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# THE AGRI-FOOD SECTOR IN ROMANIA – AN ANALYSIS OF THE RESOURCES-UTILIZATION CORRELATION IN THE POST-ACCESSION PERIOD

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**Abstract:** *As important part of national economy, the agri-food sector had oscillating evolutions in the post-accession period, mainly generated by the need to get in line with the EU requirements. The analysis of the resources-utilizations ratio, from the point of view of production account, reveals significant modifications, as regards both the direct relations between the different subsectors of national economy and the relation between the overall sector and the rest of national economy. Based on data processing from the input-output table from national accounts, the present approach tries to make a diagnosis of the agri-food economy resources utilization in relation to other branches of the economy.*

**Key words:** *resources, utilizations, national accounts, agri-food sector.*

## INTRODUCTION

The analysis of interdependencies between different branches of national economy from the perspective of the formation and utilization of resources acquires an increased importance both from the point of view of potential niches for the sale of obtained production and of the identification of certain sectors whose activity is strongly dependent on the resources from upstream branches. As regards the agri-food sector, the resources-utilizations relation, also known as the input-output table, has an increased importance, generated by the share of the sector in national economy as well as by the driven effects in the relation with the other economic branches.

## MATERIAL AND METHOD

From the methodological point of view, the present approach has used public statistical information from the national accounts<sup>3</sup> from the Tempo-Online database of the National Institute of Statistics. Having in view that the analyzed indicators are expressed in value terms, for data comparability these were transformed into comparable prices of the last statistical year, using the consumer price index as deflator. We must specify that the investigated period refers to 2007-2012.

## RESULTS AND DISCUSSIONS

The resources of the sector “*agriculture*” in the period 2007-2012 are characterized by an oscillating trend of their distribution modality by different economic branches. Thus, while at the moment of accession, 58.7% of the resources of agriculture were used in agriculture, forestry and related services, in the year 2012, 66% of these resources were used in the food industry. Practically, the allocation of resources to agriculture decreased by 15.3%, while the resource allocation to the food industry increased by 33.6 % in 2012 compared to 2007 (**Table no. 1**).

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<sup>3</sup> As these are presented in the Input-Output Table, the production and exploitation accounts by branches – utilizations by product and branches of national economy.

Table no.1. Distribution of agriculture resources by other activity sectors in the period 2007-2012 (million RON 2012 prices)

Utilizations	2007	2008	2009	2010	2011	2012
Agriculture, hunting and related services	21171.7	29969.2	23734.6	21924.1	23205.1	15658.3
Forestry and forest exploitation	108.7	51.5	258.1	150.4	199.7	206.1
Fisheries and aquaculture	7.8	9.1	17.0	14.6	31.5	50.8
Food industry	11717.5	15609.7	15319.9	21478.5	24936.3	23848.8
Manufacturing of beverages	989.9	1442.1	1392.6	5074.8	4825.2	4071.2
Manufacturing of tobacco products	115.5	134.2	31.7	3.5	1.5	0.6
Manufacturing of textile products	660.9	820.1	608.2	381.7	453.7	439.2
Leather tanning and finishing; manufacturing of travelling requisites and leather items, harness leather items and footwear; fur preparation and dyeing	312.6	399.7	370.2	59.1	73.4	61.6
Manufacturing of chemical substances and products	22.8	36.7	29.6	29.9	35.2	19.2
Restaurants and other food services	971.6	1275.0	1216.8	133.5	81.4	50.8
Landscaping activities and building services	0.9	2.1	1.2	84.8	101.9	83.0
<b>Total</b>	<b>36080.0</b>	<b>49749.2</b>	<b>42979.8</b>	<b>49335.0</b>	<b>53945.0</b>	<b>44489.6</b>

Source: Calculations based on Tempo-Online data, NIS, 2015.

In the year 2012, the agri-food sector, overall<sup>4</sup>, used 98.5% of the resources of agriculture, up by 4% compared to the year 2007.

The agri-food sector used about 42% of the “forestry” resources. As regards the agro-processing industry<sup>5</sup>, the period 2007-2012 is characterized by the diminution of the share of resources used from forestry from 51.1% (2007) to 42.5% (2012), which reached 1428.5 mil. RON (Table no.2).

