

Agricultural and farm income

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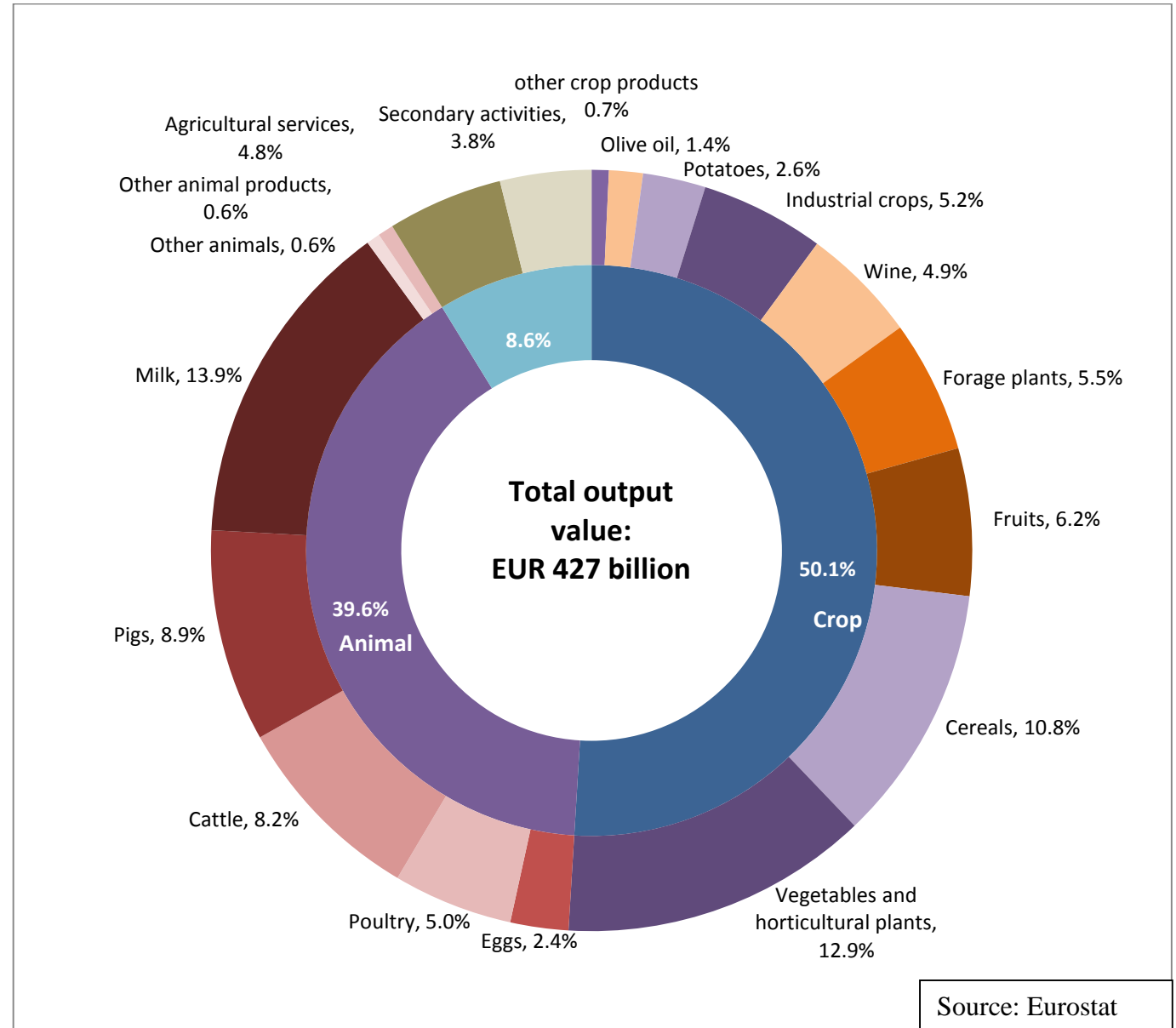
Figure 1: Output of the agricultural industry (EU-28, 2017)

1. Agricultural output and input¹

Output composition

- In 2017, the agricultural industry of the EU-28 produced a total output value of 427 billion Euros (up from 400 billion Euros in 2016).
- Half of this output value came from crop production (led by vegetables and horticultural plants).
- Another 39.6% came from animals and animal products (with milk accounting for the greatest share of output value).
- Agricultural services and secondary activities contributed 8.6% of total output value.

See also Eurostat's statistical book on [Agriculture, forestry and fishery statistics - 2017 edition](#) for more details.



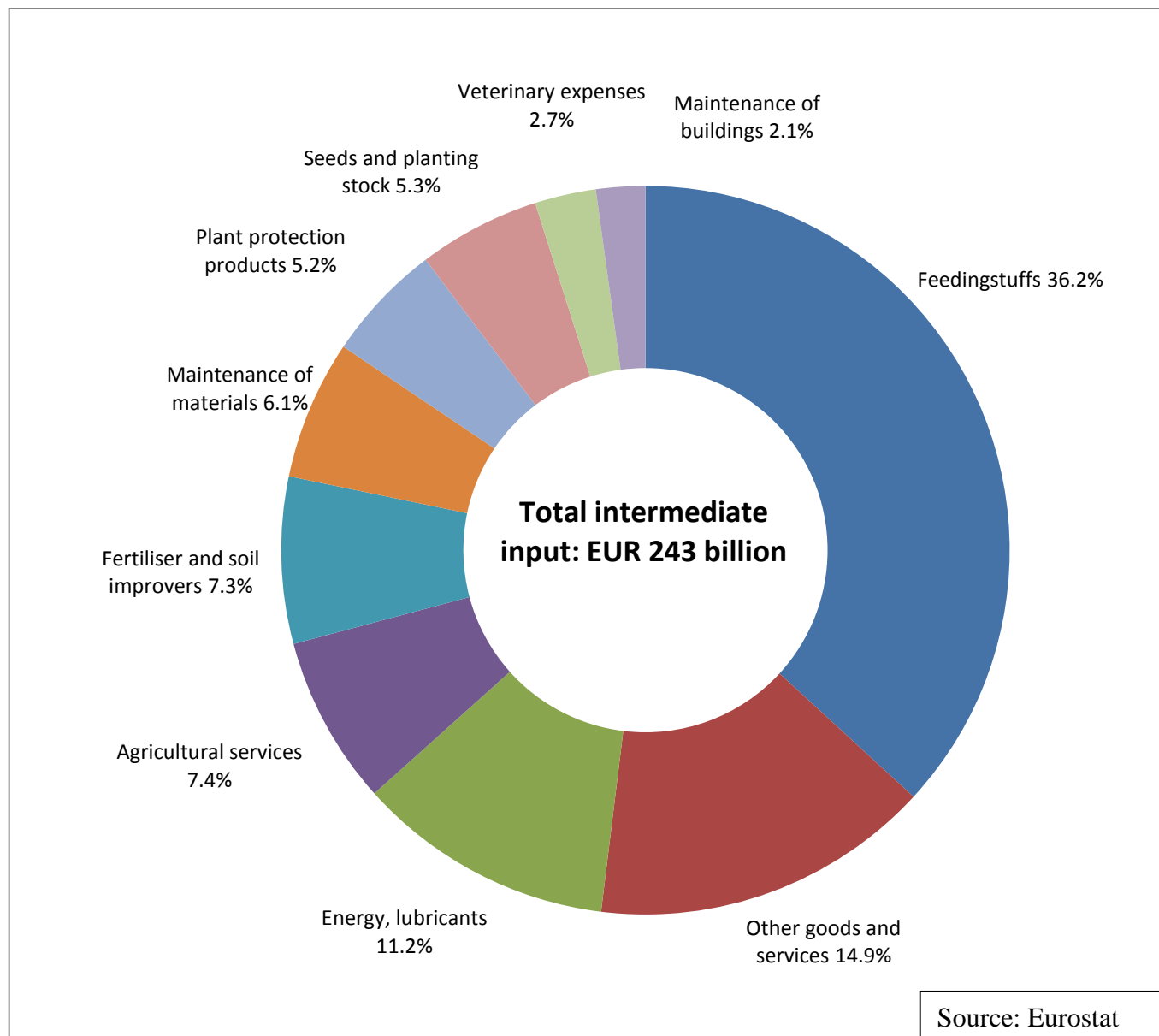
Source: Eurostat

¹ 2017 figures are estimates and can still change.

Input composition

- Feedstuff for animals accounts for the highest share (36.2%) of total intermediate inputs, more than three times the share of energy and lubricants (11.2%).
- Fertiliser and soil improvers, plant protection products and seeds/planting stocks are inputs used exclusively for crop production. Together, they account for 17.8% of total intermediate inputs, less than half the value of feedstuff.

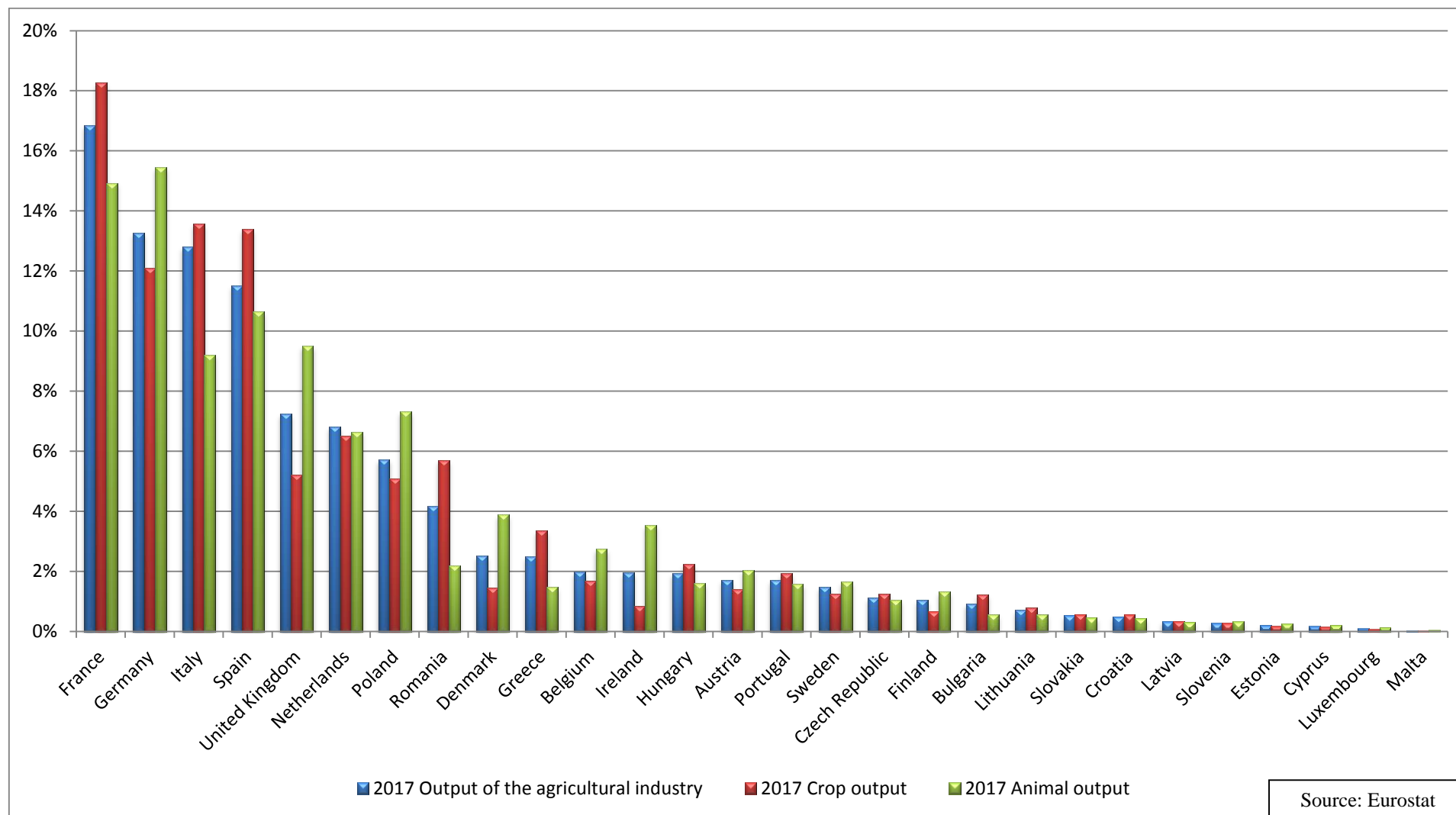
Figure 2: Intermediate inputs consumed by the agricultural industry (EU-28, 2017)



Production value by country

- In terms of output value, France was by far the biggest agricultural producer in the EU in 2017 (16.8% of total EU output value), followed by Germany (13.3%), Italy (12.8%) and Spain (11.5%).

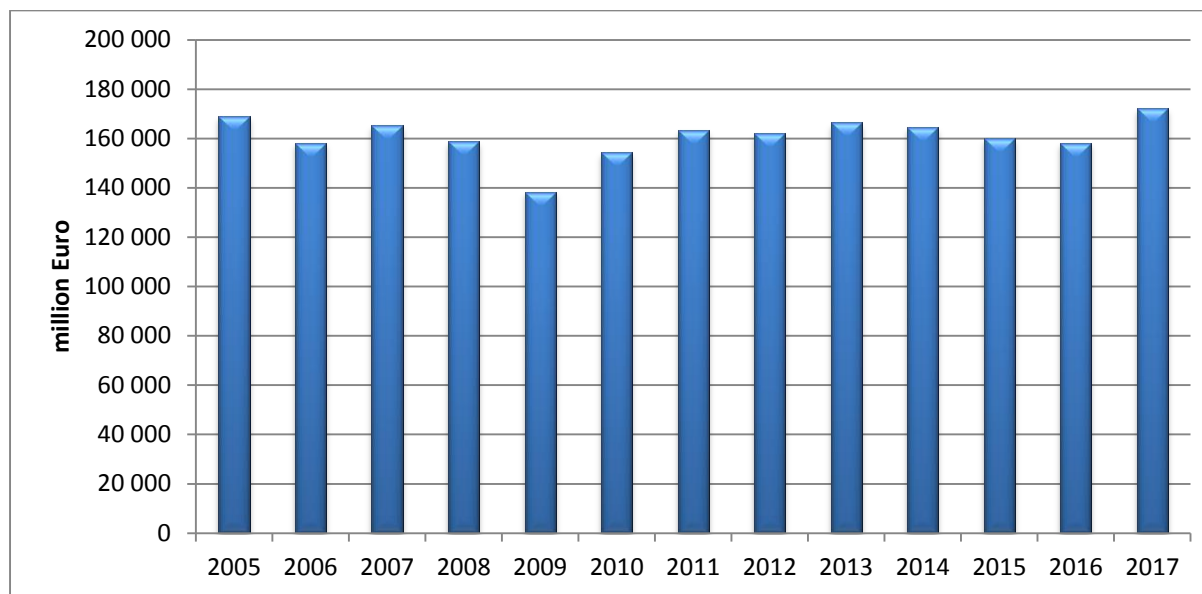
Figure 3: Output shares by country, 2017



Gross Value Added (GVA)

