

4.3. Developments in the Greek agricultural sector

Ioanna Reziti

4.3.1. Introduction

The following analysis presents an overview of the major developments in the economics of Greek agriculture. Reference is made to some economic figures of agriculture, using data from Eurostat over the last decade. Based on this, we provide a quick update on issues such as farm structure, farm income, employment, input costs and production value.

Greek agriculture, as we shall see, showed great resilience to the crisis and the prolonged recession of the Greek economy. According to Eurostat figures, over the period 2008-2017 agricultural output increased by 6%, while the output of all other sectors of the economy decreased by 27%. The diversity of Greek agriculture urges us not only to promote competitiveness, but also traditional agriculture and small farms.

4.3.2. The importance of Greek agriculture

The contribution of the agricultural sector to the Greek economy, expressed as the percentage of agricultural product in the Gross Domestic Product (GDP), increased from 3% in 2007 to 6% in 2017, fictitious mainly due to a large GDP decline of 23%. Gross Value Added (GVA) in agricultural production declined (4%) over the period 2007-2017 due to the increased cost of farm inputs and the fall in production value. Significant reductions in GVA are 16% in 2011 and 18% in 2013, attributable to increases in intermediate consumption by 9% and 11%, respectively. However, the participation of the GVA of agriculture in the country's GVA increased from 3% in 2007 to 3.7% in 2017. Also, the share of agricultural employment in total employment remained stable (11%). The importance of the sector is also strengthened by the area of the main rural areas and by the size of their population, compared to the intermediate and urban areas, with rates of 66% and 40%, respectively. Also, the contribution of agricultural products to the external trade balance of the country is important. In 2017, the value of agricultural exports amounted to 5.5 billion euros, covering 19% of the total value of its exports.

4.3.3. Gross production value in Greece and the EU

Within the EU-28, the participation of the Greek agricultural sector shows a downward trend, as shown in Table 4.3.1, due to a fall in Gross Value Added of 4.3%. Greece

TABLE 4.3.1 Participation of the agricultural sector in the EU-28 (% Total GVA)

	2007	2010	2013	2017
Belgium	1.6	1.6	1.3	1.3
Bulgaria	0.8	0.9	1.0	1.0
Czech Republic	0.8	0.6	0.8	0.9
Denmark	1.6	1.7	1.6	1.7
Germany	10.0	11.0	12.4	11.1
Estonia	0.2	0.2	0.2	0.1
Ireland	1.1	0.9	1.2	1.7
Greece	3.8	3.6	2.9	3.1
Spain	15.7	14.5	13.2	15.3
France	18.2	18.1	15.4	15.7
Croatia	0.8	0.9	0.6	0.5
Italy	17.5	17.2	19.2	17.0
Cyprus	0.2	0.2	0.2	0.2
Latvia	0.2	0.2	0.1	0.2
Lithuania	0.5	0.4	0.6	0.7
Luxemburg	0.1	0.1	0.1	0.1
Hungary	1.4	1.3	1.7	1.9
Malta	0.0	0.0	0.0	0.0
Netherlands	5.9	6.2	5.9	6.3
Austria	1.7	1.7	1.6	1.7
Poland	5.1	5.3	5.5	5.7
Portugal	1.6	1.7	1.5	1.5
Romania	3.9	4.3	4.4	4.1
Slovenia	0.3	0.3	0.2	0.2
Slovakia	0.3	0.2	0.3	0.3
Finland	0.9	0.9	0.7	0.6
Sweden	1.0	1.0	0.9	1.0
United Kingdom	4.8	5.1	6.3	6.1

Source: Eurostat, *National accounts*.

