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THE PROVISION OF SERVICES SPECIFIC TO THE AGRICULTURAL SECTOR IN ROMANIA

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Abstract

The paper studied the evolution of agricultural services sector in Romania. The data regarding agricultural services were retrieved from the Tempo online database and the analysis is also based on FADN data. The analyse had some limitations due to the insufficient statistic data in the field because, at national and regional level, the statistical value of agricultural services doesn't reflect the reality in the field. At farm level, due to the fact that he FADN sample design is achieved through a rotating panel technique the data from the analysed period (2010-2020) are not fully comparable. However, our research revealed a positive evolution in the last decades and a continuous development of rural business environment. In 2020, the services provided by third parties ("work carried out by contractors and to the hire of machinery") were much higher in horticulture and mixed farms (TF8), in specialist horticulture and mixed livestock farms (TF14) and in the farms from Bucharest-Ilfov Region. The analyse of the share of these costs in total intermediate consumption puts on the first places the mixed and mixed crops farms and the farms from North-East Region.

Key words**:** *agricultural services, contract work, share in total intermediate consumption*

INTRODUCTION

According to Commission Regulation (EC) 138/2004 [11], "agricultural and animal husbandry service activities, except veterinary activities" include "agricultural services in the form of contract work at the production stage (i.e. agricultural contract work)" and "other agricultural services (the operation of irrigation systems; the design, planting and maintenance of gardens, parks, and green areas for sports facilities and the like; tree pruning and hedge trimming, etc.)". The term to perform contract work it's clarified in the following way: "contract work (...) may be performed by: (a) specialist contractors for whom these are the principal activities (contractors in the true sense)".

Agricultural services can be found in production sector (vegetable and animal), as well as upstream and downstream of agriculture, including activities such as crop preparation, post-harvest handling, marketing of agricultural products, etc. Also, they can take a multitude of forms, respectively: research services; extension services; training services; financial services; input supply services (fertilizers, veterinary services, etc.); auxiliary services to agriculture (mechanization, herbicide application, etc.); conditioning or packaging services; distribution and transport services, etc [7].

Agricultural services have a direct impact on the efficiency of farms. In their paper Farid et al. (2021) [4] indicate that extension services provided to livestock farms regarding vaccination, artificial insemination, technology or farm management had a real impact on the production and economic level. Ssenyondo (2021) [12] recommends the promotion of credit services and marketing services to improve productivity. Zhao (2021) [14] analyses the need to create a model of functionality for agricultural service capable to enhance the added value of agriculture.

Regarding the agricultural services market, Tulkin and Qudrat (2022) [13] point out the existence of an entire agro service sector which develops continuously based on the innovation in agriculture. Olim et al. (2020) [9] proved that the farms under 40 ha and which have maximum 5 years since they started the activity are most likely in need of agricultural services (especially machinery services). However, “in the formation of markets for agricultural services in the agricultural sector should take into account the type of agricultural production (sowing), natural and climatic conditions, the size of arable land, the composition of agricultural crops, forms of ownership and management, and other similar factors” [10].

MATERIALS AND METHODS

According with the National Statistical Institute, the value of agricultural services in Romania represents around 2% from the agricultural output, but the collection of data is incomplete if we take in consideration that in our country about 35% of the costs per hectare represent agricultural services provided by third parties. So, the statistical studies regarding agricultural services are limited by data availability. To expand our analysis, we opted also for the database provided by FADN according with the method proposed by Kołodziejczak in 2020 [6]. The analysis covered all farms from Romania, classified on TF8, TF14 and regional types. We used the variable SE350, respectively “Contract Work’ which contains “costs linked to work carried out by contractors and the hire of machinery”[3]. For the selected indicators (agricultural services value in thou RON, contract work in euro/hectare) we used the time series from Tempo on line database and the data for 2010 and 2020 from FADN database. For all variables were performed a structural analysis and we analysed the evolution during 2010-2020 period.