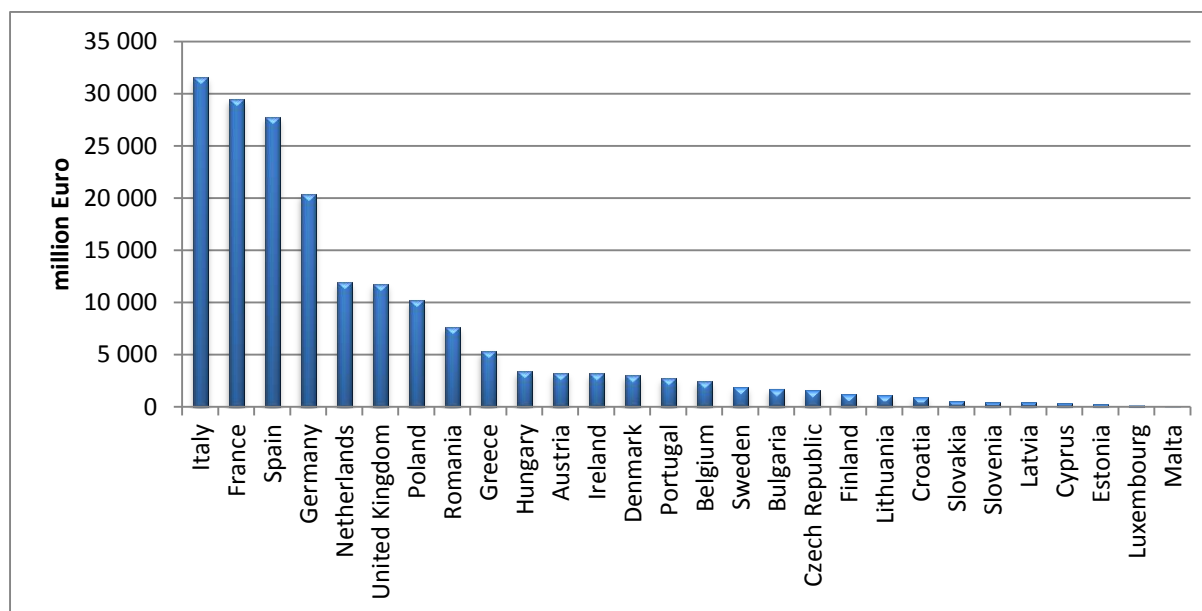
- GVA is calculated as total output value minus intermediate consumption (variable inputs). It represents the part of revenue that is left to pay for fixed production factors (land, labour, capital) and to serve as income for the farmer and non-salaried workers (usually members of the farmers' family).
- In real terms, GVA in agriculture suffered a drop in 2009 as a result of the sharp decline in agricultural prices following the financial crisis in 2007/2008. It has since then recovered to pre-crisis levels but not shown any significant growth. However, estimates for 2017 look promising.
- GVA in current prices once again highlight the main agricultural producers in the EU (Italy, France, Spain and Germany), in a slightly different order than for output value (see Figure 3).

Figure 4: Gross Value Added in agriculture, real prices (2010=100), EU-28



Source: Eurostat

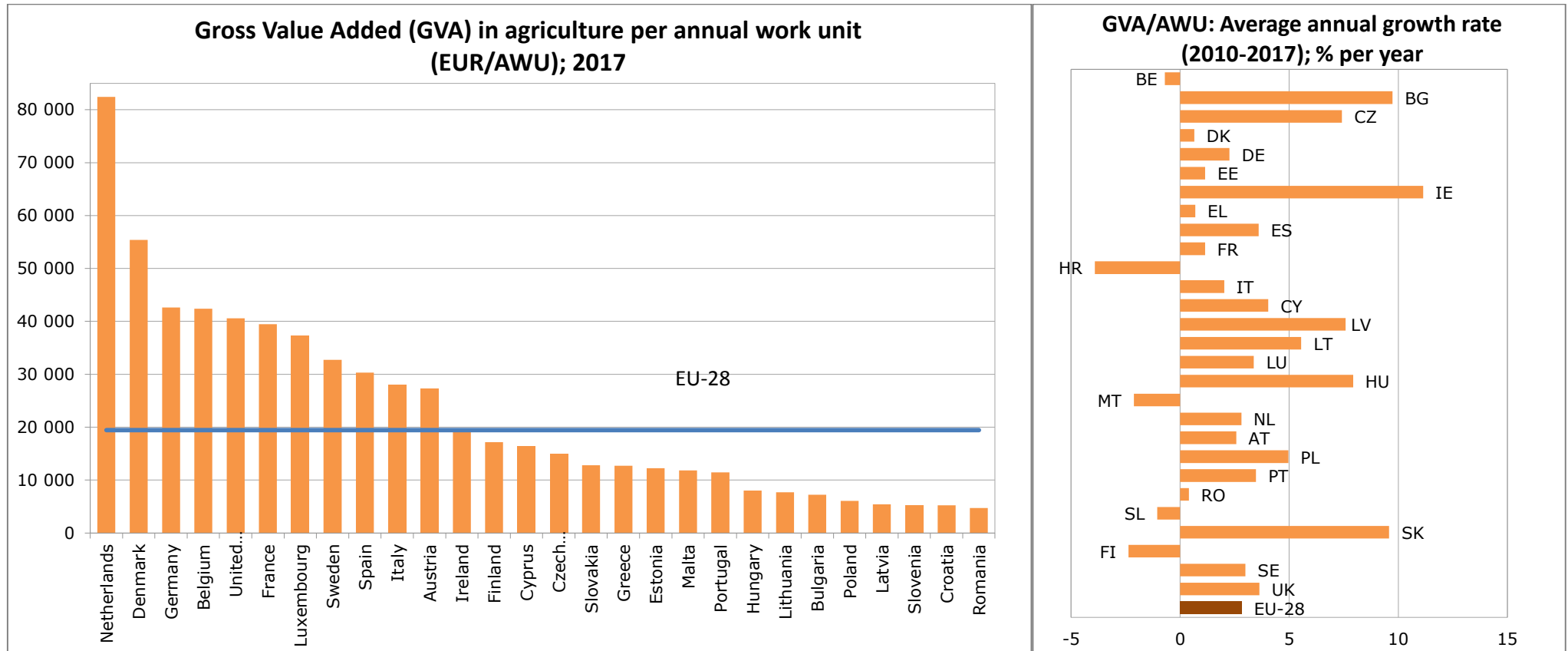
Figure 5: Gross Value Added in agriculture, current prices, 2017



Source: Eurostat

- GVA can serve as an indicator for labour productivity when it is divided by the number of full-time annual work units (AWU).
- There are considerable differences across countries in absolute GVA per AWU (however, these figures have not been adjusted for purchasing power).
- Between 2010 and 2017, most EU countries have seen a growth in their GVA per AWU. For the EU as a whole, GVA/AWU increased by 2.8% per year.

Figure 6: Gross value added in agriculture per annual work unit



Source: DG Agriculture and Rural Development, based on Eurostat data

Trends in output value, input value and gross value added (GVA)

- The value of agricultural output (in real terms) shows no clear trend over the last 12 years. The general picture is a slight increase in both output and input value, leading to stagnation in GVA.
- The impact of the financial crisis is visible in the dip in output value and GVA in 2009.
- Agricultural output value grew during the years 2010-2013 but declined again in the years 2014-2016. Estimates for 2017 show a recovery of output value and GVA.
- Intermediate consumption value increased until 2013 (except for 2009) and then declined slightly.
- Overall output and input prices fluctuated over the last 12 years, with a clear dip in 2009 (the year following the financial crisis) followed by 4 years of increases and 3 years of decreases. 2016 figures were close to the levels of 2010. Estimates for 2017 show a recovery of output prices.

Figure 7: Output value, input value and gross value added (EU-28; real prices)

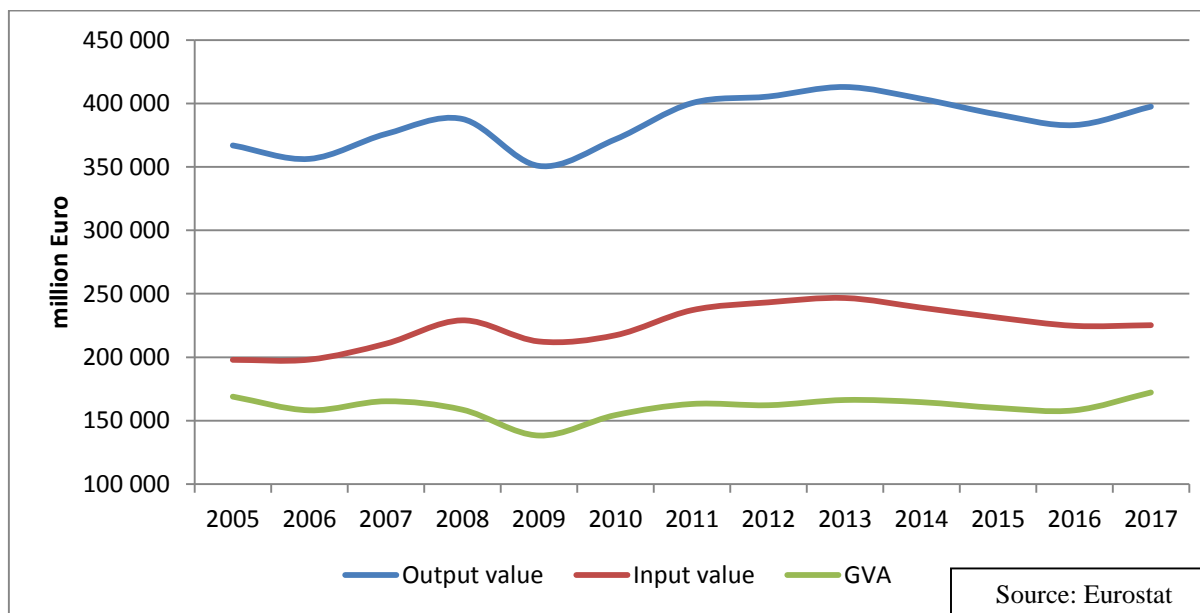
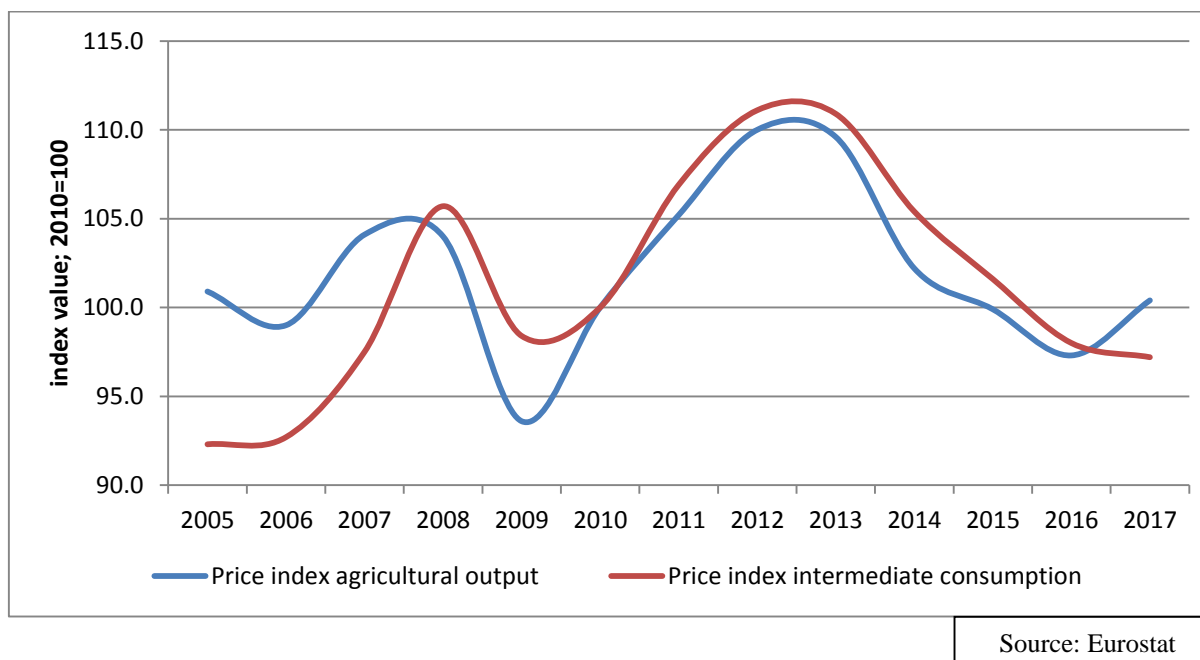


Figure 8: Development of input and output price indices, EU-28



2. Income of the agricultural sector²

Agricultural factor income³

- In the EU-28, agricultural factor income (both total and per worker) recovered from the financial crisis of 2009 and reached a new peak in 2011. The following three years (2012-2014) saw relatively minor changes in real terms. Factor income was lower in 2015-2016, but estimates for 2017 look promising.
- Changes in factor income can be divided into volume effects (bad/good harvests, increased/reduced herd sizes, etc.) or value effects (higher or lower prices for inputs and/or outputs).
- In 2015, the income drop can be linked to the milk market crisis, with deteriorating milk prices leading to a decline in the overall value of milk output. Together with a decline in real pig prices, the overall real value of animal output decreased by 5.9%.
- In 2016, important changes at the level of the EU-28 include a reduction in crop output value by 2.5% (mostly due to low cereal harvests) and a decline in animal output value by 2.1% (mainly linked to low milk prices).
- In 2017, the value of animal output increased, due to an overall price increase of 10%. In particular, prices for pigs (+12%), milk (+18%) and eggs (+14%) have increased considerably at EU level compared to 2016.
- See also [Common Context Indicator 25: Agricultural factor income](#)

² 2017 figures are estimates and can still change

³ See glossary.

