

CREATING AND ALLOCATING THE SUPPLY OF AGRI-FOOD PRODUCTS IN EUROPEAN UNION COUNTRIES

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Abstract. The main purpose of this paper is to assess the importance of agriculture and food industry in creating and allocating the supply of agri-food products in European Union countries. The years covered by the analysis were 1995 and 2010. As demonstrated, there are differences in the contribution of imports to the supply of agricultural products among EU countries. Low shares of imports are particularly characteristic of the new member states, which is indicative of weaker connections with the European and global agribusinesses in comparison with EU-15 countries. On the other hand, the proportion between volumes of agri-food products allocated to intermediate and final demand confirm that the agricultural sector is primarily a supplier of raw materials in most EU countries. In turn, the main role of the food industry is to satisfy the final demand and provide the population with food products.

Keywords: agriculture, agribusiness, inter-sectoral interdependencies, input–output tables

INTRODUCTION

In the analysis of current financial flows in agribusiness, two groups of input/output dependencies should be distinguished according to Woś (1979): those occurring in the process of creating value of global production in agribusiness and those in the allocation (division)

of agribusiness output. The analysis of the creation and distribution of supply of agricultural and agri-food products is important from the point of view of understanding inter-sectoral relations and determining how strongly is agribusiness connected with the entire national economy (Woś, 1979; Woś and Zegar, 1983; Czyżewski, 2001; Coleman et al., 2004). On the one hand, one finds out what elements determine the size of supply on the creation side; on the other, one determines the significance of particular agribusiness spheres in satisfying intermediate demand (intermediate consumption) and final demand. Demand of consumers and exporters, or final demand, is the most important variable that determines the development of agribusiness as well as the conditions of effective operation of individual entities on the market. Agribusiness, just like other sectors of the national economy, cannot grow if there is no demand for the goods and services it generates¹. On the other hand, the demand for food (food consumption) on the macroeconomic scale depends primarily on the level and pace of economic development, demographic and

¹ According to Reardon and Barrett (2000) and Tomczak (2004), other factors of agribusiness development include the improvement of technologies in agri-food production, processing and distribution chains, transfer of skills and access to foreign capital and foreign markets.

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social processes, and influence of the state. Biological (physiological), ecological and economic factors can be distinguished among those affecting food consumption (Bywalec, 2007). The most important are economic factors, including household resources, current household income, the level and relations of consumer prices, the supply and distribution methods of goods, and the economic situation. Along with the increase in consumer income, consumer demand changes and, consequently, so does the level and structure of consumption which is determined by the low income elasticity of demand for agricultural and food products. The general trends in the income elasticity of food demand are implicitly linked to the structural development of the economy. Structural changes of the national economy described in Hagen's work (1989) can be related to changes in the structure of creation and allocation of agribusiness products, because it is often stated that these changes trigger – and also appear in response to – the changing structure of consumer demand (Rembisz, 2008). Agriculture is becoming the main supplier of raw materials for food production, and the food industry delivers more and more highly processed food products. The increase in consumption of these products attracts investments and accelerates innovation in food manufacturing. These are the new spheres of consumption that increase consumer utility and contribute to overall development of the entire economy (Rembisz, 2008). On the other hand, in the case of an economic slowdown, the income situation of households deteriorates, which may entail a decline in food demand. However, food expenditure cannot be deferred because it is necessary. Moreover, food products cannot be replaced with substitutes. Therefore, the demand for food – even during a crisis – is unchanged, and these regularities are reflected in Engel's law. In addition, smaller decreases in food spending during a crisis may also result from another known effect which consists in maintaining the level of consumption despite a decrease in incomes. On the other hand, King's effect may occur on the agri-food market, which manifests itself in the proportional reaction of prices to changes on the supply side as well as in further changes in supply (Bywalec, 2007). Thus, the relationship between food demand and the development of agribusiness and the entire national economy in general is very strong and direct. For this reason, the most important factor by which agribusiness can develop is to promote general

economic recovery, because this is the only way to provide additional income, which in turn will increase the demand for agri-food products (Rembisz, 2008)².

The main purpose of this paper is to assess the importance of agriculture and the food industry in creating and allocating the supply of agri-food products in European Union countries. In order to achieve this, a comparison was made between the size and structure of the creation and allocation of products supply in these sectors. Changes in this scope were also assessed. The comparison of the creation and allocation of agricultural products supply in the group of countries covered by this analysis is a spatial and temporal analogy based on which the trends and intensity of changes facing the agri-food sector in individual countries can be inferred.

METHOD

The process of creating and allocating the supply of agri-food products is presented in Fig. 1. In accordance with the national accounts methodology, the product account is a synthetic presentation of the effects of production processes and imports, and of the use of manufactured products in the national economy (Manual..., 2008). In agriculture and the food industry it includes:

- total revenue (creation of supply), which takes into account the global production of agriculture and food industry and the import of agri-food products;
- total outgoings (allocation), where intermediate demand (intermediate consumption) as well as final demand (consumption, accumulation and export) for agri-food products are taken into account.

