

CONSUMPTION OF MILK AND DAIRY PRODUCTS IN ROMANIA (2017-2019)

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Abstract

The paper aims to make a comparison between the national situation and the realities related to the consumption of milk and dairy products at global and community level. For this purpose, total consumption and consumption per capita at the general level of the product group, for milk, butter and cream respectively, were used as indicators. At national level, total consumption reached 4,935 thousand t (average of the period 2017-2019), of which milk held 4,905.67 thousand t, butter 23.67 thousand t and cream 5.67 thousand t. Worldwide, Romania accounted for an average of 0.58% of total milk and dairy consumption, 0.59% of milk consumption, 0.21% for butter consumption and 0.16% in case of cream consumption. Related to the Community context, Romania held shares of about 3.30% regarding the total consumption of milk and dairy products, 3.38% for milk consumption, 1.37% for butter consumption and 0.24% for cream. If we refer to the situation of consumption per capita, there are averages of the indicator, as follows: 233.54 kg - total consumption, 232.04 kg - milk consumption, 1.20 kg for butter and 0.30 kg for cream. Reported worldwide, Romania exceeded 3.23 times the total consumption of milk and dairy products and 3.29 times the consumption of milk and in case of butter and cream only 82.19 and 66.67% beside the global level of the indicator were achieved. Unlike European Union, Romania exceeded consumption at the general level of the product group and for milk, but for butter and cream the situation was unfavorable (about 1/3 of the Community consumption for butter and only 6.05% for cream).

Key words: consumption, milk, inhabitant, cream, butter

INTRODUCTION

The milk sector in Romania has undergone numerous changes since 1990, such as reducing herds but also increasing yields per animal.

We can affirm that milk production is found under the influence of a multitude of factors, among which we can mention environmental factors and especially climatic factors [1].

Obtaining milk in Romania is a traditional occupation, at least starting from the existing natural potential [9].

Cattle, as a species, are the main supplier of milk for consumption worldwide [5]. We are also talking about other species supplying milk, which do not have a very significant share. For example, at European Union level, we are talking about a reduced contribution of sheep and goats to the total milk production [11]. At the same time, we can appreciate that there are premises for improving milk production from sheep and goats, under the

conditions of a more efficient exploitation of these species [10].

In the current diet, milk brings an important contribution of protein and calcium [8]. It is also worth noting that milk can also be used for therapeutic purposes, goat's milk can also be used to improve the health of the population, especially for people with digestive tract problems or for people with cow's milk allergy [13].

National situation record a visible progress for the milk and milk products market [3]. With the liberalization of the milk market, producers are facing both challenges and threats that influence their level of efficiency [4]. It can be said that the milk sector is experiencing a certain crisis period in Romania as a result of the decrease in populations, the increase in input prices, problems related to collection, etc. [12].

Thus, the paper makes a comparison between the national context and that related to the

consumption of milk and dairy products at global and community level.

MATERIALS AND METHODS

The realization of the work involves the use of two indicators: total consumption (thousand t) and average annual consumption per inhabitant (kg). They represent the total quantity of products available at the level of an area and the quantity of a product or group of agri-food products (primary or processed) consumed by an inhabitant, in the reference period, regardless of the source of supply (wholesale, retail, restaurants, canteens, own production, etc.) and the place where they are consumed (individual households, restaurants, canteens, confectioneries, institutional households, etc.) [6, 7].

For milk and milk products, the level of indicators is presented as follows: total – product group, milk, butter and cream (according to FAO) [2].

For total consumption of dairy products, structural indices for milk, butter and cream were determined.

Highlighting the state of affairs specific to Romania in an international context is highlighted by making comparisons with world and community situations (European Union). Thus, the contributions (in case of total consumption – through structural indices) respectively Romania's positions in terms of consumption per capita are established. The analysis covers the period 2017-2019, for which we also determined the average of the period, thus, the evolution of the indicators being highlighted by dynamics indices reported to the first analyzed base (2017).

RESULTS AND DISCUSSIONS

Table 1 presents data for the total consumption of milk and milk products.

Table 1. Consumption of milk and milk products- structure

No.	Specification	Year						Period average***	
		2017		2018		2019		Effective thousand t	Str. -%-
		Effective* thousand t	Str.*** -%-	Effective* thousand t	Str.*** -%-	Effective* thousand t	Str.*** -%-		
1.	Total**	4,934	100.0	4,976	100.0	4,895	100.0	4,935.00	100.0
2.	Milk	4,905	99.41	4,948	99.43	4,864	99.36	4,905.67	99.40
3.	Butter	23	0.47	23	0.46	25	0.51	23.67	0.48
4.	Cream	6	0.12	5	0.11	6	0.13	5.66	0.12

*Source, FAO <https://www.fao.org/faostat/fr/#data/FBS>, Accessed on March 15, 2023.