Figure 9: Agricultural factor income (real), EU-28

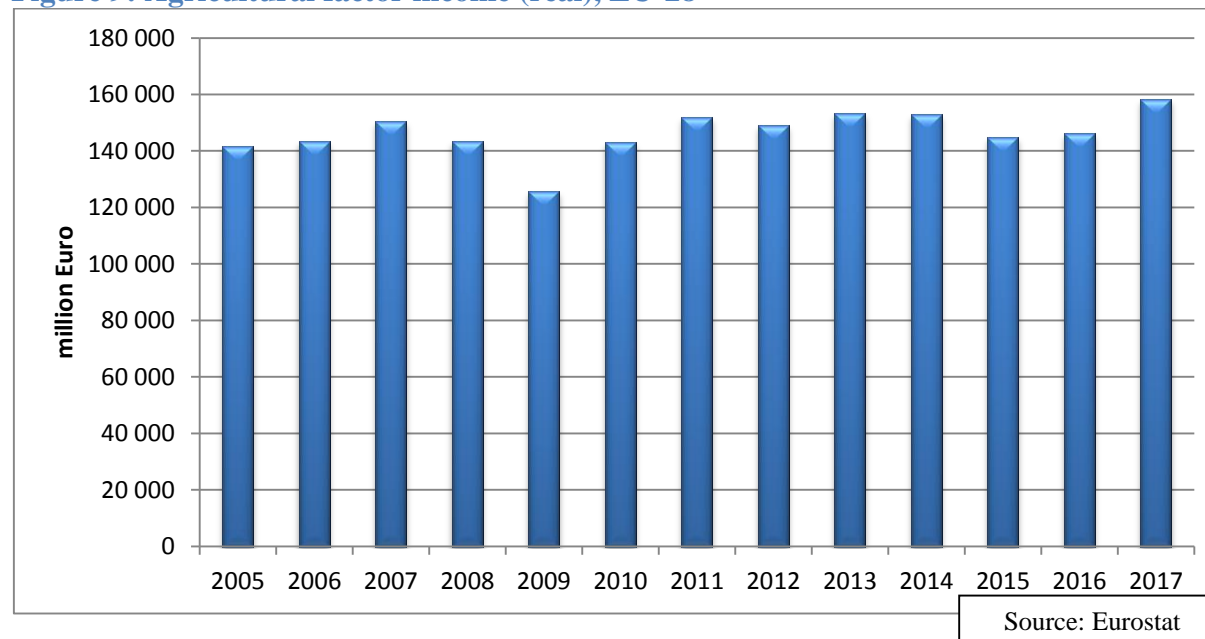
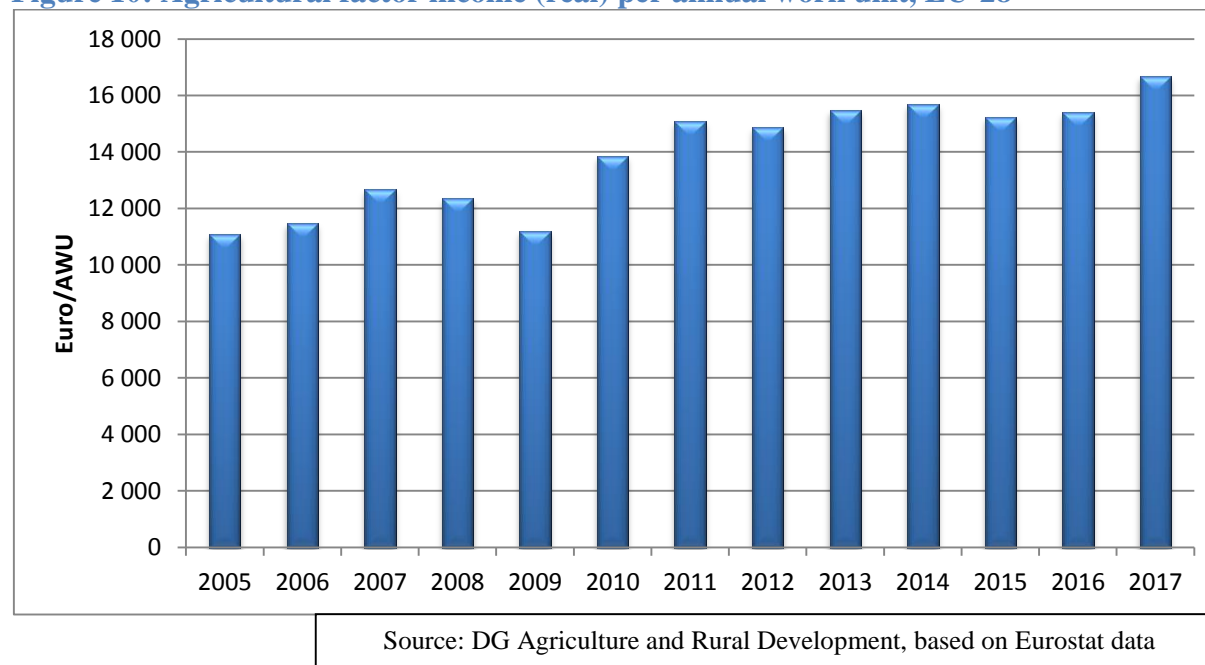


Figure 10: Agricultural factor income (real) per annual work unit, EU-28



- At **country level** there are significant differences, with incomes in the old Member States generally higher than in the countries that joined the EU in or after 2004 (Portugal is an exception). The lowest factor income levels per full-time worker can be found in Romania, Slovenia and Croatia (all below 6 000 EUR/AWU per year). At the other end of the scale, factor income per full-time worker in the Netherlands stands at EUR 59 657 or more than 3 times the EU average (EUR 17 846/AWU).
- If **differences in general price levels** are taken into account, the picture changes significantly for individual countries. Many countries with high factor income per AWU have lower values in purchasing power standards (PPS), while those with low factor income per AWU have higher values in PPS (especially the Czech Republic, Slovakia, Hungary and Bulgaria). The gap between highest and lowest values is reduced substantially – while a full-time farm worker in Romania generates about 8% of the nominal factor income that his/her counterpart in the Netherlands earns, this share increases to 17% once adjustments for price level differences have been made.

Figure 11: Agricultural factor income (current) per annual work unit per country, 2017

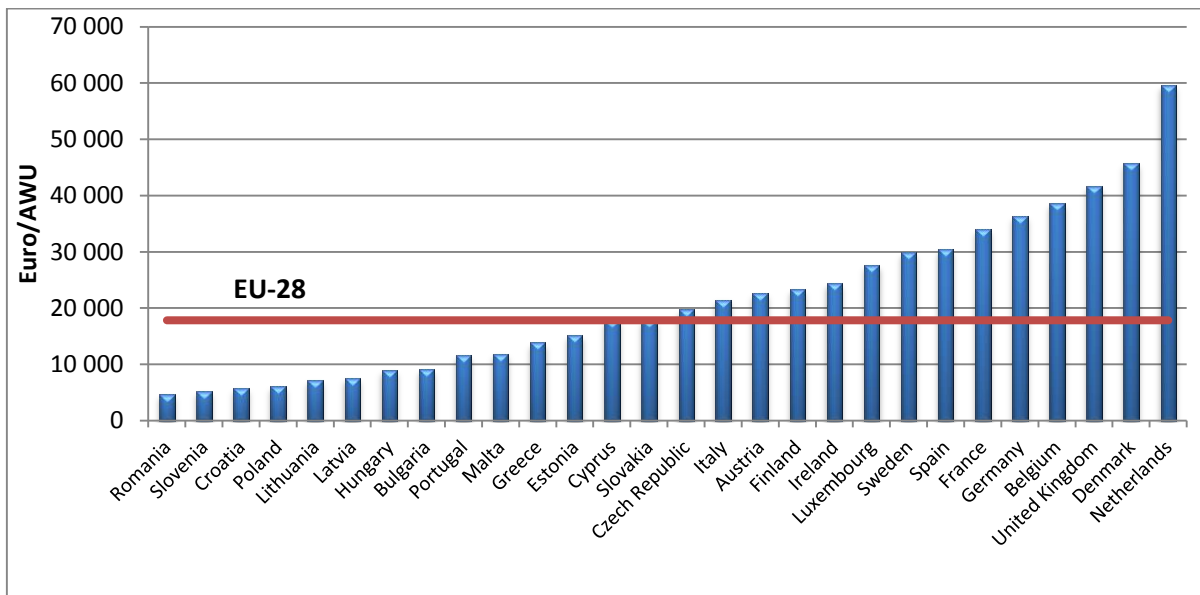
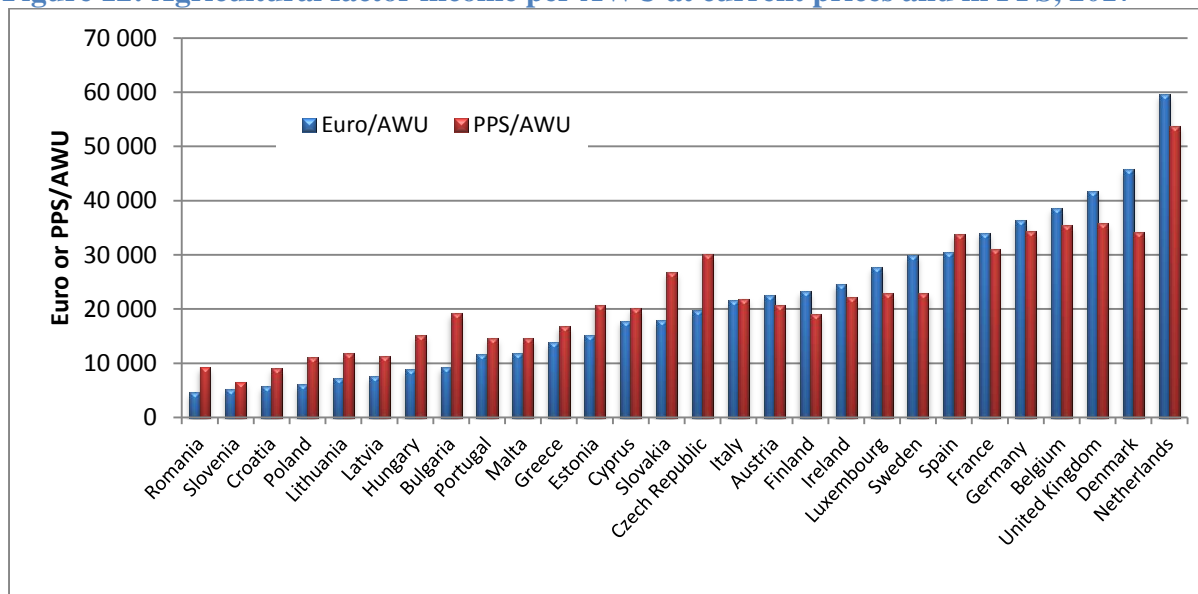


Figure 12: Agricultural factor income per AWU at current prices and in PPS, 2017



Source: DG Agriculture and Rural Development, based on Eurostat data

Agricultural entrepreneurial income⁴

- In the EU-28, total agricultural entrepreneurial income has recovered rapidly after the crisis years 2008-2009. 2017 was a particularly good year⁵, especially compared to the two previous ones (2015 - 2016).
- Entrepreneurial income per full-time family worker has increased even beyond the level of the pre-crisis years, indicating a reduction in the family labour force and/or higher family labour productivity as compared to 2007 and before. While no clear trend was visible between 2011 and 2016, estimates for 2017 show a significant increase.

Figure 13: Agricultural entrepreneurial income (real), EU-28

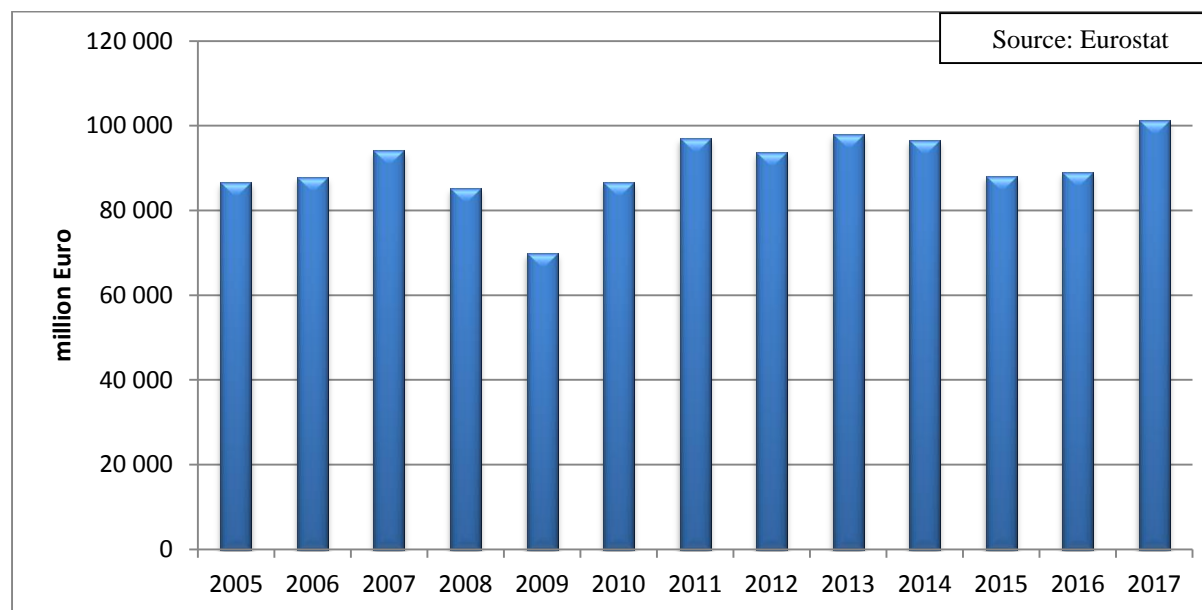
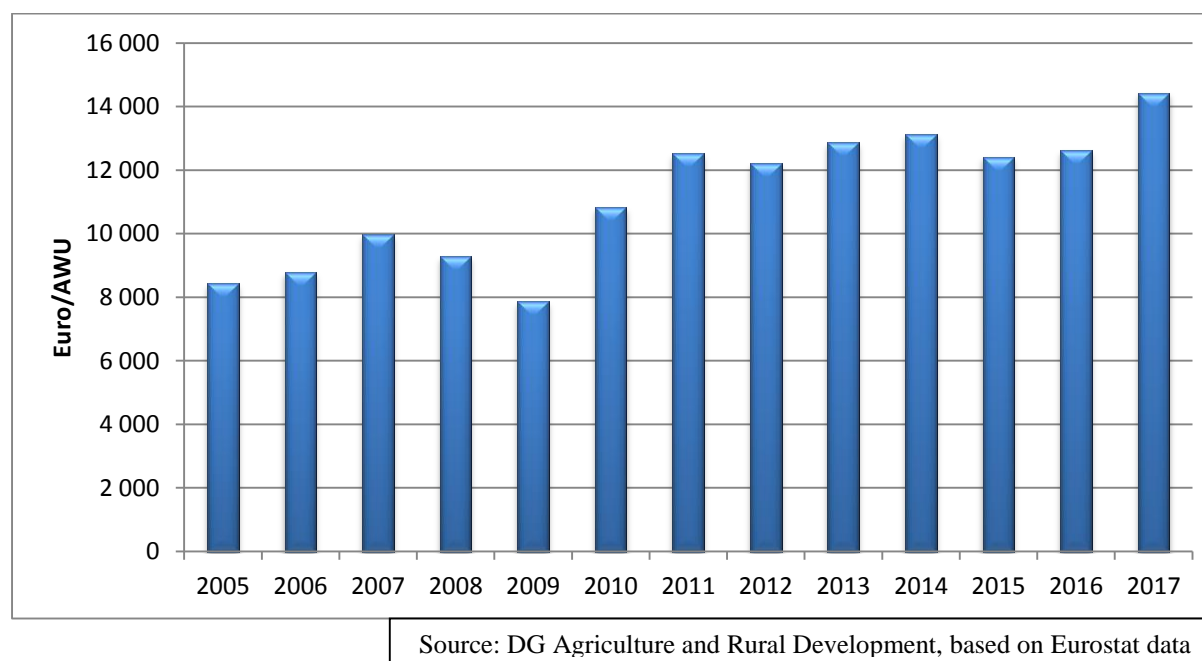


Figure 14: Agricultural entrepreneurial income (real) per family work unit, EU-28



⁴ See glossary

⁵ 2017 values are estimates and can still change.

- While the entrepreneurial income of a full-time farmer (or a member of his/her family) in the Netherlands was more than EUR 50 000 in 2017, it was below EUR 10 000 in 10 countries. Such **enormous differences** may at least partly be due to the **organisational structure** of agriculture in the respective countries (small family farms with a high degree of own consumption versus large farms organised as legal entities with salaried workers). Income discrepancies between countries can also point to **different degrees of mechanisation and labour use**, different levels of debts, or to differences in commodity prices and purchasing power, amongst others.

