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FISH RESOURCES AND CONSUMPTION IN ROMANIA. ECONOMIC AND SOCIAL IMPORTANCE

RESURSELE ȘI CONSUMUL DE PEȘTE ÎN ROMÂNIA. IMPORTANȚĂ ECONOMICĂ ȘI SOCIALĂ

NECULA Raluca[1], CONSTANTIN Marian[2], DRĂGHICI Manea[3]

Rezumat. *Prezenta lucrare urmărește cunoașterea nivelului resurselor și consumului pentru produsul pește din România. Analiza este efectuată printr-o structură specifică comportamentului consumatorului prin care se caută a fi încadrate și aspectele economico-sociale. Din confruntarea elementelor de producție/consum existente la nivel național, ce este interpretativ redată prin indicatori valorici și procentuali, reiese situația cunoașterii proveniență și consumului producției de pește. Se constată o predominanță a importurilor, alături de tendința de creștere a consumului populației. Nivelurile valorilor prognozate au fost redate conform ecuațiilor de regresie și respectiv rezultatele variațiilor (±x cu referire la consumul de pește pe locuitor). Analiza efectuată a scos în evidență: consumul de pește în România care va continua să crească odată cu creșterea producției interne, dar concomitent tendința de diminuare a acestui consum odată cu scăderea acestei producții; importul producției de pește care determină o formă diferențiată a comportamentului consumatorului român (amplificarea cantităților importate determină numai până la o anumită limită o creștere a consumului). Se poate concluziona că tendința de creștere a consumului va depinde de comportamentul consumatorului român care va fi într-o foarte strânsă legătură cu alți factori socio-economici.*

Abstract. *The paper's aim is to determine the level of the resources and consumption for the fish product in Romania. The analysis is carried out through a structure specific to the consumer's behaviour, which also seeks to frame economic and social aspects. From the confrontation of the production / consumption elements existing at national level, which are interpreted by value and percentage indicators, results the knowledge of the origin and consumption situation of the fish production. There is a predominance of imports, along with the ascetic trend of the population's consumption. The predicted values were reported according to the regression equations and the variation results (± x with reference to fish consumption per capita). The analysis highlights: the consumption of fish in Romania, which will continue to grow along with the increase in domestic production, but also the tendency to diminish this consumption with the decrease in production; the import of fish*

[1]Lecturer, PhD, University of Agronomic Sciences and Veterinary Medicine from Bucharest, Faculty of Management, Economic Engineering and Rural Development, raluca_nec@yahoo.com.
[2]Prof., PhD, University of Agronomic Sciences and Veterinary Medicine from Bucharest, Faculty of Management, Economic Engineering and Rural Development, marianconstantin2014@yahoo.com, corresponding professor of Academy.
[3]Prof., PhD, University of Agronomic Sciences and Veterinary Medicine from Bucharest, Faculty of Management, Economic Engineering and Rural Development, dmprofesor@yahoo.com.

production determines a differentiated form of the Romanian consumer's behaviour (the increase in imported quantities only determines an increase in consumption up to a certain limit). It can be concluded that the trend of increasing consumption will depend on the behaviour of the Romanian consumer, which will be very closely related to other socio-economic factors.

Keywords: actual/predicted consumption, fish resources/consumption, degree of self-supply, equation/regression function, variable of influence.

1. Introduction

Considered a basic food, fish consumption in Romania is focused on the provenance sources, which are the domestic production and importations [5]. Given the still low level of consumption at national level, the present paper raises the question of knowing the causes of this decrease, together with the prospective variational possibilities based on the influential factors.

In this context, this paper discusses on the one hand the consumption of fish through the oscillations of domestic production, import and export by presenting it for the period 2005-2016, together with the possible scenarios given by the presumptive levels that resulted from the structural analysis of the influence of the factors (domestic production, import, export).

