4	68.0	71.6
> 250 ha	1.3	27.3	22.9

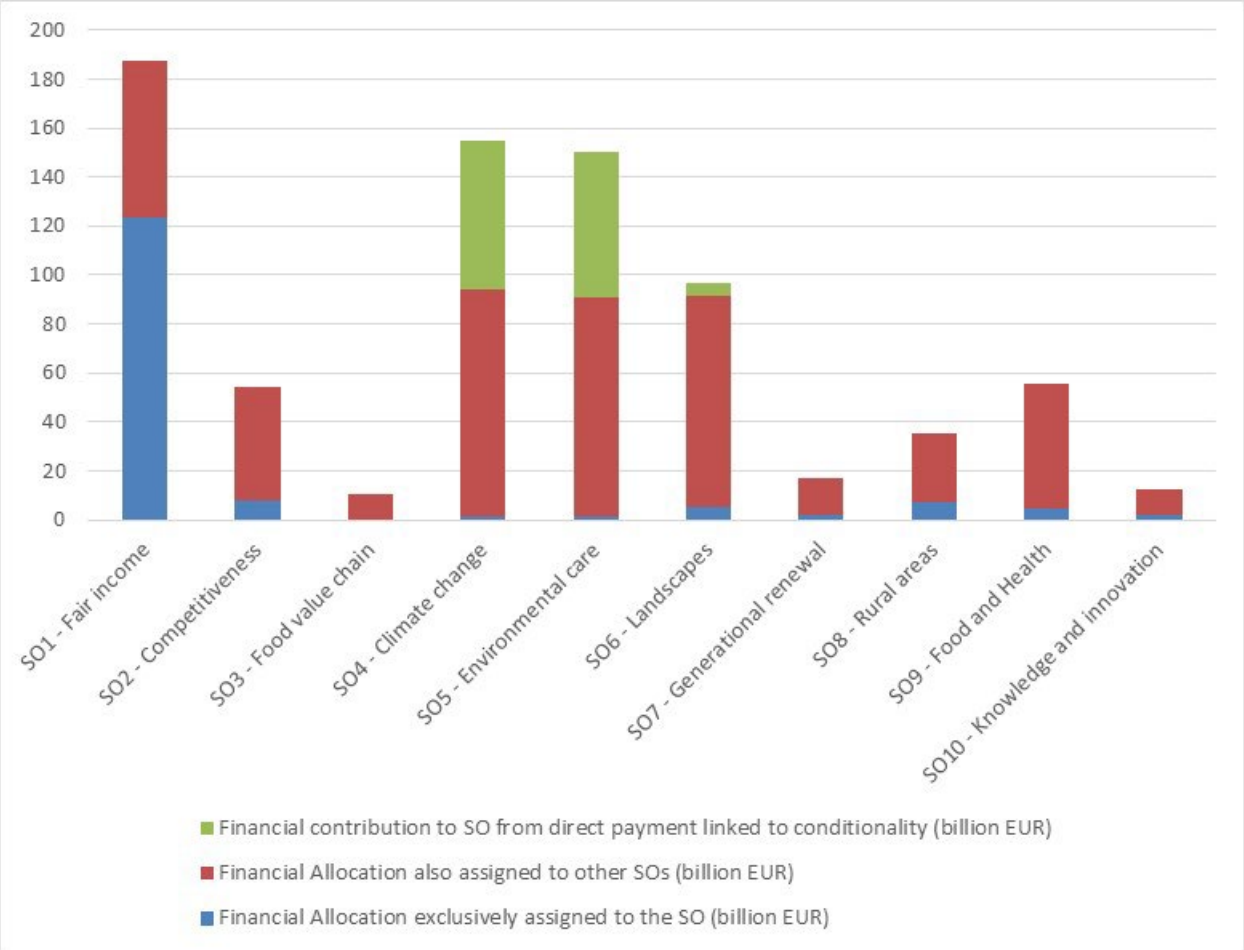
Source: DG AGRI, Direct payments to agricultural producers: graphs and figures, financial year 2023, 2025 (Eurostat, 2024b).

Income support and other (sustainability) objectives

For the current CAP a mapping exercise has been undertaken which examines direct payment income support measures to assess the extent to which they are focused purely on farm income support (specific objective SO1 of the 10 key policy objectives of the CAP 2023-27) and to what extent they are focused on other objectives.

Figure 43 shows that of the total amount of income support for the current programming period (2023-2027) of the 188 billion euro of direct payments (about 37.5 billion euro per annum) 65 % is allocated to income support (SO1), while 35 % is allocated to also achieve other objectives, such as for example competitiveness (SO2) and sustainability objectives (SO4, SO5 and SO6). As regards the enhancement of competitiveness, the voluntary coupled support payment, in particular, is co-linked to this objective

Figure 43: Financial allocation to CAP specific objectives (SOs) in the EU, 2023-2027



Source: Agri-data portal, European Commission, DG Agri

As regards the sustainability objectives, the eco-scheme instrument, while a direct payment, also has objectives beyond supporting farm income. The remuneration basis underlying eco-activities covered by the eco-schemes relies upon the principles of income forgone and costs incurred. From this it follows that the eco-scheme payment has only a very limited contribution to farmer net income, mainly covering the opportunity costs associated with participating in such activities. In addition, part of the voluntary coupled support is associated with sustainability objectives (SO4, SO5, SO6), especially where these payments support protein crops and legumes and/or environmental side conditions are added to these payments (see Ecorys et al., 2023).

5.3. Policy instruments aimed at reducing income volatility

Support for farm income in the CAP has two important components: i) support to increase the level of income (see previous section), and ii) support to reduce income volatility. According to the classical objectives of the CAP, one of its mandates is to stabilise prices, and in so doing reduce farmer income volatility. In the era of price support (prior to the 1992 MacSharry reform) this was mainly achieved through the application of import levies and export subsidies (restitutions), which were variable and could be adjusted to fluctuating world market prices in such a way that this would stabilise supply and demand on the EU market thus leading to limited movements in EU internal commodity market prices.

After the MacSharry reform, and the subsequent increased market orientation of the CAP, the commodity price stabilisation approach became obsolete (European Commission et al., 2023) and the

focus switched to reducing farm income volatility, within the context of increasing market or price volatility, and increasing climate, yield and disease risks. Vestiges of pre-McSharry era policy remained, such as a number of intervention measures, aimed at supporting a minimum price floor in the market in the case of extreme events (e.g. the skimmed milk powder intervention mechanism, that when operational provides support to the farmer raw milk price) (see Jongeneel et al., 2018).

Since then, the risk management instrument from CAP Pillar II has become the main instrument directly targeted at reducing farm income volatility. However, it is acknowledged that, aside from the already mentioned market intervention measures, sectoral support instruments (targeted at specific sectors such as fruit and vegetables, wine, and other sectors) often address risk issues.

In Table 4, direct payments (a cluster of different payments) are classified as a factor that, at least indirectly, contribute to reducing farm income variability. Even though the direct payments instrument is primarily targeted at supporting the level of income, due to its 'fixed value' (viz. not being dependent on weather conditions, disease prevalence or the market situation) it has a stabilising impact on farm incomes (see EEIG-Agrosynergy (2018) for a detailed empirical evaluation of farm income variability, with and without direct payment support, showing that the reduction in farm income variability holds for all EU Member States).

Table 4: Policy instruments of the CAP that aim to contribute to stabilising farm incomes

CAP Pillar I Instruments	CAP Pillar 2 Instruments
Direct payments	Risk management tools
Sectoral support	
Market measures (intervention, storage)	

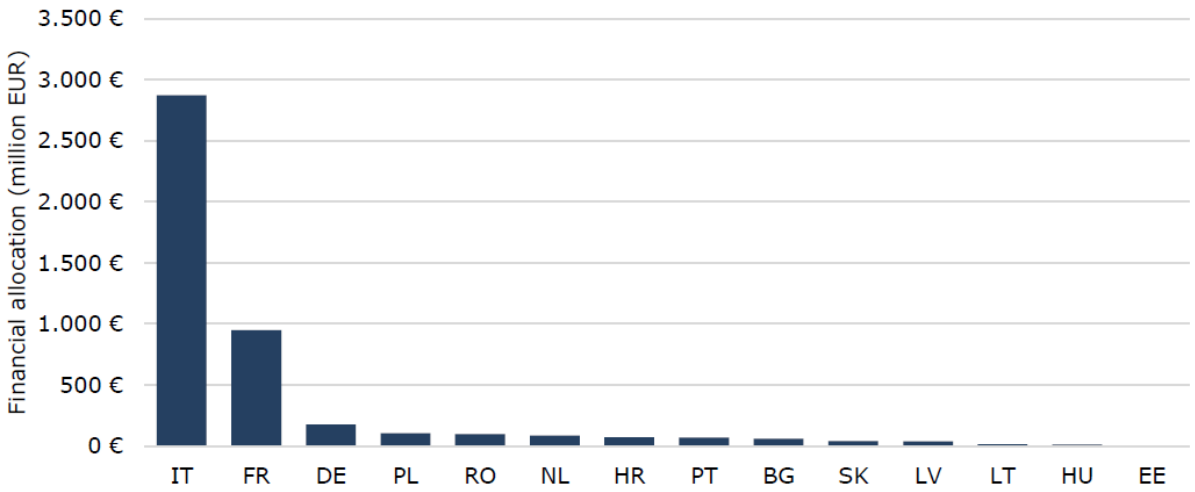
Source: Authors

As indicated above, the first and primary measure targeted at addressing income volatility is the risk management toolkit. The main instruments within this are financial contributions to insurance premia, mutual funds and the income stabilisation tool. The first instrument provides financial support to help farmers cover the costs of insuring against economic losses caused by adverse weather events, animal or plant diseases, pest infestations, or environmental incidents. The second instrument supports the establishment and administration of mutual funds, which allows groups of farmers to collectively share risks and receive compensation in the event of significant losses. Such funds act like a form of joint precautionary savings. The third instrument provides basic coverage in the event of a severe drop in farm income. It aims to smooth out income fluctuations over time, often triggered when a farmer's income drops below a certain threshold (e.g. a 30 % loss).

Figure 44 shows the financial allocation to the risk management toolkit, which in total amounts to about 2.6 billion euro (excluding national co-financing), or 4 % of the Pillar II (rural development) budget envelope (European Commission et al., 2023). According to the national CAP Strategic Plans (CSPs) of Member States, only 14 of them have chosen to support risk management through the CAP. Italy (2.9 billion euro) and France (949 million euro) are the Member States with the highest financial allocations to risk management. Whereas Italy allocates about 8 % of its total CAP envelope to the risk management toolkit, for all other Member States the corresponding figure is less than 2 % (European Commission et al., 2023, p.46). All Member States who adopted a risk intervention tool chose to support insurance. In addition, six Member States also adopted one or more mutual funds, that either compensate production

risks (France, Italy, Poland) and/or income stabilisation (Bulgaria, France, Hungary, Lithuania). All Member States adopted one or more risk intervention tool for crops (often including horticulture). Livestock was eligible for insurance or mutual fund support except for Germany and the Netherlands. Almost all Member States set the threshold for insurance and mutual funds at a level that grants support only to cover losses which exceed a threshold of at least 20 % of the average annual production or income. Most Member States set their premium subsidy at the maximum rate defined in the CSP regulation (Regulation (EU) 2021/2115[6]), indicating that support shall not exceed 70 % of the eligible costs (European Commission et al., 2023).

Figure 44: Financial allocation for risk management instruments by Member States, 2023-2027 (in million euro)



Note: In addition, three Member States are providing top-up support for risk management: Hungary, Lithuania and Latvia
Source: European Commission et al. (2023)

Income stabilisation tools are a novel feature in the CAP risk management tools category. The CSPs for the Member States that chose to use income stabilise tools income follow the conditions as laid down under Article 76 of the CSP regulation. An actuarially robust model is essential, supported by a standard formula to determine income losses for accreditation. Member States are following different approaches, as stipulated in their CSPs. The difficulty of an objective and verifiable computation of income is identified as a major obstacle in the implementation of this instrument. Member States face difficulties in calculating the relevant income, with issues ranging from finding the correct definition of income, the availability of data to determine income, and the willingness/ability from the farmers' side to share detailed business information.

Moreover, the viability of any fund depends, by its very nature, on the widest possible pooling of risks between farmers. Pooling income risks, and thus price risks, is inherently difficult and relies for example on a well-functioning futures market, which is often not liquid enough to facilitate the needs of a fund. In addition, lack of capacity, knowledge and skills among farmers, farm advisors and public authorities

[6] See, also: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R2115.

is hampering the use of income stabilisation tools. For farmers, it is often the complexity of the instrument and a preference for other types of public support (which may be provided at no cost to them) which weakens their interest in income stabilisation tools. At the level of the public authorities, there is a lack of capacity, and a lack of the necessary skills to implement an income stabilisation tool, which is perceived to be highly complex (Wageningen Economic Research & Ecorys (2019)).

The effectiveness of risk management and crisis insurance measures is, just as in the case of income support, dependent on their targeting. The more the instrument is directed towards the variability of the factor that is causing the risk, the better. As such, focusing the tool on specific input prices (e.g. energy cost) or on farm income (see also Box 3) are examples of proper targeting. However, there is a second element which is of importance, which is the timing of delivery of support. Especially, in the case of targeting income, payments relating to such insurance will often arrive late, as the data on inputs and outputs needed to support an income claim will only be available well after the shock has occurred.

Box 3: Agricultural crisis insurance system (income stabilisation tool) in Hungary

Background and objectives

Hungary introduced the Agricultural Crisis Insurance System (ACIS) (Mezőgazdasági krízisbiztosítási rendszer) in 2021 as a new pillar of its national agricultural risk management framework. The system was established under the Rural Development Programme (CAP Pillar II) with co-financing from the European Agricultural Fund for Rural Development (EAFRD) and national resources. The main goal of the ACIS is to stabilise farm incomes by providing financial compensation when farmers experience a sharp income drop caused by exceptional market disturbances, production shocks or cost inflation. The scheme reflects the income stabilisation tool (IST) concept defined in the CAP legislation, but is implemented as a national, state-managed system rather than a private mutual fund. This mechanism complements the existing Agri-risk Management System consisting of three other pillars (damage mitigation, insurance premium support, and hail prevention) and fills an important gap: it addresses income-level volatility, not just yield- or event-based risks.

Design and operation

Participation in the ACIS is voluntary for farmers but conditional on registration in the Hungarian Agricultural Holding Register and fulfilment of basic data reporting requirements (e.g. annual income declaration to the paying agency). The system is managed by the Hungarian State Treasury (MÁK). Farmers join the scheme by paying an annual contribution, which is co-financed by the state at a rate of 70%. When a farmer's current annual agricultural income (based on the tax-declared net income from farming) falls by more than 30% compared to the average of the previous three years, the scheme pays compensation for part of the income loss. The formula ensures that compensation is proportional to the degree of loss, thereby maintaining incentives for risk-reducing behaviour (avoidance of moral hazard).

Funding structure
70% public support (EU + national co-financing) – 30% farmers' contribution. Resources are kept in a dedicated Crisis Insurance Fund managed by MÁK. The annual financial envelope is planned in the CSP (Intervention "Income Stabilisation Tool"), and payments are subject to EU audit and monitoring.

Implementation and results
The ACIS was launched in 2021, with first payments executed in 2023 for losses incurred in the 2022 production year. The drought of 2022, one of the most severe in decades, and the sharp increase in energy and fertiliser prices highlighted the need for such an income-based safety net. By the end of 2024: 194 farms had joined the scheme as active members, mainly located in Bács-Kiskun, Hajdú-Bihar, and Szabolcs-Szatmár-Bereg counties. 49 farmers received compensation for income losses related to 2022, totalling approximately HUF 1.5 billion. Average compensation covered 55–60% of the income loss above the 30% threshold, depending on the sector and available funds. Most claims originated from field crop farms suffering yield and price losses, while a smaller share came from livestock farms affected by feed and energy cost inflation. The ACIS is closely integrated with the national risk management database and the paying agency's monitoring systems, allowing income verification through tax and FADN data. The system's design ensures transparency, traceability, and alignment with CAP auditing rules.

Assessment and outlook
Experts from the Research Institute of Agricultural Economics (AKI) and the Ministry of Agriculture regard the ACIS as a pioneering national model for income stabilisation. It complements existing CAP risk management tools and demonstrates that income-based support can operate effectively when underpinned by robust accounting data and public administration capacity. However, several challenges have been identified:

- Low participation rate among small farms due to administrative complexity and lack of awareness.
- High volatility of production costs, making income fluctuations harder to attribute to external shocks.
- Potential overlap with other state aid measures (e.g. ad-hoc compensation or disaster relief).

Source: Authors based on several documents, including: AKI (2025), European Commission (2023b) and Ministry of Agriculture in Hungary (2020).

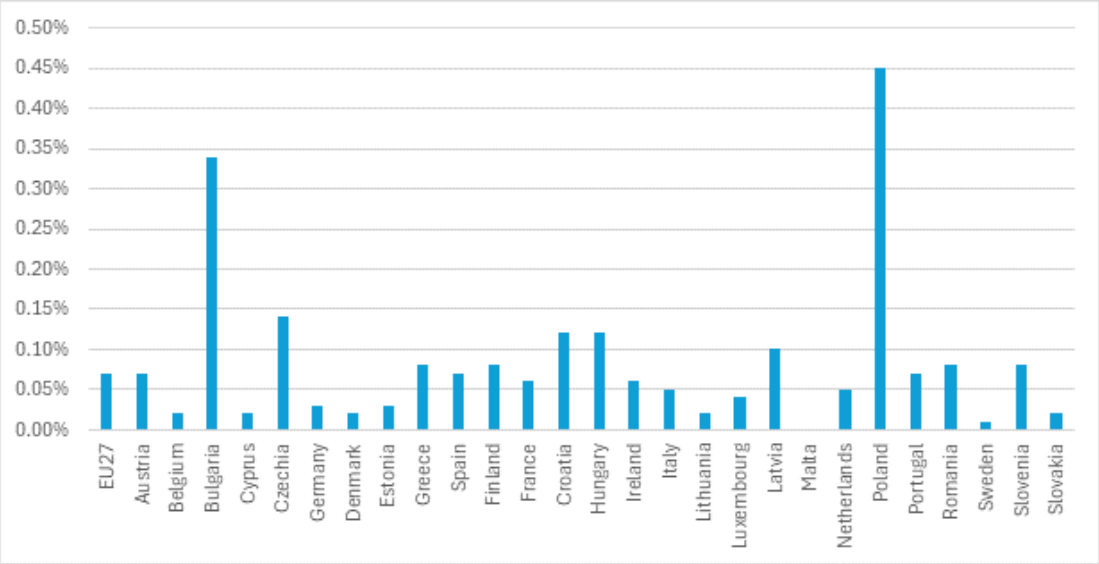
5.4. Catalogue of national-level income support measures

Under Article 6 of Commission Regulation (EC) 794/2004, the European Commission must publish a State Aid synopsis ("State Aid Scoreboard" or "Scoreboard") annually, based on the expenditure reports provided by Member States to measures qualifying for exemption.

For agriculture, forestry and rural areas, state aid expenditures by Member State are presented in Figure 45. The total state aid expenditure amounted to 11.93 billion euro (0.07 % of EU GDP and similar to about a 21 % of the CAP budget) in 2023, of which 2.94 (0.02% of EU GDP) was TCTF-related aid (Temporary Crisis and Transition Framework), and no COVID-related aid.

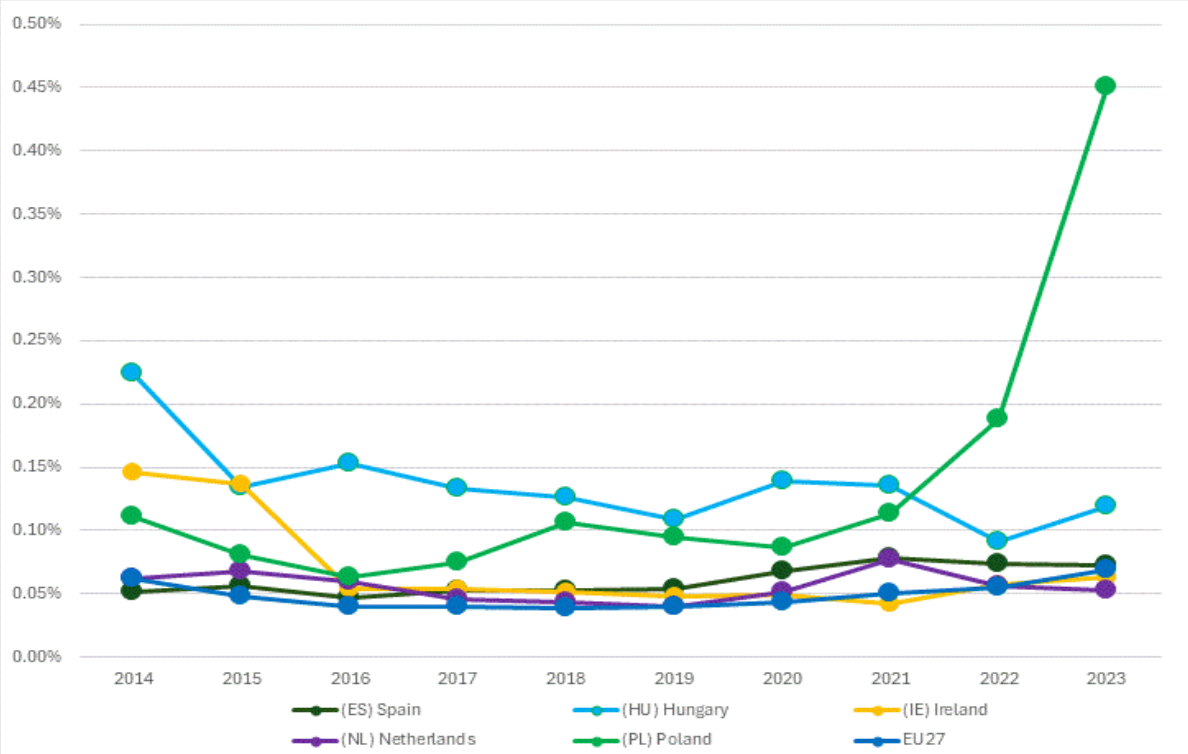
The Member States with the highest state aid in terms of percentage of GDP were the Eastern European Member States, Poland (0.45 %), Bulgaria (0.34 %), Czechia (0.14 %), Croatia (0.12 %) and Hungary (0.12 %). In 2023, both Poland and Bulgaria used relatively the most TCTF-related aid. Direct grants represent the most widely utilised State aid instruments across Member States.

