Understanding farm structure

Farm structure refers to the composition and organisation of an agricultural productive unit, typically for growing crops and rearing farm animals. Farm structure data allow analysis of the functioning of farms and their responses to events and agricultural policies. While basic statistics are key for capturing the essentials of the EU farming sector, understanding the various elements of farm structure implies more thorough analysis of the data.

Measuring farm structure

Farm structure defines an agricultural productive unit in terms of sizes of the land area and livestock herds, the labour force working on the farm and its main characteristics (such as age or working time), the means of production, and legal and organisational aspects of land tenure, farm management and market access. It is a key aspect of an agricultural system, along with agro-ecological (farming system, soil, altitude, climate, etc.) and economic factors (farm resources and inputs, product diversity, integration in the food chain, etc.).

In the past century, the development of agricultural policies prompted the need for information on farm structure, with the objective of understanding how agriculture was changing, what elements were triggering such change and what future direction it might take. On the basis of farm structure statistics, it is possible, for example, to build up typologies of farm types, analyse the drivers of farm structural change, and evaluate the interaction between agricultural policy and structural change in agriculture.

In the EU, the Farm Structure Survey (FSS) has delivered a continuous record of harmonised data on the structure of European farms since 1966, providing a picture of the situation every third year, on average. Although the topics covered have remained significantly stable, some changes have been introduced to reflect changing realities over the years. The legislation adopted in 2018 introduced a new approach to collecting data as from the Agricultural Census 2020, with the objectives of both preserving the continuity of the survey's core elements and introducing flexibility in data collection to better address data needs.

EU farm structure in basic figures

The FSS includes information on land use, livestock numbers, labour input, etc. These can be aggregated by dimension such as geographic level, time and farm type. Therefore, there are countless ways to analyse and present the data on farm structure, depending on the information need to be addressed.

Farm and farm workforce size

A common indicator to describe farm structure is the farm size, though it can refer to various measures, such as land area, economic outcomes, or farm labour. The FSS data indicate that two thirds of the 10 million EU farms have less than five hectares of land and the majority of these farms do not exceed two hectares (see figure to the right). Also, more than two thirds of EU farms have a total standard output (i.e. an estimate of the average farm output based on standard values) of below €8 000 a year. EU farms count on average less than one annual work unit (i.e. the equivalent of a full-time job). Indeed, while about 20 million people work on EU farms, this figure includes full- and part-time farm managers and workers, seasonal labour, and farmer's family members providing help (often free labour) when needed.
Land use and livestock
Crops and animals are vital elements of the farm structure. The average EU farm has 16 hectares of agricultural land, compared to averages of 180 hectares in the United States, 315 hectares in Canada, and 4331 hectares in Australia. Altogether, EU farms utilise roughly 157 million hectares of land, of which about one third for growing cereals, slightly less than one third for permanent grassland, and the remaining area for other crops (with industrial crops, permanent crops, and temporary grass and grazing occupying the largest surfaces). Moreover, 5.6 million EU farms with livestock count millions of farm animals – with pigs being the largest group followed by bovines, sheep and goats – plus countless poultry birds as well as other types of animals (e.g. rabbits and horses). On average, they have 21 livestock units (i.e. a reference unit to calculate livestock as the equivalent of one dairy cow). The distribution of land and livestock varies a lot across EU farms, with the smallest farms showing the greatest diversity in terms of on-farm activities.

Beyond the main figures
Basic indicators such as farm distribution by size class or average size are invaluable tools to get a glimpse on the predominant characteristics of farm structure. These are very much revealing of an EU farming sector largely made up of small-sized farms. However, these figures do not embrace the extreme diversity in the EU farming sector (disclosed in Eurostat’s agriculture regional statistics). Therefore, more details are needed for planning adequate farm policies or drawing conclusions on farm economics, including on the methodology behind available data.

Need to dig into the data
Understanding how farm structure affects the functioning of the farm involves information on such issues as farming specialisations, agricultural practices, agronomic and environmental conditions, and the degree of local development. Therefore, going beyond the main indicators may reveal whether a given farm structure is just right or not adequate at all for a viable farming activity. For example, it may help to explain whether a significant farm workforce is an appropriate labour input or if it stems from a low level of mechanisation or a lack of alternative job opportunities. Also, farms may have large or small acreage, or no land at all, without this accounting, on its own, for strong or weak economic performance. Indeed, farms may have large surfaces because they keep land under cereal production or breed animals on extensive grazing areas. On the other hand, fruit groves or the use of common land (especially for sheep and goat farms) often relate to farms with small land area. The table to the right shows a relevant example of farms with no land area rearing pigs and/or poultry indoors.

Although they are not counted as large farms based on hectares of land, these are certainly very large farms based on their high animal numbers compared to the average pig and poultry farm.

Methodological caveats
The European Union’s farm statistics legislation allows national authorities a certain degree of autonomy in defining the scope of the survey, while respecting minimum coverage requirements which ensure appropriate representation of the farming sector. Hence, each country defines the set of thresholds above which an agricultural activity is in the scope of the survey. This limits the survey’s cost and burden by focussing on the farms targeted by agricultural policies and excluding very small units. Therefore, a given farm would be below the survey’s thresholds in a country where agricultural production takes place mostly in medium-sized to large farms, but be included in the scope of the survey in a country where semi-subsistence or small farms are the backbone of agriculture. As a result, the high share of small farms at EU level overall originates from a small group of countries (largely from Romania). However, this should not result in over- or under-representation of any agricultural sectors or farming types. The national methodological reports detail the diverse approaches, where the scope of the survey varies from the absence of any thresholds (such as in Malta and Romania, where all entities in the administrative farm register are included) to relatively high thresholds (such as in Germany and Sweden, where farms are included only with a larger number of farm animals or cultivated hectares compared to other countries).