**total milk but also milk products;

***my calculations.

Taking into account the situation encountered at the national level, total consumption was situated between 4,895 and 4,976 thousand t (in the case of 2019 and 2018, years), and the average of the period reached 4,935 thousand t (Fig. 1).

For milk, there was an average consumption of 4,905.67 thousand t, with sequential levels of 4,864 thousand t in 2019, 4,905 thousand t in 2017 and 4,948 thousand t for 2018 (Fig. 1). For butter, equal consumption levels are observed in 2017 and 2018 (23 thousand t), an average of 23.67 thousand t and 25 thousand t for 2019 (Fig. 1).

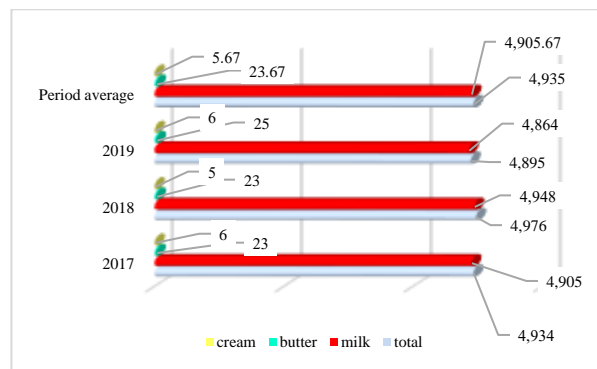


Fig. 1. Consumption of milk and milk products – Romania (thousand t)

Source: Based on FAO Database, <https://www.fao.org/faostat/fr/#data/FBS>, 15.03.2023.

For cream, the average consumption was 5.67 thousand t, a situation generated by specific consumption levels of 5 thousand t in 2018 and 6 thousand t each for 2017 and 2019 respectively (Fig. 1).

The structure of total milk consumption, for the average of the period, at national level, was as follows: 99.40% drinking milk, 0.48% butter and 0.12% cream.

Table 2 shows the dynamics of total shows the consumption of milk, as well as its

derivatives, using dynamics indices and relative units (%).

At national level, there are the following, in terms of total consumption, a number of aspects such as: For the total consumption of milk and milk products, the dynamics of the indicator is uneven, the increases in 2018 (+0.67%) being followed by decreases for 2019 (-0.79 and -1.63%).

Table 2. Total consumption of milk and milk products - dynamics*

No.	Specification	Year						Period average	
		2017		2018		2019		Ibf	Ibm
		Ibf	Ibm	Ibf	Ibm	Ibf	Ibm		
1.	Total	100	100	100.67	100.67	99.21	98.37	100.02	100.82
2.	Milk	100	100	100.88	100.88	99.16	98.30	100.01	100.86
3.	Butter	100	100	100.0	100.0	108.69	108.69	102.91	94.68
4.	Cream	100	100	83.33	83.33	100.0	120.0	94.33	94.33

Source: *own calculations.

The average period exceeded both terms of comparison by 0.02 and 0.82%, respectively; Milk consumption shows a similar trend to that mentioned above. The indices were subunit for 2019 (99.21 and 98.37%), and – otherwise – only supra-unitary values are highlighted: 100.67% for 2018, 100.01 and 100.86% - period average; As regards butter consumption, there is an upward trend– for 2018 the indices were equal, and in case of 2019 there was an advance of the reporting bases by 1.08 times. The average of the period, exceeded the first reporting term by

2.91%, but was inferior compared to the second reference term by 5.32%; If we refer to the specific situation of cream consumption, there is a fluctuating trend of the indicator, the decreases manifested in 2018 (-16.67%), followed by increases in 2019 (+20.0% compared to the previous year). The period average was lower by 5.67% compared to reporting bases.

Table 3 presents Romania's positioning in an international context, in terms of total consumption of milk and dairy products.

Table 3. Consumption of milk and its derivatives– positioning Romania in an international context*

No.	Specification	Year						Period average	
		2017		2018		2019		% compared to the global level	% compared to EU level
		% compared to the global level	% compared to EU level	% compared to the global level	% compared to EU level	% compared to the global level	% compared to EU level		
1	Total	0.59	3.39	0.58	3.31	0.58	3.23	0.58	3.31
2	Milk	0.60	3.46	0.59	3.38	0.57	3.30	0.59	3.38
3	Butter	0.21	1.37	0.20	1.33	0.22	1.39	0.21	1.37
4	Cream	0.17	0.27	0.14	0.21	0.16	0.25	0.16	0.24

Source: *own calculations.