Figure 15: Agricultural entrepreneurial income (current) per family work unit by country, 2017

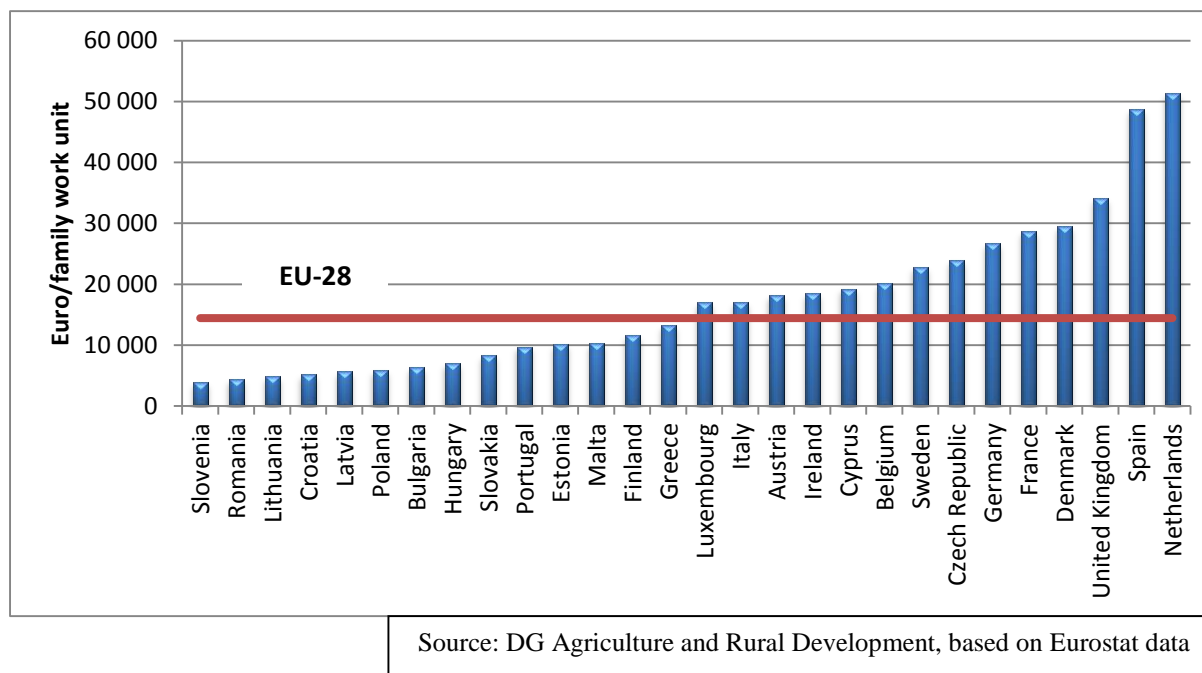


Figure 16: EU-28 agricultural income 2005-2017 (real terms)

Source: DG Agriculture and Rural Development, based on Eurostat data

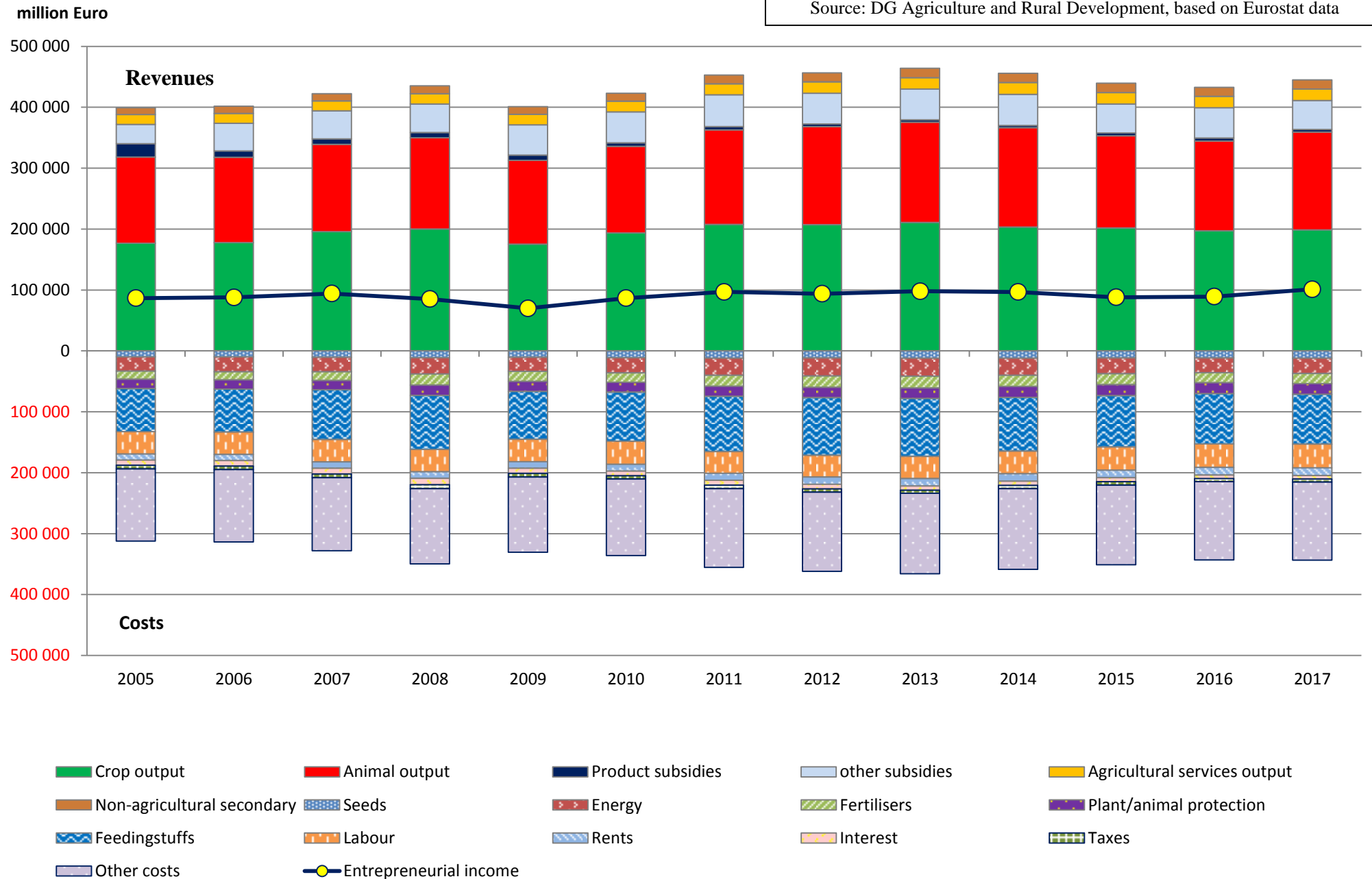
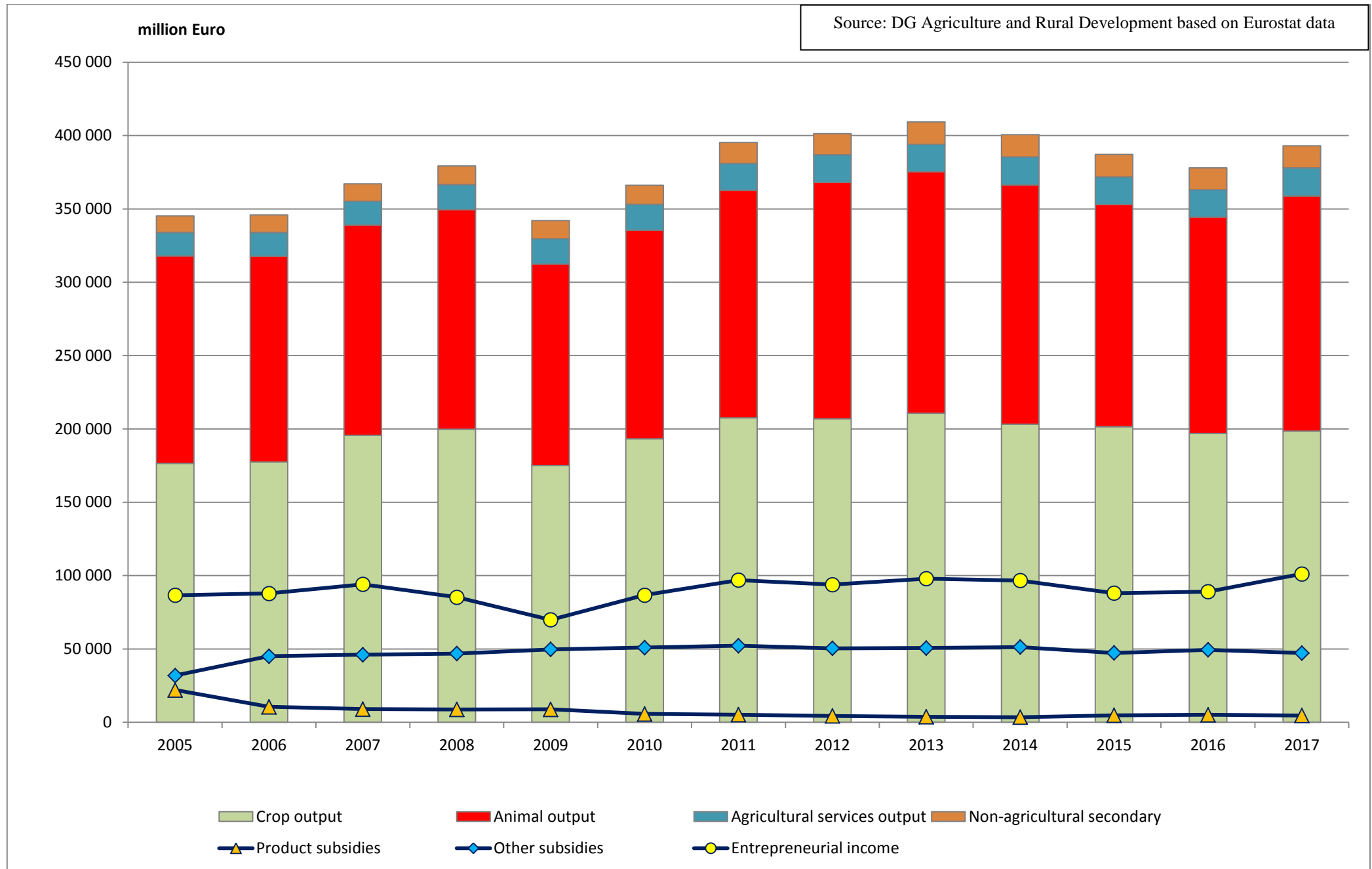


Figure 17: EU-28 agricultural revenue composition (real terms), 2005-2017



Agricultural income compared to wages in the rest of the economy

- Compared to average wages in the economy, the entrepreneurial income per family work unit came to around 46.5% in 2017 – the highest value over the last 12 years⁶. During the economic crisis of 2009, this comparative value fell to 27.5%, reflecting the significant drop in overall agricultural income. See also [Common Context Indicator 26: Agricultural entrepreneurial income](#)
- The agricultural income aggregates do not represent the disposable income of farm households, because the latter, in addition to their purely agricultural incomes, may also have income from other sources (non-agricultural activities, remuneration, social benefits, income from property).
- Comparing agricultural income to average wages in the economy nonetheless provides an estimate for the opportunity cost of agricultural family labour, i.e., the average income opportunities that a person would have outside of agriculture.
- The low share of agricultural income compared to average wage levels explains the need for agricultural income support on the one hand and (at least partly) the decline in farm numbers.
- Even the wages paid to agricultural employees are less than half of what employees receive on average in all sectors of the economy combined.

Figure 18: Entrepreneurial income per family work unit compared to average wages in the economy, EU-28

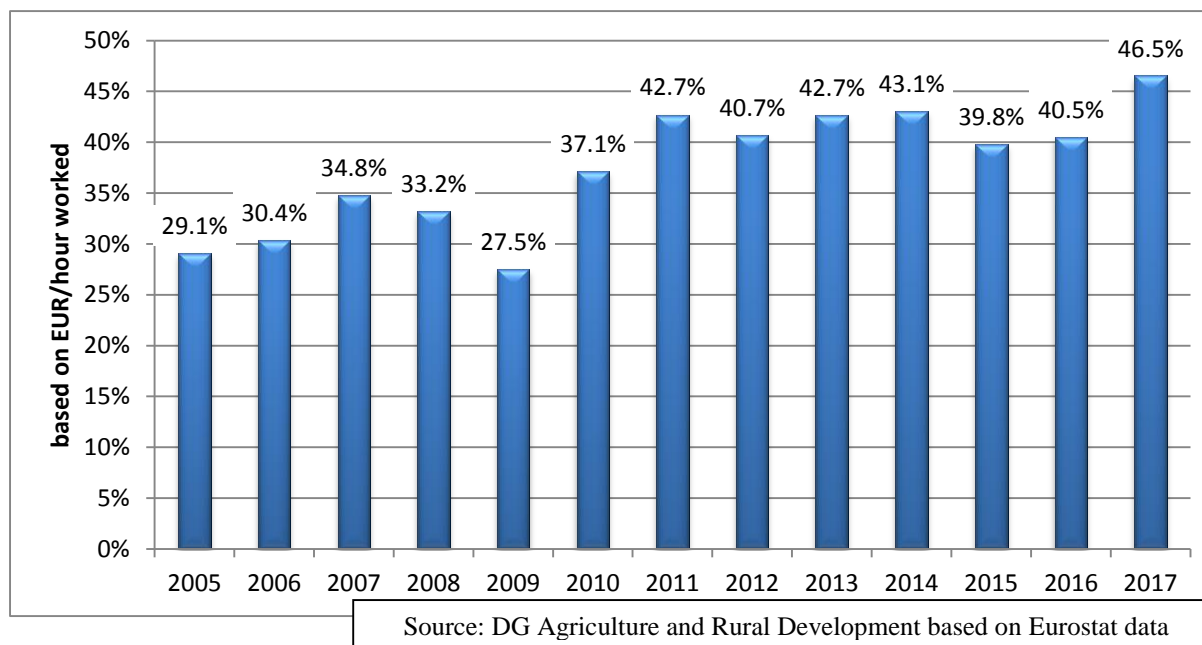
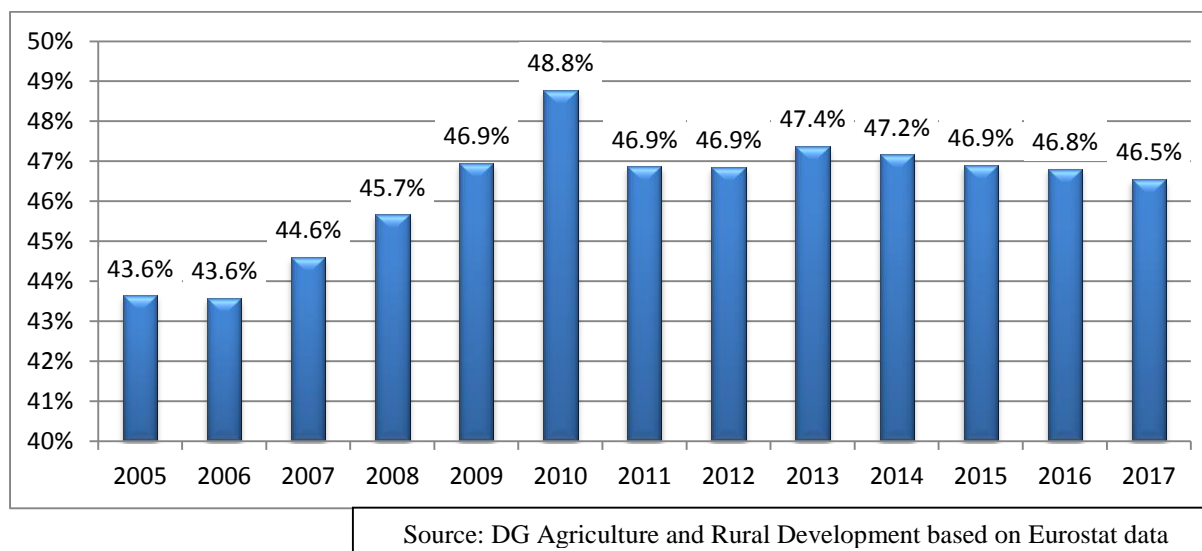


Figure 19: Agricultural wages compared to average wages in all sectors of the economy, EU-28



⁶ 2017 values are estimates and can still change.