RESULTS AND DISCUSSIONS

In the last decades, the services provided for agriculture have been constantly diversifying and their value has increased. According with Cilan and Nicoară (2021) [1] this increase “is largely due to the development of the number of new companies indicating a development of entrepreneurship”. In 2020, the agricultural services reached an amount of 1.8 million RON (2.26% from agricultural output), by 229.5% higher than in 2010. In fact, it is considered that the dynamics of agricultural services is much higher, but "it is missing from the official reports because the services provided are unregistered. The rental of agricultural machinery between small producers without a contract, the payment of these machinery without an invoice with money or with the agricultural production obtained" are very widespread practices.

Table 1. Agricultural services value (2010-2020), in Romania (thou RON, nominal)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020/ 2010 (%)
Total	64,452.6	76,508.7	64,259.5	78,464.4	74,524.5	68,749.6	69,348.6	78,494.1	86,349.3	89,989.1	81,400.4	126.3
Agricultural services	557.3	544.8	535.1	744.1	984.5	859.7	899.8	945.5	1,229.6	1,792.9	1,836.4	329.5
Share (%)	0.86	0.71	0.83	0.95	1.32	1.25	1.30	1.20	1.42	1.99	2.26	1.4

Source: Own calculation on the basis of data from Tempo on line data base 2010-2020, NIS [8].

Actually, "farmers prefer to lend the tractor or exchange it for a combine harvester or pay for the borrowed equipment with the agricultural products obtained than to start their own business, cut invoices, pay VAT" [2].
Agricultural services provided by third parties are higher in horticulture, mixed, permanent crops and wine farms in both analysed years. In horticulture farms the contract work reached in 2020 around 134 euro/hectare (with almost 278% higher than country average) (Figure 1).
In 2020, the average economic size was double (18,000 euro SO face with 9,000 euro SO in 2010) and the total agricultural utilized area was with 72.8% higher than in 2010. The share of services in total intermediate consumption was lower in 2020 due to the structure of the FADN database because usually the farms with bigger sizes have the

possibility to perform all the agricultural activities with their own assets and manpower. Also, in 2020, the activities were affected by COVID situation and many farmers didn’t had a viable market so they were reducing costs. So, the share of the contract work in total intermediate consumption was in 2020 at a level of 7-8% in mixed, permanent crops and field crop farms and at a level of 12-18% in 2010 in field crops, wine, permanent crops and mixed farms (Figure 2).

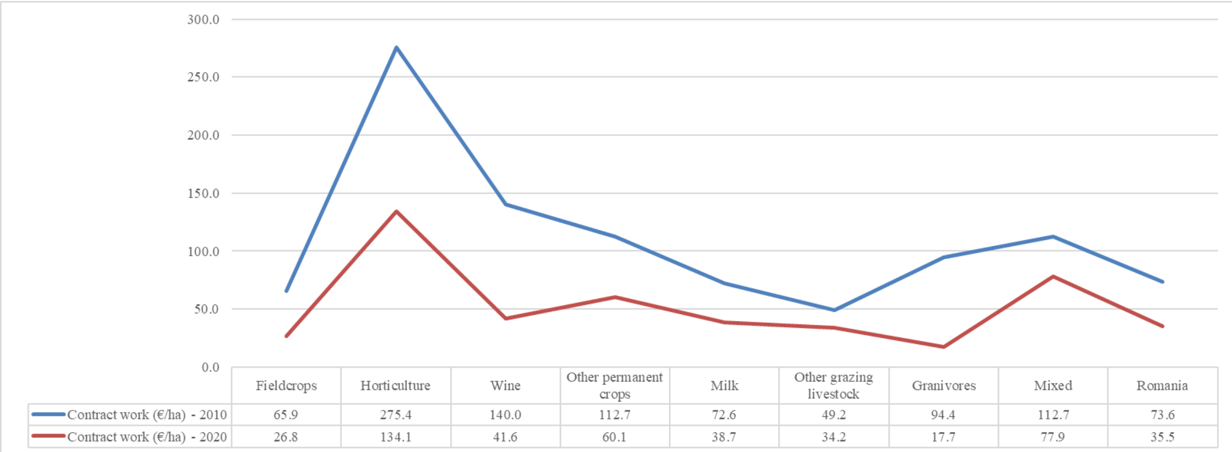

Fig. 1. Contract work (SE350) in Romania, 2010 and 2020, TF8 classification
Source: FADN data [5].
Note: Contract work = “Costs linked to work carried out by contractors and to the hire of machinery”, TF8

Fig. 2. Share of contract work in total intermediate consumption (SE350/SE275) in Romania, 2010 and 2020, TF8 classification
Source: FADN data [5].