The input–output tables provided a basis for identifying the size and structure of the creation and distribution of product supply in the European agri-food sector. The years covered by the analysis were 1995 and 2010, which results from the availability of data.

² Agribusiness development in different regions of the world was analyzed by Tomczak (2004), Buccirosi et al. (2002), Reynolds et al. (2009), Haggblade (2011), Heyder and Theuvsen (2012), Mrówczyńska-Kamińska (2014, 2015), Wicki and Grontkowska (2015), Jabri (2016) and many others.

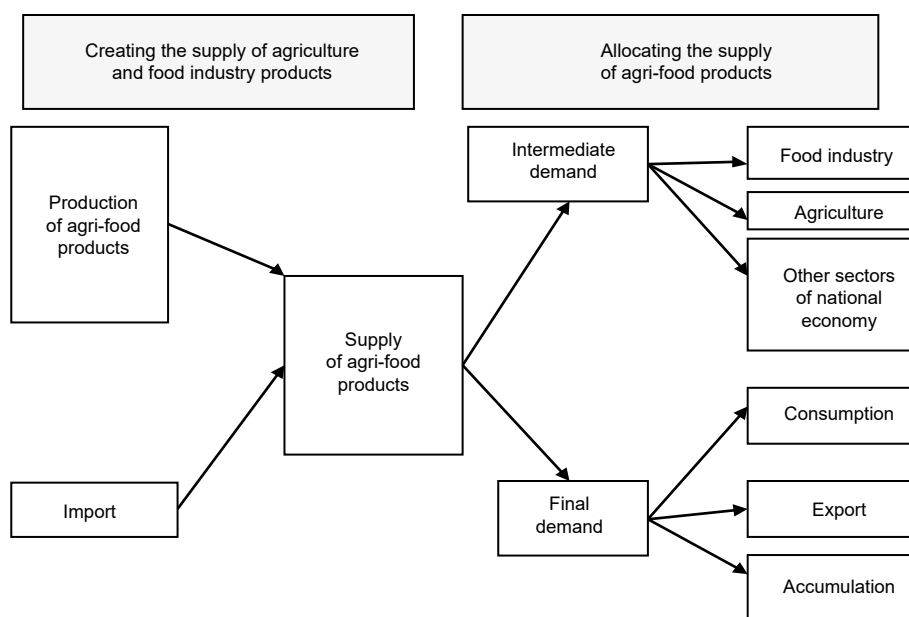


Fig. 1. Creation and allocation of the supply of agri-food products shown on a diagram
Source: own elaboration based on the Manual..., 2008.

RESULTS

Supply of agricultural products

The first important issue is the creation and allocation of the supply of agricultural products. In the years covered by this analysis, the highest total supply of agricultural products at base prices (including imports) was recorded in France, Germany and Italy (around EUR 56–74 billion) (Table 1). Compared to other countries, high levels of supply of agricultural products were also seen in Spain, the Netherlands and the United Kingdom. These figures were in the range of EUR 35–43 billion in the last year under study. In Poland, the supply of agricultural products, compared to other countries, was at an average level of around EUR 28 billion. In international comparisons, the structure of supply is a more important aspect. In analyzing these values, it should be noted that agricultural production is a dominant component on the supply creation side in all European Union countries. However, there are quite significant differences between countries in this respect. The group of countries where agricultural production has a very important contribution (over 90%) to the creation of supply of the second sphere of agribusiness includes Bulgaria, Romania, Poland and Hungary. However, it should be noted that

since 1995, quite significant changes have been experienced in this area. For example, in the years under study, the contribution of agricultural production to the creation of the supply of this sector decreased from 98% to 86% in Bulgaria as a result of an increase in imports of agricultural raw materials. These changes also occurred in Poland and Romania, though at a slower pace. In 2010, the share of foreign products in Poland amounted to 11% of total supply, while in Romania it was 9%. In turn, Belgium (45%), Germany, the Netherlands and the United Kingdom (ca. 30–35%) are characterized by the largest contribution of imports to the supply of agricultural goods; in all of these countries, this share has increased since 1995. In some other EU countries, agricultural production is of a relatively minor importance for the supply of agricultural products, and therefore the share of imports is also at an average level. This is true for the Austrian, Estonian, Portuguese and Swedish agriculture, where imported products account for approximately 1/5 of the total supply of agricultural products. In other countries, imported products accounted for approximately 10.0% of the total supply of agricultural products.