Figure 45: State aid per Member State in % GDP (2023 for agriculture, forestry and rural areas)



Source: European Commission State aid scoreboard data

Figure 46: State aid for case study Member States in % GDP (for agriculture, forestry and rural areas)



Source: European Commission State Aid Scoreboard data

To provide a more detailed analysis at the individual Member State level, the developments in the period 2014–2023 are presented for the five selected case study Member States in Figure 46. In recent years state aid has increased the most in Poland in terms of its share of GDP (with an average of 0.09% during the period 2014-2021, and it increased to 0.19 % and 0.45 % in 2022 and 2023 respectively). For EU-27 average, state aid was 0.05 % during the period 2014-2022, and increased to 0.07 % in 2023.

A more in-depth analysis, for each case study Member State, details the implemented COVID and Inflation-related aid measures, as well as income tax regulations (and more specific income smoothing opportunities and tax deferral arrangements to cope with crisis events). See Annex II for case study fiches and Table 5 for the summary support of measures specifically designed in for agriculture.

For COVID and inflation-related aid measures, direct grants, followed by direct grant/interest rate subsidies, are the most prominent instruments applied. However, the preferred approach is heterogeneous, ranging from input support, guarantees or subsidised loans up to the compensation of turnover losses.

For example, in Poland aid was provided in the form of direct grants to wheat and maize producers (payments per hectare) that have incurred additional costs as a result of the instability in the wheat or maize market caused by the aggression of the Russian Federation against Ukraine (EU State Aid Register, SA.106480). Moreover, aid was provided to agricultural producers in connection with the increase in fertiliser prices (EU State Aid register, SA.102555).

Targeted support for businesses with increases in their electricity or natural gas (energy) costs was provided in Ireland under the Temporary Business Energy Support scheme (SA.104665). Qualifying businesses could claim for 40 % of the increases in their energy bills in the period September 2022 to February 2023 and 50 % of the increase in their energy bills from March 2023 to July 2023. Similarly, aid in the form of direct grants for compensation of additional costs related to the increases in natural gas prices was provided in Spain (EU State Aid register, SA.106016).

A typical example of aid via guarantees or subsidised loans was applied in Hungary. This inflation-related aid measure was provided in the form of subsidised loans and related to working capital needs. The aid could be channelled either directly or through credit institutions and other financial institutions such as financial intermediaries (EU State Aid register, SA_107772). Similarly, Ireland's Ukraine Credit Guarantee Scheme (UCGS) provides state-backed loan guarantees offering working capital and investment loans scheme (EU State Aid register, SA.104761)

The Netherlands opted for several supplementary (and amended) compensation schemes during the COVID pandemic, including compensation for turnover losses exceeding a threshold of 30% for undertakings in the primary agricultural and horticultural production. Aid compensated up to a maximum of 70% of the uncovered fixed costs (EU State Aid register, State Aid SA.100953 (2021/N).

Tax smoothing over several years to cope with crisis events has a limited scope, since in many Member States specific taxation provisions for farmers exist providing exemptions and a low tax burden for small-scale agricultural producers (Table 5).

Table 5: Summary case study support measures in agriculture

Country	COVID aid measures	Inflation-related aid measures	Income tax regulation
Hungary	- Interest rate subsidies and guarantee fee subsidies	- Aid on the basis of subsidised loans and related to working capital need	- Small-scale agricultural producers exempted from tax
Ireland	- Compensation turnover losses - Tax deferral - Guarantee loans	- Guarantee loans - Energy credits - Direct compensation for tillage and horticulture farmers	- Varied, see appendix for further detail
Netherlands	- Compensation turnover losses - Guarantee loans - CAP advance payments - Energy tax deferral	- Extra Eco-scheme budget - Guarantee loans (not activated)	- Abolishment of income tax smoothening scheme turnover losses
Poland	- Aid in the form of direct grants in case threat of liquidity shortage	- Direct grants wheat and maize producers - Aid to agricultural producers in connection with the increase in fertiliser prices	- Small-scale agricultural producers exempted from tax
Spain	- Aid in the form of direct grants and interest rates subsidies	- Aid in the form of direct grants for compensation of additional costs related to the increases in natural gas prices	- Younger farmers benefit from a reduction in taxable income - Different taxation systems depending on the income generated in the previous year

Source: Authors' Own Elaboration based on European Commission State Aid Scoreboard

5.5. Assessment of effectiveness of supports in stabilising incomes and improving economic sustainability

EU farm income support aims to complement farm income to ensure a fair standard of living for the agricultural community (see Article 39 of the Treaty on the Functioning of the European Union). Effectiveness considers the extent to which an intervention achieves its objectives, including any differential outcomes across groups (EU CAP Network, 2024). Effectiveness can provide insight into whether an intervention has attained its planned results, the process by which this was done, which factors were decisive in this process and whether there were any unintended effects. Given that the term "a fair standard of living for the agricultural community" has never been made very precise (e.g. no target level has been specified), making an evaluation of the income support policy is not without

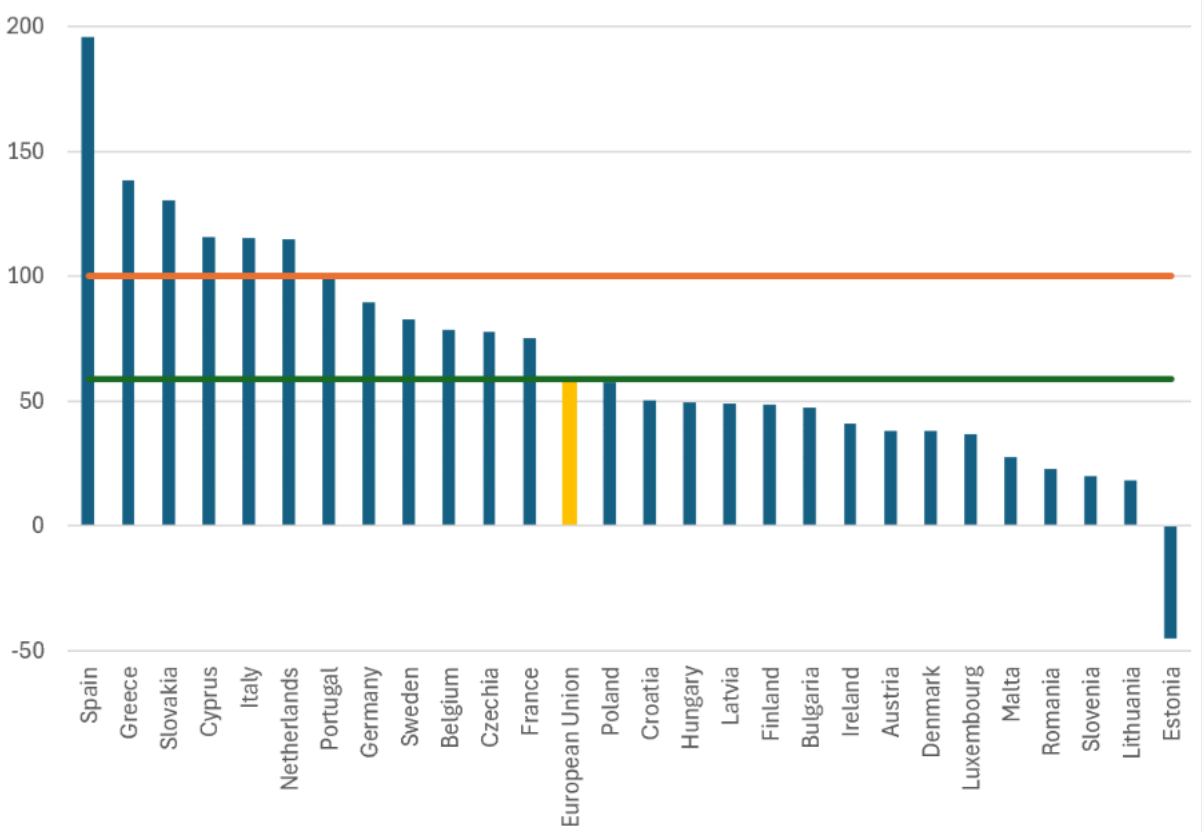
its problems (ECA, 2016). From the analysis and the literature review the following insights emerged with respect to the level of income support:

- Farm income support is effective in that it contributes to improving the income situation of farmers with low incomes. The impact is reflected in the share of income support in farmer incomes, as observed in Figure 40 above, as without the income support the income level would have been lower (ceteris paribus). More specifically, an empirical farm income support impact evaluation showed direct payments to have been effective (EEIG-Agrosynergy, 2018).
- By contributing to higher average incomes, farm income support is also a first and important step to withstanding downward shocks (especially shallow risks) (Asseldonk et al., 2019).
- Despite the large part of the CAP budget that is allocated to income support, the income per worker in agriculture still tends to be lower than the income which similarly skilled labour could earn elsewhere in the economy (see Figure 47). This statement is based on an assessment of agricultural income information only (see Chapter 4) and cannot be generalised to household incomes.
- Effectiveness could be improved by improving the targeting of income support and better aligning this with needs-based criteria rather than on a farm's land base. A movement in this direction has occurred through the financial reallocations that have been made from the generic basic income support measure towards more targeted measures such as the young farmers scheme, the redistributive income support scheme, coupled income support schemes, and payments to small farmers.

With respect to addressing the variability of farm incomes, insights emerging from the analysis and the literature are:

- European farmers are increasingly exposed to a wide range of risks (price, yield, climate and diseases) that have increased over time, leading to an increase in farm income variability (Ecorys-WUR, 2017).
- The recent crises (COVID, Russia's invasion of Ukraine, and associated market disruptions) and the increased rate of general inflation, together with new geo-political tensions and associated trade tariff responses, have added to market and farmer input and output price volatility (see Chapter 2).
- As regards risk management measures, the availability and use of risk management instruments in the EU remains low (Ecorys-WUR, 2017; ECA, 2019). Insurance remains the most commonly used instrument, while both availability and uptake of other instruments such as mutual funds and contractual price agreements (including futures) is more limited (Ecorys-WUR, 2017; Asseldonk et al., 2019).
- The shares of income support payments in farm income imply that via this channel the CAP has a buffering impact on farm income variability (ECA, 2019). According to Severini et al. (2016) the variability of farm income including income support is less than the variability of farm income excluding the income support part (see also EU CAP network, 2024, Section 2.3 with details at Member State-level, showing that farm income variability without direct payments is higher in almost all Member States albeit with different intensity).

Figure 47: CAP indicator 26_5, comparison of farmers average income as a percentage of the average salary by Member State in 2024



Source: Authors, based on CMEF data

Note: Orange line indicates income parity and green line shows the EU average.

Given the scarcity of budgetary resources, the efficiency-aspect of the EU's income support and income stabilisation policy is also important. One efficiency-indicator relevant when assessing income support is the transfer-efficiency of policy instruments. Income Transfer Efficiency considers the share of an income support intervention that effectively transferred into farm income, and recognises that factors such as transaction costs or distributive leakages may cause decreases in the income's net change stemming from the support (EU CAP Network, 2024). The various direct payments all have the characteristic of having a high transfer-efficiency, as they imply direct financial transfers, decoupled from production, to the beneficiaries. In this regard the direct payments tend to have a higher transfer-efficiency relative to classical price support measures (Ciliberti and Frascarelli, 2018; Agrosynergie, 2020). For a further discussion and comparative analysis of the transfer efficiency of different policy instruments see also Chapter 6, Table 7.

Another efficiency-aspect concerns 'beneficiary-leakage', or the share of support payments that, even though it may be efficiently transferred from the policymaker to the farm, ends up with those who are not in need of income support. An important aspect in this regard is the targeting of income support measures. The targeting of support payments to farm area implies that farmers having a larger land-base are eligible for more support. However, as a larger land base is often an indicator of a larger farm size, the income support is more likely to increase rather than decline with farm size (see Chapter 3). This creates a farm-size bias in the financial allocation of income support, which hampers a more needs-related orientation. Farms that have a relatively small farm size have a higher need for income support than larger farms, as they have a lower capacity to benefit from economies of scale.

To summarise, over time the targeting of income support in the CAP has improved by introducing payments targeted to specific farmer groups (young farmers, small farmers, areas with natural handicaps). While this has improved the targeting and the options for better targeting, the main share of income support (>50%) is still channelled to farms via the basic income support scheme, which provides a generic support to all farms (see Table 2 above). As such there is room for further improvements and efficiency gains.

5.6. Conclusion to Chapter 5

Over several decades, EU and national policies have played a central role in supporting the level of farm income and helping to stabilise it. CAP Pillar I direct payments and instruments that support income under Pillar II have helped buffer farmers from sources of income volatility. In addition, national state aid measures have provided targeted support during crises such as COVID-19, localised production shocks and the recent bout of inflation. On average, support payments contribute over 30% of farm income, with smaller farms typically more dependent, although some larger farms also receive significant payments in absolute terms.

Income support has been effective in raising average farm incomes and providing farmers with the resilience to cope with "shallow" shocks. However, agricultural incomes still generally lag behind incomes in other economic sectors. The EU's targeting of support has improved, as measures aimed at young farmers, small farms, and disadvantaged areas have emerged. However, a substantial share of the available support is still derived from the basic income support scheme. Voluntary coupled support and risk management tools contribute to sector-specific support and income stabilisation. However, uptake of risk management instruments in the EU remains low (limitations in supply of measures, lagged demand), and implementation is challenging due to limitations in data availability and administrative constraints.

Chapter 5 has assessed the policy response in the context of recent income developments. The chapter has reviewed the role and extent of income support (with a focus BPS, SAPS, VCS, RPS, YFS direct payments), it has evaluated the existing CAP risk management toolkit (insurance, mutual funds, ISTs) and has examined some national crisis measures, showing where policy acted and where gaps remain.

6. DISCUSSION AND POLICY OPTIONS

KEY FINDINGS

A broad menu of income support instruments has been considered; decoupled and coupled direct payments through to counter cyclical payments, price/revenue/yield insurance, farmer savings accounts, crisis reserves and loan guarantee funds. Each instrument has been evaluated in terms of its transfer efficiency, targeting, transaction costs and other considerations.

Improved targeting of CAP income support is merited in future reforms. Options include reallocating more budget toward targeted schemes which currently account for only a small share of expenditure.

Greater use of farm economic viability criteria could sharpen targeting, focusing income support on farms that need it to remain viable. However, viability is difficult to define and measure.

Differentiating farms by viability could redefine the basis for continued support. Some farms could receive social income support and others could receive support to assist with investment, modernisation and broader sustainability objectives.

Investment and modernisation support could be more effective than traditional income support in improving long-term farm viability and sustainability.

A range of farm resilience tools, including risk management and insurance schemes and the indexation of payments, could better stabilise real farm incomes, relative to an alternative where direct payments are allowed to decline.

No single instrument stands out as best. An efficient policy mix is needed that improves the targeting of budgetary support, promotes access to risk management tools and secures investment support to enhance farm productivity and sustainability.

This chapter will summarise and synthesise the key findings and conclusions derived from the analysis undertaken in the preceding chapters. It will also set out evidence-based policy options aimed at delivering more effective and efficient support for farmers' incomes.

6.1. Discussion of obtained findings

The study has found that agricultural output and input prices increased sharply in the last three to four years. The reasons for this are numerous, including weather and climatic shocks, war and geo-political tensions impacting on both the production and trade of agricultural output and farm inputs. The extent of the increase in output and input prices in recent years extends beyond what farmers would normally have experienced.

Chapter 2 notes that input prices rose sharply from 2021 onwards. The invasion of Ukraine by Russia led to sharply higher natural gas prices which triggered a large increase in fertiliser prices, a key input in agricultural production. Energy prices also rose sharply, and ultimately high inflation was observed across a broad range of farm inputs. This placed considerable pressure on farm profit margins. Eventually output prices responded and moved upward to offset the increase in production costs, restoring farm profitability, but the intervening period created considerable financial stress on farmers which was unwelcome given that they already need to contend with a range of other risks. The

consequences for farmers across the EU arising from the increase in output and input prices has not been homogeneous, with differences evident across Member States and by farming sector.

Chapter 3 added to the analysis by focusing on farm income across the EU, and how this is shaped by production costs, output prices, farm structure, and policy supports, with notable input and output price changes evident in milk, field crop, and granivore systems. It was observed that between 2013 and 2023, income trends varied widely across Member States and by farm type. Notably, in 2023 average farm income declined sharply for milk, field crops, wine, and mixed farms, while granivores were a notable exception. Compared to the EU, US farm incomes have displayed less volatility, which may be partly due to their effective policy approach.

Interestingly, EU farm input costs and output values rose broadly in parallel with each other up until 2022. However, they diverged in 2023, as output values fell and input costs remained elevated. Farm income declined across most Member States between 2020 and 2023, with inflation amplifying these effects. Larger farms generally recorded higher and more stable incomes, with less heterogeneity across Member States than seen by farm type. Overall, income inequality within Member States remains pronounced, with the top 20% of farms capturing roughly 60% of total farm income (see Lorenz curve diagram in Chapter 3).

Whereas the analysis of Chapter 2 pointed to an observed time delay between the increase in input prices and the subsequent increase in output prices, Chapter 3 suggests that at farm level this difference was a bit less pronounced. Partly this may be due to the methodology: Chapter 3 relies on farm level bookkeeping data, which have an annual periodicity and for that reason hide price movements that arise over a shorter time span. However, another reason is likely to be that, particularly in arable and ruminant forage-based production systems, significant cost items (e.g. roughage feed) are produced within the farm, with the implication that purchased feed is only part of the real total feed costs. Or alternatively, farmers to some extent may have been able to avoid the extremes in input cost spikes, through strategically timed input purchase decisions (e.g. advance input purchases, the use of fixed price contracts) and adjustments to crop planting and other management decisions.

A first requirement when assessing income figures and income support policies is the proper measurement of income. **Chapter 4** analyses different income measures and concludes that there are ways in which farm income measurement could be improved. The capacity to analyse farm household living standards could be enhanced if a wider definition of farm household income were used, specifically if income from non-farming sources were also captured in official statistics. The timeliness of the delivery of farm income data could also be improved, but this might be challenging to achieve in a uniform way across the EU. One simpler solution would be to make use of agricultural price and volume statistics, which are produced on a more-timely basis, to provide preliminary estimates of incomes for the various farm sectors several months ahead of the publication of the official farm income data. This would assist policymakers in recognising the scale and extent of farm income developments at an earlier point and could then allow for more timely and more targeted interventions if required. The support of modelling tools could also be helpful in making some projections of first-order effects of market disruptions in a timely manner.

Chapter 5 discussed the role of policy and looked at three aspects: income support, income stabilisation, and national measures undertaken as a response to price volatility, market disruptions and weather and disease shocks. Income support policy (with direct payments being a key instrument, but not the only one) is important and is evident in the share of farm income which is derived from income support payments. Moreover, these payments also have an important income stabilisation function, even though they are not specifically designed as an income volatility management tool, in the manner of the risk management toolkit. It was found that even though farmers face increased income volatility,

caused by several factors, including climate change, the availability and uptake of risk management tools is lower than might be expected. The regular national response to crisis situations, in the form of expenditure on support through state aid, could perhaps partly explain the low engagement with risk management tools. In reality, in cases where there is political urgency to address a crisis, Member States have mechanisms to provide crisis support to farmers that do not involve CAP risk management measures. Farmers may anticipate the likelihood of crisis support and therefore may factor this into their risk perspective, with the result that they tend to under-insure against risks. Consequently, insurance providers may find it difficult to develop attractive insurance products for farmers.

6.2. Policy options

Turning to the future, what can be done to address the variability of farmer incomes due to variations in input and output prices and what can be done to enhance the efficiency and targeting of income support? In this section several policy options will be discussed, including their pros and cons. Subsequently, based on an assessment of key policy documents of the EU, the vision of the EU with respect to income support and its improvement will be assessed. Having done this, a more tailored analysis of policy issues and options in the EU context will be provided.

6.2.1. Policy options to address farm income level and variability

Table 6 provides a summary of a set of selected policy options that are relevant when focusing on income support and income stabilisation. Table 6 also provides information on the key mechanism a policy instrument relies on. In addition, some other supplementary information (e.g. on countries that are using a specific instrument) is provided in this table.