TABLE 4.3.2 Gross value of agricultural production in producer prices

	2007	2010	2013	2017	2007	2010	2013	2017
	Millions €				% of EU-28			
EU-28	330,286	335,683	388,747	389,279	100	100	100	100
Belgium	7,242	7,578	8,432	8,211	2.2	2.3	2.2	2.1
Bulgaria	2,753	3,155	3,712	3,605	0.8	0.9	1.0	0.9
Czech Republic	4,064	3,821	4,708	4,684	1.2	1.1	1.2	1.2
Denmark	8,539	9,075	10,268	10,326	2.6	2.7	2.6	2.7
Germany	44,493	47,569	56,791	52,989	13.5	14.2	14.6	13.6
Estonia	621	592	830	784	0.2	0.2	0.2	0.2
Ireland	5,727	5,513	7,346	8,056	1.7	1.6	1.9	2.1
Greece	9,623	9,355	9,252	10,038	2.9	2.8	2.4	2.6
Spain	39,447	38,106	41,855	48,107	11.9	11.4	10.8	12.4
France	59,343	61,138	66,856	64,759	18.0	18.2	17.2	16.6
Croatia	2,389	2,387	2,163	1,967	0.7	0.7	0.6	0.5
Italy	41,641	40,660	48,338	45,376	12.6	12.1	12.4	11.7
Cyprus	607	654	666	681	0.2	0.2	0.2	0.2
Latvia	877	845	1,162	1,227	0.3	0.3	0.3	0.3
Lithuania	1,818	1,725	2,397	2,405	0.6	0.5	0.6	0.6
Luxemburg	313	307	390	390	0.1	0.1	0.1	0.1
Hungary	5,922	5,583	7,171	7,483	1.8	1.7	1.8	1.9
Malta	108	115	123	116	0.0	0.0	0.0	0.0
Netherlands	21,165	22,026	24,893	25,459	6.4	6.6	6.4	6.5
Austria	5,528	5,636	6,339	6,651	1.7	1.7	1.6	1.7
Poland	18,394	17,897	22,371	24,549	5.6	5.3	5.8	6.3
Portugal	5,696	5,909	6,321	6,927	1.7	1.8	1.6	1.8
Romania	12,676	13,903	16,092	15,690	3.8	4.1	4.1	4.0
Slovenia	1,087	1,072	1,141	1,143	0.3	0.3	0.3	0.3
Slovakia	1,780	1,611	2,162	2,106	0.5	0.5	0.6	0.5
Finland	3,191	3,331	3,823	3,283	1.0	1.0	1.0	0.8
Sweden	4,532	4,651	5,622	5,616	1.4	1.4	1.4	1.4
United Kingdom	20,710	21,470	27,522	26,650	6.3	6.4	7.1	6.8

Source: Eurostat, *National accounts*.

ranks ninth in the EU-28 in terms of total agricultural output (€10 billion in 2017), contributing 2.6% of EU-28 (Table 4.3.2). This percentage is quite low compared to other Mediterranean countries, such as Italy and Spain, who contribute 12.4% and 11.7%, respectively. In the period 2013-2017, the value of agricultural production increased by 8.5% due to a 17% increase in crop pro-

duction. On the contrary, the value of livestock production showed a significant drop of 6.5%. This change results in the relationship between crop and animal production changing from 70/30 in 2013 to 75/25 in 2017, while in the EU-28 the corresponding ratio is 43/57. This unequal proportion that prevailed in 2000 is still one of the structural problems of Greek agriculture today.

4.3.4. Farm structure and labor force

According to Eurostat data on the structure of farms in 2016 compared to 2007, the utilized agricultural area increased by 12%, with the highest increase (27%) in the three-year period 2007-2010 (Diagram 4.3.1). However, during the period 2010-2016 there was a fall of 12% at an average annual rate of -0.02%. On the contrary, the number of farms in 2016 amounted to 684,950 thousand, which, compared to 2007, showed a significant decrease (20%) (Diagram 4.3.2) and an average annual rate of -0.03%. However, a significant part of this decline (16%) is observed in the three-year period 2007-2010. As a result, the average size of holdings increased: 4.74ha (2007), 7.16ha (2010), 6.85ha (2013), and 6.65ha (2016), but, as we see, it remains roughly stable at 7 ha in 2010. This average size

compared to the European average (14.3ha) is clearly lower (around half of the European average).