The allocation structure is the flip side in the calculation. In most EU countries, agricultural production is

Table 1. Creating and allocating the supply of agricultural products in European Union countries in 1995 and 2010 (EUR million)

Country/year	Creation				Supply of products				Allocation														
	Production		Import		EUR million	%	Food industry		Agriculture		Other sectors		Total		Consumption		Export		Increase in current assets		Gross fixed capital formation		Total
	EUR million	%	EUR million	%			EUR million	%	EUR million	%	EUR million	%	EUR million	%	EUR million	%	EUR million	%	EUR million	%	EUR million	%	
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
Austria	1995	5,804	79.9	1,457	20.1	7,260	72.7	146	2.7	1,330	24.6	5,401	1,187	63.9	512	27.5	15	0.8	0	0.0	1,859		
	2010	5,575	70.9	2,287	29.1	7,862	65.7	1,360	26.3	413	8.0	5,162	1,663	61.6	760	28.1	129	4.8	148	5.5	2,700		
Belgium	1995	6,857	64.1	3,847	35.9	10,704	90.6	283	3.9	408	5.6	7,333	1,349	40.0	1,829	54.3	93	2.8	0	0.0	3,371		
	2010	7,946	55.3	6,432	44.7	14,378	82.2	681	7.5	934	10.3	9,079	2,042	38.5	3,091	58.3	52	1.0	114	2.2	5,300		
Bulgaria	1995	
	2010	4,031	89.7	461	10.3	4,492	43.3	878	44.1	252	12.6	1,993	1,219	48.8	1,196	47.9	-13	-	96	3.8	2,499		
Czech Republic	1995	
	2010	5,258	75.9	1,668	24.1	6,926	67.2	481	11.7	861	21.0	4,094	1,829	64.6	925	32.7	-59	-	137	4.8	2,832		
Denmark	1995	8,148	89.4	962	10.6	9,110	74.2	1,320	19.2	459	6.7	6,887	847	38.1	1,227	55.2	136	6.1	12	0.5	2,223		
	2010	7,797	73.2	1,639	15.4	10,646	69.4	1,120	20.2	581	10.5	5,556	2,604	51.2	2,366	46.5	103	2.0	16	0.3	5,090		
Estonia	1995	453	82.5	96	17.5	549	48.5	166	38.3	57	13.2	433	99	85.3	14	12.1	2	1.7	1	0.9	116		
	2010	614	79.4	158	20.4	773	62.9	133	28.7	39	8.4	464	157	50.8	120	38.8	13	4.2	19	6.1	309		
Finland	1995	4,221	87.8	588	12.2	4,809	67.2	990	29.6	108	3.2	3,344	843	57.5	296	20.2	268	18.3	0	0.0	1,465		
	2010	4,931	79.9	1,242	20.1	6,173	67.4	911	22.9	382	9.6	3,971	1,283	58.3	833	37.8	40	1.8	45	2.0	2,202		
France	1995	60,446	90.3	6,469	9.7	66,915	70.4	9,674	21.6	3,576	8.0	44,768	12,081	54.5	6,510	29.4	2,227	10.1	0	0.0	22,147		
	2010	64,686	87.2	9,466	12.8	74,152	70.5	11,780	25.4	1,893	4.1	46,312	13,517	48.6	10,679	38.4	2,714	9.7	930	3.3	27,840		
Greece	1995	
	2010	9,578	95.7	1,432	14.3	10,010	59.5	1,446	26.0	807	14.5	5,566	3,993	73.3	1,242	22.8	127	2.3	82	1.5	5,444		
Spain	1995	28,382	85.8	4,711	14.2	33,093	80.8	2,731	11.6	1,773	7.5	23,488	4,409	45.9	4,921	51.2	130	1.4	0	0.0	9,606		
	2010	36,314	83.6	7,139	16.4	43,453	75.1	2,490	9.2	4,257	15.7	27,139	9,865	60.5	10,163	62.3	298	1.8	1,462	9.0	16,314		