2. Materials and Methods

The methodological criteria followed in this paper refer, on the one hand, to the interpretative form of the system of technical and economic indicators frequently used in the economy, together with the results of the presumptive forms presented by the regression functions [1, 2].

At the same time, the national data from the dynamics of the period 2005-2016 focused on production, import/export and consumption (given in terms of quantities of fresh fish). Further, the percentages processed were replicated in appropriate comparative forms.

The baseline for the whole reference period was the total production provenance with reference to the baseline year 2005, alongside the structure of provenance/consumption of the fish product. The indicator of self-supply is intended to explain the interpretation of the way the domestic production covers domestic consumption requirements during the reference period analysed.

To ensure that this study is not only a historical analysis, along with the comparator indicators commonly used in the economy, we also sought to determine the presumptive knowledge of the influence of resources on national consumption for the fish product.

On the variance of the influence factors (with reference to the variables ± x) the consumption levels (*y*) were determined using equations / regression functions ($Y = a + bx$). The level of 2016 has formed the basis of comparison of the variational scenarios (±10 %.....±50 %) resulting the factors influence on consumption. This influence was carried out in the partial structure of the influence factors ($x_1 \rightarrow$ internal production, $x_2 \rightarrow$ import, $x_3 \rightarrow$ export), but also on the aggregate of the three factors (x_1, x_2, $x_3 \rightarrow$ the cumulative influence of the set of factors) [3, 4].

The correlation report (*r*) and the determinant coefficient (R^2) by the values obtained from the calculations indicated the link between the connection variables and consumption and the adequacy of the correlation forms [2].

It should be mentioned that in the use of this methodological type could not be included the multitude of influence factors, elements which might be defined in other fields (for example the socioeconomic ones).

3. **Results and Discussions**

The issue of resources and consumption of fish and fishery products has always been a topical one. The paper aims to present the problems regarding the fish resources and consumption in the current stage, and on the other hand the knowledge of the prospective consumption levels due to the variations of the influence factors in Romania.

Appropriate indicators capture all these issues by highlighting the most important aspects in a specific structural form.

The problem of fish resources and consumption in Romania was presented in a staggered way through an appropriate methodology that initially followed the structure of resources and consumption destinations, and subsequently the expected levels of fish consumption resulting from the influence of the main factors of influence.

3.1. The evolution of the origin of fish quantities in Romania.

The resources are related to the forms of use of fish productions that were given for the period 2005-2016. The provenance of the total production is made of domestic production and import, for which the presentations of the analysis were carried out successively.

Under this form the evolutionary levels were monitored by the values shown in Table 1, of which for the mentioned period can be highlighted the following:

Table 1. The structure of the fish production origin in Romania for the years 2005-2016

Year	***Total***			Internal production			Import			Degree of self-supply
	thousands of tons	% versus 2016	% compared to 2005	thousands of tons	% of total	% compared to 2005	thousands of tons	% of total	% compared to 2005	%
2005	99,112	69.80	100	17,358	17.51	100	81,754	82.48	100	17.3
2006	99,268	69.91	100.15	16,349	16.46	94.18	82,919	83.53	101.42	16.3
2007	81,694	57.53	82.42	15,106	18.49	87.02	66,588	81.50	81.44	18.5
2008	90,299	63.59	91.10	16,250	17.99	93.61	74,049	82.00	90.57	18.8
2009	102,408	72.12	103.32	15,202	14.84	87.57	87,206	85.15	106.66	14.7
2010	102,664	72.30	103.58	15,184	14.78	87.47	87,480	85.21	107.00	15.2
2011	82,337	57.98	83.07	11,593	14.07	66.78	70,744	85.92	86.53	14.1
2012	88,869	62.58	89.66	13,443	15.12	77.44	75,426	84.87	92.25	15.5
2013	90,861	63.99	91.67	14,861	16.35	85.61	76,000	83,64	92.96	17.4
2014	102,492	72.18	103.41	15,319	14.94	88.25	87,173	85.05	106.62	15.3
2015	114,284	80.48	115.30	19,601	17.15	112.92	94,683	82.84	115.81	18.5
2016	141,992	100	143.26	23,180	16.32	133.54	118,812	83.67	145.32	15.5

