Pig farming in the European Union: considerable variations from one Member State to another

Pig farming sector - statistical portrait 2014

This article provides a general overview of statistics on pig farming in the European Union (EU). Pigmeat is produced throughout the EU on several types of farms with considerable variations from one Member State to another. Three quarters of pigs are reared by just 1.5% of the largest fatteners. Small pig producers are mostly found in the 13 Member States that joined the EU since 2004, which creates a decreasing size of the herd. The tasks of pig rearing are distributed across farms in the main production basins and even across regions.
Map 1: Number of sows by region (2013) - Source: Eurostat (agrranimal)
Main statistical findings

Regional data on livestock are more informative than national figures as a means of displaying the zones of pig production (Map 1). The major production basin extends from Germany (namely from Nordhein-Westfalen & Niedersachen), to Belgium (Vlaams Gewest) and accounts for 30 % of EU sows. However, there are other important regions, such as Cataluña, Murcia (Spain), Lombardia (Italy), Bretagne (France) and some areas of central Poland and Northern Croatia.

Structure of the pig farms

The distribution of national herds by size is taken from the Farm Structure Survey. The pigs are recorded in three categories, i.e. piglets, breeding sows and other pigs. The sows reflect the permanent pig herd and the other pigs are the pigs fattened before slaughtering (see details on Data sources and availability).

Herd size: other pigs

The distribution of the pig population by size of the pig herds (in numbers of other pigs) shows that 1.7 % of pig farms have at least 400 other pigs and rear 77.9 % of these (Figure 1) and 48.6 % of the sows. In twelve Member States (Belgium, Czech Republic, Denmark, Estonia, Ireland, Spain, France, Italy, Cyprus, the Netherlands, Sweden and the United Kingdom) the herd size of 400 other pigs is more than 90 %, while in Poland and Romania this category is approximately 33 %. Animals kept in small units of less than 10 other pigs are important in Romania (62.8 %), Croatia (45.3 %), Slovenia (31.4 %), Lithuania (28.8 %) and Bulgaria (25.8 %). At the EU level, although these small units rear 3.8 % of other pigs, they account for 73.3 % of the pig farms.

![Figure 1: Distribution of numbers of other pigs by herd size (FSS 2010) - Source: Eurostat (eflsgvopig)](image)

Herd size: breeding sows

Two types of pig farm are classified based on the number of breeding sows: the fatteners and the breeder-fatteners. Almost half of the other pigs (41.6 %) are kept as fatteners, i.e. on farms without sows. However, this particular figure hides a range of different situations: 77.8 % of the other pigs are reared as fatteners with more than 400 animals, whereas 73.3 % of the fatteners have fewer than 10 pigs, mainly for own consumption. More than half of these numerous small farms (58.4 %) are in Romania.

Breeding sows, other pigs and herd size
The classification of pig farms according to their size class shows that on average the larger farms (more than 400 sows) are more technically efficient than medium- and small-sized farms. The size is a crucial element in the economic viability of pig farms. Smaller farms are impeded by greater technical inefficiencies whereas the large farms achieve better performance benefiting both from increased technical efficiencies as well as from greater economies of scale.

The breakdown of other pigs among the four types of pig farm (Table 1) is shown by country in Figure 2.

Table 1: Distribution of pigs and farms by type of pig rearing (FSS 2010) - Four types based on the numbers of sows and of other pigs

<table>
<thead>
<tr>
<th>Number of sows</th>
<th>None</th>
<th>&lt;10</th>
<th>&gt;=100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of &quot;other pigs&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;10 and &lt; 400</td>
<td>3.5% &quot;other pigs&quot;</td>
<td>18.2% &quot;other pigs&quot;</td>
<td>41.6% &quot;other pigs&quot;</td>
</tr>
<tr>
<td>&gt;=400</td>
<td>73.3% farms</td>
<td>51.4% farms</td>
<td>1.1% farms</td>
</tr>
</tbody>
</table>

Figure 2: Distribution of other pigs by type of pig farm (FSS 2010)

- The small fatteners (no sows and fewer than 10 other pigs) represent a significant share of pig production and at least 10% of other pigs in seven of the newest Member States (Bulgaria, Croatia, Latvia, Lithuania, Hungary, Romania and Slovenia). The importance of own consumption in pig production limits the sensitivity of this type of production to market conditions.