Table no.2. Allocation of forestry resources by other activity sectors in the period 2007-2012 (mil. RON 2012 prices)

Utilizations	2007	2008	2009	2010	2011	2012
Agri-food sector	1210.0	677.9	492.1	744.6	1318.3	1417.2
Extraction of metal ores	0.8	0.5	0.5	0.2	0.5	0.1
Wood processing, manufacturing of wooden and cork products, except for furniture; manufacturing of straw and other wickerwork products from vegetable material	1472.5	2206.1	2097.1	730.0	1287.3	1428.4
Manufacturing of paper and paper products	64.0	132.6	106.7	136.3	214.8	187.7
Manufacturing of furniture	89.3	164.5	147.8	122.4	186.4	153.2
Other industrial activities	7.4	13.8	11.7	23.3	31.9	25.1
Construction of buildings	21.4	81.7	40.5	67.2	121.8	87.0
Civil engineering works	7.8	23.7	20.6	27.8	45.0	30.0
Special construction works	5.8	14.3	13.0	16.9	32.1	19.6
Terrestrial transports and pipeline transports	4.5	8.4	7.8	7.6	16.6	11.0
Restaurants and other food services	0.1	0.1	0.1	2.6	2.2	1.5
<b>Total</b>	<b>2883.6</b>	<b>3323.7</b>	<b>2937.8</b>	<b>1879.0</b>	<b>3256.9</b>	<b>3360.8</b>

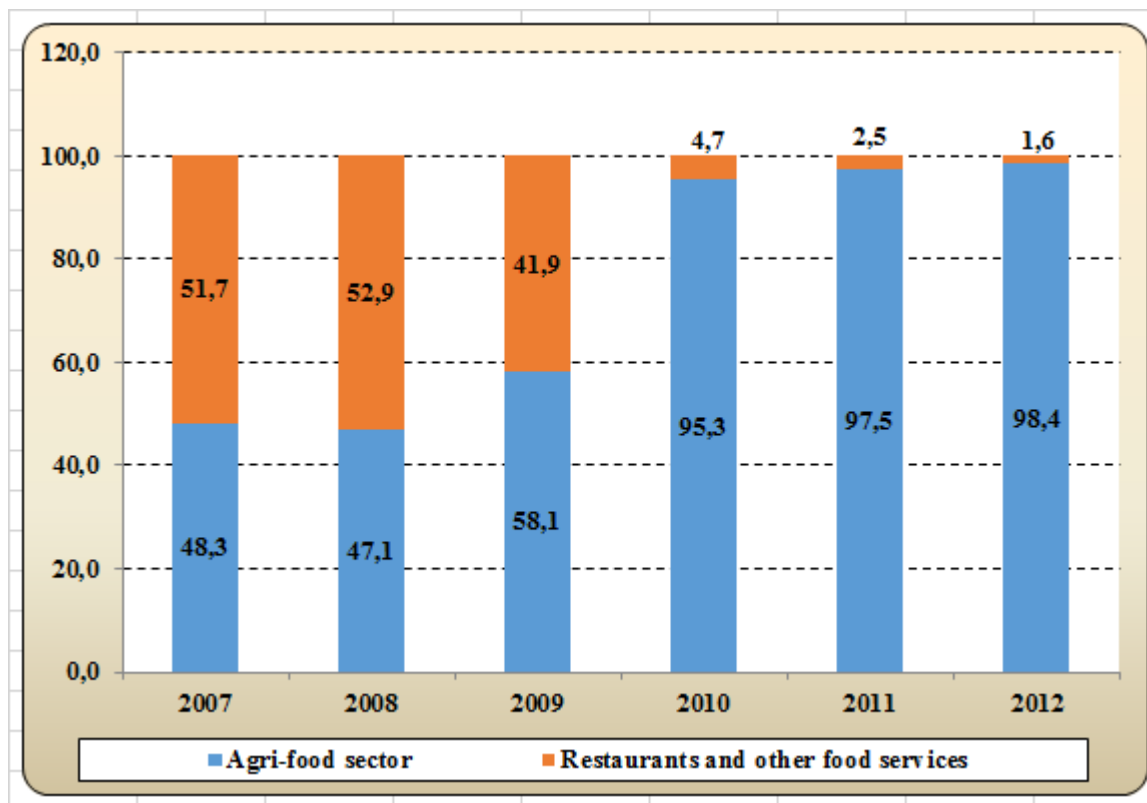
Source: Calculations based on Tempo-Online data, NIS, 2015.

<sup>4</sup> We refer here to the following sectoral structure: agriculture, forestry, related services, forestry, forest exploitation, fisheries, aquaculture, food industry, manufacturing of beverages and tobacco products.

<sup>5</sup> Wood processing, manufacturing of wooden and cork products, except for furniture, manufacturing of straw and other wickerwork products from vegetable material.