**Source: [6, 7, 8]*

- The total fish provenance in Romania for the period 2005-2016 shows a growth trend (the quantities which are at only 99,112 thousand tons in 2005 reaching 141,992t thousand tons in 2016). As such, there is an increase of +43.26%, but at which the pace of 2011-2013 recorded a decrease. Analyzed by the same form of comparison but to 2016, the same trend of increase can be traced;
- The domestic production of fish in Romania in the evolution of the period 2005-2016 recorded a favourable growth rate (from 17.38 thousand tons in 2005 to 23,180 thousand tons in 2016). Let's mention the 2006-2010 period when a decrease was registered in domestic production, after which the increase can be considered ascending (with reference to the succession of the years 2011-2016).
But low production levels can be seen in terms of total production of these domestic outputs (these ratios are between 14.28% and 18.49%);
- The quantities of imported fish have a special role at national level, ascertained by their high level. If in 2005 were imported 81,754 thousand tons, in 2016 a quantity of 118,812 thousand tons was imported. As such, this increase reaches in 2016 an increase of 45.32% compared to 2005. The comparable analysis to the total quantity highlights the fact that the import of fish records shares annually between 81.50% and 88.67%;

- The degree of fish supply for the Romanian population has very oscillatory levels (between 14.1% and 18.8%). This indicates precisely the situation given by the fairly modest annual quantities of domestic production that is intended to meet domestic consumption requirements. From all of this we can infer the trend of increased production of fish that is based on both the increase in domestic production and the import that is a priority (i.e. over 4/5 of the total).

3.2. The evolution of the export and consumption of fish in Romania.

Considered a form of balance, export and human consumption are the priority forms of knowledge of structures also in this field. For the same period 2005-2016 the analysis is based on the absolute and relative figures shown in Table 2 where the following can be highlighted:

Table 2. The structure of total export and consumption for fish products in Romania

Year	Total			Export			Human consumption		
	Thousand tons	% vs. 2016	% vs. 2005	Thousand tons	% vs. total	% vs. 2005	Thousand tons	% vs. total	% vs. 2005
2005	99,112	69.80	100	0,437	0.44	100	98,675	99.55	100
2006	99,268	69.91	100.15	0,728	0.73	166.59	98,540	99.26	99.86
2007	81,694	57.53	82.42	0,988	1.20	226.08	80,706	98.79	81.78
2008	90,299	63.59	91.10	0,950	1.05	217.39	89,349	98.94	90.54
2009	102,408	72.12	103.32	3,434	3.35	785.81	98,974	96.64	100.30
2010	102,664	72.30	103.58	3,048	2.96	697.48	99,616	97.03	100.95
2011	82,337	57.98	83.07	5,066	6.15	1159.26	77,271	93.84	78.30
2012	88,869	62.58	89.66	4,437	4.99	1015.33	84,432	95.00	85.56
2013	90,861	63.99	91.67	4,861	5.34	1112.35	86,000	94.65	87.15
2014	102,492	72.18	103.41	4,015	3.91	918.76	98,477	96.08	99.79
2015	114,284	80.48	115.30	4,088	3.57	935.46	110,196	96.42	111.67
2016	141,992	100	143.26	2,651	1,85	364.14	115,482	81.32	117.03

**Source: [7, 8]*

- The fish export although with a growth trend is represented by a very low share compared to the annual total. If in 2005 this export share was only of 0.44%, in 2016 this level reaches 1.85%. Originally this trend is of increase, in 2013, followed by decreases (with reference to the following years). Compared to 2005 there is a clear increase in the quantities of fish to be exported;

- The human consumption of fish records the highest annual levels compared to the total. On the other hand, these increases have very significant variations. With reference to the annual absolute figures these values are between 80,706 thousand tons and 115,482 thousand tons, which levels in relative figures also include oscillations (between 81.32% and 99.55%).