Agricultural income indices

- The **evolution of agricultural income** is measured by means of **three indices** in Eurostat's Economic Accounts for Agriculture, the main data source for agricultural income in the EU. These index values are useful to show changes in relation to a base year (now: 2010). They do not, however, provide information on the absolute level of income in a country.
- **Indicator A** represents the real net value added at factor cost of agriculture per total AWU, including both salaried and non-salaried workers in full-time equivalents.
- **Indicator B** stands for the real entrepreneurial income per unpaid (i.e., family) worker (in full-time equivalents).
- **Indicator C** shows the development of total entrepreneurial income (without dividing it by the number of workers).
- All three indices show the characteristic **dip in 2009 and subsequent recovery**. Indicator C continues to decline since 2013 – an indication that gains in the other two indices are due to the **outflow of labour**.
- For individual countries, these indicators show a dynamic that can be quite different from the absolute level of income. In particular, some of the countries with the lowest factor incomes per AWU in the EU (such as Bulgaria, Slovakia and Hungary) exhibited a strong increase in 2017, while others with high levels of factor income per AWU (e.g., Belgium) saw their values decline compared to 2010.

Figure 20: Agricultural income indicators, EU-28

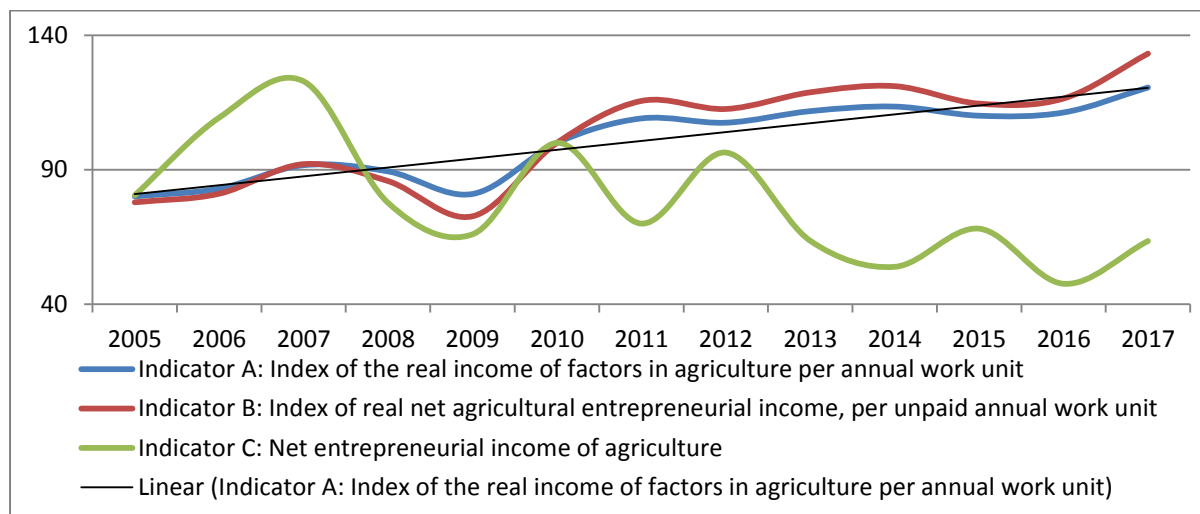
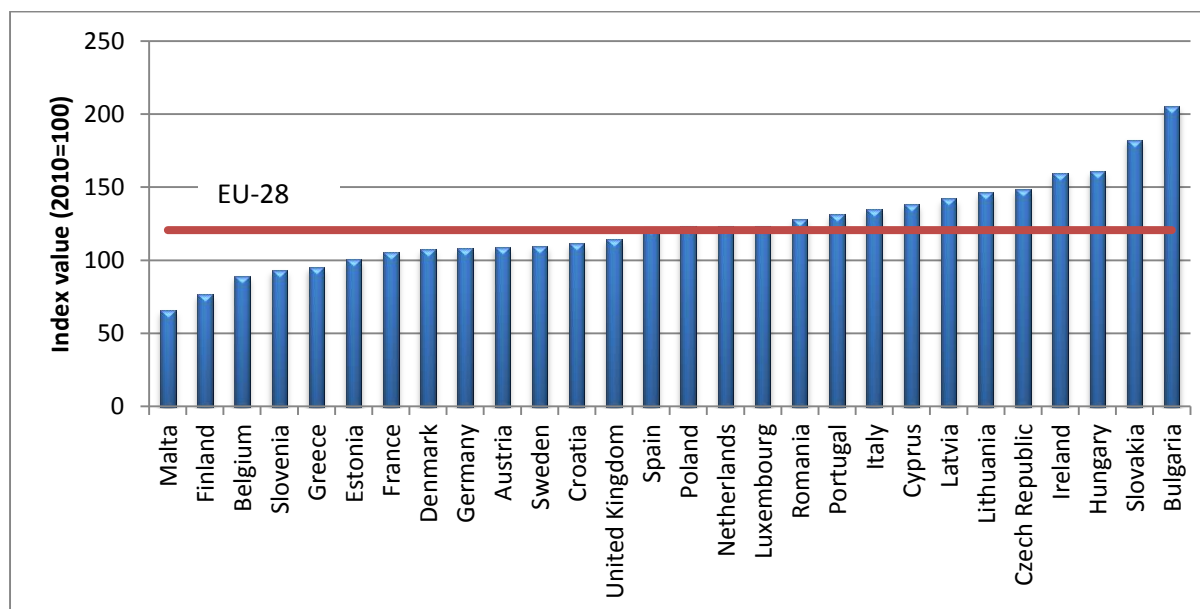


Figure 21: Indicator A, 2017



See also [Common Context Indicator 25: Agricultural factor income](#)

Source: Eurostat

Farmers' income and labour development index (real terms)

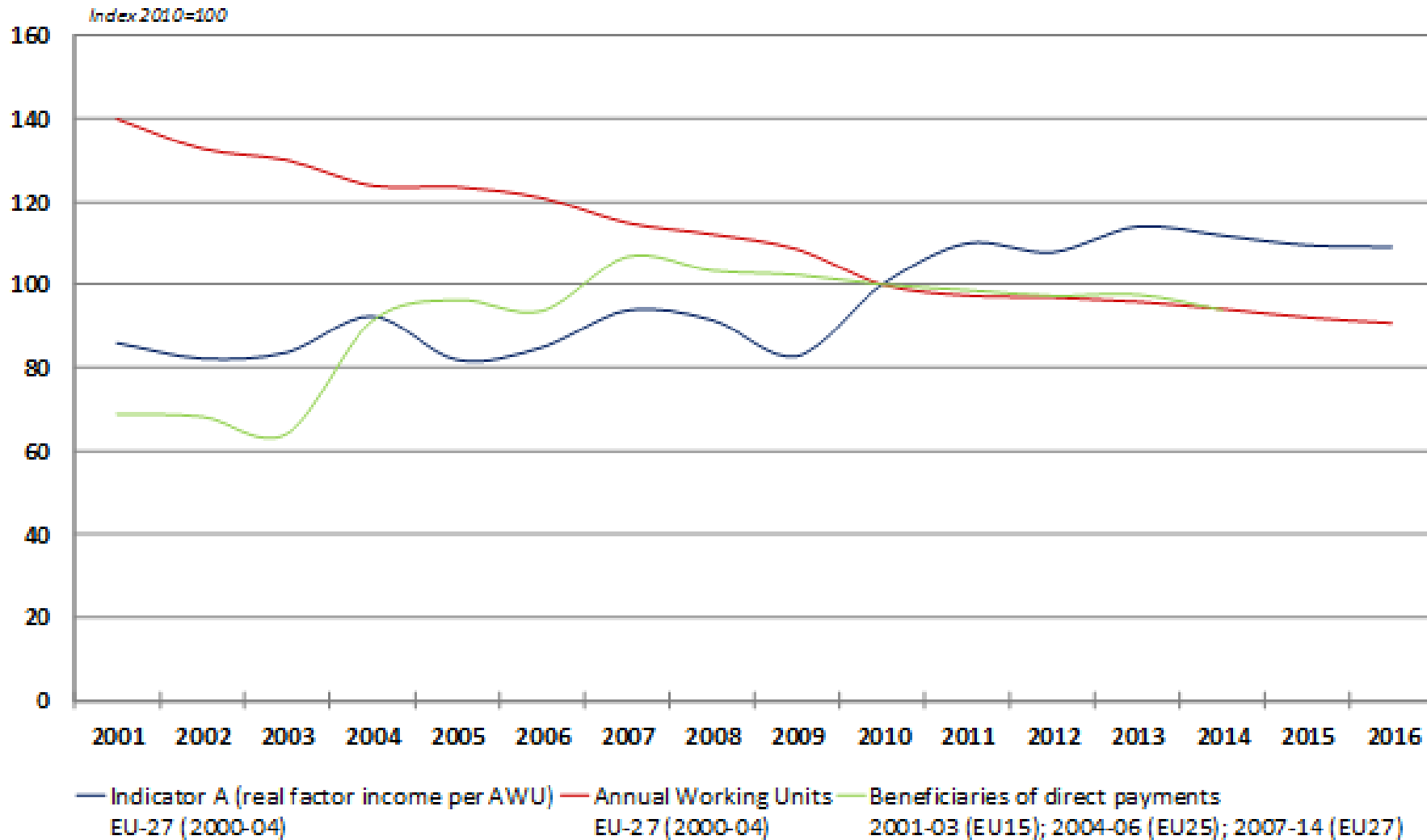


Figure 22: Farmers' income and labour development index (real terms)

Source: Eurostat and DG Agriculture and Rural Development

3. Farm income

1. The two commonly used farm income indicators⁷ show the same characteristic dip in 2009 and subsequent recovery followed by stagnation as aggregate agricultural income figures (see previous parts of this chapter).
2. Both farm income indicators are higher in the EU-15 than in the EU-N13.
3. Denmark, the Netherlands and Luxemburg report the highest farm income per AWU. This may be due to the predominance of specialised granivore (pigs and poultry) production, as well as specialised horticulture and dairy farms in the three countries' agricultural sectors. At the other end of the spectrum, Poland, Croatia, Romania and Slovenia have the lowest farm income per AWU, partly because their agriculture has remained largely oriented towards small-scale mixed farming.⁸

⁷ Farm net value added (FNVA) per annual work unit (AWU) and Family Farm Income per family work unit (FWU). Please note that FFI is calculated only for those farms with family labour - see glossary.

⁸ Disparities in overall price levels and purchasing power have not been taken into account in this and the following pages but can well contribute to different income levels across countries.