1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Netherlands	1995	20,854	73.6	7,476	26.4	28,329	13,135	76.5	3,116	18.2	908	5.3	17,159	1,511	13.5	9,291	83.2	-94	-	0.0	11,171	
	2010	26,024	64.7	14,194	35.3	40,218	14,395	69.7	4,694	22.7	1,569	7.6	20,658	2,628	13.4	16,339	83.5	189	1.0	404	2.1	19,560
Ireland	1995	5,733	88.8	720	11.2	6,453	4,510	85.2	593	11.2	194	3.7	5,296	673	58.2	384	33.2	101	8.7	0.0	1,157	
	2010	6,362	82.8	1,326	17.2	7,688	4,050	75.2	1,002	18.6	335	6.2	5,387	944	41.0	957	41.6	450	19.6	-50	-	2,301
Lithuania	1995	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2010	2,066	73.3	753	26.7	2,818	945	74.2	245	19.2	84	6.6	1,274	737	47.7	828	53.6	-74	-	0.0	1,544	
Latvia	1995	654	89.0	82	11.2	735	134	36.4	226	61.4	8	2.2	368	342	93.2	10	2.7	12	3.3	0.0	367	
	2010	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Germany	1995	41,589	73.3	15,148	26.7	56,737	31,519	86.7	1,097	3.0	3,722	10.2	36,338	13,329	65.3	4,030	19.8	65	0.3	2,975	14.6	20,399
	2010	40,102	62.0	24,623	38.0	64,725	31,469	85.1	2,474	6.7	3,015	8.2	36,958	15,979	57.5	7,475	26.9	4,363	15.7	-50	-	27,767
Poland	1995	14,014	93.6	963	6.4	14,977	918	9.5	3,586	37.0	5,188	53.5	9,692	4,468	84.5	463	8.8	-5	-	359	6.8	5,285
	2010	22,066	89.6	2,555	10.4	24,621	9,546	62.7	4,340	28.5	1,346	8.8	15,232	11,775	83.2	2,109	14.9	284	2.0	-20	-	14,148
Portugal	1995	4,903	76.9	1,470	23.1	6,373	3,666	78.8	376	8.1	608	13.1	4,650	1,330	77.2	112	6.5	37	2.1	0.0	1,723	
	2010	5,928	69.2	2,636	30.8	8,564	4,275	72.1	955	16.1	701	11.8	5,931	1,738	66.0	501	19.0	25	0.9	369	14.0	2,632
Romania	1995	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2010	14,358	91.4	1,351	8.6	15,709	5,446	53.8	4,504	44.5	176	1.7	10,126	3,518	63.0	1,772	31.7	30	0.5	263	4.7	5,583
Slovakia	1995	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2010	2,507	75.5	812	24.5	3,319	833	50.2	497	29.9	330	19.9	1,660	992	59.8	627	37.8	.	.	41	2.5	1,660
Slovenia	1995	854	82.0	188	18.0	1,042	214	28.5	186	24.8	349	46.5	750	180	61.4	23	7.8	73	24.9	0.0	293	
	2010	12,151	693.9	500	28.6	1,751	427	60.1	217	30.5	67	9.4	711	684	65.8	209	20.1	115	11.1	0.0	1,039	
Sweden	1995	4,125	78.4	1,138	21.6	5,263	3,109	81.7	299	7.9	398	10.5	3,806	1,096	75.2	309	21.2	9	0.6	0.0	1,457	
	2010	4,446	71.6	1,760	28.4	6,206	2,707	65.4	707	17.1	724	17.5	4,138	1,696	82.1	331	16.0	-17	-	57	2.8	2,067
United Kingdom	1995	28,007	82.4	5,989	17.6	33,996	16,029	69.4	3,960	17.1	3,124	13.5	23,112	8,782	80.7	1,640	15.1	-97	-	0.0	10,883	
	2010	24,692	70.0	10,571	30.0	35,263	11,662	67.3	3,158	18.2	2,519	14.5	17,339	14,430	80.5	2,188	12.2	1,250	7.0	56	0.3	17,924
Hungary	1995	4,740	94.4	281	5.6	5,020	2,003	65.3	875	28.5	190	6.2	3,069	1,048	53.7	629	32.2	215	11.0	0.0	1,952	
	2010	7,139	87.8	987	12.1	8,127	2,363	51.4	1,633	35.5	605	13.1	4,601	1,304	37.0	2,099	59.5	-137	-	260	7.4	3,526
Italia	1995	42,164	84.6	7,686	15.4	49,850	24,845	63.2	4,896	12.5	9,582	24.4	39,323	6,974	66.2	3,266	31.0	364	3.5	0.0	10,527	
	2010	45,930	81.8	10,192	18.2	56,122	24,607	67.1	5,306	14.5	6,757	18.4	36,670	14,089	72.4	4,749	24.4	238	1.2	377	1.9	19,452

Source: own calculation based on Eurostat, 2017.

intended for intermediate consumption, with the highest share in total consumption being recorded in Ireland, Finland, Italy, Portugal and Sweden (ca. 60–70%, see Table 1). In the majority of countries, agricultural products were delivered to the food industry as raw materials (as part of intermediate demand) for the production of ready-made food products. Only in Bulgaria, Romania and Lithuania, internal trade accounted for almost half of the entire production volume intended to address the intermediate demand. This is one of the reasons behind the poor development of their agri-food industry. In other EU countries, internal trade in agricultural products plays a significant role in intermediate consumption, but a positive trend may be observed in the allocation account: most products are delivered to a relatively well-developed agri-food sector (e.g. Poland, Ireland, Austria or France). As far as the use of agricultural raw materials in other sectors is concerned, these raw materials were most often distributed to hotels and restaurants in the entire EU, as well as to hospitals and social care centers. The highest relative importance of these sectors in the allocation of the supply of agricultural products was recorded in Austria, Bulgaria, Portugal and Italy (over 10% of total supply). Interestingly, in Estonia and Slovenia, compared to other countries, a considerable part of agricultural products went to other sectors of the national economy. For example, in Slovenia as much as 34% of the supply of agricultural products was allocated to other sectors of the national economy in 1995, including to business-related services. In Estonia, around 10.0% of the total supply of agricultural products was delivered for further use in other sectors of the national economy in the years covered by this study, mainly for the production of clothing and fur products, although a downward trend can be seen in this case. In most EU countries, less than 50.0% of agricultural production was allocated for the purpose of meeting final demand (mainly internal consumption). In agriculture, relatively few ready-made food products are intended for direct consumption (straight from the farm). These are mainly fruits and most vegetables, potatoes, a certain amount of eggs and some other products of minor importance (Woś, 1979). The largest part (over 50.0%) of total supply of agricultural products was allocated to domestic consumption in Lithuania, Slovenia, Greece, Spain and Romania, i.e. in southern European countries where unprocessed vegetable products constitute a large proportion of the diet and where self-supply is

of great importance for the farming population (e.g. milk in Lithuania). The export of agricultural raw materials is also an important direction for the allocation of agricultural products in some countries. Of the countries considered, the largest share of exports in the allocation structure was seen in the Netherlands (41% of the total supply and over 83.0% of total final demand in 2010)³ and in Belgium (21% and 47%, respectively). The significance of exports was also noted in Denmark and Spain (around 20.0% of total supply). The growing share of exports in the supply of agricultural products in Bulgaria, Lithuania and Hungary is particularly noteworthy, as it increased by nearly 20 percentage points and amounted to almost 30% after joining the EU and the unified European Market.