The selected policy options include various forms of **direct payments**, as these are extensively used in the CAP. These direct payments, as well as (classical) market price support, or input and output price subsidies, are instruments to support the level of farm income. As direct payments do not respond to adverse events (their value remaining fixed) their contribution to income stabilisation is, however, limited (Asseldonk et al., 2019).

Price support and price subsidies are classified as distortionary and as such WTO limits on the budget spending on these instruments. Moreover, price support and price subsidies can involve significant budget expenditures, especially for countries that are net agricultural exporters that apply such measures (cf. the past experience of the EU).

Counter-cyclical payments respond to adverse market conditions and as such are effective in reducing farm income variability. Their capacity to support farm income levels is more limited, notwithstanding that, via the trigger mechanism, a reference income level is implicitly specified. Whereas the (EU) direct payments target area, regions, or farm-size (land base), counter-cyclical payments target market adversities and can vary considerably over time (Glauber and Smith, 2021).

Price, revenue and yield insurance schemes share this adversity-targeting with counter-cyclical payments, but are often hybrid public-private sector arrangements, where the policymaker subsidises insurance premiums to support a better level of farmer participation. The literature seems to indicate that, in relative terms, it is mainly the larger farms that adopt such measures. Moreover, not always are these insurance tools available at Member State level. In practice also demand may be lagging (Ecorys-WUR, 2017).

Whereas yield risk insurance and the crisis-reserve instruments (such as the one under CAP[7]) can cope with so-called deep losses, all other measures, including the **farmer (precautionary) savings account** are more targeted at covering 'lighter', or shallow losses. The instrument of precautionary savings (a form of self-insurance), which is provided in, for example, Canada[8], can potentially complement the array of risk management tools in the EU. A farmer's precautionary savings account could be funded by a pre-tax provision as a fiscal policy. For example, under a precautionary savings scheme, producers' own deposits could be matched with contributions from the reallocation of direct payments, with withdrawals permitted under certain conditions based on the difference between actual and expected revenue (Asseldonk et. al, 2019). The **Agricultural Loan Guarantee Fund** instrument can help to support farmers that have a viable business model, but lack sufficient collateral to attract the loans needed to pursue their farm strategy. Agriculture is a resource-intensive sector exposed to numerous risks and its financing requires complex solutions and the risk-reducing role of guarantor institutions (AECM, 2024). Access to a national Agricultural Loan Guarantee Funds (EU authorised state aid) in the EU varies across Member States and whether or not it is only launched as crisis aid or not. For example, inflation-related aid measures for working capital needs was provided in Hungary and Ireland. The Dutch fund is open for regular investments. As an example, funding of needed investments in the Netherlands can be guaranteed by means of a public-private guarantee fund in case commercial banks conclude that collateral is insufficient and therefor the investment is too risky. In the latter case, commercial banks have the option to partially guarantee their loans (and farmers pay fee). This agricultural guarantee scheme, consists of several guarantee lines (targeting also young farmers and specific sustainability investments).

Table 6: Selected policy options to support farmer income and address farm income variability

#	Policy	Key-mechanism	Comments
1	Decoupled direct hectare payments	Generic income transfer payments based on hectares (UAA)	Instrument focuses on income support, and is used by EU and other countries, among them Switzerland, Norway and Japan
2	Coupled direct hectare payments	Income transfer payment linked to hectares (UAA) used to grow the targeted crops, or to heads of targeted animals	The instrument is used to support specific sectors that are in decline (e.g. livestock production, especially in marginal areas) and/or of specific importance (e.g. protein transition, strategic autonomy). The EU is a main user of this instrument

[7] See, also: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2024%3A12%3AFIN
[8] AgriInvest Program Guidelines (Sustainable Canadian Agricultural Partnership) - agriculture.canada.ca

3	Redistributional hectare payments	(Top-up) hectare payments targeted at small farmers	The EU is a main user of this instrument
4	Hectare payments to compensate for natural handicaps	Hectare payments targeted to specific regions facing natural handicaps	The EU is a main user of this instrument. Other countries applying this instrument are Switzerland, Norway and Japan
5	Price support	Preserving a domestic price level that is higher than the world market price level; requires border measures to support this	China is still an important user of this (classical) market price support instrument. Also Japan and South Korea apply price support. From a budget perspective this policy instrument is more attractive for net-importing than net-exporting countries. Support is classified as (market) distortionary
6	Output and input price subsidies	The subsidy provides a payment that increases the effective price of an output and reduces the effective price of an input	The US was a main user of this instrument with its deficiency payments system; many other countries (e.g. India, Indonesia), among them developing countries (e.g. Malawi, Zambia, Nigeria), use input subsidies (e.g. fertilizer subsidies) to support production and farmer income
7	Counter-cyclical payments	Transfer-payments linked to production aimed at supporting and stabilising farm incomes	The US is a main user of this instrument, but China, Brazil and India also have such measures
8	Price insurance	Insurance payments to compensate for price risks	The US is a main user of this instrument (e.g. Price Loss Coverage-scheme)
9	Revenue or margin insurance	Insurance payments aimed at preserving a profit margin in circumstances where it is squeezed by contracting revenue and cost developments	The US is a main user of this instrument, with farmers having the option to choose between crop revenue or crop yield insurance. Canada also uses this instrument. In the EU, Hungary now applies this (see Box 3 in Chapter 5 and case study in Annex II). France and Italy have also considered this measure

10	Yield insurance (multi-peril)	Insurance payments are triggered when specific circumstances (diseases, climate disturbances) occur	The EU support such provisions via its risk management toolkit, as do many other countries. Policy support, often subsidises the insurance payments farmers have to make, thereby stimulating farmer participation in insurance-schemes (see also case study in Annex II on Spain, which also provides state aid to support this measure). The instrument is also widely applied outside the EU and often involves public-private arrangements
11	Farmer savings account	Precautionary savings build-up at farm level with policy support that can be used to cover periods of low incomes (shallow losses)	Canada is currently probably the only user of this instrument. For a suggestion how the EU could apply this see Asseldonk et al. (2019)
12	Crisis reserve	Financial reserve that is used in case of disasters, market or production disruptions	Measure to support farmers in case of deep losses for which no insurance options are available. The EU has an extensive crisis reserve and crisis management system. Most countries have a provision for this, sometimes with the possibility of providing top-ups through additional (ad hoc) disaster payments (e.g. US)
13	Agricultural Loan Guarantee Fund	Helps farms with insufficient collateral to obtain bank loans because it offers up to a certain maximum level, a guarantee for various types of loans	Nearly all Member States have some provisions, amongst others to support young farmers and/or sustainability investments. The instrument is covered by EU support as well as state aid (see case studies in Annex II)

Source: authors

Table 7 shows the same list of policy options as Table 6, but provides a brief overview of some of their characteristics in terms of efficiency (transfer efficiency), effectiveness (degree of targeting), and governance (transaction costs and implementation issues).

Transaction costs: can be thoughts of as the overhead costs required to facilitate a policy instrument. These costs can take various forms including the money and the time required to design and implement, verify and enforce a policy (EU CAP Network, 2024).

Implementation challenges: practical challenges which might impact on the implementation in the time scale and budget envisaged for the policy. This could include challenges relating to the administration of the instrument, legal aspects, data limitations or other technical challenges or even political opposition to the instrument.

Table 7: Characteristics (transfer efficiency, targeting, transaction costs) and implementation challenges of selected policy options

#	Policy	Transfer efficiency w.r.t. farmer income support	Degree of targeting w.r.t. beneficiary and/or need	Transaction costs (indicative)	Implementation challenges
1	Decoupled direct hectare payments	high	low, as it is a generic payment	low	Relatively easy, but more complex when degressivity and capping are added to it
2	Coupled direct hectare payments	high	high as it targets specific sectors	medium	Relatively easy, but needs proper monitoring
3	Redistributional hectare payments	high	high as it targets farmer up to a specific farm size (in area terms)	medium	Relatively easy
4	Hectare payments to compensate for natural handicaps	high	focuses on specific areas facing handicaps	medium	Requires well-defined regions
5	Price support	low	low, as it is a generic payment	negligible	Is a market-level measures; requires border measures (import tariffs, export refunds) and/or intervention mechanism. As this support is market-distortionary limits set under WTO-agreement apply to the maximum amount of such support
6	Output and input price subsidies	low	favours production and/or the use of specific inputs	low	Sufficient budget should be available and there are limits with respect to price support under WTO agreement
7	Counter-cyclical payments	medium	high, as payments are only triggered in periods when they are needed	high	The criteria that trigger the payment have to be chosen as well as the procedure to calculate whether the trigger-condition is met. This

					may cost time and create a certain delay in the policy response to unfavourable market conditions
8	Price insurance	low	Targets specific prices that are considered to be 'sensitive' with respect to farmer income	high	The level of loss coverage must be defined, including the trigger threshold for indemnification. In addition, the interaction with private insurance providers, particularly regarding insurance subsidisation, needs to be clarified.
9	Revenue or margin insurance	high	high, payments are triggered at moments farmers most need them	high	as above
10	Yield insurance (multi-peril)	medium	high, payments are triggered at moments farmers most need them	high	as above
11	Farmer savings account	medium to high	medium	medium	The criteria need to be set and it requires monitoring
12	Crisis reserve	high	targeted to victims of the crisis	low	There are eligibility criteria, but final decisions are taken at EU level, and some flexibility may be required given the role of the crisis reserve as a safety net to cover deep, otherwise unrecoverable losses
13	Agricultural Loan Guarantee Fund	medium	targeted at specific groups of beneficiaries (e.g. young farmers)	medium	Requires information about the financial records of a farm and/or the evaluation of its riskiness

Source: authors

As shown in the table, **direct payments** score high in terms of transfer efficiency, implying that for each euro spent on these measures a relatively high share will be received in farmer income. For policy **measures that affect prices** and through that the revenues or costs of the farmer, the impact on farmer income is more indirect. As such a relatively lower share of the budget spent on such measures will translate into farmer income support.

With respect to effectiveness or the degree of targeting to intended beneficiaries, universal **direct (hectare) payments** (e.g. basic payments made to the farming population) and **price support** score relatively lowly, as they provide a generic support for each hectare or tonne of product produced, irrespective of the income circumstances of each farm. This may lead to the under- and over-compensation of **farmers that are in need** of income support or even lead to the provision of income support for **farmers which are not in need**.

Targeted direct (hectare) payments which go to cohorts of specific beneficiaries (sectors, farm-size, regions with handicaps) score potentially better than generic direct payments, be it that their final effectiveness will depend on the relative share of this type of support in the overall support available. **Counter-cyclical payments**, as well as **insurance mechanisms** are effective in that by their nature they are targeted to address specific (market, yield, weather) adversities, although they usually do not discriminate between different type of farms.

Direct payments and **price support** are estimated to involve low to medium transaction costs, depending on the degree of targeting and the verification checks on specific requirements this involves. **Insurance instruments**, often imply a need for public private sector-interactions, indemnity calculations and the specification of threshold conditions, involving relatively higher transaction costs. Operating a **crisis reserve** at EU level, with the Commission deciding on the conditions, would be expected to involve relatively low transaction costs. The same also holds for relatively simple policy option such as a **farmer savings account** (Van Asseldonk et al., 2019). An **agricultural loan guarantee** fund is likely to involve medium transaction costs, as inspecting the conditions that need to be satisfied in granting the support, or that have to be exercised when business-failure occurs (e.g. bankruptcy) can be complex and time consuming (requiring a case-by-case examination).

To summarise, there is a wide set of policy options which can be used to address farm income support and farm income variability. As shown, each option has its own pros and cons. Moreover, there are clear differences in the potential of the policy instruments or options to support different farm income objectives (income level, income distribution, income variability caused by deep and shallow risks). As such, a policy focused on the achievement of multiple farm income objectives simultaneously, will require a mix or package of policy measures consisting of a specific selection from the options presented above. Looking beyond farm income objectives, the EU also aims at achieving environmental, climate, biodiversity and social objectives. Therefore, a further issue to consider, with respect to the income policy instruments that have been discussed, is whether, where necessary, side conditions should be added. The purpose of such side conditions would be to minimise the occurrence of negative spill-over effects that would hinder the achievement of objectives that are not related to farm income.

6.2.2. EU policy evolution and current policy debate

The EU's income support and income stabilisation policy with respect to farmers has evolved over time as a response to external and internal factors (Petit, 2019; Jongeneel et al., 2019). Historically, the switch to direct payments was made to provide compensation to farmers for the loss of farm income support that had been available through CAP market price support for farm outputs up until to the turn of the century. Today, 25 years on from this monumental reform in the CAP, a lot has changed, yet even now the budget allocation for farm income support (about 70% of the total envelope of the CAP)

dominates all other agriculture related expenditure, including rural development support and support directed towards sustainability improvements and wider societal concerns (e.g., animal welfare, antibiotics and pesticide use).

EU direct payments are gradually becoming more targeted towards specific groups (e.g. young farmers, small farmers), farm sectors that are in decline (e.g. voluntary coupled support) and to promote sustainability objectives (e.g. the baseline introduced by EU cross-compliance requirements, furthering good agricultural and environmental practices, and the introduction of eco-scheme-measure during the current CAP programme).

Nevertheless, the CAP continues to be subject to criticism because of the method of delivery of farm income support (e.g. Pe'er and Lakner, 2020). The linkage of many payments to land has meant that large farms tend to receive a substantial amount of support. As a result, some farms in receipt of significant amounts of support are not necessarily the farms that are most in need for such support (ECA, 2016).

The European Commission has partly addressed this criticism, for example by introducing a voluntary degressivity option and the capping of support beyond a certain amount (e.g. 100 000 euro) during the most recently implemented CAP reform. However, this policy option, and earlier similar attempts to deliver support in a more targeted way, have been adopted by Member States to only a limited extent in their CAP Strategic Plans. The majority of Member States, for example, do not apply capping (19 Member States) nor do they apply a reduction of BISS payments (21 Member States) in favour of other forms of more targeted support. Most Member States, however, have applied some form of degressivity when they instituted ANC (areas with natural or other area-specific constraints) support (European Commission et al., 2023).

Three recent interesting policy documents that provide further reflections on the future direction of the CAP are (a) the stakeholder driven Strategic Dialogue, (b) Agriculture Commissioner Hansen's Vision for Agriculture and Food and (c) the new Multi Annual Financial Framework (MFF) proposal launched by the European Commission in July 2025. Table 8 summarises some of the main points that are mentioned in these policy documents with respect to the eligibility of farmers for receipt of support, the (future) prospect of farms, and the proposed policy response. As the table shows, two key elements are the discussion of the definition of an active-farmer (implying an alternative treatment for non-active farmers) and the definition of criteria for farm viability. With respect to the active farmer-clause, the MFF proposal creates quite a strict definition, excluding farmers beyond the normal retirement age from eligibility for income support.

These three recent documents propose different criteria to classify a farm's future prospects or to measure a farm's viability. The MFF proposal links farm viability to a reference farm income level. Moreover, it also takes a perspective on what it considers as the type of farmer who will not be in need of income support, by stating that farms receiving more than 100 000 euro of support will be fully capped. Implicitly, in the MFF proposal farm viability is linked to the amount of support provided to a farm, or indirectly to the farm's size measured in hectares. Farm viability therefore can be linked to farm size. Rather than using land area as the measure of farm size, an alternative option could have been to use an indicator measuring a farm's economic size rather that its size in hectares. On this basis, the standard output (SO) a farm generates could be a candidate alternative measure of size. However, a drawback of this SO-measure would be that it has no clear link with farm income as it is a turnover (sales revenue)-indicator rather than a profitability/income measure. In order to make a link from a farm's SO to its earning capacity, a standard earnings indicator could be developed, where this latter indicator defines the margin of farm income-share in the SO. These margins or contributions to farm

income should be activity- and SO-specific (see Jongeneel et al. (forthcoming) for an application) [9]. The advantage of using such an earnings indicator would be that it does not discriminate against more intensive forms of productions (e.g. granivores), that lack a large land-base. In the current CAP, 25 CSPs have taken farm size into account in the design of some of the coupled support interventions, targeting support to smaller farms (European Commission et al., 2023).

Alongside a farm size-criterion, as proposed in the MFF proposal, another option could be to add a supplementary criterion to ensure that viable farms achieve a minimal level of productivity (for example by having a minimum amount of SO per active farmer), but this is not proposed in any of the three policy documents considered (see also below).

Table 8: Policy documents and their ideas for the future CAP with respect to farmer income support and stabilization

Document	Eligibility criteria for farmers	Future farm prospect	Policy proposal or suggested directions
Strategic Dialogue	The CAP should deliver income support for certain active farmers, those most in need in particular in areas with natural constraints, small farms, young farmers, mixed farms, and new entrants.	Economic viability that has to be demonstrated by a standardised methodology	Income support should be much more targeted and contribute to the prevention of farm abandonment and help ensure that farmers can have a decent income
Vision for Agriculture and Food	Active farmer engaged in food production and those most in need (e.g. young farmers, new entrants, disadvantaged regions)	Economic vitality and the preservation of the environment	Better targeting of direct payments
MFF proposal on the CAP	Active farmer, not retired farmers	Economic vitality, based on a farmer reference income; differentiation w.r.t. farmer groups, geographical areas	Better targeting by obligatory degressivity and capping of support; the supply of risk management instruments (insurance) will be obligatory; foresees

[9] In the Netherlands and Belgium (Flanders) the concept of standard earning capacity is used (based on FADN) to measure the income potential of a set of different farming activities (and the SO's associated with it).

			the introduction of a Unity Safety Net, including a provision for market disturbances

Source: authors

Based on a review of relevant policy documents, it is clear that there seems to be a growing consensus about the need to improve the targeting of farm income support. The Commission's MFF proposal takes a prominent view on this. There are different perspectives on farmer eligibility criteria, and they are often vaguely specified. A challenge is to define a satisfactory indicator of farm viability, which would do justice to the various and heterogenous forms of agricultural production around the EU. Given that, at least some of the debate on the future CAP will be on the better targeting of income support the next subsection provides a further elaboration on this.

6.2.3. Observations with respect to policy options for the EU policy debate

From the previous discussion of the EU policy documents it follows that improving the targeting of farm income support and better addressing or mitigating farm income variability will be key elements of the future CAP policy debates. This section begins with a brief review of several policy options (or instruments) that could be used for this.

As has been shown before, the EU's farm income support delivery mechanism is heavily reliant on the direct (hectare) payment instrument. In the past the EU has made several steps to improve the targeting of this support, by adding new payment schemes targeting specific beneficiaries (small farmers, sectors, regions) alongside the (generic) basic (hectare) payment scheme. One option to improve the targeting of the EU income support policy is to further extent the modifications that have been made, for example, by further shifting budget from the basic income payment to these more targeted payment schemes. At this moment only a relatively minor part of the budget is allocated to the targeted schemes (see Chapter 5).

Another option would be to improve the targeting by focusing income support to a greater extent on farms that satisfy certain economic viability criteria (see discussion in previous section). Farm economic viability is about a farms' ability to maintain operation (continuity) and profitability over the long term. There are criteria in use to classify farms according to their economic viability, but it is a difficult concept to operationalize.[10] Criteria should not only take into account the current financial position, which may depend on incidental factors (e.g. weather, diseases, specific market conditions) and the life cycle stage the family farm is in, but should also take into account future prospects or challenges. As an example, a dairy farm can be classified at this moment as viable relative to farms in other sectors, which may be explained by a currently high milk price and modest feed costs, but this farm may have serious

[10] See, the examples of Ireland and the Netherlands discussed in Chapter 4 of the present study. In the EU Medium Term Outlook (EU Commission, 2025) farms are classified into four groups characterizing differences in economic viability. Group 1 is the most viable: these are farms that can cover all costs. Group 2 are farms classified as being viable: those farms that earn a positive income but are unable to cover the implicit costs of own factors (e.g. own labour or own capital). Group 3 are non-viable farms: those farms earning a negative income that could be positive if depreciation were postponed. Group 4 being the most inviable farms: those farms with a negative income and losses exceeding the value of depreciation.

environmental challenges ahead (e.g. reducing ammonia and greenhouse gas emissions) requiring serious (non-productive) investments in the near future, or that it will have to face new regulatory environmental constraints coming in, which will limit its future production potential.

One option could be to distinguish different groups of farms: i) define which farms are non-viable and in turn redirect support for such farms so that they no longer receive standard income support instruments, but instead receive support through other policy instruments; ii) define which farms are viable even in the absence of support, and therefore are no longer in need of farm income support for their profitability and competitiveness. In this context, an option would be to exclude this latter category of farms from income support, as it cannot be argued that they are 'in need' of such support. Such farms could still remain eligible for other policy support measures, which could address, for example, farm competitiveness (e.g. by subsidising productive farm investments and farm modernisation) or sustainability (e.g. by subsidising non-productive investments). Such a policy-approach would recognise that the market is capable of providing sufficient income to some farms to ensure their economic sustainability but would concede that this might still not be sufficient to allow such farms to finance changes to farming facilities or farming practices which are necessary to achieve environmental or social objectives.