If we refer, strictly, to Romania's positioning in the global and community context, the following findings should be highlighted: worldwide, Romania accounted for an

average of 0.58% of total milk and dairy products consumption (extreme values of 0.58 and 0.59%, respectively), 0.59% of milk consumption (variable levels from 0.57% in

2019 to 0.60% for 2017), 0.21% of butter consumption (very small variations from one year to another: 0.21, 0.20 and 0.22% in the case of 2017, 2018 and 2019 respectively) and 0.16% of cream consumption (sequential contributions of 0.14% for 2018, 0.16% for 2019 and 0.17% for 2017 - Fig. 2); in the Community context, Romania held shares of about 3.30% for the total consumption of milk and its derivatives (3.23% - 2019, 3.31% each for the period average and 2018, 3.39% in 2017). Romania consumed between 3.30 and 3.46% of milk in the European Union (average share of 3.38%). In terms of butter consumption, Romania did not exceed the threshold of 1.40% of the Community total (1.33% in 2018, 1.37% in 2017 and for the average of the period, 1.39% in 2019). The situation being less convenient in terms of cream consumption – had weights as follows: 0.21, 0.24, 0.25 and 0.27% for 2018, period average, 2019 and 2017, respectively (Fig. 2). Table 4 presents data for the total consumption of milk and milk derivate per capita.

Seen at national level, total consumption was between 229.49 and 237.65 kg (for 2019 and 2018, respectively), in this condition, the average of the period reached 233.54 kg (Fig. 3). For milk, there was an average consumption of 232.04 kg, with sequential

levels of 227.88 kg in 2019, 232.01 kg in 2017 and 236.22 kg in 2018 (Fig. 3). For butter, the consumption levels of 1.15 kg are recorded in year 2017, 1.18 kg in 2018, an average of 1.20 kg and 1.28 kg for the year 2019 (Fig. 3).

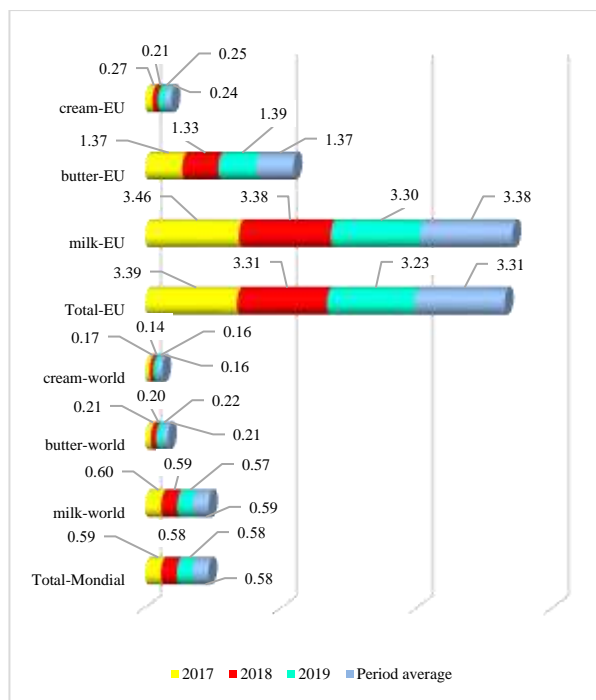


Fig. 2. Consumption of milk and its derivatives–Romania's share within the European Union and worldwide (%)

Source: own calculation.

Table 4. Consumption of milk and milk products per inhabitant - structure

No.	Specification	Year						Period average***	
		2017		2018		2019		Eff. -kg-	Str. -%-
		Eff.*	Str.***	Eff.*	Str.***	Eff.*	Str.***		
1.	Total**	233.47	100.0	237.65	100.0	229.49	100.0	233.54	100.0
2.	Milk	232.01	99.37	236.22	99.40	227.88	99.29	232.04	99.36
3.	Butter	1.15	0.49	1.18	0.49	1.28	0.56	1.20	0.51
4.	Cream	0.31	0.14	0.25	0.11	0.33	0.15	0.30	0.13

Source: *FAO database, <https://www.fao.org/faostat/fr/#data/FBS>, Accessed on 15.03.2023.