Figure 23: Farm income indicators over time and by country group

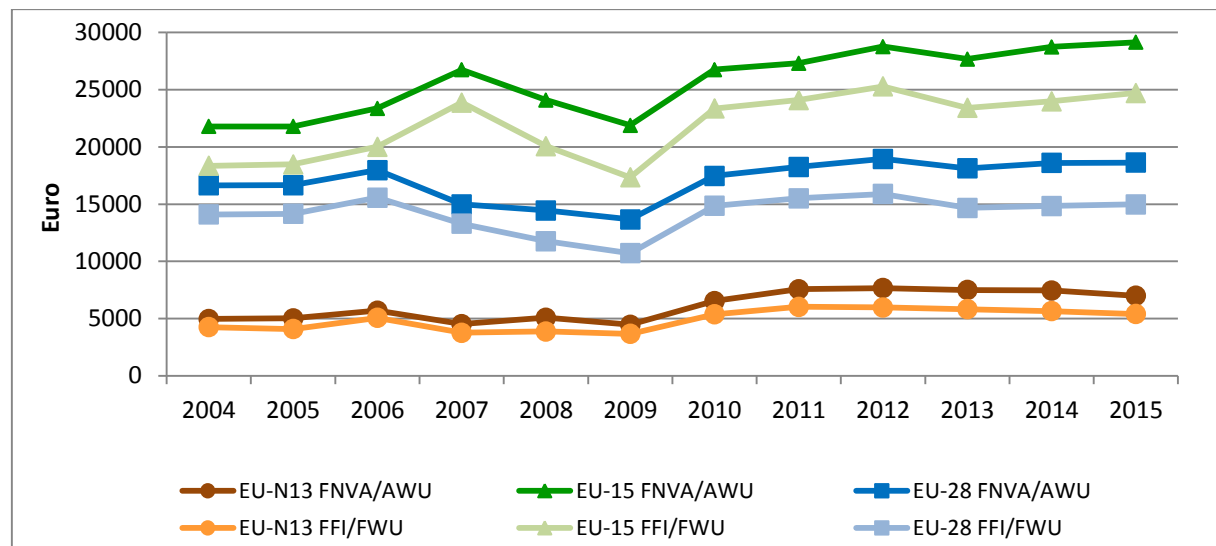


Figure 24: FNVA per AWU and FFI per FWU, 2015

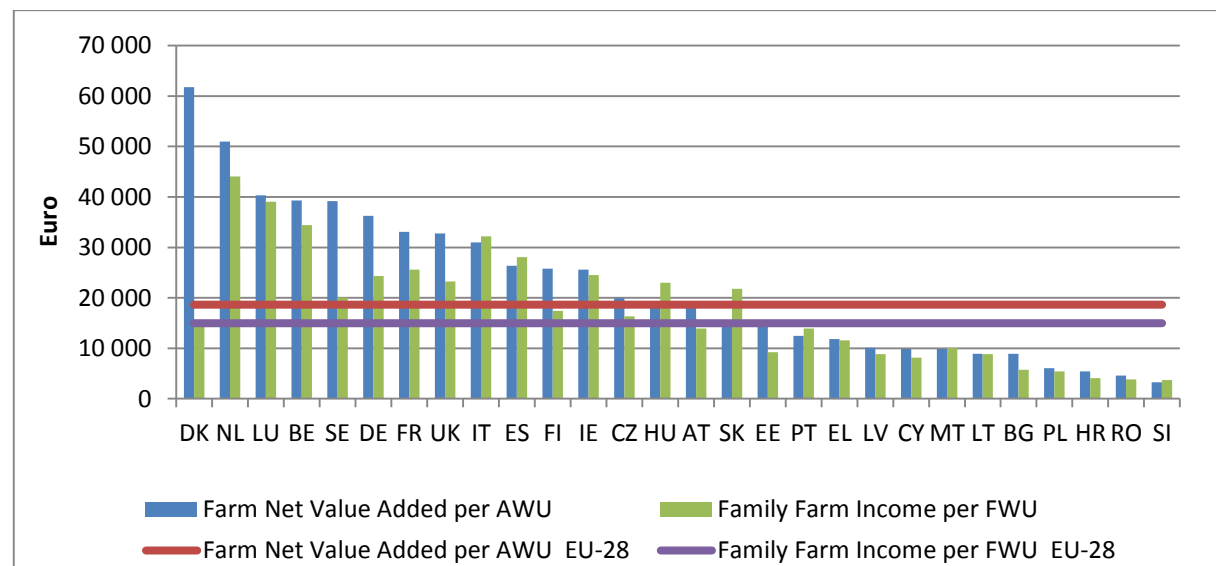
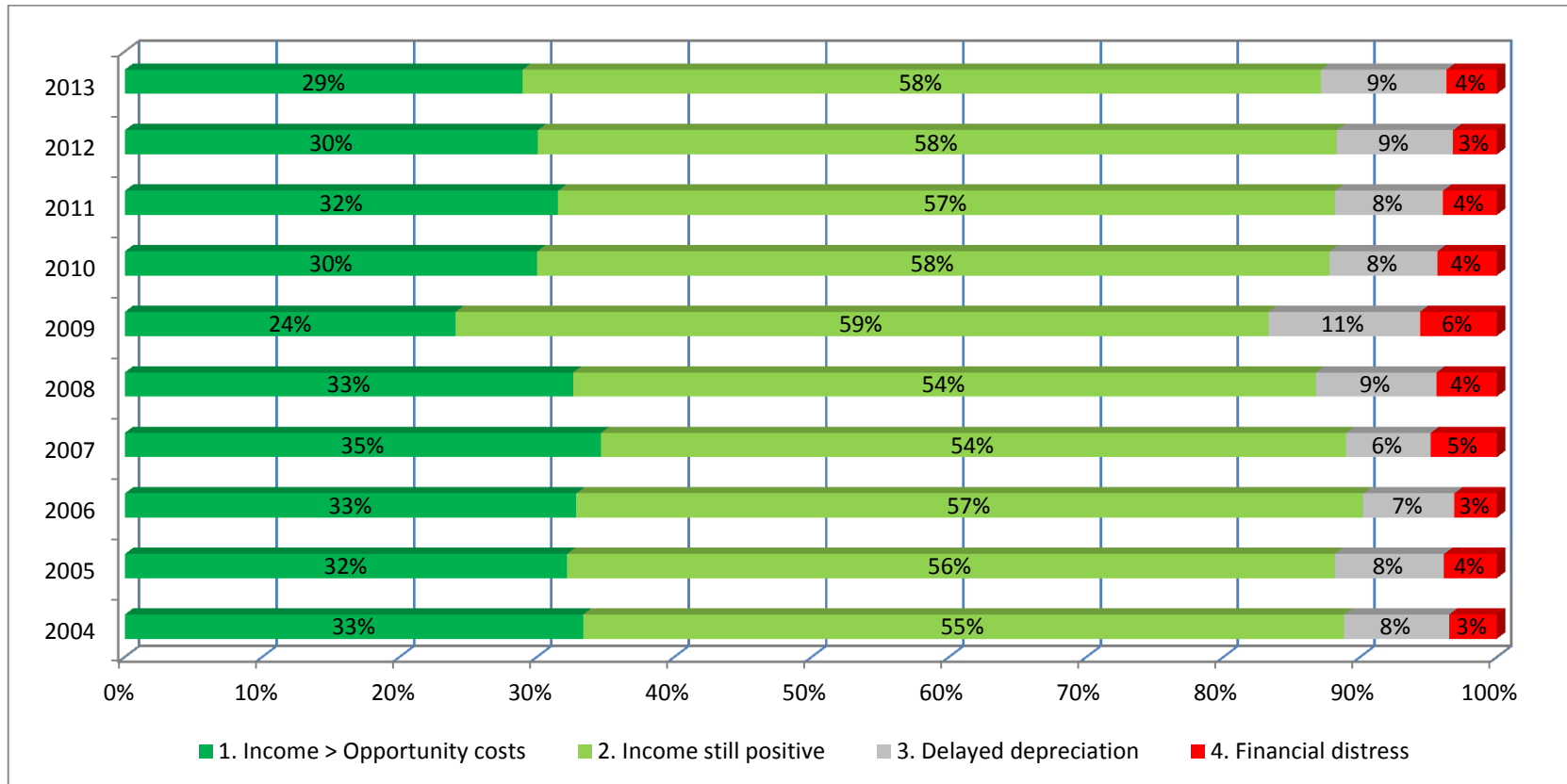


Figure 25: Share of farms by economic situation, EU, 2004-2013



Source: DG AGRI, Farm Accountancy Data Network (FADN)

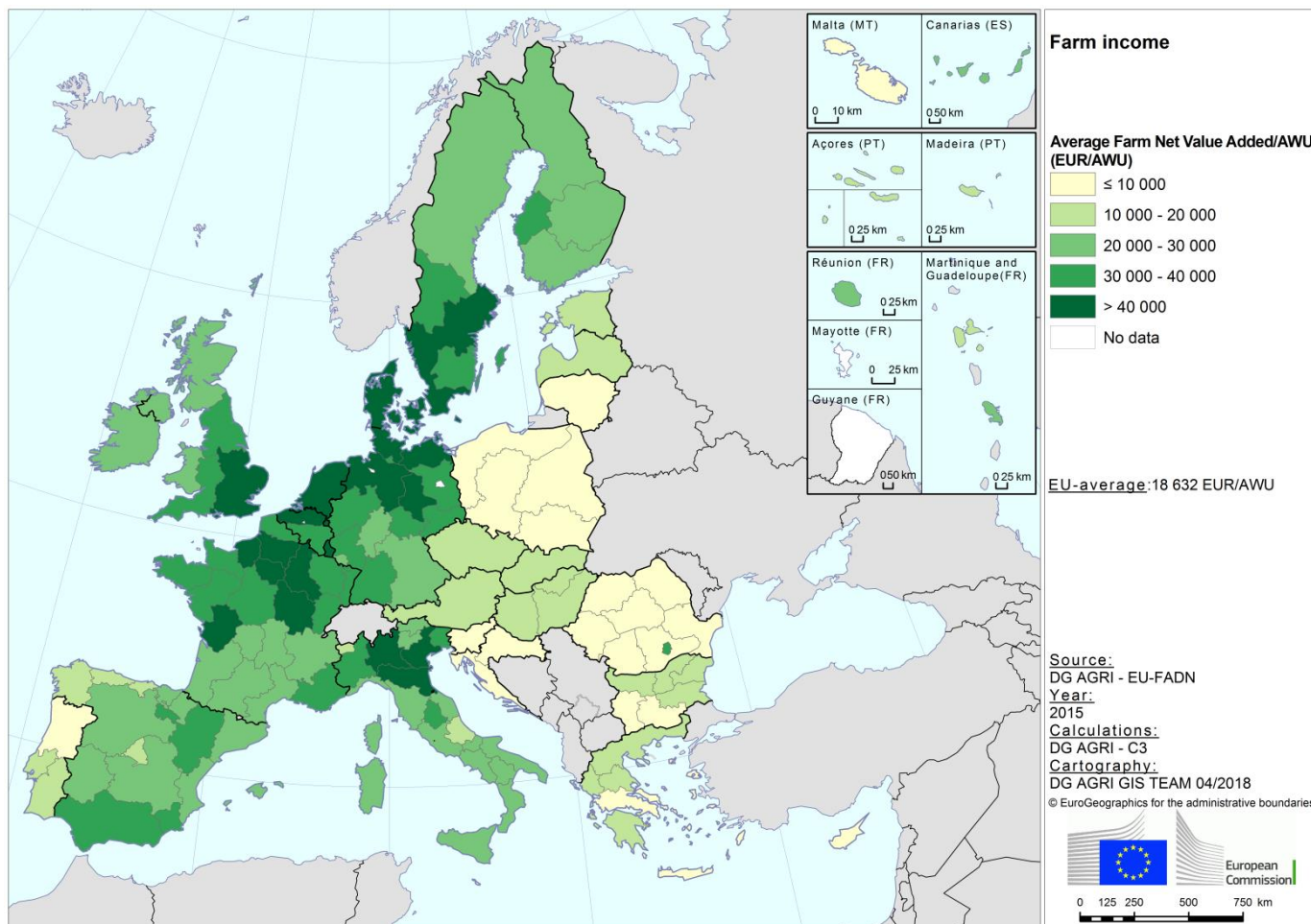
- Opportunity cost of **capital**: based on the official interests and inflation rates (provided by Eurostat, ECB, Global Insight)
- Opportunity cost of **labour**: based on the agricultural wages paid in the region (from FADN)
- Opportunity cost of **land**: based on the rents of the region

- With the Farm Accountancy Data Network (FADN), farms can be classified according to their farm net income (amount available to remunerate own factors of production (family labour, land and capital)) in relation to opportunity costs and depreciation.
- This graph shows that in the period 2004-2013:
 - 10% to 17% of farms faced negative net income (red and grey areas). Among them, 3% to 6% can be considered in potential "financial distress", i.e. they cannot overcome the negative income by simply postponing the depreciation estimate (unless they have liquidities).
 - Only 24% to 35% of farms had a positive farm net income higher than their estimated opportunity costs (dark green areas). It means that for them agriculture is still the best economic alternative. Moreover, they have capacity to invest.
 - For the majority of farms (54% to 60%), farm net income is positive but below the opportunity costs (light green areas). It means that in economic terms they could make better use of their resources in another economic activity, if such an alternative exists.

Regional differences in farm income

- The ten regions⁹ with the highest average agricultural income per work unit are located in northern Italy (Lombardia, Emilia Romagna), Denmark, northern France (Champagne-Ardenne, Picardie, Ile de France, Haute-Normandie, Poitou-Charentes), northern Germany (Mecklenburg-Vorpommern, Sachsen-Anhalt, Schleswig-Holstein, Niedersachsen) in the Netherlands, Belgium (Vlonders) and southern Sweden (Slatbygdslan). Many of these regions have a high percentage of highly intensive granivore (pigs and poultry) and/or horticulture/wine production.
- Regions with very low farm income (below EUR 10 000 per year) are mostly situated in the eastern and south-eastern parts of the EU¹⁰. The lowest average income per work unit is in the Jadranska Hrvatska region in Croatia, followed by Slovenia, 6 regions in Romania, one region in Poland (Malopolska and Pogorze) and one region in Bulgaria (Yugozapaden). There is an almost 30-fold difference between the highest income per AWU (Lombardia: 66 201 EUR) and the lowest (Jadranska Hrvatska: 2 249 EUR).

Figure 26: Regional differences in farm income



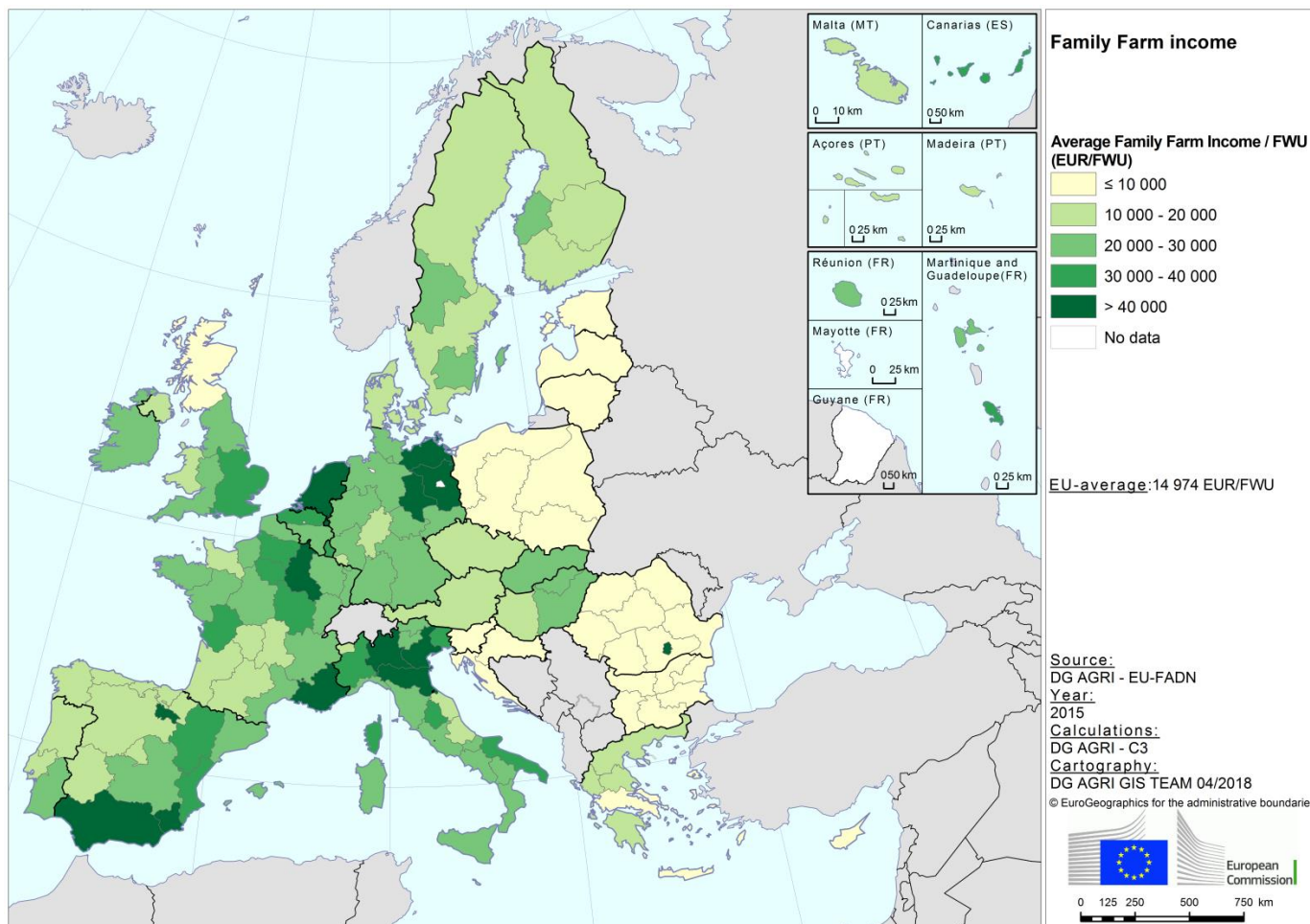
⁹ FADN divisions as defined in Council Regulation (EC) No 1217/2009

¹⁰ Again, these figures have not been adjusted for differences in purchasing power.

Regional differences in the agricultural income of family workers

- The distribution of the Family Farm Income per family work unit is similar as for FNVA/AWU (see previous page), with a few exceptions:
- The top ten regions with the highest Family Farm Income per FWU include the three Spanish regions of Andalusia, Murcia and La Rioja and the Romanian region of Bucuresti-Ilfov.¹¹
- Denmark has a comparatively low level of family farm income (similar to the EU average), while it came second for FNVA/AWU. An explanation could be the high level of debts in Danish farms.

Figure 27: Regional differences in family farm income



¹¹ Please note that Family Farm Income is calculated in a different sample than FNVA. Only those farms are included in the sample, which have family labour force.