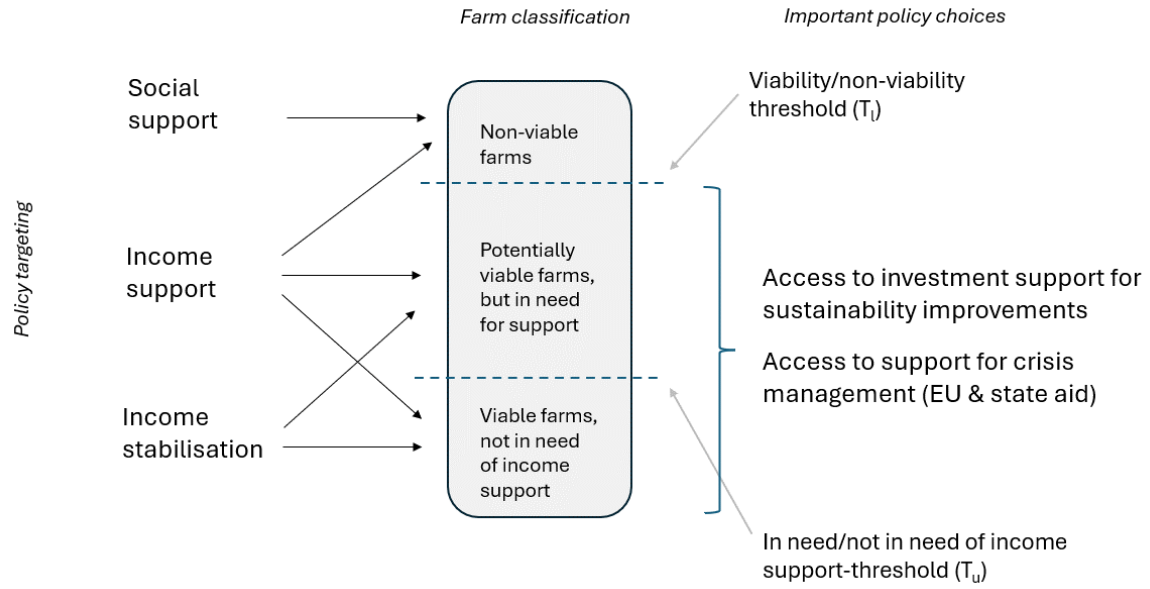
As discussed above, it is not easy to settle the farm viability-definition in a satisfactory way. But even if this definitional issue could be overcome, and if were then decided to support only viable farms that are in need of income support, this raises two other points that may need further consideration in a policy context. These are:

1. Small farmers whose farms would be considered as non-viable, and/or retired farmers, who currently receive a limited pension alongside some income from farming. There may be a need for a social policy instrument to support incomes for these farmer groups. Due to the emphasis on generic income support in the past, the implied social policy-aspect inherent in the support provided to some farmers may have been less prominent in the thinking of stakeholders. Or this social policy aspect may have been viewed as an 'independent objective' at the discretion of the Member States, and as such an issue to be 'solved' through national policy instruments.

2. Farms which are economically viable and not in need of income support may still face challenges in maintaining their competitiveness, especially when sustainability requirements and production standards in the EU continue to increase relative to third countries. It could be argued that supporting these very viable and independent farms by providing them with modernisation and non-productive investment subsidies may contribute to significant sustainability improvements. Moreover, these farms are more likely to be the larger farms, and for that reason are likely to represent a significant part of agricultural production. A decision against funding these necessary changes on these farms would represent a missed opportunity given the EU's increasing focus on sustainability improvements in agriculture and food.

Figure 48 visualises the policy options and highlights important political choices underlying them. A key consideration will be to define the thresholds for viable and non-viable farms in a practical and justifiable way. As has been discussed (see also Chapter 4), there are no simple solutions to that. The active farmer-clause that will be applied, could be of use (e.g. by excluding retired farmers), but this is at most only a partial criterion necessary to identify non-viable farms. Criteria based on farm size (e.g. land, herd, standard output) could be used as supplementary criteria, though each of them will have strengths and limitations (see also Chapter 4).

Figure 48: Policy options and the targeting of instruments to farm-viability classes



Source: Authors' own elaboration

A better targeting process could make income support more efficient. Sumpsi Viñas (2025) assesses some scenarios for Spain, using different thresholds Tl and Tu, and showed that, depending on the choices made, the number of beneficiaries as well as the budget expenditure could significantly reduce the income support budget for direct payments ranging from 7 % to 63 %.

Taking a longer-term perspective, supporting the competitiveness of farmers by enhancing their productivity is most likely going to be cheaper and more likely to improve viability than supplementing low farm incomes through annual direct payments, which provide a temporary solution to the farm viability challenge, and could mask underlying structural problems.

In ranking the importance of policy interventions, the option to support farm investments and farm modernisation should not be underestimated. Such support would allow farmers to benefit from a broad spectrum of digital and biotechnology innovations that are in the pipeline. This is not only beneficial for sustainability and for farmers, but also for the EU's broad prosperity (Jongeneel et al., 2025).

Another aspect that should be noted is that agriculture has become more vulnerable with respect to irregular weather patterns associated with climate change (Ecorys-WUR, 2017). Indirectly, this may also increase the incidence and severity of diseases (e.g. Bluetongue) and pests. Additionally, with restrictions on pesticides use, harvest risks with respect to crop failure may increase. Pesticides are an important tool for farmers to allow them cope with such risks, and they may become less effective as a result of policy restrictions (Wageningen Economic Research & Ecorys, 2019). For these reasons, the policy options with respect to insurance schemes and risk management need attention (see previous section).

Moreover, the increased market orientation of the CAP and EU trade policies, has subjected EU agriculture to more output and input price volatility (Ecorys-WUR, 2017). Increasing geo-political tensions only further reinforce this vulnerability to market disruptions and trade policy shocks (EY, 2025). Note that as the role of direct payments (measured by the extent of their contribution to farm

income) declines, the capacity of such payments to buffer against reduced market returns and to limit farm income volatility will become more limited (Pardeshi et al., 2024). This will be the case particularly for those farms that, due to the adoption of a more targeted income support policy option, could be denied farm income support though direct payments, leaving them vulnerable with respect to the previously mentioned risks. From this perspective, access and extended access to risk management instruments will become increasingly important policy option in order to stabilise farm income within certain bounds.

As has been denoted before, inflation has weakened the real value of farm support payments which are relatively fixed in nominal terms. Farmers are, and will continue to be, exposed to economic, climatic and geopolitical uncertainties. There is a need for policy mechanisms that protect both nominal and real farm income. An option then could be to introduce some form of indexation determined by a measure of inflation.

In summary, although specific CAP measures target resilience (e.g., financial support for risk management tools), other CAP measures target both viable farm income and resilience simultaneously. There are interaction-effects between both objectives: achieving higher average incomes can be an initial and important step towards ensuring that farms have the capacity to withstand adverse shocks (especially shallow risks).

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ANNEX I: APPROACH AND METHODOLOGY

This annex describes the approach and methodology employed in this study. It details the scientific methods and data sources used.

A.1. Research Objectives and Formulation of Research Questions

Table 9 provides an overview of the different topics that are addressed to fulfil each of the specific objectives in the report. Each specific objective has a dedicated task in the workflow of the project.

Table 9: Example of relevant topics/research questions per objective

Specific objective	Should cover the following topics
O1	**Examine farm income developments** • Farm income trends over the last 10 years • Commentary on the general income trends in nominal and real terms • Disparities between farm types, farm sizes and Member States
O2	**Focus on inflation and its impact on farm margins and incomes** • Input price and output price developments • Inflation and its impact on margins and incomes • Identify which farms have been worst effected and explain why
O3	**Examine causes of change in farm income** • Changes in farm income. Why changes in costs have occurred. • Provide a comparison between the situation in the EU and the US
O4	**Consider the methodical toolbox for farm income assessment** • Commentary on the existing data that are used. Limitations to the data currently available from FADN/FSDN, Eurostat and national level sources • Suggestions for how the toolbox be improved
O5	**Assessment of support measures** • Review of the support measures used over the last decade • Review of its effectiveness as a means of supporting farm incomes in that period • Explanation of why that support could be improved
O6	**Policy recommendations** • Policy options that might allow for the delivery of more effective and efficient (targeted) support

Source: Authors

6.3. A.2. Scientific Methods Employed

The methodology for this assignment consisted of the following 6 building blocks:

A.2.1 Literature Review

A review of the existing literature, including key academic publications assessing different aspects of farm income, peer-reviewed material and reports which have made use of the FADN database was conducted (Slijper et al., 2022). To select the key literature, the team prioritised material which already presents insights for different farm classes, as well as other typologies that are relevant for the purpose of this study. To ensure a comprehensive approach, the team also reviewed relevant 'grey' literature relating to farm income volatility, as well as possibilities for risk management.

A.2.2. Descriptive Analysis of income, input, and output price data

Descriptive analysis based on statistical data was used to carry out an assessment of income, input and output price data. The research team relied as much as possible on the EU FADN indicators which are already available. In terms of farm income, two FADN pre-defined indicators, Farm Net Value Added (FNVA) and Farm Family Income (FFI), were relevant. Since incomes are subject to considerable short-term instability, where possible, averages were also be taken across adjacent years. When considering key determinants of farm income, pre-defined FADN indicators relating to revenues/sales, policy payments received, as well as input costs such as fertilisers, feed and energy were analysed. Moreover, in the case of input and output prices, various farm sectors were examined, making relevant comparisons to identify differences across farming activities.

A.2.3. Review of Data Portals and Analytical Approaches (for Methodological Toolbox)

A review of relevant data portals, analytical approaches, frameworks for monitoring and evaluation was carried out in order to develop a toolbox for measuring farmers' income. The starting point for the review was the EU FADN and Eurostat's EAA. Furthermore, some additional initiatives at the national level were identified and described. The key indicators of the different sources were described including limitations. Published historical data are useful in describing and analysing past farm income trends. However, for policy evaluations and scenario analyses, models play a crucial role in estimating the impact of policy measures or economic developments on future farm incomes.

A.2.4. Compilation of Policy Instruments Inventory

An overview of available instruments in the CAP was provided, as well as insights on their impact. In this regard, European Commission et al. (2023) and the EU data portal (European Commission, 2025b) provide the basis for this approach. In addition, the inventory also include key insights regarding the efficiency of income support instruments and income support budget expenditure. Both aspects of transfer-efficiency and leakage (redundance) are taken into account. In order to provide more detail insights at Member State level, five case studies were carried out which go more in-depth and assess how national measures support farm incomes (e.g. state aid, fiscal policies) and to what extent they are complementary to EU level supports. The proposed and agreed case study Member States include the following: Netherlands, Ireland, Hungary, Poland and Spain. This allows us a good representation of Western-Eastern countries, as well as Northern-Southern Member States.

A.2.5. Expert Opinion Consultation

Expert opinion gathered by means of a consultation with key researchers and/or policymakers who are national farm income and national and EU policy experts. This element permits the gathering of additional market and policy insights to validate the findings delivered by the core project team

members. The expert consultation has been especially used for a proper understanding of policy documents, in particular the MFF proposal and its potential implications.

A.2.6. Development of an Interactive Power BI Dashboard

An interactive Power BI dashboard was developed to support a deeper understanding of the data on cost inflation and income volatility in EU agriculture. This data visualisation tool was populated by harmonised data for all the EU Member States, as well as for the EU-27 aggregate, covering farm-level agricultural commodity prices, input costs (e.g. fertilisers, feed, energy etc.) and both nominal and real farm incomes over time. End users will be able to use the dashboard to explore trends by individual Member States or conduct cross-country comparisons, enabling a clearer assessment of national differences in inflation exposure and income dynamics. The data visualisation tool will make it possible to produce graphical comparisons which could not be accommodated within the confines of the limits of the study.

A.3. Task Overview and Setup of Research Tasks

Building on the Terms of Reference, the Contractor organised the requested activities for this study into the seven tasks that are listed in Table 10. This table also provides an overview of how the different tasks were allocated between WSER and Teagasc.

Table 10: Task allocation

Task	Led by	Organisations contributing to the task
Task 1: Write the project introduction, approach and recommendations chapters for the final report	WSER	WSER, Teagasc
Task 2: Provide a chapter describing the evolution of EU and US farm incomes, with a particular focus on inflation	Teagasc	Teagasc, WSER
Task 3: Provide a chapter presenting the drivers of income dynamics for EU farms	Teagasc	Teagasc, WSER
Task 4: Provide a chapter outlining a methodological toolbox for measuring farm incomes	Teagasc	Teagasc, WSER
Task 5: Provide a chapter on policy supports and how they could be made more effective	WSER	WSER, Teagasc
Task 6: Reporting	WSER	WSER, Teagasc
Task 7: Project management	WSER	---

Source: Authors

A.4. Coverage

The study covered the EU as a whole, with general coverage of each Member State and more detailed coverage of specific Member States (Netherlands, Ireland, Spain, Poland, Hungary) by way of specific

(deeper dive) case studies. The case study countries provide a mix of Western European and Eastern European agriculture, a mix of both large scale intensive and smaller scale extensive production systems and an appropriate representation of cropland and grassland agriculture. Comparisons with the US are also included.

The study included coverage of different farm types and took into consideration differences in farm size. To communicate the report's findings concisely, the aim was to emphasise points of difference in terms of the impact of the inflationary shock on farm incomes. As part of the case study profiles, the study also included a focus on national level interventions as an additional means of supporting the farm sector (e.g. taxation measures). The overall level of detail provided was constrained by the indicated maximum length of the report. The aim was to achieve EU wide relevance, while delivering a concise, accessible report.

ANNEX II: STATE AID INSTRUMENTS IN CASE STUDY COUNTRIES

Table 11: State aid per case study Member State and instrument in constant prices (2023 for agriculture, forestry and rural areas)

Member State	Instrument	Budget (Mn)	% of national GDP
Hungary	Total	235.27	0.12
	Direct grant	177.24	0.09
	Direct grant/ Interest rate subsidy	21.02	0.01
	Guarantee	0.05	0
	Interest subsidy	0.13	0
	Subsidised services	36.82	0.02
Ireland	Total	323.54	0.06
	Direct grant	131.95	0.03
	Direct grant/ Interest rate subsidy	78.06	0.02
	Guarantee	0.91	0
	Loan/ Repayable advances	0.01	0
	Other	2.10	0
	Subsidised services	77.91	0.02
	Tax advantage or tax exemption	32.61	0.01
Netherlands	Total	561.69	0.05
	Direct grant	302.76	0.03
	Direct grant/ Interest rate subsidy	89.18	0.01
	Loan/ Repayable advances	10.20	0
	Subsidised services	47.55	0
	Tax rate reduction	112.00	0.01
Poland	Total	3 376.20	0.45
	Direct grant	1 781.11	0.24
	Direct grant/ Interest rate subsidy	1 065.48	0.14
	Interest subsidy	481.33	0.06
	Loan/ Repayable advances	0.75	0
	Other	3.70	0

	Subsidised services	15.48	0
	Tax advantage or tax exemption	28.33	0
	Tax allowance	0	0
Spain	Total	1 078.48	0.07
	Direct grant	567.61	0.04
	Direct grant/ Interest rate subsidy	485.25	0.03
	Loan/ Repayable advances	0.22	0
	Other	0.45	0
	Subsidised services	24.95	0

Source: European Commission's State aid scoreboard data

Table 12: Case study support measures Hungary

COVID-related aid measures (which sectors eligible, way of support)	Agriculture specific:
	• Temporary aid scheme for the agri-food sector, aquaculture and forestry affected by the coronavirus outbreak
	  ○ Beneficiaries of the measure are SMEs and large enterprises active in agriculture, fishing, and food industry
	  ○ Aid in the form of direct grants, interest rate subsidies and guarantee fee subsidies (State Aid register, SA.57329)
	• CAP advance payments
	  ○ Arable and livestock farmers
	Generic:
	• Loan repayment moratorium: an automatic loan repayment moratorium was introduced for all enterprises and individuals from 19 March 2020 until the end of the year (later extended several times).
	• Job Retention Subsidy: employers who reduced working hours due to the pandemic could receive a state wage subsidy to compensate for lost working time.
	• Tax and social contribution relief: temporary reductions and exemptions from social contribution tax and other payroll-related charges were introduced for SMEs and affected sectors (Government Decree).

Inflation-related aid measures (which sectors eligible, way of support)	Agriculture specific:
	• Hungarian Development Bank agricultural, fishing and food industry working capital loan scheme in the form of subsidized loans
	  ○ Beneficiaries of the measure are SMEs and large enterprises active in agriculture, fishing, and food industry
	  ○ Aid on the basis of subsidised loans and relate to working capital need
	  ○ Aid is either directly or through credit institutions and other financial institutions as financial intermediaries (State Aid register, SA_107772)
	Generic:
	• Széchenyi Card Programme – Liquidity and investment loans: subsidised interest rates and reduced guarantee fees (Link).

CAP	Measures on risk management: Hungary has developed a comprehensive Agricultural Risk Management System consisting of four pillars, designed to protect farmers from climatic, market, and income risks. The system combines state-funded compensation, subsidised insurance schemes, and an income-stabilisation mechanism, jointly financed by national and CAP Strategic Plan (CSP) funds. • Pillar I – Damage mitigation (Compensation Fund) The first pillar provides compensation for yield losses exceeding 30 % caused by extreme weather events such as drought, frost, hail, cloudburst damage, inland water or storm damage. The system is mandatory for most producers cultivating more than 10 ha and voluntary for smaller farms. • Pillar II – Subsidised crop insurance The second pillar supports multi-peril crop insurance contracts with differentiated subsidy rates:

	• 70 % for package "A" (comprehensive insurance covering most weather perils), • 45 % for "B" type, • 40 % for "C" type policies. These rates vary from year to year depending on budget availability; the above figures refer to the year 2024. • Pillar III – Hail prevention system Since 2018, Hungary operates a national hail suppression network, coordinated by the Hungarian Chamber of Agriculture (NAK). The system consists of 986 ground generators covering the entire country, releasing silver-iodide aerosols into storm clouds to mitigate hail formation. • Pillar IV – Agricultural Crisis Insurance Scheme (Income Insurance) Launched in 2021, the Agricultural Crisis Insurance System (ACIS) extends coverage to income losses exceeding 30 %, caused by natural, market or cost shocks. It targets both crop and livestock producers, providing a state-managed income stabilisation mechanism based on mutuality principles.
Income tax regulation	• Hungary applies a simplified and preferential taxation system for agricultural producers to reduce administrative burdens and support small-scale farming. Farmers may choose between lump-sum taxation and itemized cost accounting, depending on their annual revenue and activity. (National Tax and Customs Administration of Hungary) • Since 2021, the taxation of primary agricultural producers (*őstermelők*) in Hungary has been regulated under a new, simplified framework. Based on their income declaration method, producers fall into five categories: o Up to 50% of the annual minimum wage (HUF 1,392,000 in 2023; HUF 1,600,800 in 2024; HUF 1,744,800 in 2025) no income needs to be calculated, and no tax return is required. o Above 50% of the annual minimum wage: producers may opt for itemised cost accounting, meaning that the 15% personal income tax (PIT) is applied to the net income after deducting eligible costs from total revenues. If annual revenue exceeds ten times the minimum wage, the producer must apply itemised accounting. o Under itemised accounting, the general 10% cost deduction rule may also be used, allowing 10% of total revenue to be deducted without invoices, so 90% of revenue counts as taxable income. o Flat-rate (lump-sum) taxation is available up to ten times the annual minimum wage (HUF 27.84 million in 2023; HUF 32.02 million in 2024; HUF 34.90 million in 2025). o If annual revenue does not exceed half of this threshold, the producer is exempt from tax payment, though a declaration must still be filed. o If annual revenue exceeds half the ceiling, 10% of total revenue is considered the tax base, and 15% PIT is applied to the income exceeding half of the minimum wage. o Beekeeping: regardless of revenue or income calculation method, income from beekeeping activities is exempt from PIT

	up to 50% of the annual minimum wage. Producers whose annual revenue remains within the limit for lump-sum taxation are fully exempt from tax. • Loss carry forward / tax loss deduction is not available for primary producers under either the lump-sum or itemized taxation regime. However, agricultural entrepreneurs and corporate taxpayers may carry forward tax losses for up to five fiscal years.

Source: Authors

Table 13: Case study support measures Ireland

COVID-related aid measures (which sectors eligible, way of support)	Agriculture specific: Several supplementary (and amended) compensation schemes Primary agricultural and horticultural production Compensation turnover loss exceeding threshold (e.g., SA.116765 TCTF: Tillage and Horticulture Crop Support Scheme 2024)
Inflation-related aid measures (which sectors eligible, way of support)	Agriculture specific: • TCF: Tillage and Protein Crop Scheme under the Temporary Crisis Framework (SA.102990) • Module in guarantee funding for financing ○ Ukraine Credit Guarantee scheme (SA.104761) • Temporary Business Energy Support Generic: • Measures for which all entrepreneurs were eligible included an emergency aid scheme for idle employment, a compensation scheme for entrepreneurs, and a tax deferral arrangement entrepreneurs • COVID-19: Scheme to support investment towards a sustainable recovery (SA. 103565)
Income tax regulation	• Stamp duty relief for farm consolidation (SA.24314) • Stamp duty relief for young trained farmers (SA. 51927) • Stock relief for young trained farmers (SA. 51928) • Relief for lease of farmland • Income averaging

Source: Authors

Table 14: Case study support measures the Netherlands

COVID-related aid measures
(which sectors eligible, way of support)
	Agriculture specific:
	• Several supplementary (and amended) compensation schemes
	  ○ Primary agricultural and horticultural production
	  ○ Compensation turnover loss exceeding threshold of 30%
	  ○ The undertakings can apply for aid up to a maximum of 70% of the uncovered fixed costs (SA.100953)
	• Module in guarantee fund for bridging financing
	  ○ Primary agricultural and horticultural production
	  ○ Additional facility for farmers with liquidity problems, guarantee of 70% for working capital credit (up to 1.2 million euro per farm, and if maximum already used for standard module increased by 0.3 million euro per farm) (Witmond et al. 2024b)
	• CAP advance payments
	  ○ Arable and livestock farmers (Dutch Paying Agency)
	• Energy tax deferral arrangement horticulture
	  ○ Payment deferral storage renewable energy horticulture (Dutch Paying Agency)
	Generic:
	• Measures for which all entrepreneurs were eligible included an emergency aid scheme for idle employment, a compensation scheme for entrepreneurs, and a tax deferral arrangement entrepreneurs

Inflation-related aid measures
(which sectors eligible, way of support)
	Agriculture specific:
	• CAP Eco-schemes
	  ○ Farmers with eco-schemes
	  ○ Direct grant (SA.115344)
	• Module in guarantee fund for bridging financing
	  ○ Greenhouse horticulture
	  ○ Additional facility for farmers with liquidity problems
	  ○ Guarantee of 70% for working capital credit (up to 1.2 million euro per farm, and if maximum already used for standard module increased by 0.3 million euro per farm) (https://competition-cases.ec.europa.eu/cases/SA.106250)
	  ○ Module was not activated because of lack of demand (Witmond et al. 2024b)
	Generic:
	• No generic measures as in case of COVID-related aid measures

CAP	Measures risk management:
	• Multi-peril crop insurance
	  ○ All field crops
	  ○ Yield losses exceeding 20%
	  ○ 63.7% subsidy (Witmond et al., 2024a)

Income tax regulation	• Incorporated small businesses are taxed at a preferential corporate tax rate of 19% up to a taxable profit of EUR 200 000 in 2019.