Accumulation is another component of final demand, and includes two aspects: an increase in producer stocks and in gross fixed capital formation. In absolute terms, the highest (and increasing) expenditures on fixed assets were seen in German agriculture (over EUR 4.3 billion) and in French agriculture (EUR 2.7 billion), reaching a level much higher than other countries. These results are indicative of high investment expenditures in the agricultural sector compared to other countries. As for the increase in producer stocks, it varied from one country to another. Because it means the difference between the level of stocks at the end and at the beginning of the year, it was negative in some countries and positive in others. The proportion between volumes of agricultural products allocated to intermediate demand (intermediate consumption) and final demand confirm that in most European Union countries the agricultural sector is primarily a supplier of raw materials, both within the agribusiness and in the entire national economy. This is a natural consequence of structural changes in the economy and of the shift towards modern agribusiness.

Supply of food products

The next issue is the creation and distribution of food industry products. Regarding the absolute values of supply

³ The large share of agricultural exports in the structure of supply in the Netherlands is mainly due to the fact that the Netherlands is a major producer of flowers in the European Union, with ca. EUR 8 billion worth of production in 2010 (over one third of the total production in the EU); Economic accounts for agriculture, www.epp.eurostat.ec.europa.eu, accessed on May 10, 2017.

in particular years, the highest levels were recorded in those countries where, on the one hand, the national economy is best developed, and on the other hand, the productive potential and input–output flows in the food industry were at their highest (see Mrówczyńska-Kamińska, 2015). This includes Germany, France, UK, Italy or Spain where the supply of food industry products is the highest of all EU countries (Table 2); these are also the largest countries in the entire European Union. In 2010, the total supply in these countries amounted to over EUR 760.0 billion. The other group includes countries where the supply of food products increased over the analysis period; however, in relation to those mentioned earlier, the supply is much smaller in absolute terms. Nevertheless, when analyzing data on the creation and allocation structure of the supply of food products, it should be noted that in virtually all countries, the production of the food industry is of the greatest significance on the creation side.

The largest share of food industry production in total supply was seen in Poland and Romania (around 87%), while the smallest shares were recorded in Slovakia, Bulgaria, Estonia and Belgium (on average 60%). Differences between countries result primarily from the share of imports in the creation of supply. In the case of Bulgaria, Slovakia, Belgium and Estonia, nearly 30–40% of total supply came from imports, whereas in Poland and Romania it was about 14%. Unlike in agriculture, the supply of agri-food products is predominantly destined to address final demand.

The proportions of allocation of agri-food products between intermediate consumption (intermediate demand) and final demand prove this industry plays a major role in meeting the demand of consumers and exporters in European Union countries. In the years covered by this analysis, final demand had a dominant share in the allocation structure (at a high level of 60–80% in most EU countries). As part of this demand, the supply of agri-food products was mainly allocated to domestic consumption and exports⁴. In analyzing the allocation of consumption between exports and domestic demand, it can be seen that in those EU countries where the level of socioeconomic development is low, there is little connection with foreign countries, while in wealthier

countries, with a more developed food industry, a large proportion of supply is sold abroad. Thus, in Romania and Greece, the share of exports in final demand is very low and amounts to 2.0% and 9.0%, respectively. Poland must also be mentioned because this ratio increased from 8.0% in 1995 to 14.0% in 2010 over the period considered. These situations could be mainly related to the fact that Poland has gained the opportunity to sell its products abroad ever since becoming a member of the European Community⁵. While discussing the importance of exports in the allocation of food products, attention should be paid to the Netherlands and Denmark where invariably 35–50.0% of the supply of food products was exported during the period considered. A similar situation occurred in Ireland: the share significantly increased from 49.0% in 1995 to almost 70.0% in 2010. In the last year of the study period, an interesting situation occurred in Ireland which experienced an increase in the share of exports in the allocation structure. This resulted in a decrease in the share of consumption but at the same time, there was a considerable increase in the share of food products delivered – as part of intermediate consumption – to other industries, those being mainly hotels and restaurants. The Irish society became wealthier⁶ in the period in question, and the share of

⁵ Poland's accession to the Community structures proved to be beneficial for Polish agribusiness. This is evidenced by the excellent results of foreign trade in agri-food products. There was an extremely fast increase in the export of Polish agri-food products, which more than compensated for the smaller increase in corresponding imports (Chechelski, 2008). In 2007–2016, the value of exported agri-food products increased almost three-fold, i.e. from PLN 38,277.0 million to PLN 105,781.4 million, which resulted in an increase in the share of exports of these products in total exports by 3.3 percentage points, up to 13.2%. An increase was also recorded on the import side. However, it was slower, and therefore an increase in net trade in agri-food products was seen, reaching 30,610.9 million in 2016 (Baer-Nawrocka and Poczta, 2018). Despite various conditions, these results confirm that the food industry is well prepared for operating in the European Single Market (ESM) and in most other markets. Polish food producers have improved their position on the market of the enlarged Union. Mutual full opening of markets was not, as some economists and politicians predicted, a brake on the development of the Polish food industry; on the contrary, it turned out to be a strong development momentum, which may result in further development of modern agribusiness in Poland.