- The large fatteners (no sows and at least 400 other pigs) account for more than one third of other pigs in ten countries (Belgium, Denmark, Germany, Spain, Italy, Luxembourg, the Netherlands, Finland, Sweden and the United Kingdom). They reflect a production organised between specialised breeders (which nevertheless have other pigs) and fatteners. These 10 countries represent two thirds of the other pigs and three quarters of the EU porkmeat production. In France the distribution is intermediate between typical fatteners or large breeders.
• The large breeders (at least 400 pigs and 100 sows) manage more than two thirds of the other pigs in six countries (Czech Republic, Estonia, Ireland, Greece, Cyprus and Portugal), where production is concentrated in a less organised production sector. This class feed also half of EU-28 sow herd.

• The other pig farms manage more than two thirds of other pigs in Greece, Malta, Austria and Poland, which reflects a certain level of concentration, but one which is limited by the farm size. Latvia, Hungary, Slovenia and Slovakia, with almost two third of the other pigs in such farms, can also to be included into this group.

Components of the pig herd

Geographic distribution

Pig production is concentrated in a number of countries, with Denmark, Germany, Spain, France, the Netherlands and Poland having more than two thirds of the breeding pigs between them (December 2013 survey). At regional level (NUTS 1), more than half of the breeding pigs are concentrated in eleven regions, all of which are located in these six countries. Naturally, the size of the countries and regions plays a role in this ranking.

In relative terms, the average share of pig production in agricultural output is highest in Denmark (29 %), followed by Belgium (20 %), Spain (14.7 %) and Germany (14.5 %).

Structural differences between pig farms in EU-15 and 13 newest Member States

Another striking feature (Figure 3) is the high proportion of sows in small herds in the 13 newest EU Member States (NMS-13). More than 98.6 % of the sows are in farms with at least 10 sows in EU-15 as against 62.9 % in the newest Member States. According to FSS 2010, the 13 newest Member States accounted for 2.9 % of the breeding sows overall, but only 41 % of these sows are in herds of 100 to 199 sows.

![Figure 3: Distribution of the sows by herd size in EU-15 and 13 newest Member States (FSS 2010)](eflsgvsows)

Components of the pig herd – types of animal

The livestock survey provides more detailed figures about the livestock population (see details on Data sources and availability). The number of sows or piglets determines the number of fattening pigs, which in turn determines the number of pigs to be slaughtered several months later.

• The number of boars per sow (Table 2) reflects the frequency of artificial insemination, and also the importance of the herds in natural service. This shows the importance of genetics as it is seen in the ratio of boars and sows is relatively high and its influence between the other factors referred which could have an important impact in the sector.
- The percentage of new sows (gilts) reflects the pressure to renew the breeding animals and is another determinant of genetic progress.

- The pig population can be divided into two groups i.e. breeding pigs and meat pigs (Figure 4). The former provide the production factors for the latter. The breeding pigs are renewed by keeping young pigs from the previous year and slaughtering (culling) old pigs. The meat pigs can be sold at different stages as pigs to be fattened or as fattened pigs to be slaughtered.

![Breeding animals diagram](image)

Figure 4: Pig population (EU-28), December survey, 2013 - Source: Eurostat (apromt1spig)

Components of the pig herd – trade of live animals The intra-EU exchanges (COMEXT) of pigs less than 50 kg amounted to 468,542 tonnes in 2013 which is equivalent to 17.7 million heads (Map 2). This map shows the trade of live pigs flow in 2013 in EU-28. It cannot be compared directly with the population of young pigs at any given moment.

![Intra-EU exchanges map](image)

Map 2: Net exchanges of young pigs, 2013 - Scheme of the intra-EU exchanges
Germany is the main importer of young pig, with 55.1% of total EU-28, followed by Poland with 23.2%. For breeding animals and for slaughtering (Map 3), these two countries are shown as the highest importers as well.

Map 3: Net exchanges of pigs for slaughtering, 2013 - Scheme of the intra-EU exchanges

Denmark is the piglet exporter leader country by far in EU-28 (56.9% of the total EU-28). However exports of pigs for slaughtering are much more distributed between the different Member States.

It can also be noted from these maps that pig production is specialized even across borders. For example, Denmark for breeders, Spain for fatteners and mixed producers such as Belgium, Denmark, Germany and the Netherlands that comprise one of the major production areas referred in Figure 1.