	• The taxable income for all entrepreneurs in the Netherlands is reduced by an entrepreneurs' allowance. Self-employed farmers can benefit from this tax concession. • Up to 2023, all businesses, including agriculture, could use the income averaging scheme. Under this mechanism a business calculates an average operating income based on its results over three years. The tax rate is then applied to the new amounts, which may lead to a tax refund. There was also the possibility to compensate for income losses three years backward and nine years forward. This smoothening approach is abolished (because of smoothening over time 2024 is the last year income is eligible for smoothening). • See OECD (2020) for tax on property, goods and services, environmental taxes, incentive for R&D and innovation, and other taxes.

Source: Authors

Table 15: Case study support measures Poland

COVID-related aid measures (which sectors eligible, way of support)	Agriculture specific: • Aid scheme for agricultural producers who are at risk of liquidity loss as a result of agricultural market restrictions due to COVID-19 o The final beneficiaries of the measure are SMEs active in the agricultural sector (primary production) o The measure provides aid in the form of direct grants (SA.58105) • Aid for pig sows producers who are threatened with a loss of financial liquidity due to restrictions on the agricultural market caused by the COVID-19 o The measure is open to the pig sows production sector (primary production) o The measure provides aid in the form of direct grants (SA.101500)
Inflation-related aid measures (which sectors eligible, way of support)	Agriculture specific: • Subsidy for mineral fertilisers (SA.107307 and amendments) o The final beneficiaries of the measure are SMEs active in the primary agricultural production o The measure provides aid on the basis of a scheme in the form of direct grants • Aid to agricultural producers in connection with the increase in fertilizer prices following the aggression against Ukraine by Russia o The measure is open to the primary agricultural sector for undertakings that have purchased mineral fertilisers o Aid in the form of direct grants (SA.102555) • Aid to wheat and maize producers o Beneficiaries are undertakings active in the primary production that have incurred additional costs as a result of the instability in the wheat or maize market caused by the aggression of the Russian Federation against Ukraine o Aid in the form of direct grants (SA.106480) • Aid for the cereal producer, who is at risk of losing financial liquidity due to restrictions on the agricultural market caused by the Russian aggression against Ukraine o The final beneficiaries of the measure are SMEs active in the primary agricultural production of cereals, specifically wheat, rye, barley, triticale or cereal mixtures, and are affected by the current crisis o The measure provides aid on the basis of a scheme in the form of direct grants (SA.113894) • Aid for the corn producer who is at risk of losing financial liquidity due to restrictions on the agricultural market caused by the Russian invasion of Ukraine o The measure is open to undertakings active in the primary agricultural sector, specifically the corn production sector o The measure provides aid on the basis of a scheme in the form of direct grants (SA.110984)

- Aid for an agricultural producer who in 2022 or in 2023 did not receive payment for sold corn at least once from entities purchasing and trading in cereals
    - The final beneficiaries of the measure are SMEs active in the primary agricultural production sector
    - The measure provides aid on the basis of a scheme in the form of direct grants (SA.109217)
- Aid to wheat and buckwheat producers
    - The measure is open to SMEs active in the primary agricultural production of wheat,
    - The measure provides aid on the basis of a scheme in the form of direct grants (SA.108595)
- Aid to wheat, buckwheat and maize producers
    - The objective of the existing aid scheme is to offset part of the losses of turnover of affected wheat and maize producers that are directly or indirectly affected by the serious disturbance of the economy caused by the consequences of the Russian aggression against Ukraine.
    - Direct support schemes (SA.107670)
- Aid to wheat producers
    - The measure is open to SMEs active in the primary agricultural production of wheat,
    - The measure provides aid on the basis of a scheme in the form of direct grants (SA.107274)
- Aid to wheat and maize producers
    - The measure is open to the primary agricultural production sector, wheat and maize producers
    - The measure provides aid on the basis of a scheme in the form of direct grants (SA.107266)
- Aid for agricultural producers of raspberries
    - The final beneficiaries of the measure are SMEs active in the primary agricultural production of raspberries
    - The measure provides aid on the basis of a scheme in the form of direct grants (SA.109775)
- Aid for producers of cereals and oilseeds
    - The final beneficiaries of the measure are SMEs active in the primary agricultural production of cereals and oilseeds
    - The measure provides aid on the basis of a scheme in the form of direct grants (SA.109486)
- Aid for cauliflower and broccoli producers
    - The final beneficiaries of the measure are SMEs active in the primary agricultural production of cauliflowers and broccoli
    - The measure provides aid on the basis of a scheme in the form of direct grants (SA.109734)
- Payment of compensation from the Agricultural Protection Fund for non-payment for agricultural products sold to a purchasing entity that has become insolvent
    - The final beneficiaries of the measure are SMEs active in the primary agricultural production that are affected by the current crisis

- The measure provides aid on the basis of a scheme in the form of direct grants (SA.107506)

- Aid to reduce the cost of purchasing diesel oil used for agricultural production
  - The final beneficiaries of the measure are undertakings active in the primary agricultural production
  - The measure provides aid on the basis of a scheme in the form of direct grants (SA.107291)
- Subsidies for interest rate on bank loans granted to agricultural producers at risk of losing financial liquidity due to the Russian aggression against Ukraine
  - The final beneficiaries of the measure are primary agricultural producers that are affected by the current crisis
  - The measure provides aid on the basis of a scheme in the form of grants covering certain amount of the interests on loans (loans interest subsidies) (SA.107273)
- Subsidies to the interest rate on bank loans granted to agricultural producers who are at risk of losing financial liquidity due to restrictions on the agricultural market caused by the aggression of the Russian Federation against Ukraine (amendments to SA.107273 (2023/N)))
  - The final beneficiaries of the measure are primary agricultural producers that are affected by the current crisis
  - The measure provides aid on the basis of a scheme in the form of grants covering certain amount of the interests on loans (loans interest subsidies) (SA.108358)
- Subsidies to the interest rate of bank loans granted to entities operating in the field of cereals trading or grain purchase, or agricultural plant seed trading, referred to in the provisions on seed production, or buying or freezing soft fruit
  - The final beneficiaries of the measure are SMEs that are engaged in the trading or purchasing of cereals, the trading of agricultural plant seed referred to in seed legislation, or the purchasing or freezing of soft fruit
  - The measure provides aid on the basis of a scheme in the form of subsidies on loan interest rates (SA.108355)
- Reintroduction and amendment of the scheme SA.108355
  - The final beneficiaries of the measure are SMEs that are engaged in the trading or purchasing of cereals, the trading of agricultural plant seed referred to in seed legislation, or the purchasing or freezing of soft fruit

  The measure provides aid on the basis of a scheme in the form of subsidies on loan interest rates (SA.110955)
- Amendment to the scheme SA.108355 – cereals trading, grain purchase, agricultural plant seed trading, buying or freezing of soft fruit, as amended by SA.110955
  - The final beneficiaries of the measure are SMEs that are engaged in the trading or purchasing of cereals, the trading of agricultural plant seed referred to in seed legislation, or the purchasing or freezing of soft fruit

	The measure provides aid on the basis of a scheme in the form of subsidies on loan interest rates (SA.109772) • Subsidies to the interest rate on bank loans granted to agricultural producers who are at risk of losing financial liquidity due to restrictions on the agricultural market caused by the current crisis ○ The final beneficiaries of the measure are primary agricultural producers that are affected by the current crisis ○ The measure provides aid on the basis of a scheme in the form of grants covering a certain amount of the interest on loans (loans interest subsidies) (SA.110956) • Subsidies for interest rate on bank loans granted to agricultural producers at risk of losing financial liquidity due to the Russian aggression against Ukraine (third amendment to SA.107273) ○ The final beneficiaries of the measure are primary agricultural producers that are affected by the current crisis ○ The measure provides aid on the basis of a scheme in the form of grants covering a certain amount of the interest on loans (loans interest subsidies) (SA.114646) • Payment of compensation from the Agricultural Protection Fund for non-payment for agricultural products sold to a purchasing entity that has become insolvent (Reintroduction of scheme SA.107506) ○ The final beneficiaries of the measure are SMEs active in the primary agricultural production that are affected by the current crisis ○ The measure provides aid on the basis of a scheme in the form of direct grants (SA.111129) • Subsidies to the area of arable land sown or planted with basic or certified seed in the main crop for agricultural producers ○ The final beneficiaries of the measure are agricultural producers who have applied in 2023 for direct payments under the Strategic Plan for the CAP 2023-2027 ○ The measure provides aid on the basis of a scheme in the form of direct grants • Aid for pig producers ○ The final beneficiaries of the measure are SMEs active in the pig production ○ The measure provides aid on the basis of a scheme in the form of direct grants (SA.108164) Generic: • Measures for which all entrepreneurs were eligible included: Aid in the form of loans (SA.103176) • Aid for additional costs due to exceptionally severe increases in natural gas and electricity prices in Poland incurred in 2022
CAP	Measures on risk management: • Multi-peril crop insurance - with a premium subsidy from the state budget ○ Field crops (cereals, corn, rapeseed, turnip rape, hops, tobacco, field vegetables, fruit trees and bushes, strawberries, potatoes, sugar beets or legumes)

	○ Yield losses exceeding 10-25% ○ Up to 65% subsidy • Livestock insurance - with a premium subsidy from the state budget ○ Key animals (cattle, horses, sheep, goats, poultry, pigs) ○ Losses exceeding – not specified ○ 65% subsidy • Livestock insurance (within CAP national strategic plan, includes animal diseases not covered above) ○ Key animals ○ Losses exceeding – not specified ○ 70% subsidy • Mutual funds - so far, there are no classical mutual funds in Poland – within the CAP national strategic plan, there are plans to create them in the future ○ Field crops and livestock – depending on demand ○ Losses exceeding – not specified yet ○ 70% subsidy during the first 3 years ○ Within the CAP strategic plan, support consists of co-financing the creation of a mutual insurance fund by farmers. • Premium subsidies for crops and livestock insurance and partial refinancing of compensation indemnities paid to agricultural producers as a result of drought (reinsurance) (Amendment of SA.107026) ○ The Polish authorities confirm that the beneficiaries of the scheme are undertakings active in agricultural primary production in Poland. ○ Premiums under insurance agreements concluded as regards basic agricultural crops and the most important livestock species (SA.116586) • Premium subsidies for crops and livestock insurance and partial refinancing of compensation indemnities paid to agricultural producers as a result of drought (reinsurance) ○ The Polish authorities confirm that the beneficiaries of the scheme are undertakings active in agricultural primary production in Poland. ○ Premiums under insurance agreements concluded as regards basic agricultural crops and the most important livestock species (SA.107026)
Income tax regulation	• Poland has a preferential tax system for agriculture aimed at reducing the tax burden on the sector. Farm income is not taxable under the general income taxation system (do 2 million euros), with over 95% of farmers exempt from paying income tax. • A small number of farmers producing specific products pay income tax either calculated on the basis of average production norms or on actual cost accounts. Large farmers can settle losses from previous years within 5 years, just like in other sectors. • Most farmers, instead of paying income tax, pay agricultural property taxes (relatively small), which are calculated on a set unit price for rye, multiplied by the area of the farm holding. • Since 2006, Poland has provided excise tax fuel rebates for fuel used in agriculture (in 2018 these rebates were worth EUR 216 million). In 2019, the excise tax refund limit is PLN 100 multiplied by the number

	of hectares of agricultural land (increased from the 2018 refund limit of PLN 86) and PLN 30 multiplied by the average number of large bovine conversion units per annum. To claim the refund, farmers must present their VAT invoices as proof of fuel purchases. • The Act of 20th December 1990 concerning social insurance payments for farmers created a social security fund for farmers (known as KRUS), which provides retirement payments. The contributions made by farmers account for only a small proportion of the total payments they receive, with the majority (more than 90%) coming directly from the state budget. • Tax reduction concerning investments in case of agricultural tax – large enterprises (SA.106500)

Source: Authors

Table 16: Case study support measures Spain

COVID-related aid measures (which sectors eligible, way of support)	Agriculture specific:
	• Aid towards the promotion of differentiated quality products, due to activity restrictions caused by covid
	  ○ The sectors supported by the measure are growing non-perennial crops and animal production
	  ○ This measure provides support (direct grant/ Interest rate subsidy) for the promotional measures in favour of agricultural products (SA.58620)
	• Modification to SA.44624 – SA.44490
	  ○ The sectors supported by the measure are crop and animal production, hunting and related service activities, in particular, certified potato seed (SA.44624) and organic agricultural producers of Navarra (SA.44490)
	  ○ This measure prolongs the existing aid schemes (direct grant) which were in place to provide support in response to the COVID-19 outbreak (SA.59075)
	• Modification to SA.46713 – SA.45494
	  ○ The sectors supported by the measure the final beneficiaries of SA.46713 (Aid for pilot projects for the development of new products in the forestry sector) and SA.45494 (Aid for investments in the processing, marketing or the development of agricultural products and the promotion of agro food quality)
	  ○ This measure prolongs the existing aid schemes (direct grant) which were in place to provide support in response to the COVID-19 outbreak (SA.59076)
	Generic:
	• Guarantees on loans and subsidised interest rates for loans to support the economy in the current COVID
	  ○ The final beneficiaries of the measure are all undertakings (SMEs and large undertakings) and self-employed persons registered in Spain
	  ○ The measure consists of several aid instruments: guarantee, interest subsidy, repayable advances, direct grants and others (SA.56851)

Inflation-related aid measures (which sectors eligible, way of support)	Agriculture specific:
	• TCF: Aid for the increase in the costs of milk producers (SA.102650)
	  ○ The sectors supported by the measure are raising of dairy cattle, as well as raising of sheep and goat
	  ○ This measure provides support (direct grant) under the Temporary Crisis Framework for State aid measures to support the economy following the aggression against Ukraine by Russia. This measure aims at support producers to face the rising costs by the aggression against Ukraine.
	• TCF: Aid to fishing vessel companies (SA.102645)
	  ○ The final beneficiaries of the measure are companies of all sizes, who are 'armadores' of fishing vessels

	○ This measure provides support (direct grant) under the Temporary Crisis Framework for State aid measures to support the economy following the aggression against Ukraine by Russia. • Régime d'aide pour les investissements dans la mise en place de systèmes d'irrigation en Aragon (prolongation SA.56549) ○ The final beneficiaries of the measures are farmers located in in Aragón. Overall the measure aims at support local population through job creation and agro-industrial development ○ This measure provides support (direct grant) for carrying out investments in order to extend irrigation in Aragón (SA.62404). It is an extension of the existing aid scheme SA.45941 (2016/N). • TCTF: National Guarantee Scheme (fifth amendment to case SA.102711 (2022/N)) ○ The final beneficiaries of the measure are the following activities: crop and animal production, hunting and related activities; fishing and aquaculture ○ This measure provides support (direct grant) under the Temporary Crisis Framework for State aid measures to support the economy following the aggression against Ukraine by Russia (SA.114027). It provides an extension of existing aid schemes Generic: • TCTF: Aid scheme for compensation of additional costs due to exceptionally severe increases in natural gas prices ○ The final beneficiaries of the measure are SMEs and large enterprises, active in Spain ○ This measure provides support (direct grant) under the Temporary Crisis and Transition Framework for State aid measures to support the economy following the aggression against Ukraine by Russia (SA.106016).
CAP	Measures risk management: • Aid towards the payment of insurance premiums (modification) ○ This measure provides aid (direct grant) towards the payment of insurance premiums. It is granted to cover the risk of damage to vegetable products and livestock species listed in Annex I TFEU. ○ This measure provides support (direct grant) under (SA.104060). • Agroseguro insurance system ○ The set of beneficiaries of the measure is very broad – currently, agricultural, livestock, forestry and aquaculture production are eligible for insurance against almost all the risks caused by adverse natural events ○ The system relies on private contracts in which the insurer agrees to cover certain risks which the insured wishes to protect, by paying a price established by the insurer according to the characteristics of the activity carried out. When risks materialised, the producer receives a subsidy to pay that price (agroseguro).

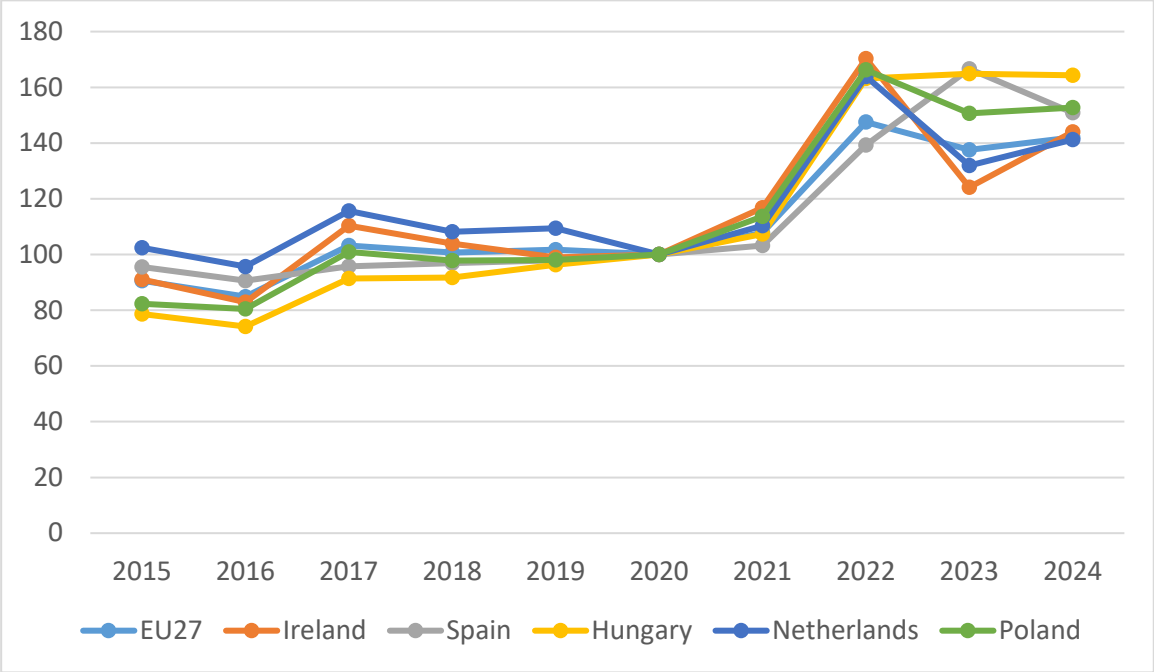
Income tax regulation (Based on OECD, 2020)	• In Spain, agriculture is taxed under the general system, with sector-specific provisions for small farms. • Three different income tax regimes coexist within the taxation system: (i) Direct estimation – mandatory for farmers with income in the previous year over EUR 250,000; (ii) Simplified direct estimation – simplified using cash based accounting; and (iii) Objective estimation (modules system) which is used by 94% of farmers. • Young farmers (aged between 18–40) benefit from a 25% reduction of taxable income for 5 years. • Income from agricultural or forestry activities are subject to a special withholding tax rate of 1% for fattening pig and poultry and 2% for all other activities. In addition, on a quarterly basis, farmers need to pay a 2% tax on their volume of sales. • In Spain, around 90% of small-scale farmers are not VAT registered and operate under a Special Regime for Agriculture, Livestock and Fisheries (REAGP). It is open to farmers with incomes from agricultural activities below EUR 250,000 (and total purchases of less than EUR 150,000). This system allows producers to charge a flat rate of 12% on agricultural and forestry products and 10.5% on livestock and fishery products sold to VAT registered customers. • In Spain, there are no special concessions for the agricultural sector in terms of taxation on gifts, inheritances and transfers of agricultural taxes. In all these cases, the general regime applies. • An annual real estate tax is levied by the municipalities on immovable property. The tax rate for rural real estate tax rates is in the range of 0.3-0.9%.