The resources of the *fisheries* sector followed an oscillating trend as regards their distribution by other activity sectors. Thus, while in the year 2007, 48.3% of these resources were used in the agri-food sector and the difference in the sector of services (restaurants and other food services activities), in the year 2012 the agri-food sector attracted 98.4% of the resources from the fisheries sector, while the percentage of resources significantly decreased in the sector of services, to reach only 1.6% (**Graph no.1**).

Graph no. 1. Utilization structure of resources from the fisheries sector by activity sectors in the period 2007-2012 (%)



Source: Calculations based on Tempo-Online data, NIS, 2015.

Unlike the oscillations from the other activity sectors, the food industry resources were mainly used inside this sector, with non-significant variations, i.e. about 64%, the difference being allocated to other activity sectors in low percentages (**Table no. 3**).

Table no.3. Distribution of food industry resources by other activity sectors in the period 2007-2012 (mil. RON 2012 prices)

	2007	2008	2009	2010	2011	2012
Agriculture, hunting and related services	2232	2338	1155	1416	1196	984
Food industry	18611	17927	15510	7580	7036	8207
Manufacturing of beverages	1554	1117	962	876	666	685
Manufacturing of tobacco products	0.5	0.6	0.1	1.4	0.5	0.2
Other branches	12559	18257	15137	7215	6965	5538
<b>Total</b>	<b>34956</b>	<b>39640</b>	<b>32765</b>	<b>17088</b>	<b>15863</b>	<b>15414</b>

Source: Calculations based on Tempo-Online data, NIS, 2015.

A relatively similar evolution was noticed in the industry of beverages and the tobacco industry. Thus, in the year 2012, out of total resources from the industry of beverages, 24.3% were used in the agri-food sector (down by 11.3% compared to 2007), while out of total resources from

the tobacco industry, the share of resources allocated to the agri-food sector was down by 13.7%, from 38.8% (2007) to 25.1% (2012) (**Table no.4**).

Table no.4. Distribution of resources from the beverages and tobacco industries to the agri-food sector in the period 2007-2012 (%)

	2007	2008	2009	2010	2011	2012
Beverages	35.6	35.5	39.9	26.3	20.5	24.3
Tobacco	38.8	36.1	47.4	27.7	27.2	25.1

Source: Calculations based on Tempo-Online data, NIS, 2015.

The modifications produced in the legal framework from the tobacco industry, by the establishment of non-smoking areas in certain places, generated a significant diminution of the utilization of sector resources in the field of services, mainly in the restaurants and food services industry, from 60.9% (2007) to 43.7% (2012) (**Table no. 5**).

Table no.5. Distribution of tobacco industry resources by other activity sectors in the period 2007-2012 (%)

	2007	2008	2009	2010	2011	2012
Agri-food sector	38.8	36.1	47.4	27.7	27.2	25.1
Restaurants and other food services	60.9	63.5	52.4	49.9	45.3	43.7
Sportive, leisure and entertainment activities	0.1	0.2	0.0	0.7	1.1	2.5
Different associative activities	0.2	0.2	0.2	21.7	26.3	28.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Calculations based on Tempo-Online data, NIS, 2015.

A “recovery” of losses from the food services and restaurants industry can be noticed in the field of sportive, leisure, entertainment activities and different associative activities, in which the allocation of resources from the tobacco industry significantly increased.

## CONCLUSIONS

The analysis of interdependencies between the different branches of the economy, of the formation and utilization of certain limited resources suscitated numerous debates not only as regards their approach by different activity sectors but also on the possibility to identify those sectors whose resources are used, to a certain extent, in fields of activity that generate high gross value added in the economy.

Practically, the measurement of the economic activity results is needed in order to reveal the economic development level, its trends and the modality in which the national economy resources are used. The physical and valoric evaluation of the overall results of the economic operators makes it possible to reveal the favourable and unfavourable evolutions in the national economy or a given activity sector.

Our approach to the agri-food sector from the perspective of resource utilization synthetically revealed the following aspects:

- Significant utilization of own resources by each sub-field of activity;
- Noticeable tendency to change the shares of activity fields that use resources from the agri-food sector, generated either by the re-orientations produced in the commercial strategies or by imposing criteria or additional legal requirements;
- The resources of the agri-food sector tend to increase their share as regards their utilization in the sector of services, to the detriment of those from the processing industry.

To sum up, we can conclude that the resources-utilizations analysis can provide the decision-makers with the necessary elements for building up a sectoral development model, as each

input in a system (available resource) and each output (utilization) respectively represent important partitions of the overall national economy system.

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