**total milk and milk products;

***own calculations.

For cream, the average consumption was 0.30 kg, situation generated by specific consumption levels of 0.25 kg in 2018, 0.31 kg in 2017 and 0.33 kg for 2019 (Fig. 3). Drinking milk predominates the product group from a structural point of view (shares of over 99%), while butter ranks second

(maximum share of 0.56% in 2019) and cream occupies the last place (shares from 0.11 to 0.15% of the total).

The dynamics of consumption per capita is shown in Table 5.

For the total consumption of milk and its derivatives, the dynamics of the indicator is

uneven, with increases in 2018 (+1.79%) followed by decreases for 2019 (-1.71 and -3.43%).

The period average exceeded both terms of comparison by 0.03 and 1.76%, respectively; milk consumption.

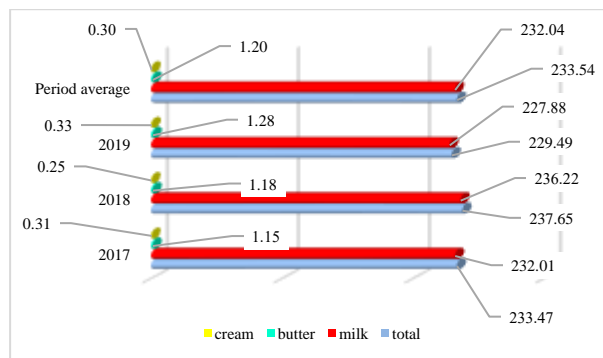


Fig. 3. Consumption of milk and milk products per inhabitant in Romania (kg)
Source: FAO database [2].

The indices were subunit for 2019 (98.22 and 96.47%), and -otherwise- only supra-unitary values are highlighted: 101.81% at the level of 2018, 100.01 and 100.83% for the average of the period; In the case of butter consumption, the evolution is upward – In 2018, the reporting deadline was exceeded 1.02 times, and for 2019 there was an increase above the reporting bases by 1.11 and 1.08 times, respectively. The average of the period, exceeded the first reporting deadline by 4.35%, but was lower compared to the second reference term by 6.25%. If we refer to the specific situation of cream consumption, there is a fluctuating trend of the indicator, the decreases manifested in 2018 (-19.35%), followed by increases in 2019 (+6.45 respectively +32.0% compared to the reference terms). The average period was lower by 3.23 and 9.09% compared to the reporting bases.

Table 5. Consumption of milk and its derivatives per capita - dynamics*

No.	Specification	Year						Period average	
		2017		2018		2019		Ibf	Ibm
		Ibf	Ibm	Ibf	Ibm	Ibf	Ibm		
1.	Total	100	100	101.79	101.79	98.29	96.57	100.03	101.76
2.	Milk	100	100	101.81	101.81	98.22	96.47	100.01	101.83
3.	Butter	100	100	102.61	102.61	111.30	108.47	104.35	93.75
4.	Cream	100	100	80.65	80.65	106.45	132.0	96.77	90.91

Source: *own calculations.

Table 6 shows Romania's positioning, in an international context, in terms of total consumption of milk and dairy products per

inhabitant. The situation for European Union, compared with the global one is also presented.

Table 6. The consumption of milk and milk products per inhabitant – Romania's positioning in an international context*

No.	Specification	Year						Period average	
		2017		2018		2019		% compared to the global level	% compared to EU level
		% compared to the global level	% compared to EU level	% compared to the global level	% compared to EU level	% compared to the global level	% compared to EU level		
1.	Romania	327.72	122.91	326.13	121.28	315.67	117.02	323.15	120.38
2.	Milk	334.55	127.94	332.94	126.33	322.05	121.93	329.79	125.38
3.	Butter	79.86	29.87	80.27	29.87	86.49	31.07	82.19	30.23
4.	Cream	68.89	6.50	55.56	4.98	71.74	6.48	66.67	6.05

Source: *own calculations.

By looking to the Romania's positioning in the global and community context, we have to highlight the following: Romania exceeded,

3.23 times, on average, the total consumption of milk and dairy products globally (highest levels of 3.15 and 3.27 times for 2019 and

2017 years), 3.29 times milk consumption (advances from 3.22 times in 2019 year to 3.34 times for the year 2017) (Fig. 4).

If we analyze the consumption of butter, we see that Romania was below the global level, registering quotas of: 79.86% in 2017, 80.27% for 2018, 82.19% for the average and 86.49% in 2019. For cream, it is a national consumption similar to that presented for butter. Romania registered negative differences compared to the world situation as follows: -28.26% in 2018, -31.11% in 2017, -33.33% in the case of the average period, -44.44% for 2018 (Fig. 4).