With regard to the distribution of agricultural land by size class of agricultural holdings (AH), small-sized holdings (up to 9.9ha) account for 31% of agricultural land used, medium-sized holdings (10-29.9 ha) account for 19% and the remaining 50% is used by large-sized holdings (> 30ha) (Diagram 4.3.3).

Small-sized holdings make up 88.6% of all AH, a percentage that did not change since 2007 (88.5%). Small holdings should be classified as parcels, rather than actual commercial holdings, that provide supplementary income to their owners (non-professional farmers). These figures show that the restructuring of Greek agriculture has been quite relaxed over the last 10 years. By contrast, at the EU-28 level, small and

DIAGRAM 4.3.1
Utilized agricultural area (in thous. ha)

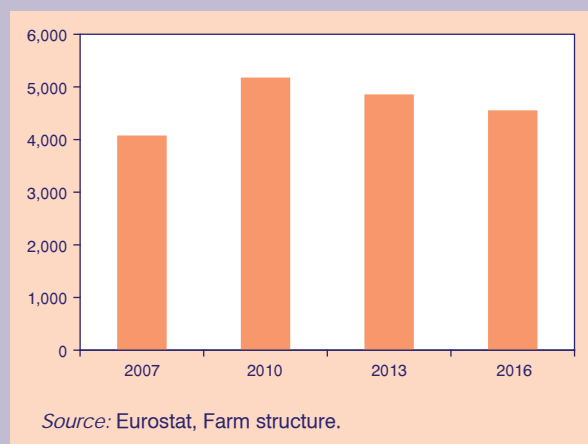


DIAGRAM 4.3.3
Distribution of agricultural holdings by physical farm size, 2016 (ha)

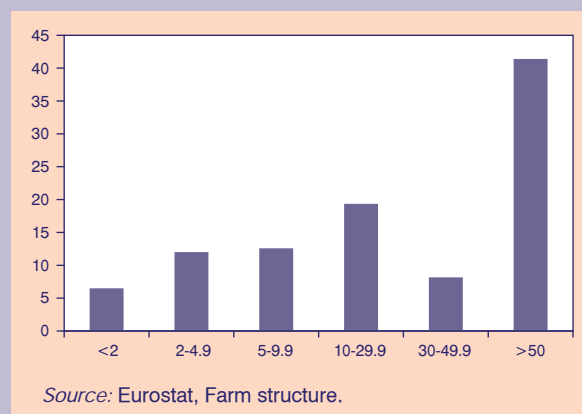


DIAGRAM 4.3.2
Number of agricultural holdings (thous.)

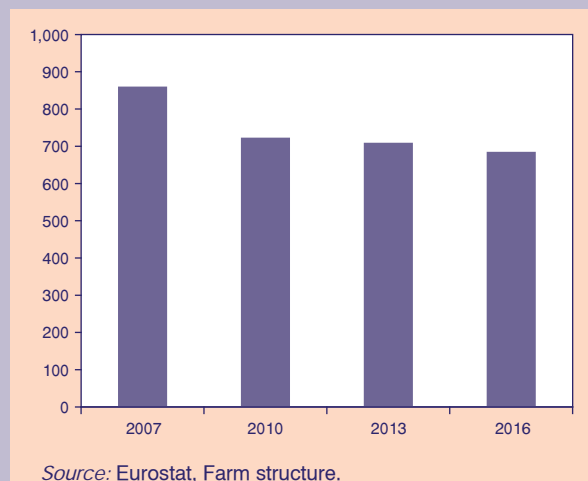
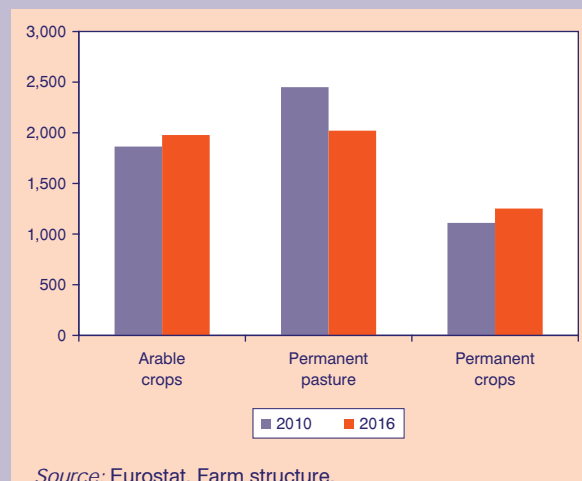