Changes and trends

Changes in the pig population

The total number of sows represents the production capacity. Between 2008 and 2013, the number of sows fell by 13.5%. In the 13 newest Member States the reduction was steeper (-20%) than in the 15 former Member States (-8%). It should be highlighted that the decline has been less pronounced in Romania, being an important producer where the restructuring process has been achieved faster than in other newest Member States. Greece and the Netherlands showed increases in the number of sows.

Such extreme changes are a combination of several factors, which have a varying impact depending on the structure of pig production. The general decrease concerns all countries, but the underlying reason is one of concentration, i.e. an increase in the size of the largest herds together with the disappearance of the smallest. The trend is towards a decrease in the number of breeding sows and, in the short-medium term, this change in the structure of pig production in the 13 newest Member States can be expected to continue.

Figure 5 shows that the decrease in the total number of sows is balanced by a gain in productivity.
The most recent data come from the livestock survey carried out in December 2013. The trend of the pig livestock along this period of time (2008-2013) confirms a decrease in the total number of pigs (-4.8 %). The number of breeding sows has declined (-9.3 %), however compared with the 2012 survey, it has slightly increased (0.3 %). The same behaviour is observed for fattening pigs (-4.4 %) with a slight increase compared with previous year (0.4 %). The number of piglets was decreasing from 2008 until 2013 at around -7 %, and -0.4 % compared with 2012.

Changes in farm structure

The structural data on the changes in the number of sows from large farms with at least 200 sows and those from small farms with fewer than 10 sows enables us to classify member states pig sectors into three types.

- **Concentration** (Figure 6): In eleven Member States, large farms are accounting for more and more sows to the detriment of the smallest farms. These Member States account for less than half (42.8 %) of the EU sow herd according to the December 2013 livestock survey. Generally speaking, in these countries the surviving farmers are only those that have understood the need of having sustainable production based on investments in technology, genetics, nutrition and integration.
• **Abandonment** (Figure 7): The decrease affects pig farms of all sizes, including large farms in fifteen Member States. These account for 48.6% surveyed in December 2013.

![Abandonment diagram]

Figure 7: Change in the numbers of sows between 2007-2010 (FSS)- BG, CZ, DK, IE, EL, ES, IT, CY, LT, HU, RO, MT, SK, SE and UK - Source: Eurostat (eflsgvsows)

• **Restructuring** (Figure 8): In two Member States, Croatia and Poland, the number of sows from small herds fell sharply and the number in the medium and large herds rose correspondingly. This can be interpreted as a re-organisation of production. These herds accounted for 8.6% EU sows, according to the livestock survey (December 2013).

![Restructuring diagram]

Figure 8: Change in the numbers of sows between 2007 to 2010 (FSS) in HR and PL - Source: Eurostat (eflsgvsows)
Table 2: Statistics on the pig population, slaughtering and porkmeat production, 2013 - Source: Eurostat (apromtlspig), (apromtpann), (apromtsloth) and (apromtppighq)

Changes in the types of pig farm
The number of small fatteners follows a general downward trend. This cut is especially noticeable in those MS with more small farms. The number of pigs is also falling at a similar rate, as there is a strong link between these two numbers.

The number of large fatteners is increasing, compared to 2007, and although the number of large farms is stable, their average size is continuing to increase. On average, between the 2007 and 2010, the number of pigs has been increased for large fatteners and this has been confirmed with higher values at national level.

Although the number of large breeders has increased in some Member States such as Czech Republic, Estonia, Latvia, Hungary and Slovenia, the average number of breeding sows per farm has increased by 14 % at EU-28 level compared to 2007, however this figure has dropped in six Member States (Bulgaria, Ireland, Cyprus, Slovenia, Slovakia and United Kingdom). Concerning the average number per farm of other pigs the total increase has been around 22 % except in Ireland, Cyprus, Malta and United Kingdom.

This data confirms the trend of concentration of the pig production sector in large farms where fixed costs are divided by a larger quantity of animal increasing productivity thus reducing the average cost of production.

Production of porkmeat
Porkmeat data reflects the production from the slaughtering of live pigs in a given country (Gross Indigenous Production, GIP). Should be noted that correspondence between fattening and slaughtering is not exactly the same.

Seasonal variations in production are due to lower sow fertility in summer as well as other cultural factors such as traditional celebrations. Porkmeat production shows an economic cycle (which is less than two and half years), although its impact on farmer decision is less than that of major economic changes or animal crises.