Farm income by economic farm size

- The farm income per full-time work unit increases with the economic size of the farms. This implies that the labour productivity is higher on (economically) bigger farms.
- This relationship holds in almost all Member States (except for the biggest farms in CZ, EE, HU, LT, PL and FI).

Figure 28: FNVA/AWU by economic size class in the EU-28, 2015

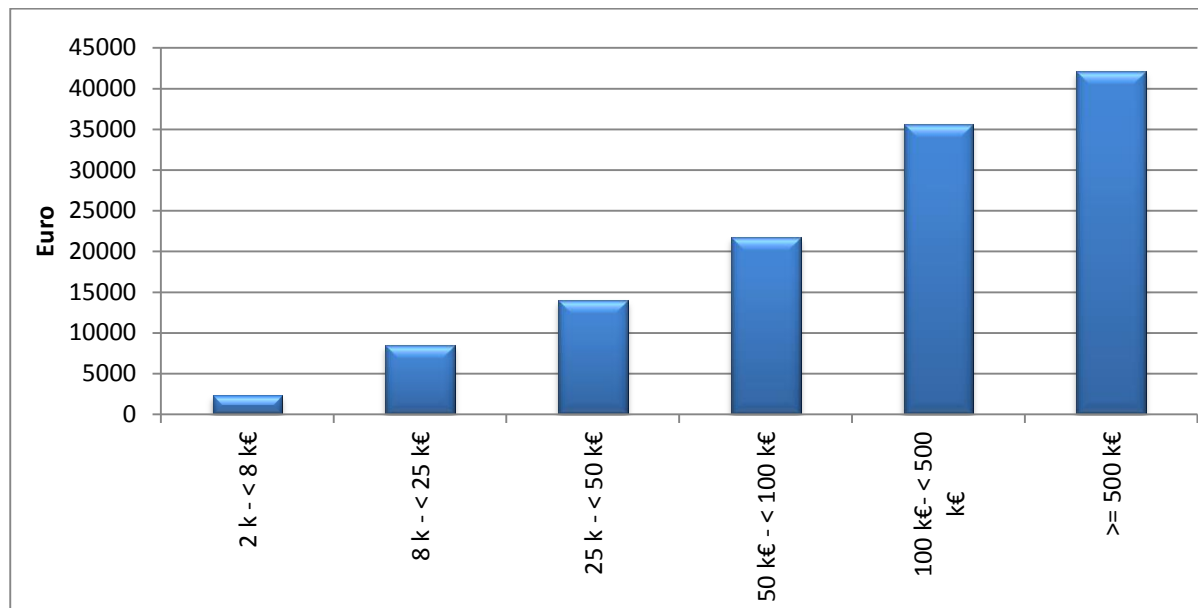
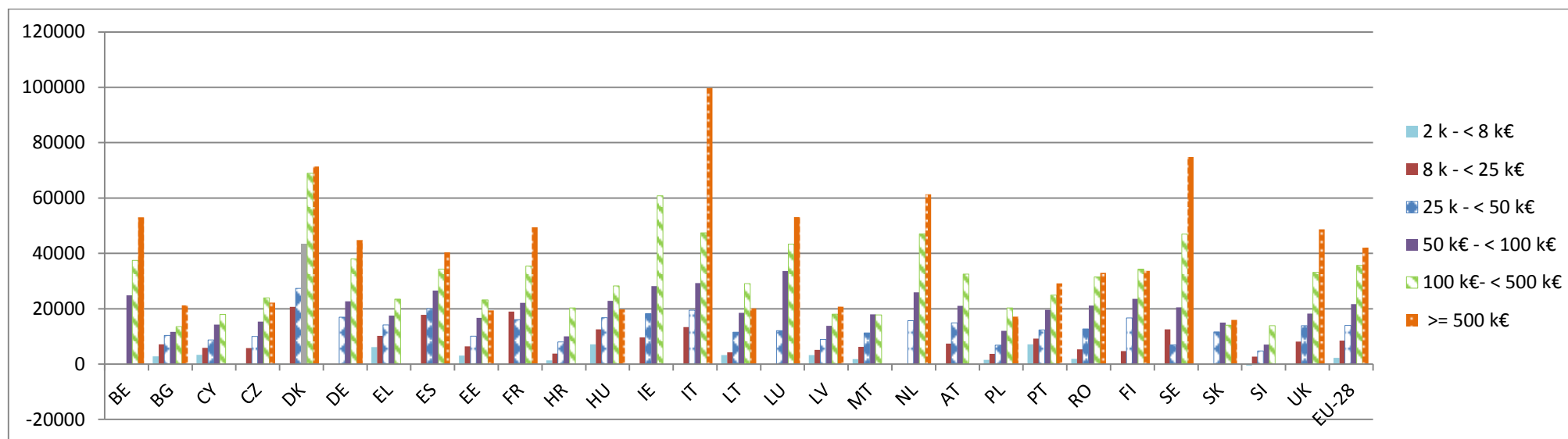


Figure 29: FNVA/AWU by economic size class, 2015

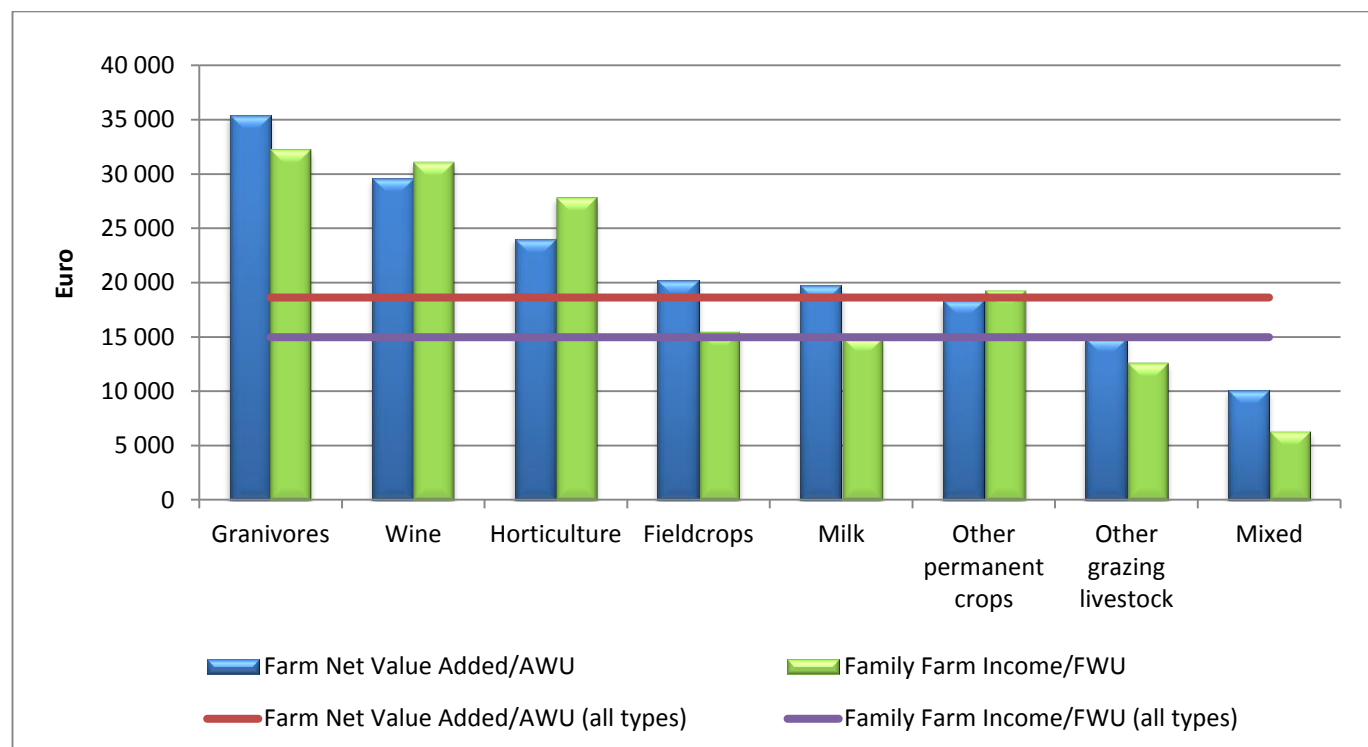
Source: DG AGRI, Farm Accountancy Data Network (FADN)



Farm income by type of farming

- By definition, Family Farm Income (FFI) is expressed per family labour unit and is calculated only for the subset of farms with family labour. This explains why in some cases FFI/FWU is higher than FNVA/AWU for certain types of farming such as wine, horticulture and other permanent crops.
- The highest income levels per work unit are achieved in farms specialised in the production of pigs and poultry (granivores). These farms are relatively big in economic terms.
- On the other hand, mixed farms achieve the lowest income levels and are normally rather small.

Figure 30: Income by farm type, EU-28, 2015

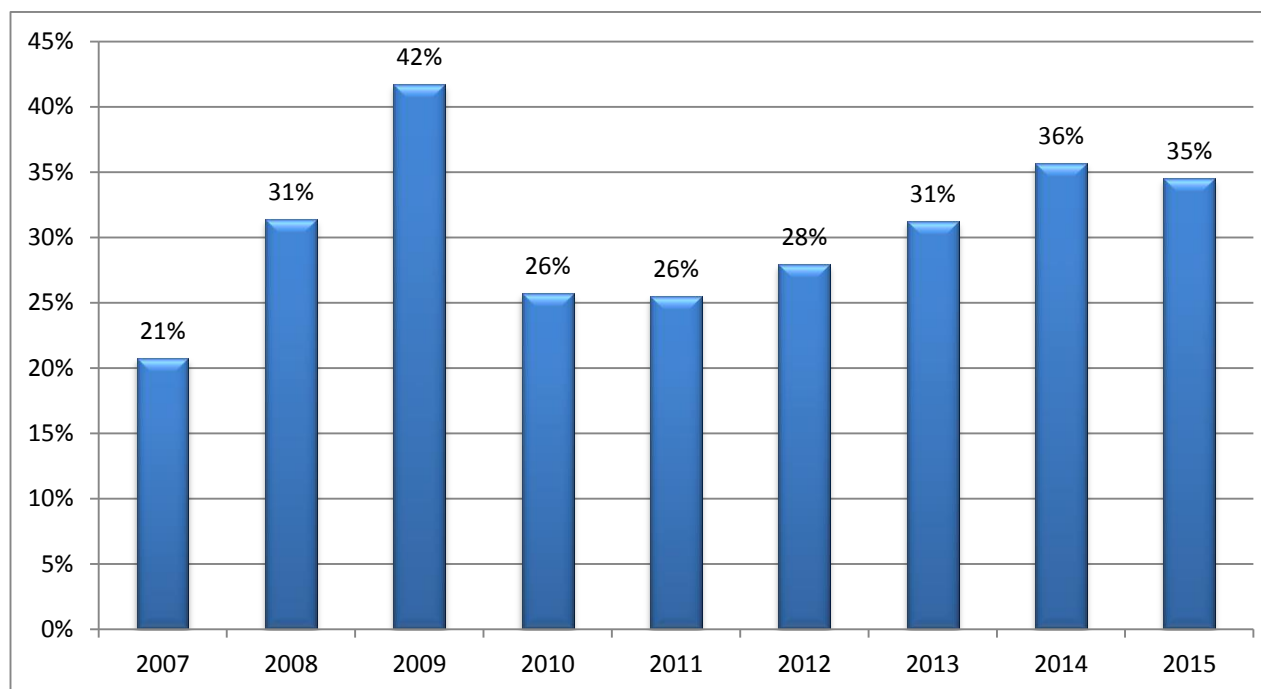


Source: DG AGRI, Farm Accountancy Data Network (FADN)

Farm income variability

- Farm incomes can vary substantially over time. In the EU, every year **at least 20% of farmers experience an income loss of more than 30%** compared with their average income in the three previous years. In the particularly difficult year 2009, this share was above 40% (i.e., 2 out of 5 farmers had an income that was 30% lower than in the three previous years).
- A high share of farmers with strong income drops doesn't necessarily mean that the level of income reached is particularly low (see next page). For example, 2014 was a good year for farm income overall, but 36% of farms had an income drop of more than 30%.

Figure 31: Share of farms with an income drop above 30% per year, EU

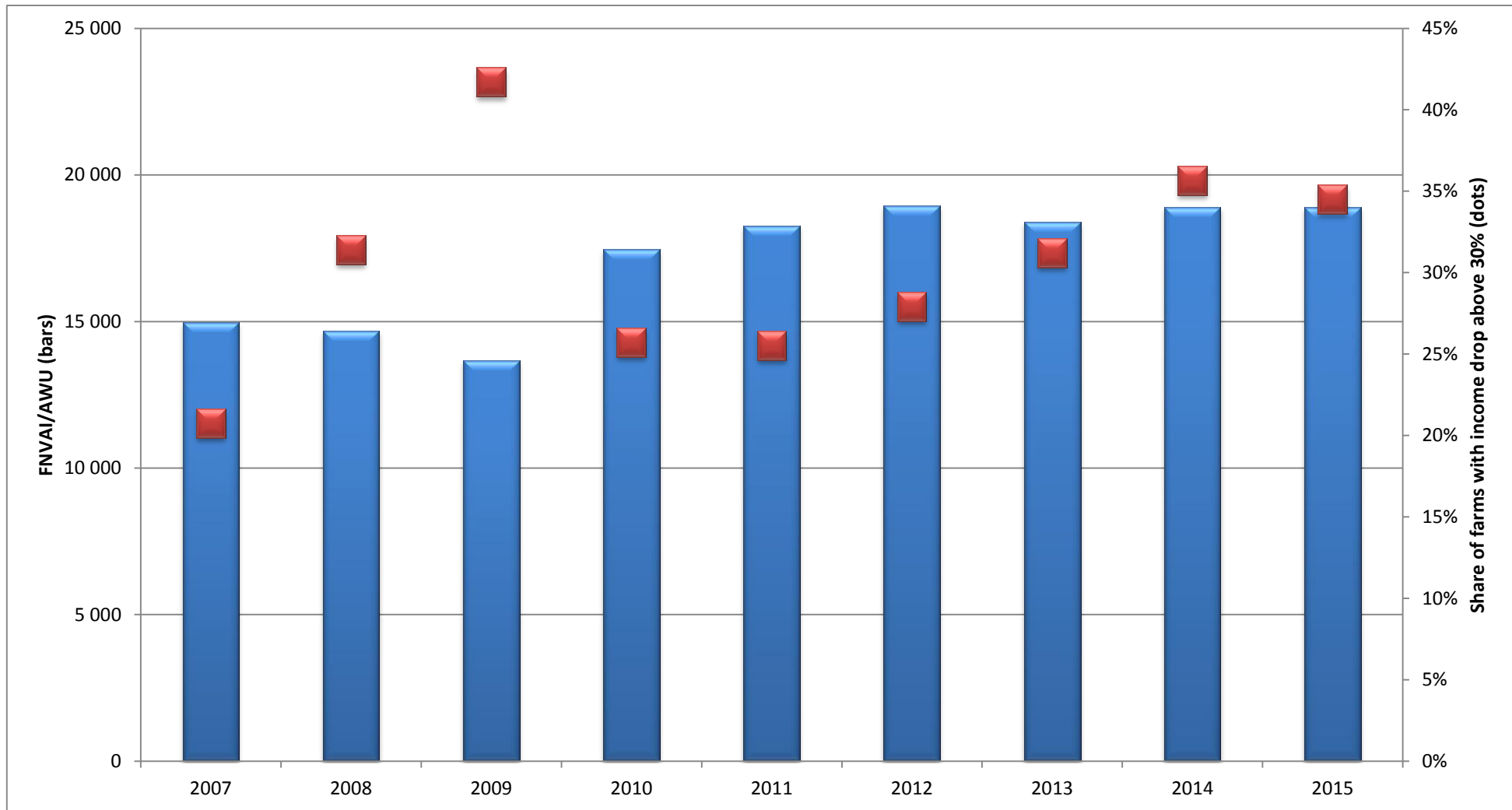


NB: income indicator = **Farm Net Value Added** (total output + balance current subsidies and taxes-intermediate consumption – depreciation)

Analysis excludes Croatia and includes Bulgaria and Romania only from 2010

Source: DG AGRI, Farm Accountancy Data Network (FADN)

Figure 32: Share of farms with income (FNVA) drop >30% compared to average of 3 previous years, EU



NB: income indicator = **Farm Net Value Added** (total output + balance current subsidies and taxes - intermediate consumption - depreciation)

Analysis excludes Croatia. Share of farms with income drop above 30% for Bulgaria and Romania available only from 2010

Source: DG AGRI, Farm Accountancy Data Network (FADN)

- The sectors facing the highest income variability year after year are: cereals, oilseeds and protein crops (COP; 37%), granivores; mixed crops; and fruits (in each of these sectors, 32% of farms experienced income drops above 30% in 2007-2015).
- The COP sector suffered most from the financial crisis in 2009, when almost two out of three COP farmers (63%) experienced an income loss above 30%. Compared to other sectors, COP farms had the highest income variability throughout the 2007-2015 period.
- Dairy farms were also strongly hit in 2009, when half of them saw their income drop by more than 30% compared to the previous 3 years (see next page).
- The least profitable sectors, such as olives and sheep and goats, and the most profitable sector (granivores) have a lower and more constant level of farms with losses > 30% (ranging from 25 to 38% - see next page).