DIAGRAM 4.3.4
Distribution of utilized agricultural area



medium-sized farms make up only 25% of agricultural land, while large-scale farms account for 75%.

Used agricultural area means the total area occupied by arable land, permanent pasture, permanent crops and family vegetable gardens. In 2016, arable land and pastures each use 38% of agricultural area, permanent crops 24% and family gardens a very small

percentage. In 2016, compared to 2010, there is a large decrease of pasture lands, by 18%, and an increase in arable land and permanent crops, by 6% and 13%, respectively (Diagram 4.3.4 above).

The “type of farming” (TOF)¹ of a holding shall be determined by the relative contribution of the standard output of the different characteristics of this holding

DIAGRAM 4.3.5

Distribution of agricultural holdings by general type of farming (GTOF), 2016

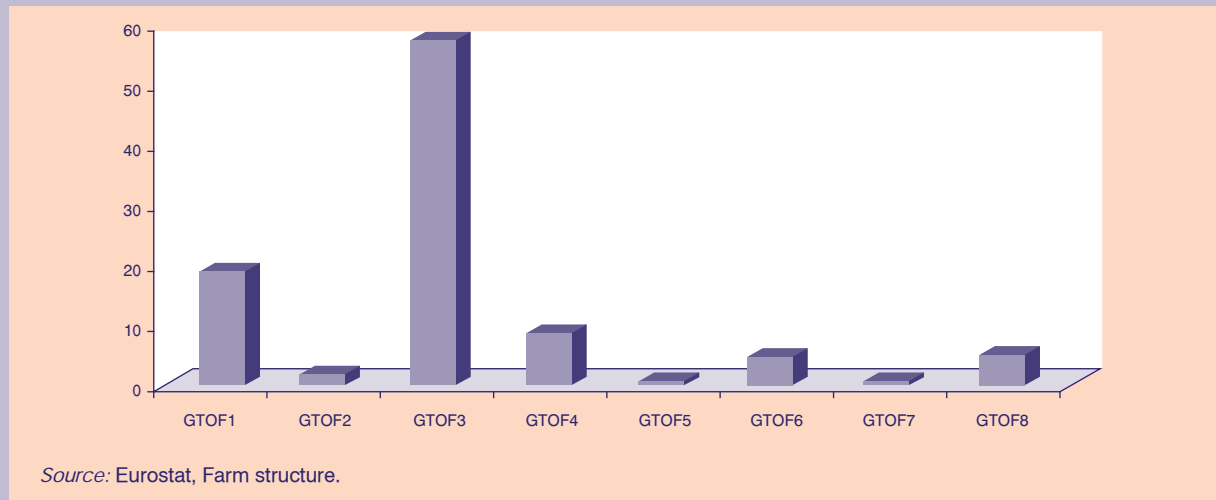
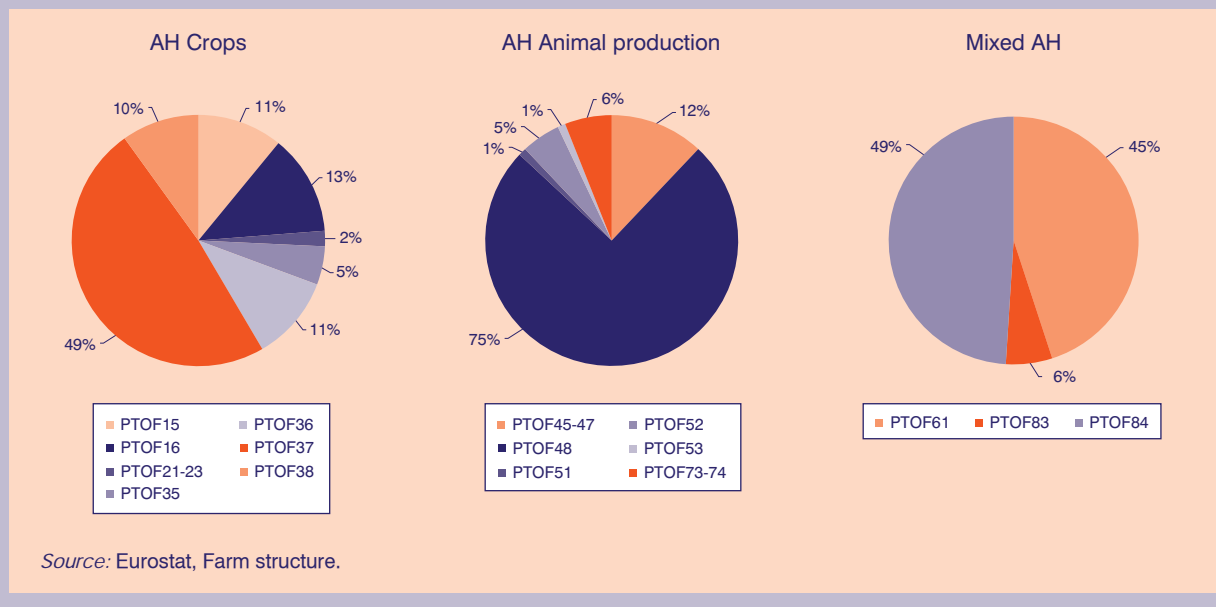