⁶ In Ireland, the growth rate of per capita GDP in purchasing power parities was 320.0% in 1990–2004. This means that per capita GDP increased by 200.0% over the study period. This was

⁴ Accumulation in this area of agribusiness was of minor significance, with the exception of German agribusiness where the increase in tangible fixed assets was over EUR 6.0 billion in 2007.

Table 2. Creating and allocating the supply of food products in European Union countries in 1995 and 2010 (EUR million)

Country/year	Creation										Allocation																																																																															
	Production					Import					Supply of products					Intermediate demand					Final demand																																																																					
	EUR million		%		5	EUR million		%		6	EUR million		%		7	EUR million		%		8	EUR million		%		9	EUR million		%		10	EUR million		%		11	EUR million		%		12	EUR million		%		13	EUR million		%		14	EUR million		%		15	EUR million		%		16	EUR million		%		17	EUR million		%		18	EUR million		%		19	EUR million		%		20	EUR million		%		21	EUR million		%		22
	2	3	4	5		6	7	8	9		10	11	12	13		14	15	16	17		18	19	20	21		22																																																																
Austria	1995	12,260	84.6	2,231	15.4	14,491	1,905	41.4	455	9.9	2,236	48.6	4,597	8.301	83.9	1,562	15.8	31	0.3	0	0.0	9,894																																																																				
	2010	16,441	71.7	6,504	28.3	22,945	2,707	40.2	542	8.0	3,484	51.7	6,733	9,215	56.8	6,916	42.7	81	0.5	0	0.0	16,212																																																																				
Belgium	1995	23,256	72.4	8,848	27.6	32,105	5,577	52.5	1,880	17.7	3,169	29.8	10,626	10,267	47.8	11,075	51.6	136	0.6	0	0.0	21,478																																																																				
	2010	31,437	67.3	15,305	32.7	46,742	7,243	53.3	1,450	10.7	4,898	36.0	13,591	13,962	42.1	19,143	57.7	46	0.1	0	0.0	33,151																																																																				
Bulgaria	1995																																																																			
	2010	4,423	75.1	1,464	24.9	5,887	850	59.6	130	9.1	447	31.3	1,427	3,327	56.5	1,112	18.9	-3	-	24	0.4	5,887																																																																				
Czech Republic	1995																																																																			
	2010	11,840	73.4	4,287	26.6	16,127	2,469	49.0	1,130	22.4	1,437	28.5	5,036	7,993	72.1	3,189	28.8	-91	-	0	0.0	11,091																																																																				
Denmark	1995	15,943	81.7	3,569	18.3	19,512	3,387	59.0	787	13.7	1,571	27.3	5,745	5,003	36.3	8,749	63.6	3	0.0	12	0.1	13,767																																																																				
	2010	17,903	48.9	6,563	17.9	36,632	5,129	49.5	2,008	19.4	3,219	31.1	10,356	14,555	43.5	11,855	33.3	-134	-	0	0.0	17,903																																																																				
Estonia	1995	783	68.7	357	31.3	1,140	169	59.1	31	10.8	86	30.1	286	531	62.2	296	34.7	27	3.2	0	0.0	854																																																																				
	2010	1,206	59.4	825	40.6	2,032	233	51.2	56	12.3	166	36.5	455	981	62.2	625	39.7	-31	-	0	0.0	1,576																																																																				
Finland	1995	8,122	88.9	1,016	11.1	9,138	2,382	49.3	349	7.2	2,101	43.5	4,832	3,165	73.5	985	22.9	142	3.3	13	0.3	4,306																																																																				
	2010	11,328	76.9	3,405	23.1	14,733	2,567	39.2	606	9.3	3,369	51.5	6,542	6,335	62.2	0	0.0	0	0.0	0	0.0	11,328																																																																				
France	1995	112,435	86.3	17,812	13.7	130,247	22,191	47.0	5,145	10.9	19,890	42.1	47,226	64,006	77.1	18,256	22.0	759	0.9	0	0.0	83,021																																																																				
	2010	150,843	82.9	31,136	17.1	181,979	23,679	40.2	5,250	8.9	29,936	50.9	58,865	95,552	77.6	29,434	23.9	-1,872	-	0	0.0	123,114																																																																				
Greece	1995																																																																			
	2010	17,004	76.7	5,153	23.3	22,157	781	19.9	360	9.2	2,780	70.9	3,921	16,165	88.6	1,987	10.9	-1	-	0	0.0	18,237																																																																				
Spain	1995	56,946	88.4	7,493	11.6	64,439	11,626	37.6	4,593	14.9	14,694	47.5	30,913	27,976	83.4	5,181	15.5	369	1.1	0	0.0	33,526																																																																				
	2010	94,996	85.1	16,730	14.9	111,726	22,318	41.6	7,301	13.6	24,014	44.8	53,633	40,497	69.7	16,638	28.6	958	1.6	0	0.0	58,093																																																																				