If we perform the analyse based on the specialization of farms (TF14 classification) we observe that in 2020 the amount of the contract work reached 134.1 euro/hectare in specialist horticulture farms, 102.2 euro/hectare in mixed livestock, 97.7 euro/hectare in mixed crops farms and 74.4 euro/hectare in mixed crops and livestock farms (Figure 3). The situation was different in 2010 when the costs were higher also in specialist wine and orchards-fruits farms.

In mixed crop farms the share of contract work remained at around 14% from total intermediate consumption in both years (Figure 4). In 2020 we have around 8-10% in specialist other crops, mixed livestock, mixed crops and livestock farms. Due to the lower size, the farms from 2010 needed the services provided by third parties more, so the share in total consumptions were over 12% in almost all types of specialized farms and even at a level of 19% in specialist COP farms.

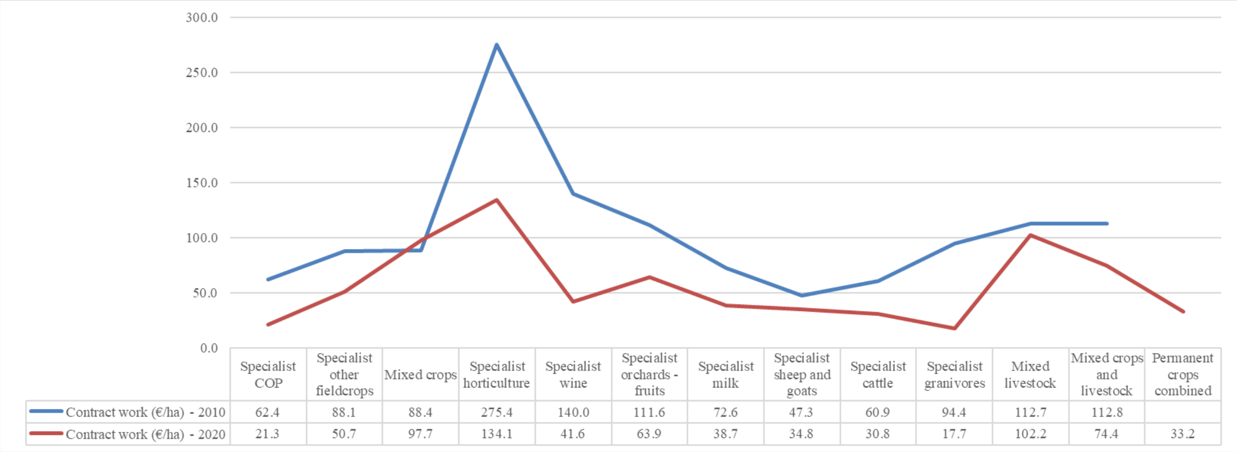

Fig. 3. Contract work (SE350) in Romania, 2010 and 2020, TF14 classification
Source: FADN data [5].
Note: Contract work = "Costs linked to work carried out by contractors and to the hire of machinery", TF14