DIAGRAM 4.3.6

Distribution of agricultural holdings by principal type of farming (PTOF), 2016



1. Depending on the amount of detail required, the TOF shall be divided into the general categories (GTOF) which are: Specialist field crops (GTOF1), specialist horticulture (GTOF2), specialist permanent crops (GTOF3), specialist grazing livestock (GTOF4), specialist granivores (GTOF5), mixed cropping (GTOF6), mixed livestock (GTOF7), mixed crops-livestock (GTOF8), non-classified holdings (GTOF9).

DIAGRAM 4.3.7
Evolution of employment in agriculture
(1,000 persons)



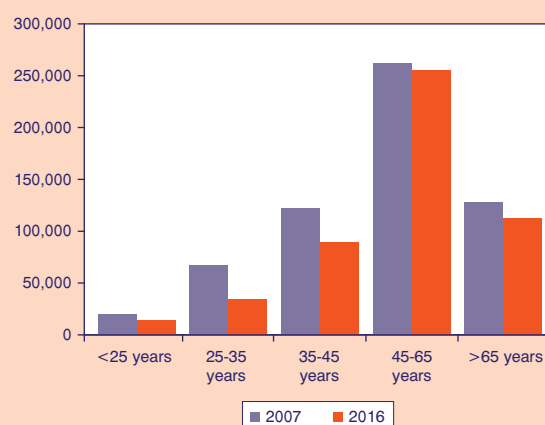
Source: Eurostat, National accounts.

to the total standard output of this one (Commission Regulation 1242/2008). This Regulation established the community typology and classification of AH. Diagram 4.3.5 above shows that holdings which are “specialist in permanent crops” (GTOF3) appear to dominate, with 58%, followed by “specialist in field crops” (GTOF1) with 19%.