127.94% in 2017, 121.28 and 126.33% in 2018, 117.02 and 121.93% in 2019, 120.38 and 125.38% for the average of the period). Analyzing the consumption of butter per capita, we find that Romania did not exceed the threshold of one third of the community level (31.07% in 2019, 30.23% for the average of the period, 29.87% in 2017 and 2018, respectively). An even less favorable situation is found for cream consumption – weights of 6.50, 6.48, 6.05 and 4.98% for 2017, 2019, period average and 2017, respectively (Fig. 4).

CONCLUSIONS

In terms of total consumption of milk and dairy products, we can observe: the preponderance of drinking milk, in the structure of total consumption (share of over 99%), as well as low shares for butter and cream (0.48% for butter and below 0.12% for cream); Romania must act towards increasing the shares of butter and cream in total consumption, improving the structure of the population's food ration (increasing the share of calories and animal proteins); fluctuating trends appear in the overall product group for milk and cream and a uniformly upward variation in butter; both worldwide and at Community level, Romania is not a decisive factor in boosting consumption (shares below 1% worldwide and below 3.50% at Community level). The situation needs to be improved especially with butter and cream.

If we refer to per capita consumption, the following aspects should be considered: low amplitudes of variation of the indicator (7.16 kg at the general level of the product group; 8.34 kg for milk; 0.13 kg for butter; 0.08 kg for cream); The indicator evolved unevenly, worldwide, in the case of Romania, the total consumption of milk and its derived products and milk consumption evolved unevenly, and the consumption of butter evolved upwards, while for cream the evolution was uneven; Romania is ahead of world and Community levels for the product group as a whole and for milk. For butter and cream, the situation is unfavorable compared to the state of affairs

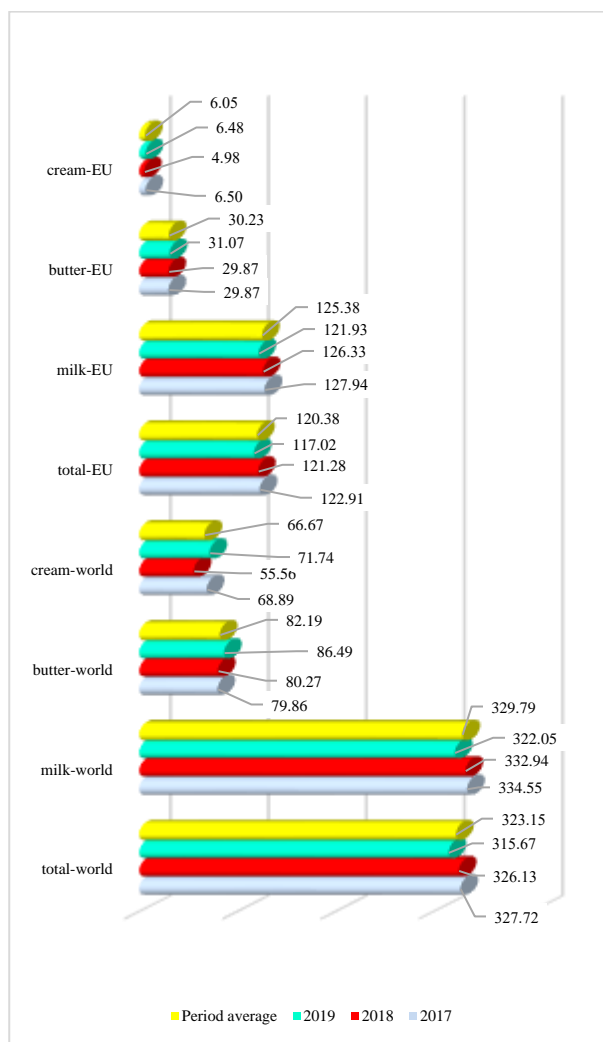


Fig. 4. Consumption of milk and milk derivatives – Romania's positioning beside the world and community levels (%)

Source: own calculation.

In the Community context, Romania achieved an excess consumption at the general level of the product group and for milk (122.91 and

prevailing worldwide and very unfavorable compared to the Community situation.

In the current conditions, Romania needs to consolidate and develop both the primary sector (dairy cow breeders) and the processing sector (processing capacities), as well as to carry out actions to influence consumers to focus on products with a high degree of processing. The prerequisites for these processes must be based on appropriate agricultural and food policy measures carried out at national level.

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