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Netherlands	1995	41,055	77.8	11,717	22.2	52,771	9,019	55.6	3,141	19.4	4,062	25.0	16,221	11,828	32.4	24,596	67.3	88	0.2	39	0.1	36,550
	2010	60,586	70.6	25,192	29.4	85,778	15,853	60.5	3,462	13.2	6,901	26.3	26,216	18,967	31.8	40,382	67.8	145	0.2	68	0.1	59,562
Ireland	1995	11,136	81.3	2,560	18.7	13,696	389	24.8	960	61.3	218	13.9	1,567	5,315	43.8	6,684	55.1	131	1.1	0	0.0	12,130
	2010	20,049	77.9	5,675	22.1	25,724	3,533	51.8	1,154	16.9	2,129	31.2	6,816	1,804	9.5	17,680	93.5	-577	-	274	1.4	18,907
Lithuania	1995	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2010	3,013	67.2	1,472	32.8	4,485	217	36.9	218	37.1	153	26.0	588	2,416	62.0	1,526	39.2	-44	-	.	3,897	
Latvia	1995	528	85.9	87	14.1	615	207	57.7	29	8.1	123	34.3	359	560	73.6	197	25.9	4	0.5	0	0.0	761
	2010	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Germany	1995	123,060	84.3	22,867	15.7	145,927	20,542	45.9	3,685	8.2	20,495	45.8	44,722	84,489	83.5	16,445	16.2	271	0.3	.	0.0	101,205
	2010	154,605	78.3	42,969	21.7	197,574	23,121	48.4	3,354	7.0	21,326	44.6	47,801	111,290	753.3	42,585	288.3	-4102	-	210	1.4	14,773
Poland	1995	24,549	95.2	1,225	4.8	25,774	5,246	66.3	918	11.6	1,750	22.1	7,914	15,714	88.0	2,067	11.6	80	0.4	.	.	17,860
	2010	39,024	85.5	6,596	14.5	45,620	11,578	52.6	3,067	13.9	7,386	33.5	22,031	13,695	27.7	9,879	20.0	15	0.0	.	.	49,439
Portugal	1995	10,662	81.6	2,399	18.4	13,061	2,424	44.5	1,032	18.9	1,993	36.6	5,449	6,338	83.3	1,262	16.6	12	0.2	0	0.0	7,612
	2010	14,969	72.5	5,690	27.5	20,659	3,012	40.4	1,285	17.2	3,156	42.3	7,453	9,998	75.7	3,189	24.1	19	0.1	.	.	13,206
Romania	1995	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2010	16,789	86.7	2,570	13.3	19,359	1,356	39.2	185	5.3	1,919	55.5	3,460	14,676	92.2	1,169	7.3	.	0.0	65	0.4	15,909
Slovakia	1995	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2010	3,823	59.4	2,613	40.6	6,436	464	51.2	93	10.3	349	38.5	906	4,073	73.7	1,428	25.8	30	0.5	.	.	5,530
Slovenia	1995	1,463	77.8	417	22.2	1,880	498	62.7	76	9.6	221	27.8	794	849	78.2	223	20.5	14	1.3	0	0.0	1,086
	2010	2,087	62.7	1,242	37.3	3,328	445	44.2	120	11.9	442	43.9	1,007	1,763	75.9	573	24.7	-13	-	.	.	2,322
Sweden	1995	11,762	83.0	2,413	17.0	14,175	2,918	53.6	519	9.5	2,004	36.8	5,441	7,480	85.6	1,250	14.3	5	0.1	0	0.0	8,734
	2010	13,611	67.7	6,483	32.3	20,094	2,507	39.1	588	9.2	3,321	51.8	6,416	10,472	76.6	3,273	23.9	-66	-	.	.	13,679
United Kingdom	1995	71,420	81.8	15,938	18.2	87,358	14,502	40.6	3,115	8.7	18,084	50.7	35,701	40,765	78.9	10,688	20.7	203	0.4	0	0.0	51,656
	2010	83,348	67.8	39,549	32.2	122,897	18,352	31.9	2,777	4.8	36,430	63.3	57,559	51,507	78.8	13,271	20.3	.	-	561	0.9	65,339
Hungary	1995	6,184	89.9	695	10.1	6,879	1,163	59.1	556	28.3	248	12.6	1,967	3,117	63.5	1,611	32.8	184	3.7	0	0.0	4,912
	2010	8,804	74.8	2,969	25.2	11,773	1,290	34.7	661	17.8	1,768	47.5	3,719	4,642	57.6	3,262	40.5	118	1.5	32	0.4	8,054
Italia	1995	85,804	84.9	15,263	15.1	101,066	17,280	37.8	4,222	9.2	24,222	53.0	45,723	44,772	80.9	9,411	17.0	1,160	2.1	0	0.0	55,343
	2010	120,359	82.9	24,886	17.1	145,246	26,531	48.1	3,847	7.0	24,781	44.9	55,159	67,499	74.9	20,481	22.7	1,937	2.2	171	0.2	90,087