The AH are distinguished into crops (80%), animal production (9%) and mixed holdings (11%) where the principal categories of TOF (PTOF) are shown in Diagram 4.3.6. It is noted that 49% of crops are specialized “Specialist olives” (PTOF37); from animal production, 80% are “sheep, goats and other grazing livestock” (PTOF48); and 49% from mixed holdings are “various crops and livestock combined” (PTOF84).

Concerning the employment of the labor force in the agricultural sector, in 2017 it represents 11% of the total employment in Greece and 5% of the agricultural employment of the EU-28. In the 2007-2017 decade, there is a 13% decline in the labor force, with the largest drop of 7% in 2011 compared to 2010 (Diagram 4.3.7). The age structure of agricultural employment (Diagram 4.3.8) shows that in 2016, individuals over 45 years of age comprised 77% of employment, while in 2007 the percentage was lower (65%). This means that while the significant employment rate has decreased, the percentage of farmers over 45 years of age was only down 6%. On the contrary, large reductions in employment, 59% and 30%, were observed for the ages 25-35 and 35-45, respectively, with the decrease (71%) in employment for individuals below the age of 25 indicating

DIAGRAM 4.3.8
Age distribution of agricultural employment
(AWU)



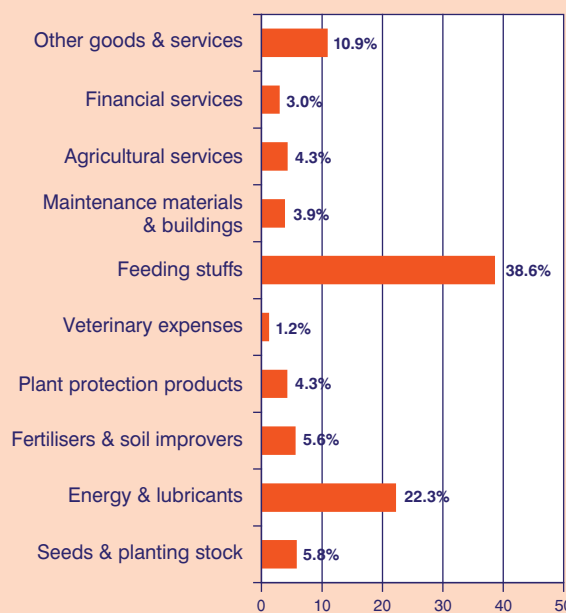
Source: Eurostat, Farm structure.

that the agricultural sector doesn’t attract younger generations.

4.3.5. Input categories of agricultural production

Intermediate consumption is the total cost of inputs used in AH. It includes consumption of self-produced

DIAGRAM 4.3.9
Contribution of intermediate consumption
in the gross value of production, 2017



Source: Eurostat, Economic accounts for agriculture.

feed, purchases of goods and services for intermediate consumption from outside, for example, seeds and other propagating material, energy and lubricants, fertilizers and soil improvers, plant protection products, animal feed, veterinary costs, maintenance costs of buildings and others.

Intermediate consumption in 2007 was in the range of EUR 4.86 billion and accounted for 48% of gross production value, while in 2017 it stood at EUR 5.46 billion, up 12%, accounting for 52% of gross production value. This increase is important because it greatly affects the development of agricultural income. The highest cost of inputs (60%) is covered by feed (39%) and energy and lubricants (22%) (Diagram 4.3.9 above), with significant increases of 13% and 35%, respectively, in 2007-2017. An important increase is also observed (47%) for maintenance of buildings and materials and for plant protection (20%). Reductions were observed in veterinary ex-

penditure (13%) and in agricultural services (37%). However, between 2013 and 2016 there was a reduction in input costs of 2.5% due to a significant reduction in energy, by 21%, while an increase was observed in plant protection, by 15%.