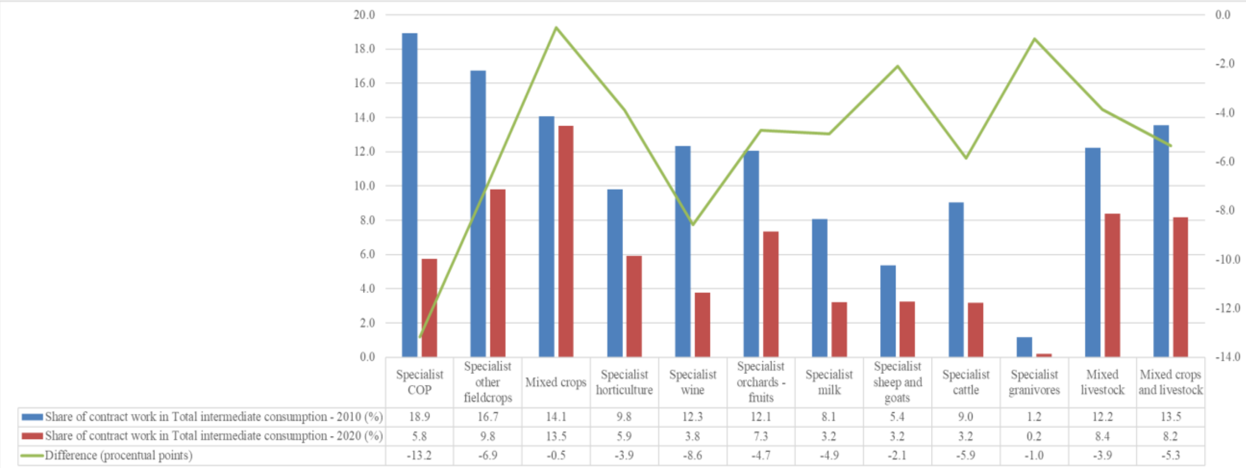

Fig. 4. Share of contract work in total intermediate consumption (SE350/SE275) in Romania, 2010 and 2020, TF14 classification
Source: FADN data [5].

In 2010, over 50% of the value of agricultural services were registered in South-East and South regions. In the period 2010-2020, the value of agricultural services increased in these regions with almost 100%, but the increase in Bucharest-Ilfov of almost 38 times placed this region on the first place in the structure of agricultural services from 2020 (with 43,4%) (Table 2).

Table 2. Agricultural services value on regions, 2010 and 2020 (thou RON, nominal)

Regions	2010	2020	2010	2020	2020/ 2010 (%)
Romania	557,251	1,836,430	100.0	100.0	329.6
North-West	42,248	40,804	7.6	2.2	96.6
Centre	48,695	56,916	8.7	3.1	116.9
North-East	48,374	108,701	8.7	5.9	224.7
South-East	194,974	381,663	35.0	20.8	195.8
South	107,696	210,066	19.3	11.4	195.1
Bucharest-Ilfov	20,272	796,464	3.6	43.4	3928.9
South-West	45,728	141,941	8.2	7.7	310.4
West	49,264	99,875	8.8	5.4	202.7

Source: Own calculation on the basis of data from Tempo on line data base, NIS [8].

In 2020, the contract work in many regions with developed agriculture reduced 2-3 times than the level of 2010. the situation is mainly due to the pandemic period when many farmers from horticulture or mixed farms couldn't sell their products so they cut their expenses especially from third parties. Also sample farms were different and average UAA was bigger. For this reasons in Bucharest-Ilfov region the contract work reduces from 154.7 euro/hectare to 3 euro/hectare. What we may observe however when we look on the numbers at regional level is that the costs with contract work is higher in North-East, South and South-East regions in both analysed years (Figure 5). Also in these regions the share of these expenses in total intermediate consumption are higher with a level of 6-9% (Figure 6).