Source: own calculation based on Eurostat, 2017.

food expenditure in general income increased, which indicates an increase in the consumption of high quality, highly processed food, mainly consumed in restaurants. It can be concluded that in countries at a higher level of socioeconomic development, global processes are more important for the development of the entire agribusiness on the one hand. On the other hand, the consumption structure in these countries has changed. It corroborates the thesis that as social and economic development commences, the consumer starts to decide what is happening at different levels of agribusiness and drives structural changes in the economy.

As far as the second part of supply is concerned, an average of 30% of the total supply was delivered for intermediate consumption in individual EU countries, but this share declined over the analysis period. The smallest share, being less than 20%, was recorded in Bulgaria, Estonia and Lithuania. The countries where more than 40% of the supply of food products were delivered (as part of intermediate demand) for further processing – but mainly to sectors other than agriculture and industry – include Spain, Italy, the United Kingdom and Finland. In this case, products delivered to hotels and restaurants are a crucial component of commodity flows⁷, which suggests that the population uses catering services (enjoys eating out). In other EU countries, the main recipient of agri-food raw materials is the food industry itself (internal trade) while agriculture is the recipient of these products to a small extent. It is difficult to clearly identify the trend in this area, because the structure of allocation of supply for intermediate consumption depends to a large extent on the level of development of the national agri-food industry and its connections with agriculture and other branches and sectors of the national economy. The level of the population's income also plays a significant role.

The analysis of changes in the share of exports of agri-food products in the total or final demand for agricultural products allows for the assessment of changes in internal and external competitiveness of agriculture

and the food industry. The relative positions of individual spheres can also be determined on that basis. When comparing the changes in the share of exports in the final demand for agricultural and food industry products over the study period, it may be noticed that exports of ready-made food are generally growing much faster. In general, as indicated earlier, exports of ready-made food products have a much larger share in final demand than agricultural raw materials. This suggests that in individual countries, mainly those at a higher level of socioeconomic development in the period concerned, the processing of agricultural products in the food processing industry is rapidly growing. This proves the importance of global processes for the development of agribusiness. In today's world, globalization forms the basis for the development of modern agribusiness links in individual countries (Kowalczyk, 2010). Globalization changes the operating principles of individual companies on the market; therefore, without links with international companies, agribusiness companies would not be able to succeed (Chechelski, 2008). Globalization changes the conditions of both production and trade in food, and thus it affects the availability of food for consumers and changes their preferences. Therefore, it directly and indirectly affects all spheres of agribusiness.

CONCLUSIONS

In summarizing the analysis of the creation and allocation of supply of agricultural and agri-food products, it should be pointed out that these processes vary from one country to another. Research results indicate that in the new member states (who joined the European Union in 2004 or later), imported products are of little importance in the supply of agricultural products, which proves weaker links with European and global agribusinesses compared to those in the EU-15. This contributes to limiting the inflow of biological progress to agricultural production and the inflow of high-quality agricultural raw materials used in food production. In turn, in most EU-15 countries, the contribution of imports to the supply of agri-food products is high, and foreign trade is very important in the development and stabilization of agribusiness. The growing importance of imports in creating the supply of agri-food products, and thus the inflow of innovations to particular areas of agribusiness, are seen as symptoms of the development of this subsystem. The symptoms also include an increase in the

the highest growth rate of national income per capita of all countries (Chechelski, 2008). Although the level of per capita GDP slightly declined after the 2008 economic downturn, Ireland, just as Luxembourg, continues to be one of the wealthiest states in the EU.

⁷ Input-output tables for the respective countries, www.epp.eurostat.ec.europa.eu, accessed on June 20, 2012

share of intermediate demand (especially in industry) and a downward trend in the share of final demand in the distribution of agri-food products, as observed in most countries covered by this analysis. As the country moves to higher stages of economic development, agriculture delivers more and more raw materials for food production and relatively less food for direct consumption. In this way, the agricultural sector becomes more of a raw materials sector, the share of self-supply of agriculture decreases, and the marketability of agricultural production grows. As research has demonstrated, an ever smaller share of agricultural products in the group of countries considered is consumed in the unprocessed condition, as a result of which the agriculture's supply relationships with other sectors of the national economy are deepening. This is especially true for the agri-food industry, which in turn is the main and most important supplier of ready-made food products for the society. Therefore, in most countries, final demand is mostly addressed by the third sphere of agribusiness, i.e. the food industry. In the majority of EU-15 countries, especially those being most developed, the importance of import and export in the development of the entire agri-food sector is also high, which is the basis for its smooth functioning and development.

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