Source: Authors

ANNEX III: FURTHER DETAILS AT MS LEVEL

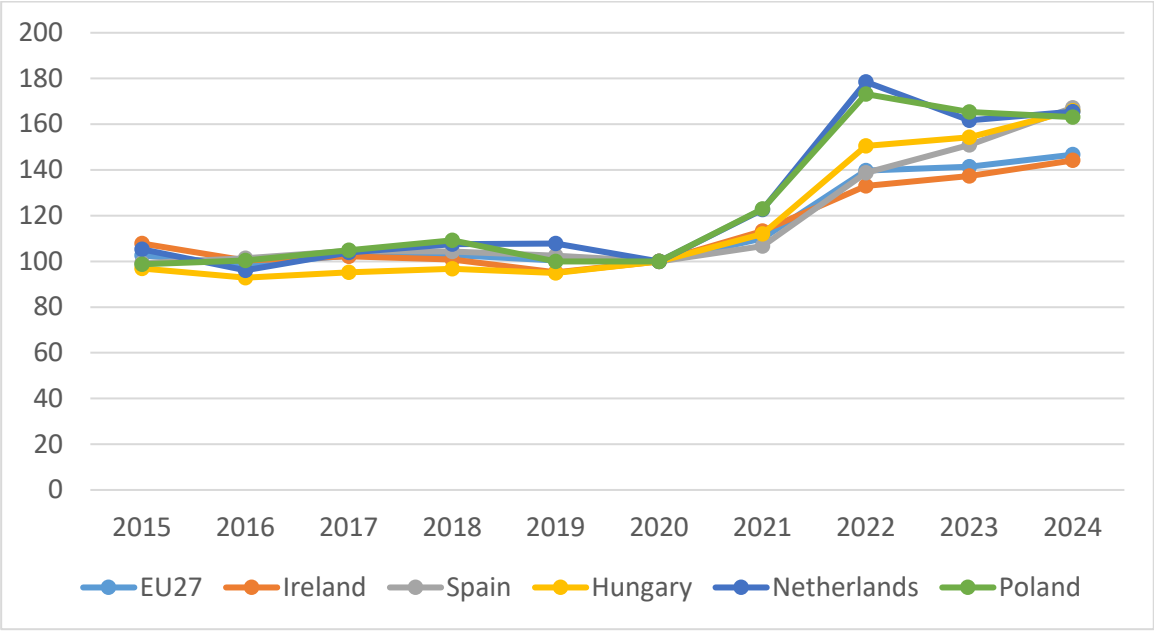
The following data are also contained in the interactive data dashboard which accompanies this report.