Figure 33: Share of farms with income (FNVA) drop >30% by sector, EU 2007-2015

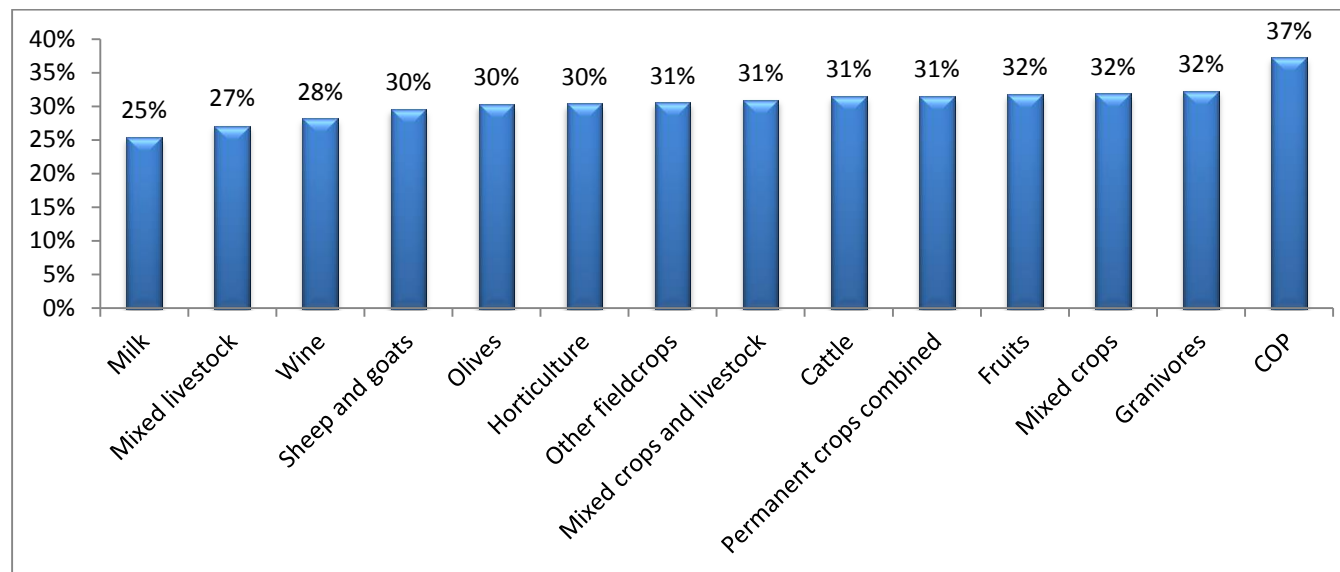
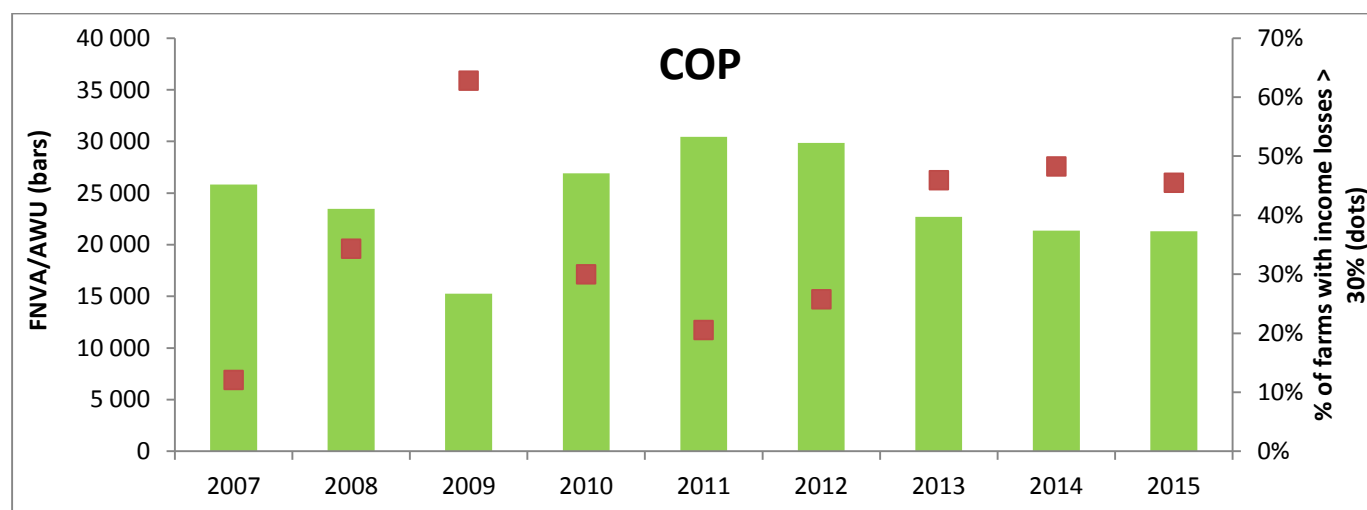


Figure 34: Share of farms with income (FNVA) drop >30% - cereals, oilseeds, protein crops, EU



NB: income indicator = **Farm Net Value Added** (total output + balance current subsidies and taxes - intermediate consumption-depreciation)
 Analysis excludes Croatia. Share of farms with income drop above 30% for Bulgaria and Romania available only from 2010
 Source: DG AGRI, Farm Accountancy Data Network (FADN)

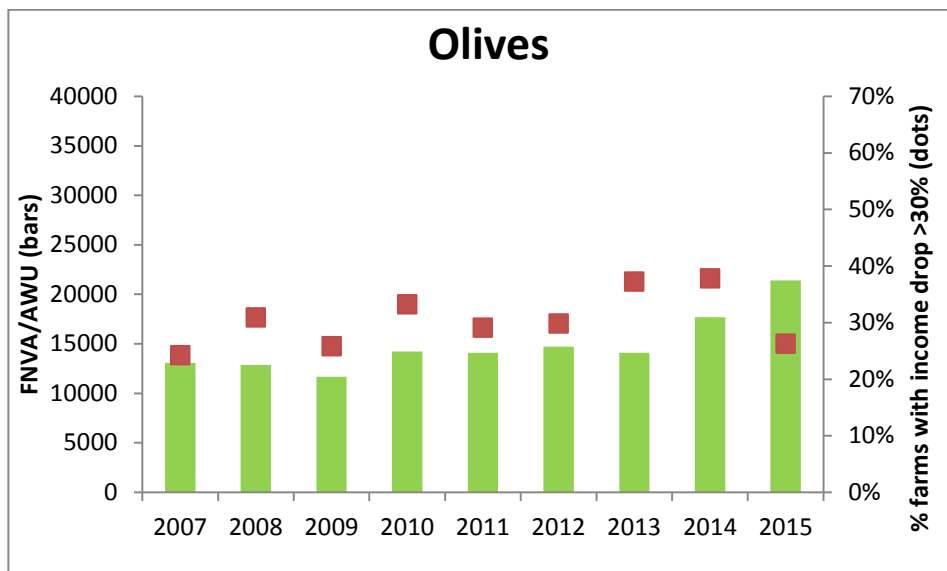


Figure 35: Share of farms with income (FNVA) drop >30% - olives, EU

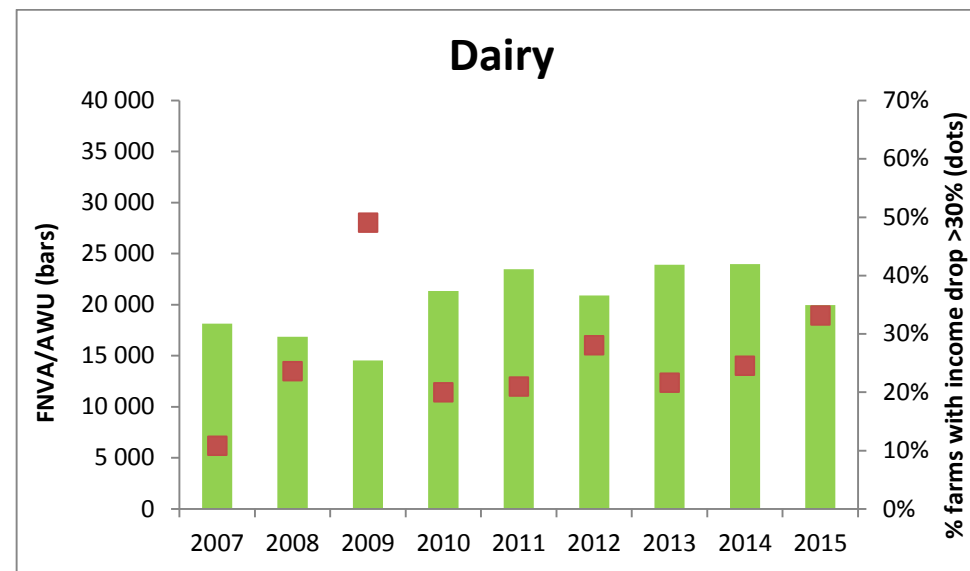


Figure 37: Share of farms with income (FNVA) drop >30% - dairy, EU

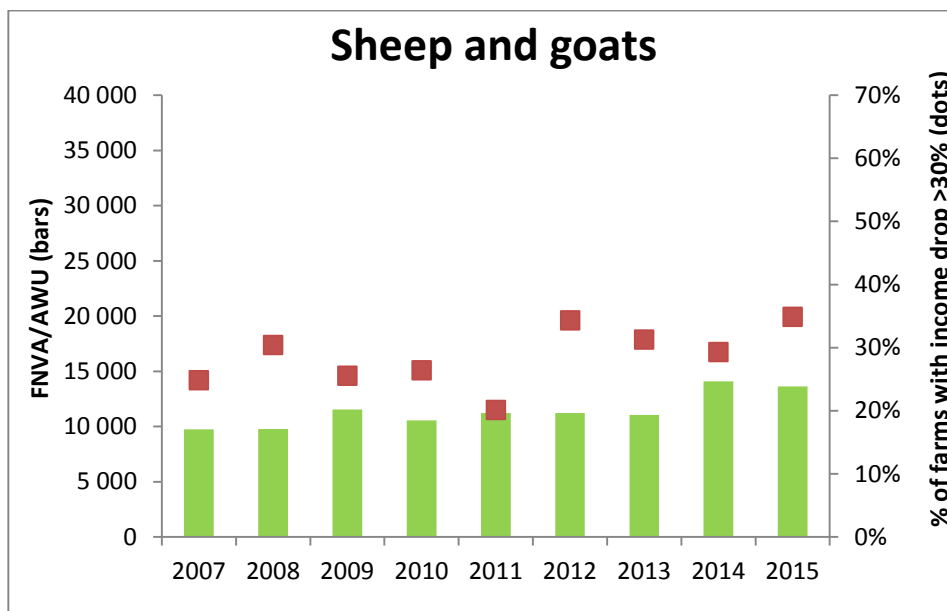


Figure 36: Share of farms with income (FNVA) drop >30% - sheep and goats, EU

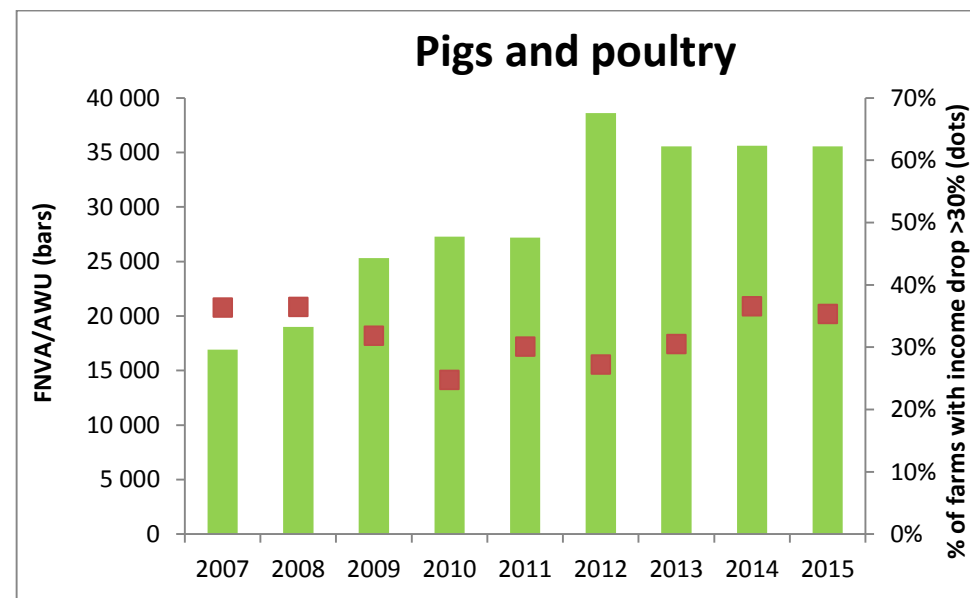


Figure 38: Share of farms with income (FNVA) drop >30% - pigs and poultry, EU

NB: income indicator = **Farm Net Value Added** (total output + balance current subsidies and taxes - intermediate consumption - depreciation)
 Analysis excludes Croatia. Share of farms with income drop above 30% for Bulgaria and Romania available only from 2010
 Source: DG AGRI, Farm Accountancy Data Network (FADN)