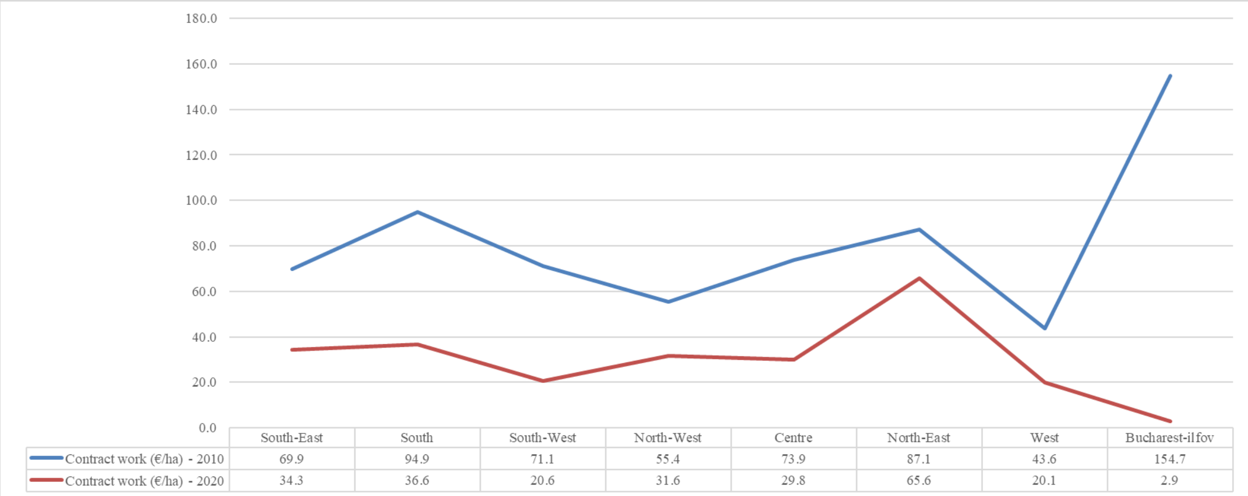

Fig. 5. Contract work (SE350) in Romania, 2010 and 2020, regional classification
Source: FADN data [5].
Note*: Contract work = "Costs linked to work carried out by contractors and to the hire of machinery"

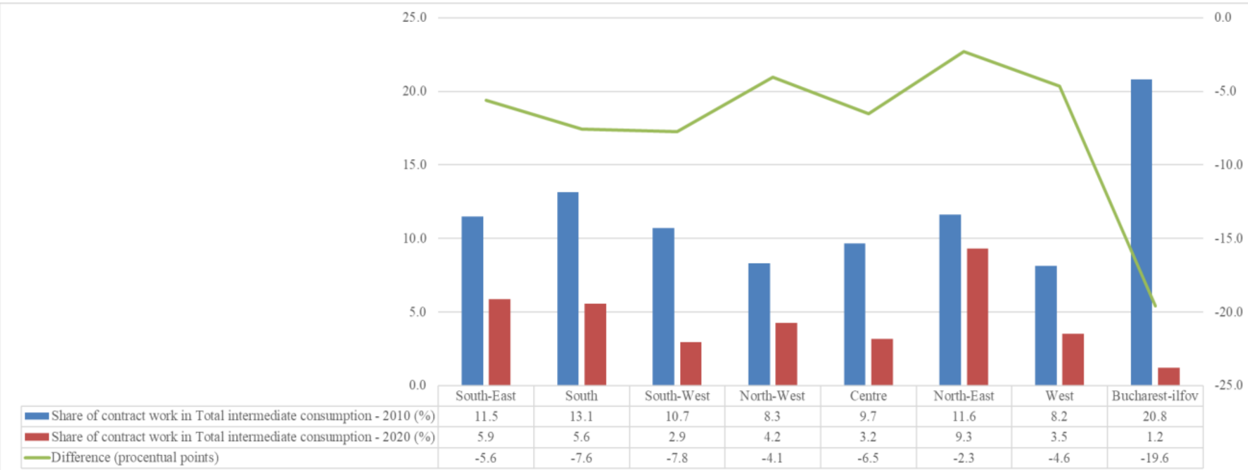

Fig. 6. Share of contract work in total intermediate consumption (SE350/SE275) in Romania, 2010 and 2020, regional classification
Source: FADN data [5].
Note*: Contract work = "Costs linked to work carried out by contractors and to the hire of machinery"

CONCLUSIONS

Agricultural services sector developed during the last decade but his real dimension is difficult to analyze due to the lack of data. There are many providers from transport, distribution etc which are not included in the statistics. Also, many services are delivered based on verbal agreements or exchanges, not contracts or invoices. All these challenges impose limitation in the research of this theme. However, our research revealed a positive evolution in the last decades and a continuous development of rural business environment.

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