In 2013 porkmeat production in the EU-28 reached 252.9 million head (Table 2), of which more than half (58 %) came from four countries (Germany, Spain, France and Poland). The EU external trade balances showed a surplus around 1.2 million tonnes (porkmeat and processed porkmeat), which represents 5.4 % of the total slaughtering in 2013. Four countries (Denmark, Germany, Spain and Netherlands) contributed to 75 % of the total extra-EU exports mainly addressed to Russia, China, Japan and South Korea.

In accordance with the fall in the number of breeding pigs, it is foreseen that production during 2014 will decrease so that EU-28 GIP is expected to be around 251 million head in total for the four quarters of 2014 (Figure 9). According to the cycle of production an increase in porkmeat production can be however be possibly expected for 2015.
Market prices

The decline in pig herds can be attributed mainly to low profitability. The cut on sow numbers was bigger than expected these last years in accordance with December livestock surveys. Also, during this last period there has been a high volatility in feed prices resulting in high prices for both cereals and compound feeding stuffs (Figure 10). This has created a difficult situation which has forced an important number of pig farmers to cease production.

Figure 9: Gross indigenous production (GIP) of porkmeat, quarterly data - Source: Eurostat (apromtppighq)

Figure 10: Price index of pigmeat, cereals, energy and compound feedstuff for pigs - base 2005=100 - Source: Eurostat (apripi00inq) and (apripi00outq)

Data sources and availability

For the data in this article, five different sources were used:

- The Farm structure survey, a robust survey with a wide scope, no longer collects, from 2009 onwards, the structure of livestock rearing. Thus, the data are drawn from the FSS. Although this allows a wider scope (including land use, livestock, labour force, etc.) and a longer reference period, the results are less...
informative about the pig population than the data previously collected through the Livestock survey. Also the categories of pigs surveyed are limited to three: piglets with a live weight of less than 20 kg, breeding sows (weighing 50 kg and over) and other pigs. This latter category covers fattening pigs and also boars, cull sows, gilts, and various other pigs of at least 20 kg. Most of these other pigs are fattening pigs. Four times per decade the farm structure survey records data about the farm structure which can be used for describing the structure of animal herds.

- The Livestock survey, a more frequent and specialised survey than the FSS, provides information about the livestock population at national and regional level; the relevant data are intended to be more precise than the FSS figures for the three categories above and the nomenclature of livestock contains more animal categories.

- Slaughtering and meat production statistics (forecast and updated figures) are collected on a monthly basis; they refer to the activity of slaughterhouses. From the slaughtering and the balance of external trade for live animals, the gross indigenous production can be estimated, as can the national production of pigs for slaughtering. The GIP is forecast by the Member States, which provide Eurostat with these figures once or twice a year.

- Agricultural price statistics (indices and absolute prices) are collected on the basis of a gentlemen’s agreement following the methodological descriptions from the Handbook for EU agricultural price statistics. The main use for absolute agricultural prices is to compare the price level between Member States and to study sales channels. On the other side, agricultural price indices are used above all in connection with the analysis of price developments and the effect on agricultural income.

- External trade statistics (exhaustive database) record the monthly trade of the Member States in terms of imports and exports between Member States or with the third countries provided, as reported by the traders on the basis of Customs (extra-EU) and Intrastat (intra-EU) declarations.

**Context**

European Commission Rural development policy aims to improve competitiveness in agriculture and forestry, improve the environment and countryside, improve the quality of life in rural areas and encourage the diversification of rural economies.

As agriculture has modernised and the importance of industry and services within the economy has increased, so agriculture has become much less important as a source of jobs. Consequently, increasing emphasis is placed on the role farmers can play in rural development, including forestry, biodiversity, the diversification of the rural economy to create alternative jobs and environmental protection in rural areas.

The FSS continues to adapt to provide timely and relevant data to help analyse and follow these developments.

### See also

- Agriculture statistics at regional level
- Farm structure statistics

### Further Eurostat information

#### Publications

- Pig farming in the EU, a changing sector- Statistics in focus 8/2010

#### Main tables

- Agriculture

#### Database

- Agriculture
Dedicated section
• Agriculture

Methodology / Metadata
• Livestock and meat (ESMS metadata file — aprontesms)

Source data for tables and figures (MS Excel)
• Pig farming statistics: tables and figures

Other information
• Regulation 1166/2008 of 19 November 2008 on farm structure surveys and the survey on agricultural production methods and repealing Council Regulation 571/88
• Regulation 1200/2009 of 30 November 2009 implementing Regulation 1166/2008 on farm structure surveys and the survey on agricultural production methods, as regards livestock unit coefficients and definitions of the characteristics


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