Figure 49: Milk Price index for EU-27 and selected EU MS



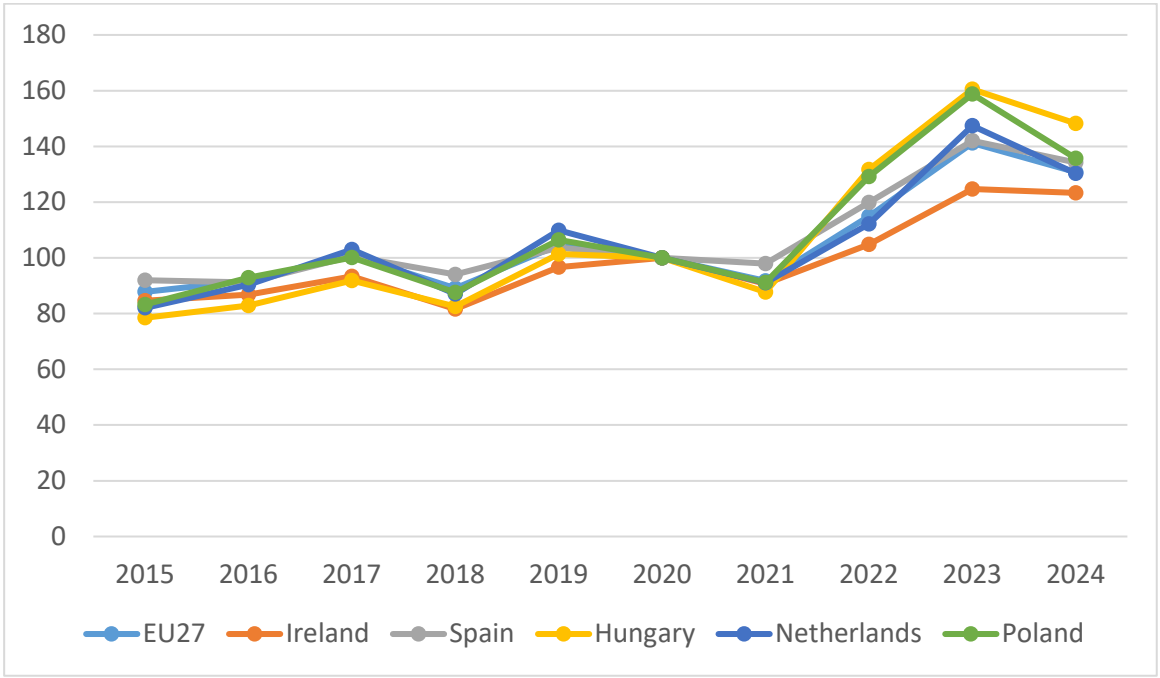
Source: Eurostat

Figure 50: Cattle Price index for EU-27 and selected EU MS



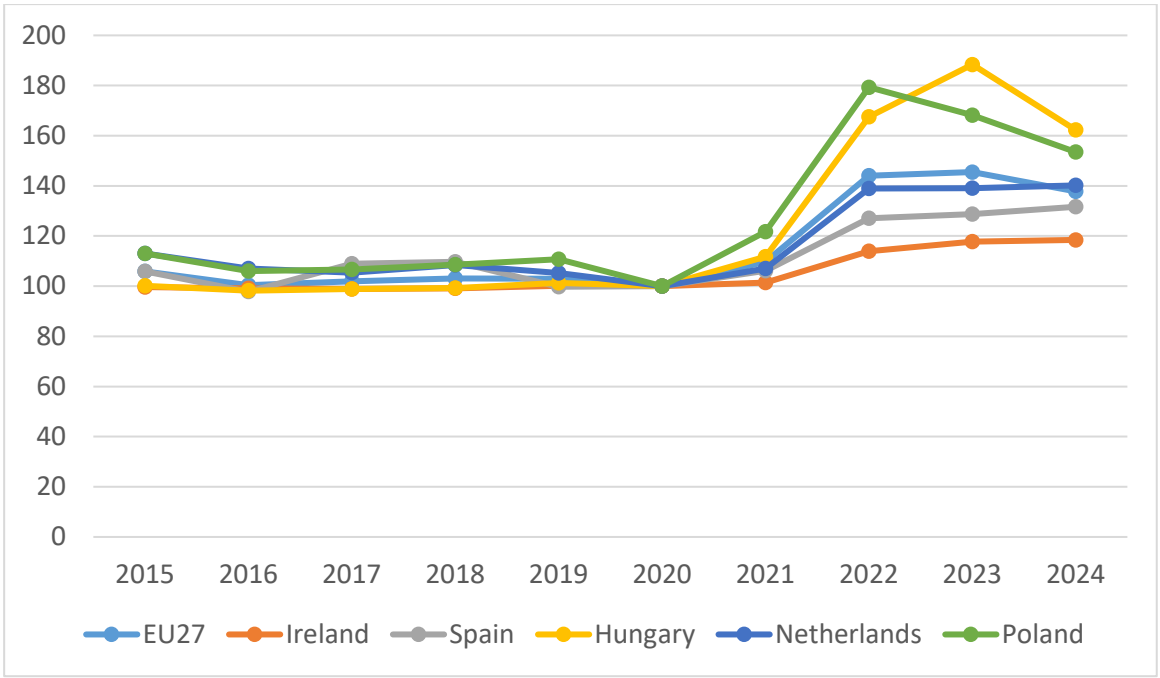
Source: Eurostat

Figure 51: Pig Price index for EU-27 and selected EU MS



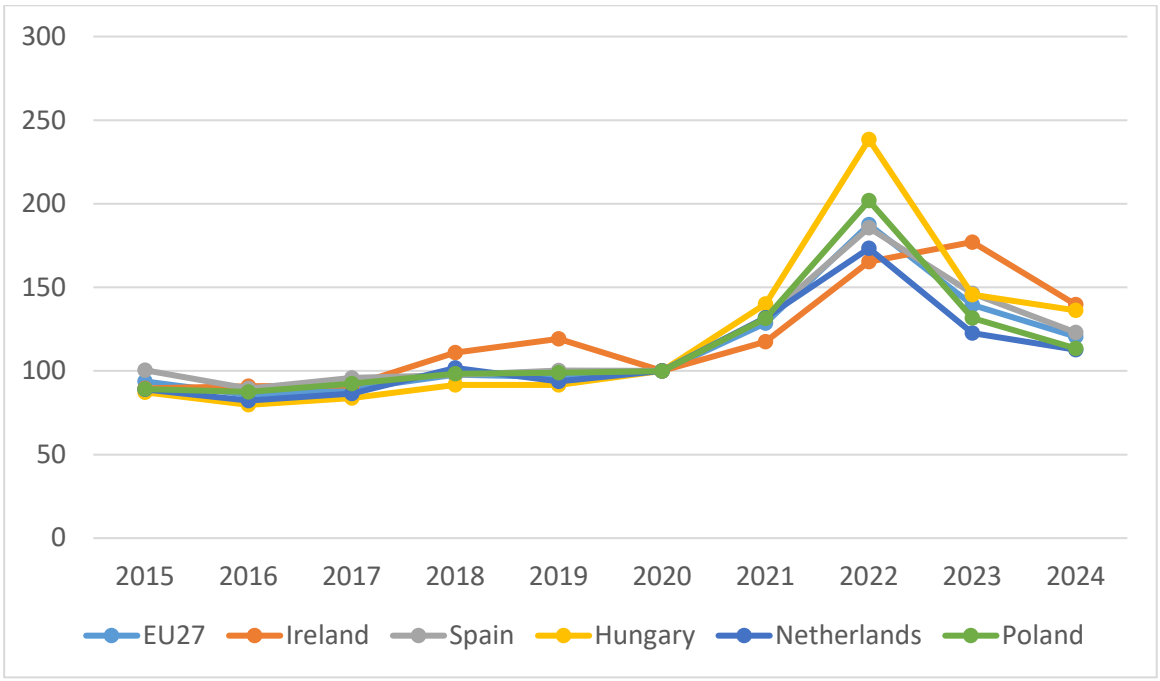
Source: Eurostat

Figure 52: Poultry Price index for EU-27 and selected EU MS



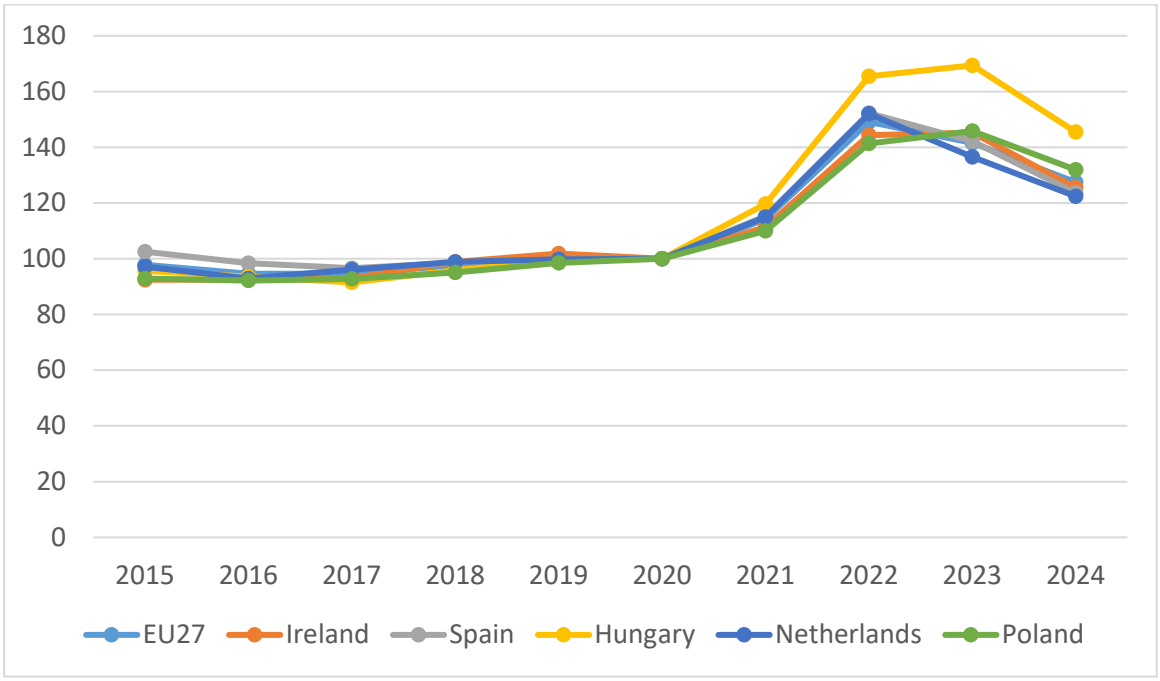
Source: Eurostat

Figure 53: Cereals Price index for EU-27 and selected EU MS



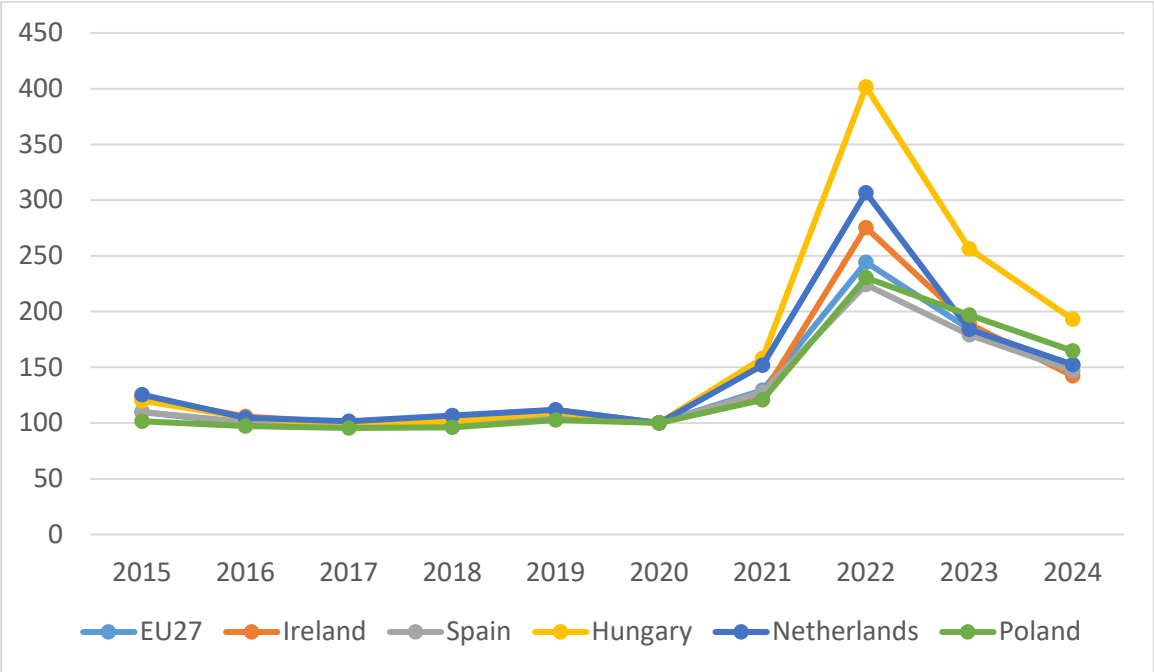
Source: Eurostat

Figure 54: Compound Feed Price index for EU-27 and selected EU MS



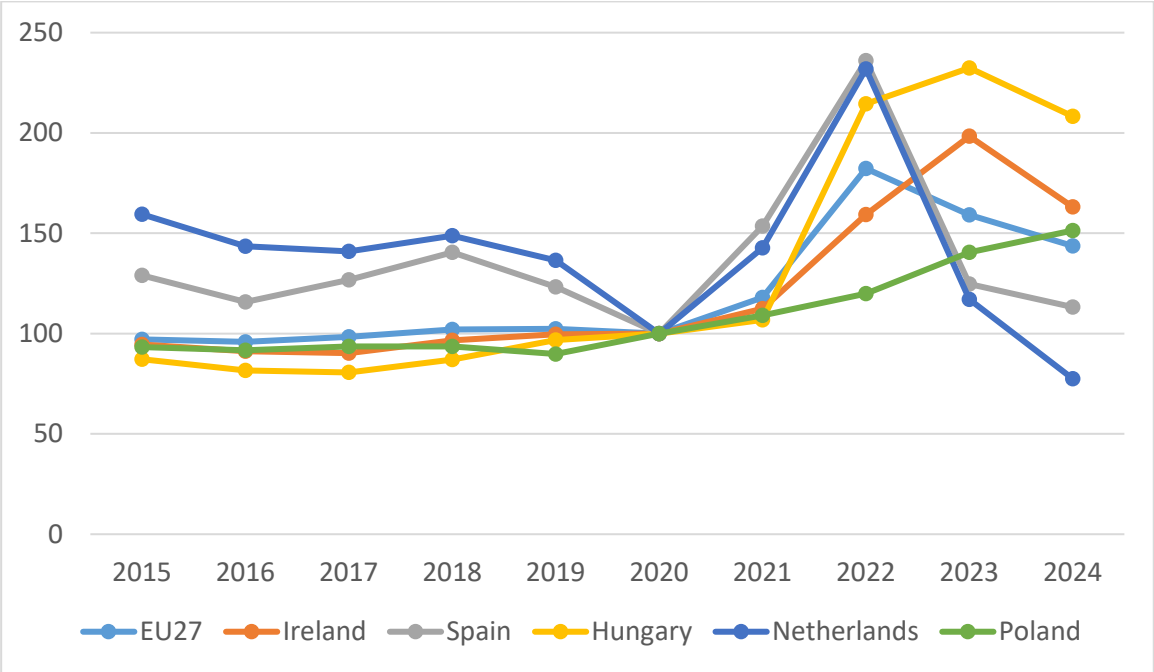
Source: Eurostat

Figure 55: Fertiliser Price index for EU-27 and selected EU MS



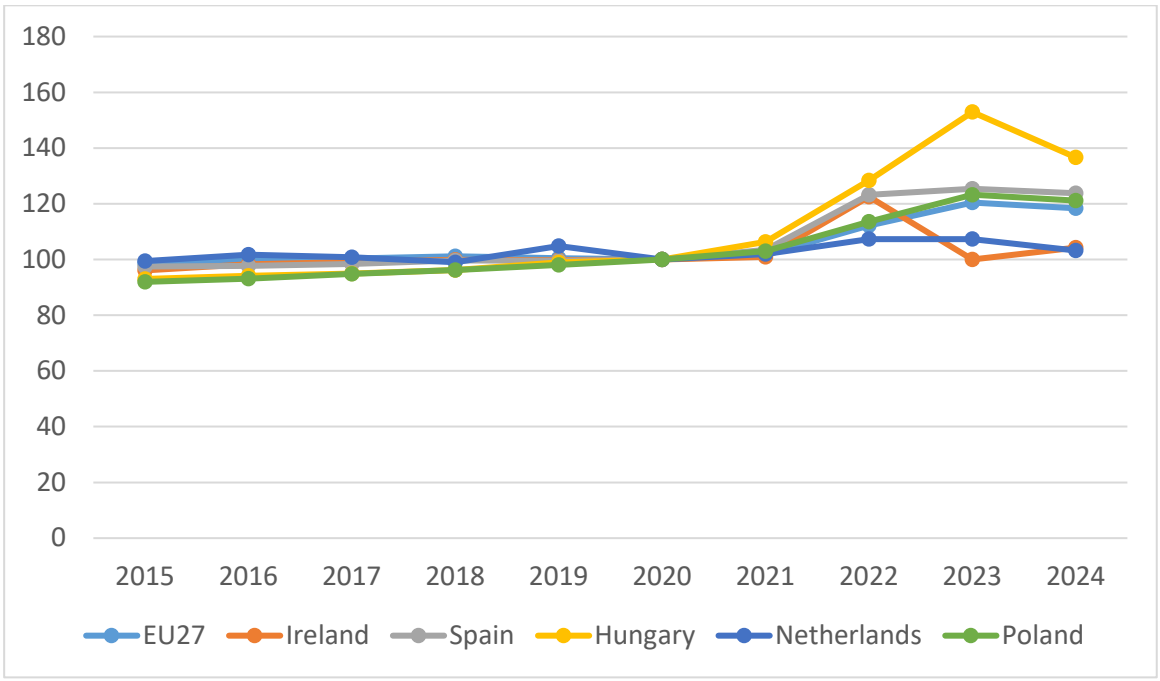
Source: Eurostat

Figure 56: Electricity Price index for EU-27 and selected EU MS



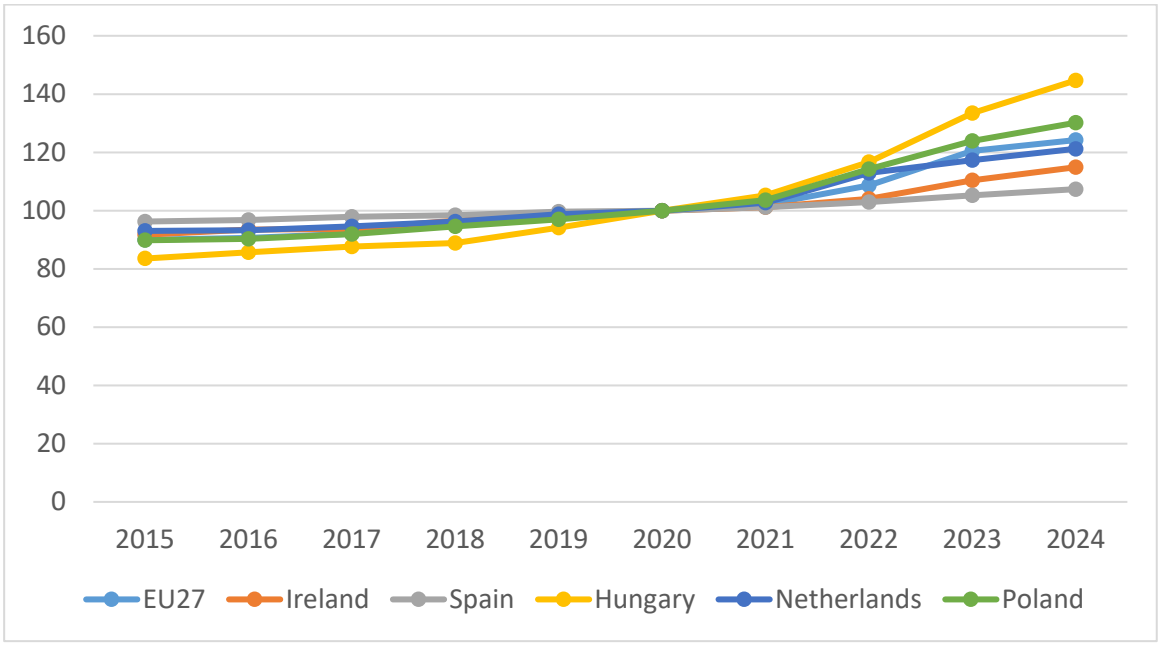
Source: Eurostat

Figure 57: Plant Protection Products Price index for EU-27 and selected EU MS



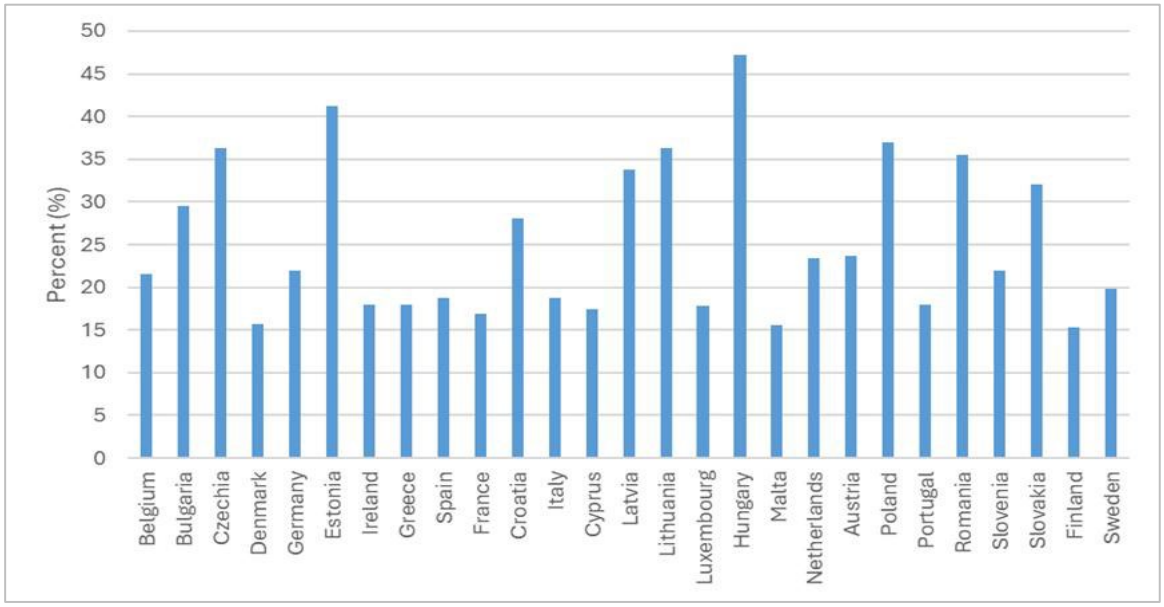
Source: Eurostat

Figure 58: Veterinary Expenses Price index for EU-27 and selected EU MS



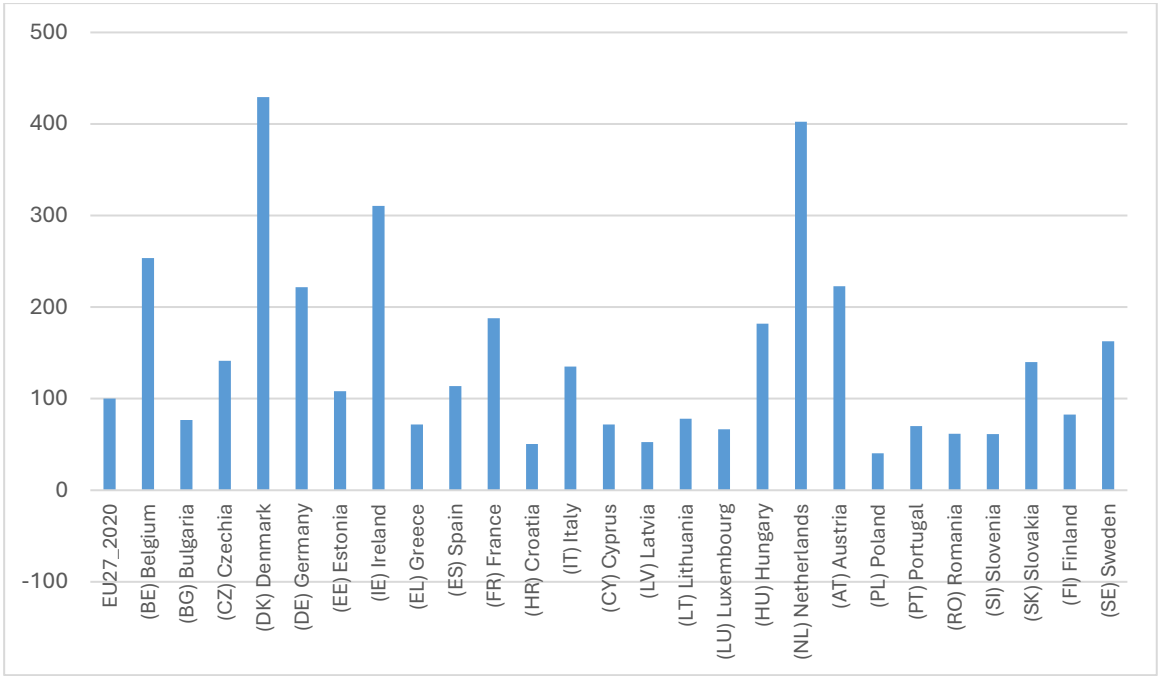
Source: Eurostat

Figure 59: Percentage Increase in Consumer Price Inflation by MS, 2020 to 2024



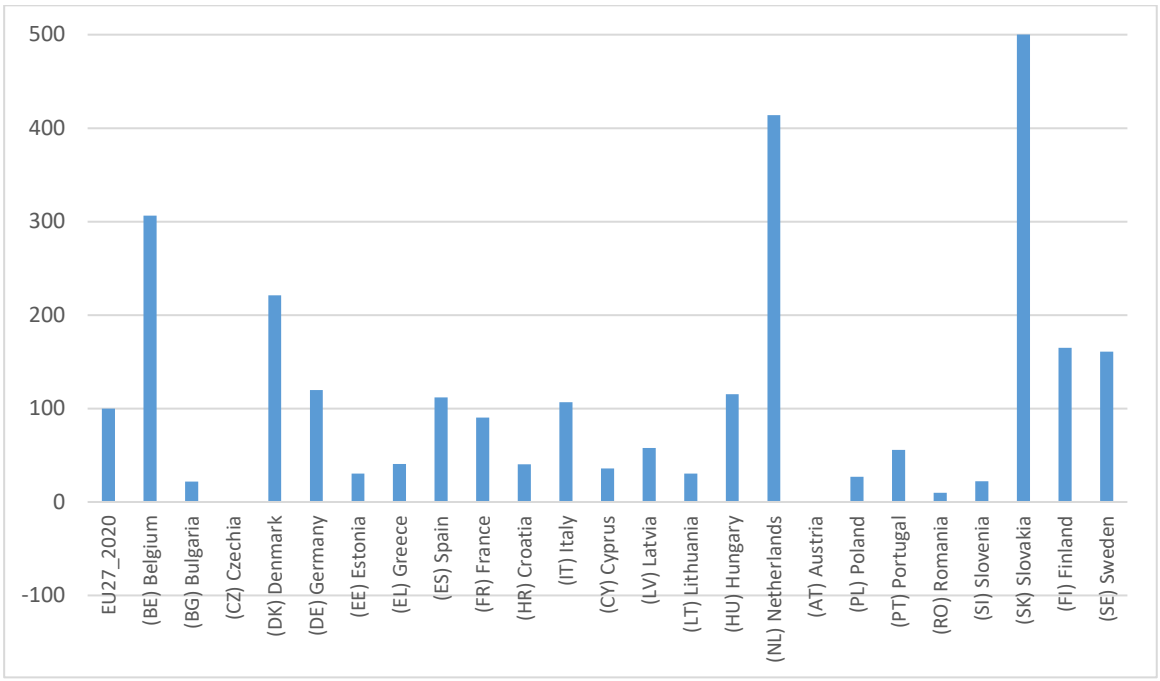
Source: Eurostat. Note: Consumer Price Inflation based on Harmonised Index of Consumer Prices

Figure 60: FFI/FWU by MS in farm type field crops, 2022-2023 average, EU-27 =100



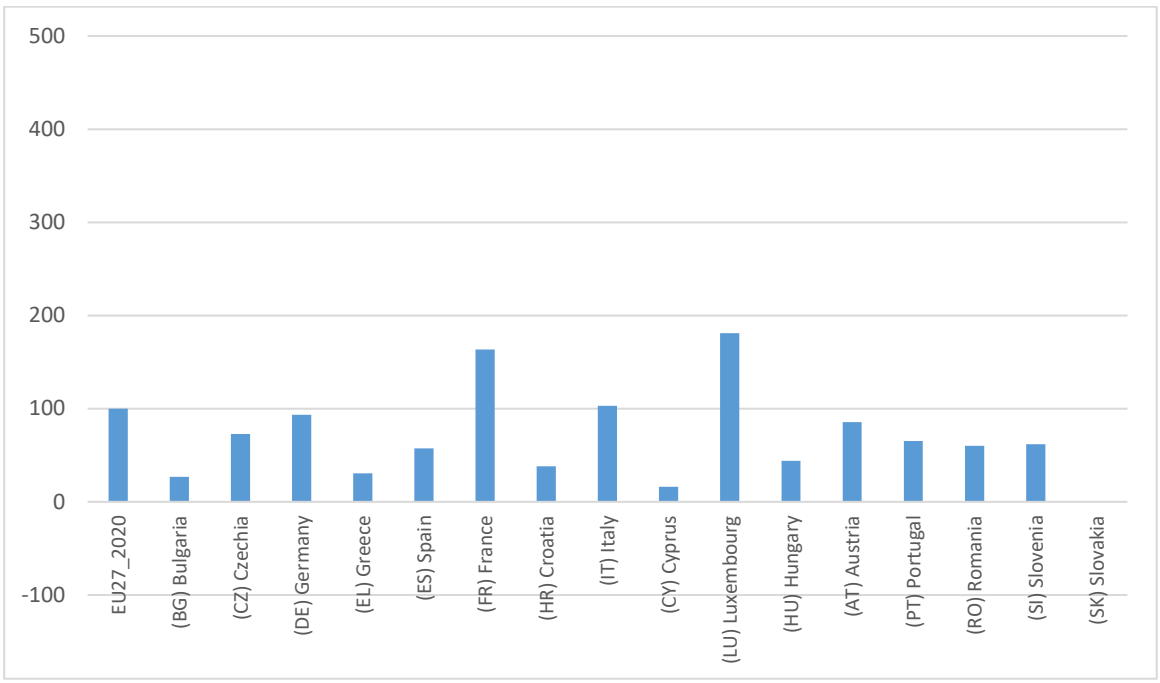
Source: Authors calculations using FADN data

Figure 61: FFI/FWU by MS in farm type horticulture, 2022-2023 average, EU-27 =100



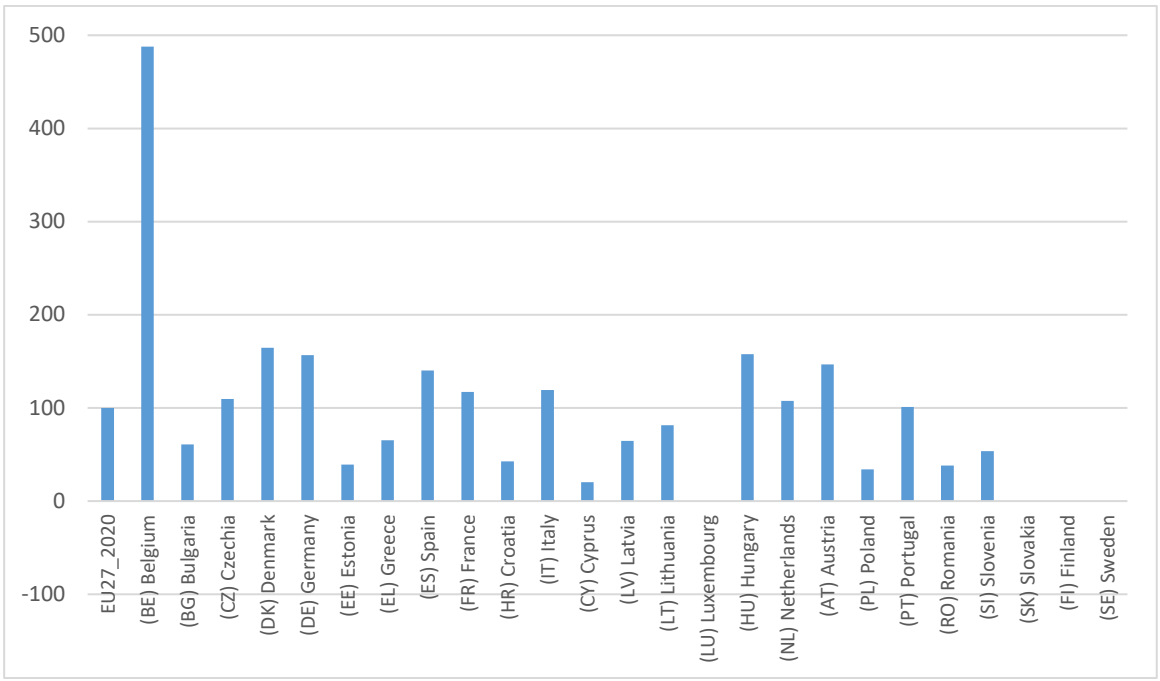
Source: Authors calculations using FADN data

Figure 62: FFI/FWU by MS in farm type wine, 2022-2023 average, EU-27 =100



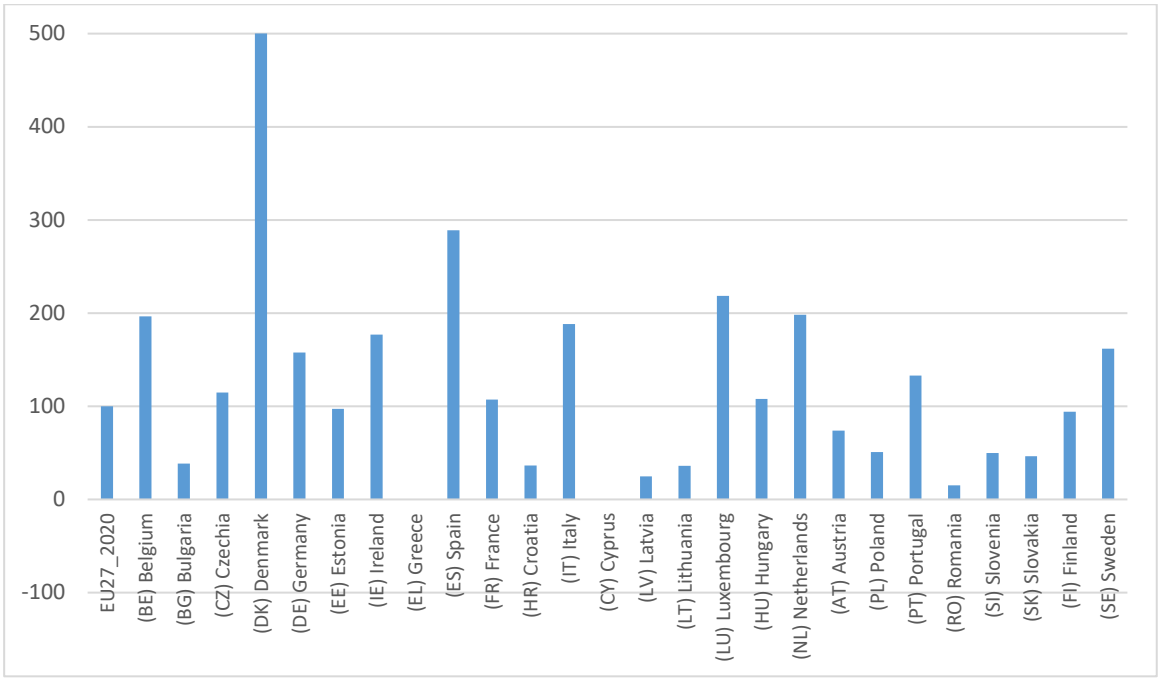
Source: Authors calculations using FADN data

Figure 63: FFI/FWU by MS in farm type other permanent crops, 2022-2023 average, EU-27 =100



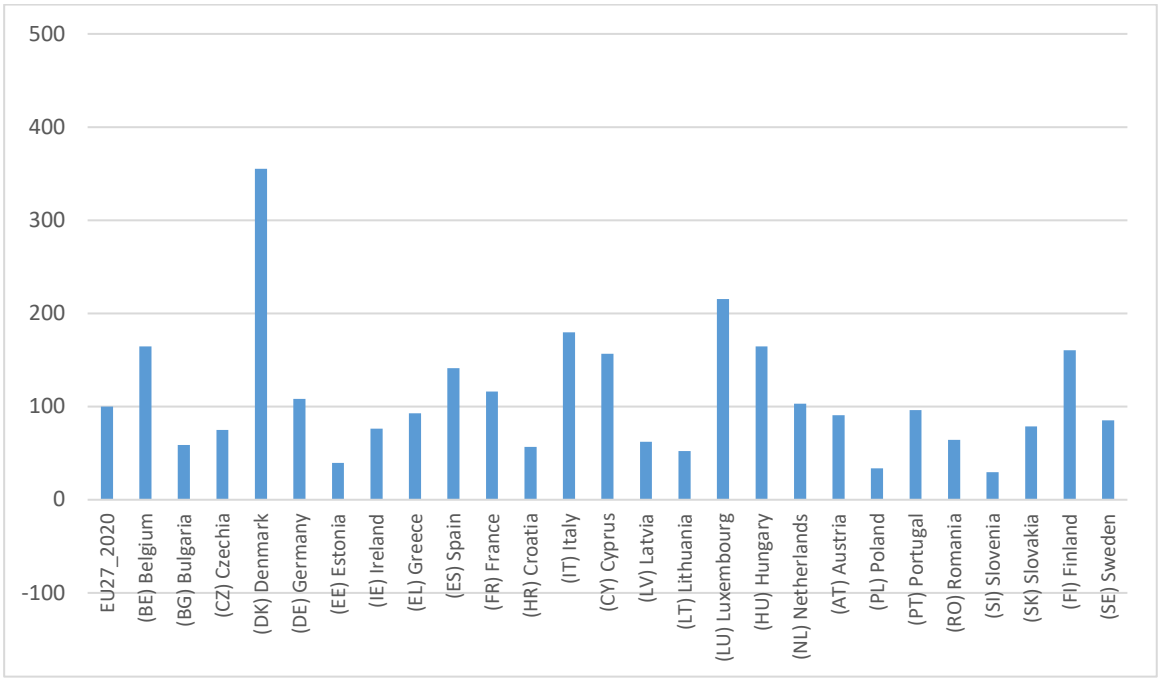
Source: Authors calculations using FADN data