4.3.6. Economic accounts, agricultural income

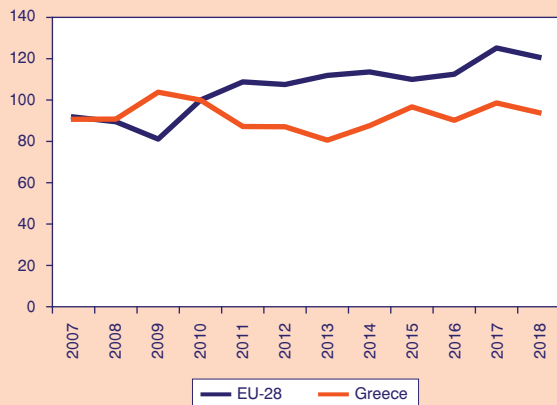
Agricultural income records a significant reduction (14%) during 2007-2017, at current basic input prices, with a large increase (13%) in 2013 compared to 2007 (Table 4.3.3). The increase in intermediate consumption by 12% resulted in the reduction of GVA by 4%. However, in the five-year period 2013-2017 there is a significant increase of 13% in agricultural income. There is also a very large increase in taxes on production, while a reduction in subsidies of 17% is recorded. Labor costs have also fallen by 46% due to rising input costs and reduced farm incomes.

TABLE 4.3.3 Economic accounts for Greek agriculture, values at current prices (in thous. €)

		2007	2013	2017	% 2017/2007	% 2017/2013
(1)	Output of the agricultural "industry"	10,929	10,365	11,272	3	9
(2)	Total intermediate consumption	4,861	5,401	5,465	12	1
(3)=(1)-(2)	Gross value added at basic prices	6,068	4,964	5,807	-4	17
(4)	Fixed capital consumption	1,337	1,397	1,210	-9	-13
(5)=(3)-(4)	Net value added at basic prices	4,731	3,567	4,597	-3	29
(6)	Other taxes on production	168	480	571	240	19
(7)	Other subsidies on production	2,835	2,558	2,353	-17	-8
(8)=(5)+(6)-(7)	Factor income	7,398	5,645	6,379	-14	13
(9)	Compensation of employees	1,026	627	551	-46	-12
(10)=(8)-(9)	Operating surplus	6,372	5,017	5,829	-9	16
(11)	Interest paid	155	153	158	2	3
(12)	Rents & other real estate rental charges to be paid	544	490	494	-9	1
(13)=(10)-(11)-(12)	Entrepreneurial income	5,672	4,372	5,176	-9	18

Source: Eurostat, *Economic accounts for agriculture*.

DIAGRAM 4.3.10
Trends in the real income of factors in agriculture per AWU Indicator A (2010=100)



Source: Eurostat, *Economic accounts for agriculture/ agricultural income*.

Based on Eurostat's "Indicator A", expressed as actual agricultural income in real prices in terms of full-time employment in Annual Working Units (AWU), Greece, after 2010, is at a disadvantage compared to the EU-28 (Diagram 4.3.10). In 2009-2013, Greece's Indicator A has a declining trend but has been rising since 2013.

In contrast, the EU-28 indicator has been steadily rising since 2010.

Interestingly, developments in investments of AH are reflected by the size of the consumption of fixed capital. In 2017, fixed capital consumption amounted to EUR 1,210 million, down by 2.5% compared to 2007. This reduction had the effect of reducing its contribution to Gross Value Added from 22% in 2007 to 21% in 2017. This figure is below the EU-28 average (33%).

4.3.7. Conclusions

The developments highlighted above show the stagnation of Greek agriculture, which remains in a recessionary state. Increasing production costs, falling incomes, falling investment, reducing funding, reducing employment and increasing production taxes are new problems that add to the structural problems of Greek agriculture that still exist. The reconstruction of agriculture should be based on a long-term national plan that is documented by independent scientific analyses and consistently implemented by the governments concerned. Policy makers should design customized and specific objectives that address the complexity and needs of each region and farming activity.