Figure 64: FFI/FWU by MS in farm type milk, 2022-2023 average, EU-27 =100



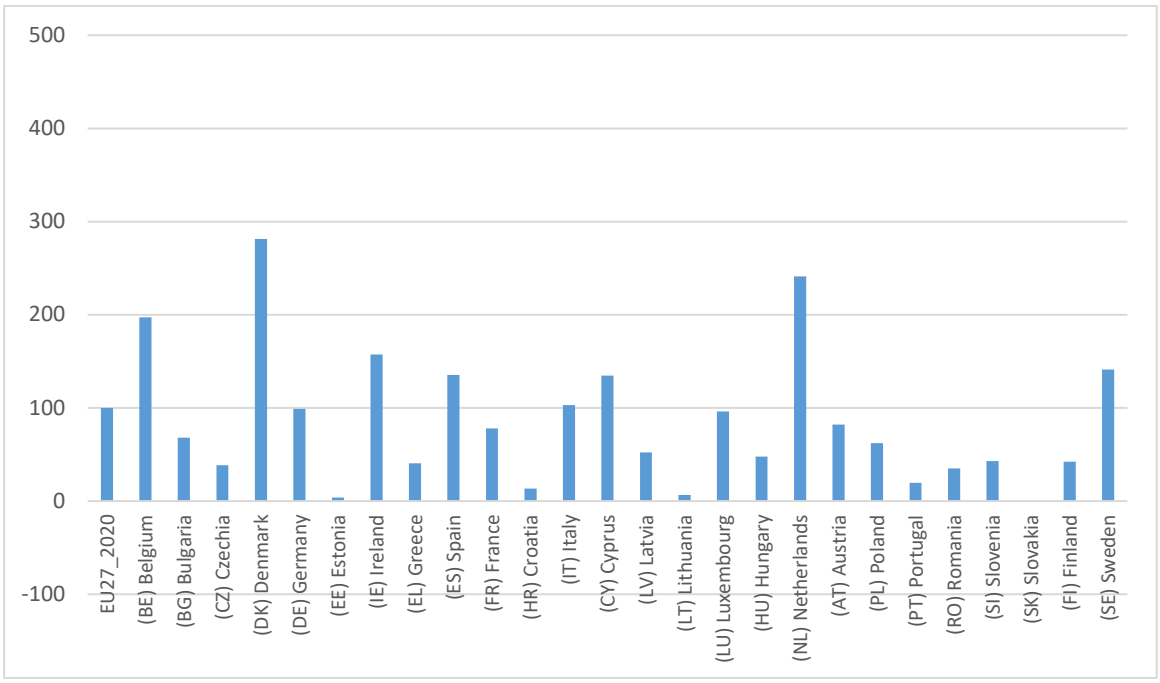
Source: Authors calculations using FADN data

Figure 65: FFI/FWU by MS in farm type other grazing livestock, 2022-2023 average, EU-27 =100



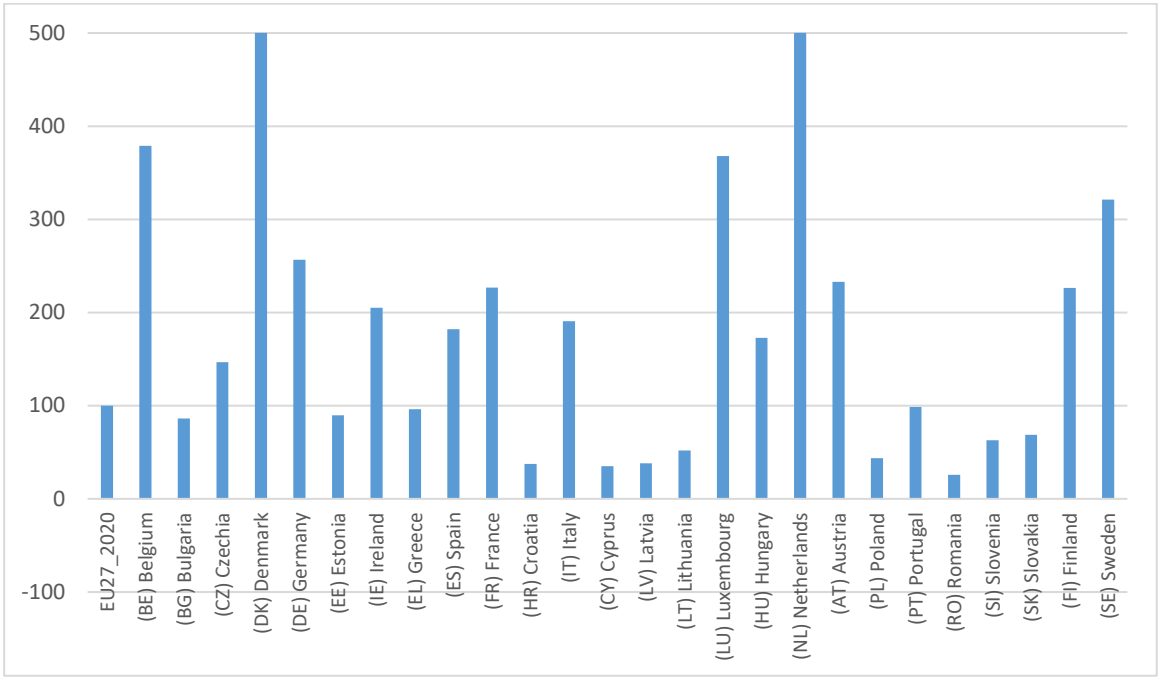
Source: Authors calculations using FADN data

Figure 66: FFI/FWU by MS in farm type granivores, 2022-2023 average, EU-27 =100



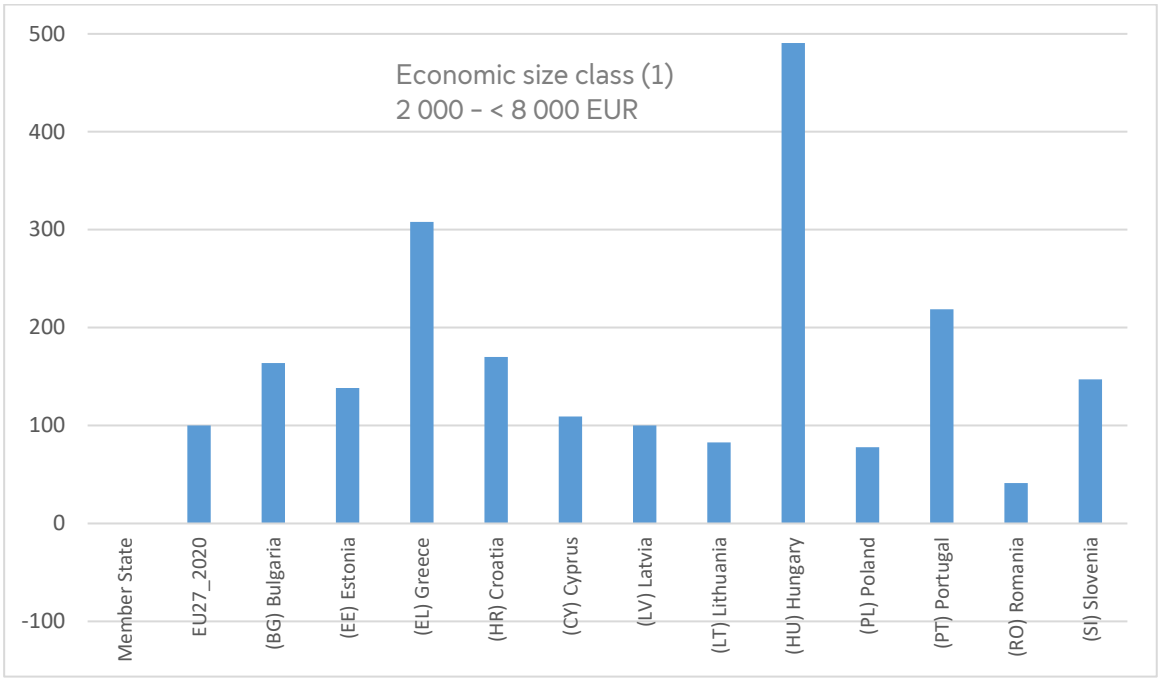
Source: Authors calculations using FADN data

Figure 67: FFI/FWU by MS in mixed farm type, 2022-2023 average, EU-27 =100



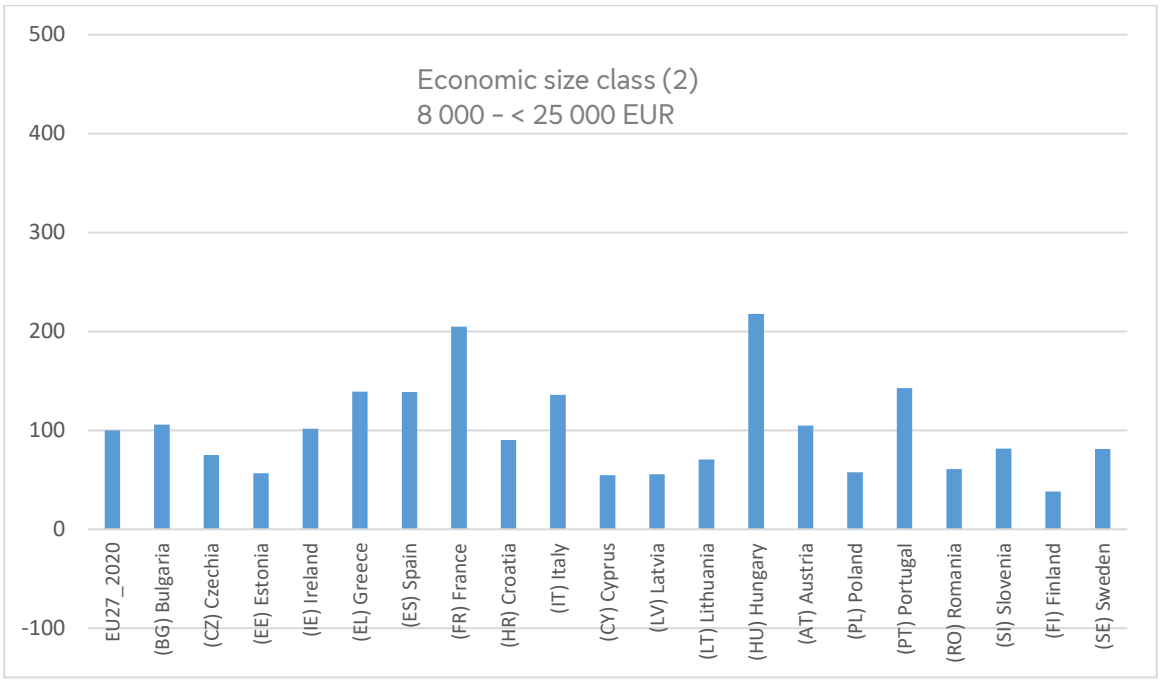
Source: Authors calculations using FADN data

Figure 68: FFI/FWU by MS in economic size class (1), 2022-2023 average, EU-27 =100



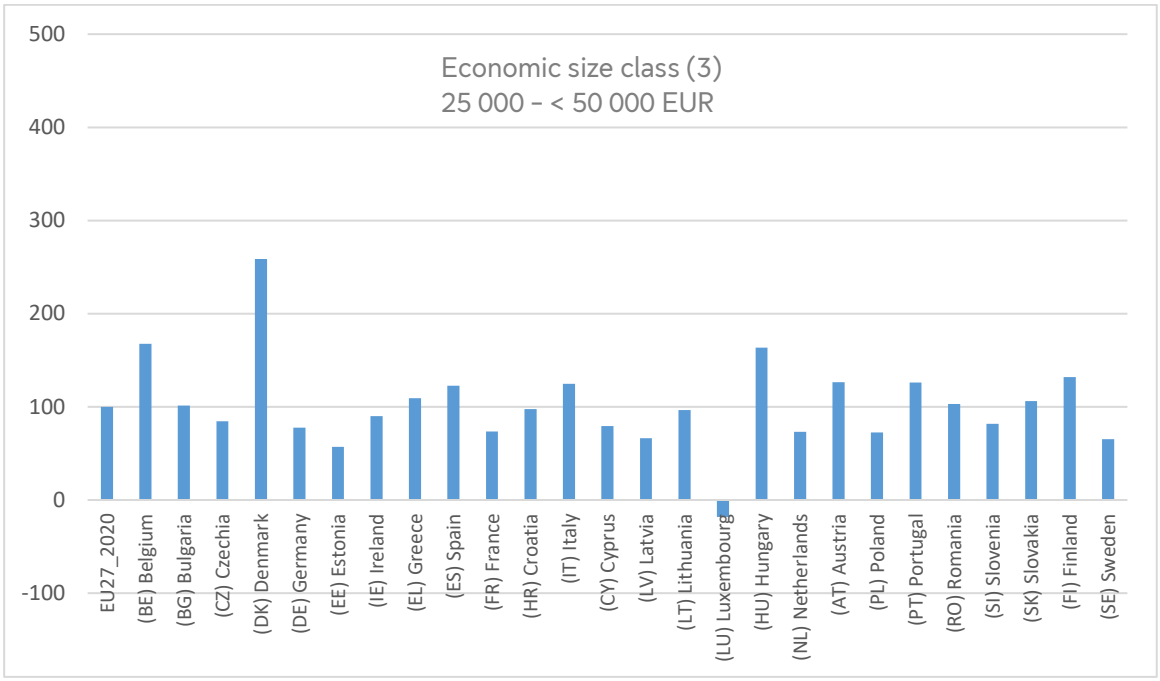
Source: Authors calculations using FADN data

Figure 69: FFI/FWU by MS in economic size class (2), 2022-2023 average, EU-27 =100



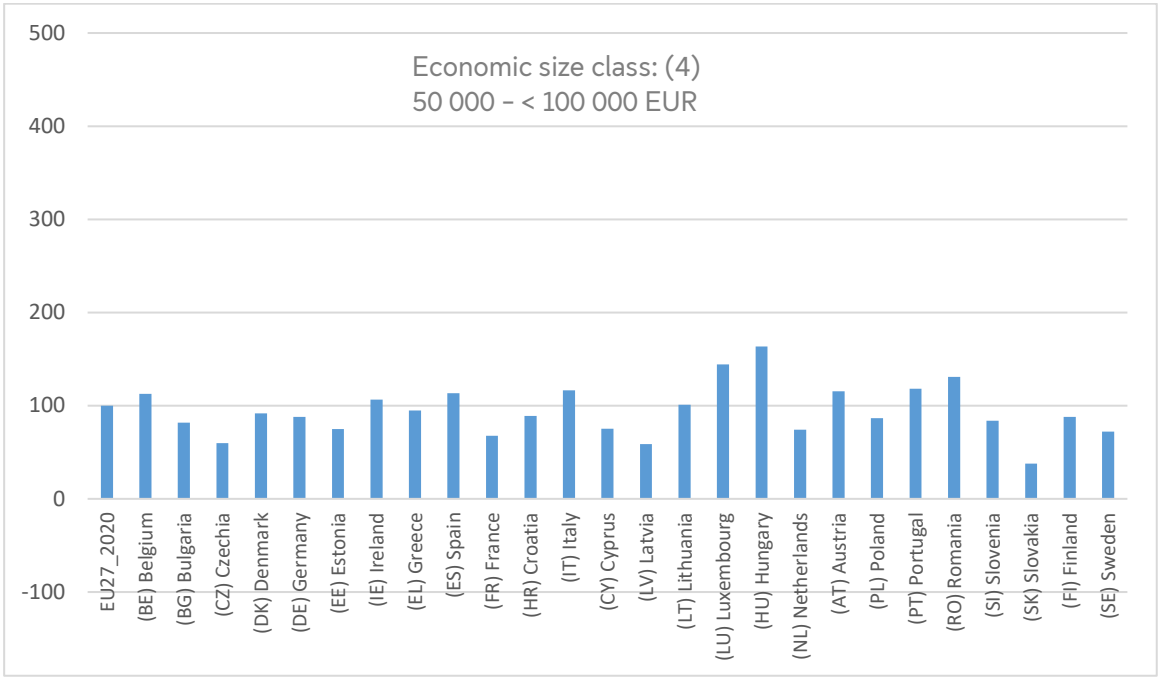
Source: Authors calculations using FADN data

Figure 70: FFI/FWU by MS in economic size class (3), 2022-2023 average, EU-27 =100



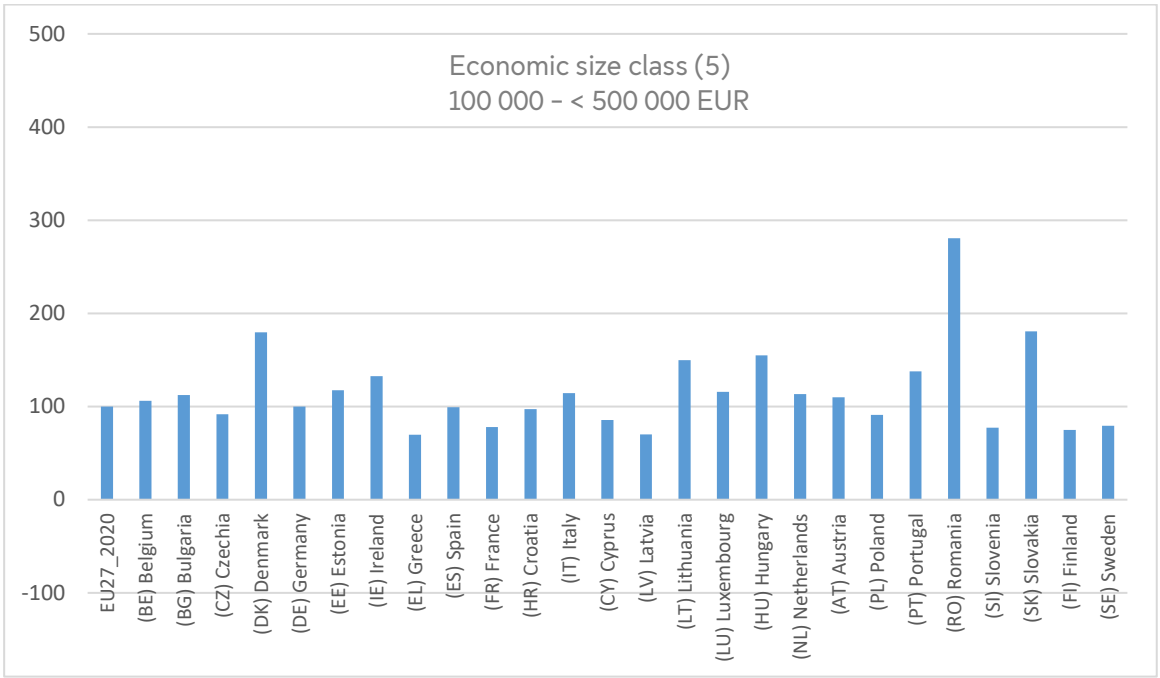
Source: Authors calculations using FADN data

Figure 71: FFI/FWU by MS in economic size class (4), 2022-2023 average, EU-27 =100



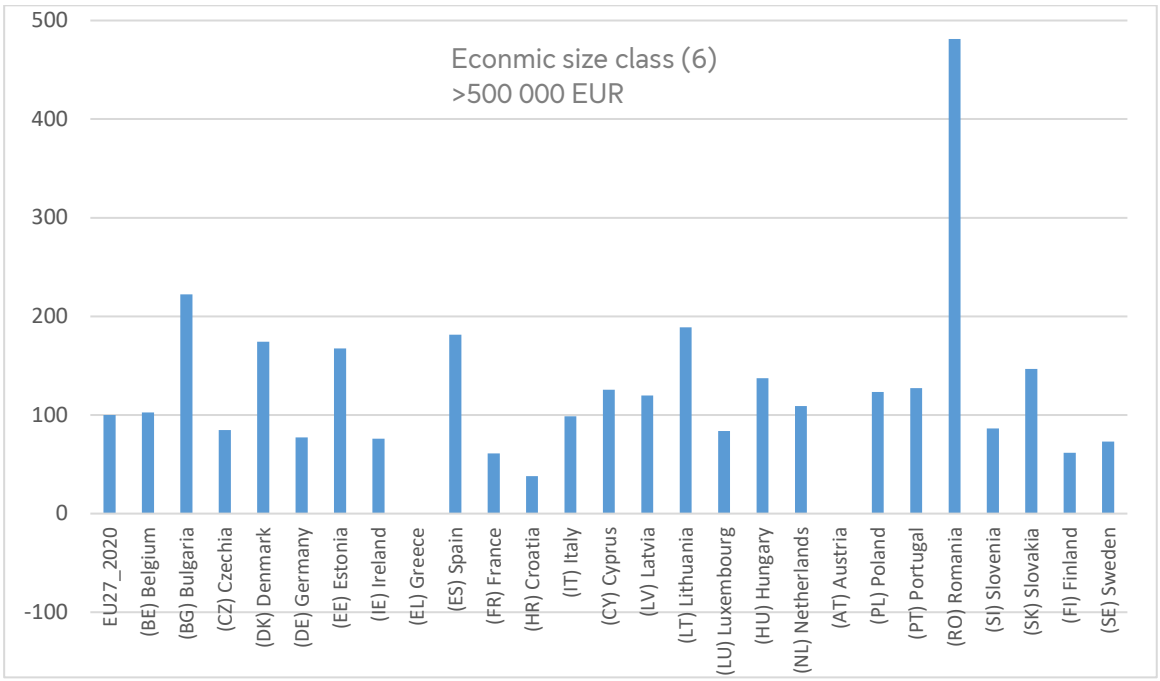
Source: Authors calculations using FADN data

Figure 72: FFI/FWU by MS in economic size class (5), 2022-2023 average, EU-27 =100



Source: Authors calculations using FADN data

Figure 73: FFI/FWU by MS in economic size class (6), 2022-2023 average, EU-27 =100



Source: Authors calculations using FADN data

This study examines recent developments in EU farm incomes, focusing on the heightened price volatility observed since 2020. Sharp increases in energy, fertiliser, and feed costs, driven by multiple factors, have led to significant income variations across Member States and farm types. The report reviews challenges in measuring farm income and proposes improvements to enhance the timeliness, coverage, and policy relevance of income data. It also summarises existing farm income support mechanisms and outlines policy options to improve targeting efficiency, strengthen sector resilience to shocks, and support the long term economic sustainability and competitiveness of EU farm incomes.
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