Table 3. The evolution of annual fish consumption per capita in Romania for the years 2005-2016

Year	Annual consumption per capita Kg / year / cap.	Comparison with annual consumption per capita		Comparison with consumption on main nutritional elements	
		% vs. 2016	% vs. 2005	% compared to total calorie consumption	% compared to total protein consumption
2005	4. 5	76.27	100	0.25	0.98
2006	4.6	77.96	102.22	0.19	0.98
2007	3.8	64.40	84.44	0.22	0.83
2008	4.0	67.79	88.88	0.23	0.88
2009	4. 8	81.35	106.66	0.28	1.08
2010	4. 9	83.05	108.88	0.28	1.09
2011	3. 9	66.10	86.66	0.21	0.86
2012	4. 2	71.18	93.33	0.23	0.93
2013	4. 3	72.88	95.55	0.24	1.01
2014	4. 9	83.05	108.88	0.28	1.11
2015	5. 5	93.22	122.22	0.30	1.20
2016	5. 9	100	131.11	0.32	1.29

** Source: [7]*

Regarding the consumption of fish per capita, the analysis is deepened by following the knowledge of the annual consumption per capita quantities that was considered the qualitative aspect of this investigation. The data presented in **Table 3** are edifying for this issue, focusing on the elements of actual consumption per capita, and on the other hand, presenting comparisons to the total annual consumption, as well as on the main nutrients (calories and proteins). All these elements of analysis are reproduced by the following:

- The annual consumption levels of the fish product in Romania have a growing trend (between 3.8 and 5.9 kg/cap./Year). From the comparison with the year 2005, it is shown the existence of the 2007-2008 and 2011-2013 periods, whose consumption level is below the level of the comparison year. Compared to the year 2016, we are witnessing a tendency to approach the annual consumption versus the consumption level of this last year of analysis;
- The comparisons with the main nutritional elements (represented by the total nutrients and proteins) are found to be edifying for the consumer's behaviour regarding the fish product. Comparing the calories from fish to the total calories consumption there are annual variations (expressed in relative figures between 0.19% and 0.32%), but in the evolution of the analyzed period (2005-2016) there is a growing trend. The comparison with the total protein consumption shows the existence of similar variations along with the same growth trend.

To sum up, from all these results a dimensional aspect of the problem with reference to the quantitative tendency expressed by the annual increasing consumption level of the fish product, together with the qualitative side represented by the orientation of the consumer's behaviour to increase this consumption in the food feed quantity being the comparison of total calories and protein).

3.3. The projected levels of fish consumption in Romania due to the influence of the main factors / influence variables.

All the previously expressed elements (presented in absolute and relative figures) refer to the current knowledge of the production situation and the level of utilization of fish production in Romania.

Towards this historical character, it is the question of knowing the levels of consumption for the situation in which variations in the factors of influence will occur. But to delimit the actual values on the level of fish consumption, of course within certain tolerance limits, the results of the regression function ($Y = a + bx$) were interpreted.

Table 4. The predicted fish consumption values (Y) due to influence of variables levels ($\pm x$).

Regression function		Amplification/simplification (with reference to variables le $\pm x$)	Predicted consumption values resulted from amplification/ simplification (±) of the regression function (in kg/cap./year)				
Presentation of the regression function ($y \rightarrow$consumption)	The interpretive variable (x_1, x_2, x_3)		10%	15%	20%	25%	50%
$Y(x_1) = 2.7984 + 0.0651x_1 + 0.00302x^2_1$ (R^2=0.813; r=0.66)	$x_1 \rightarrow$ internal production	+	6.42	6.68	6.95	7.22	8.72
		-	4.16	4.08	4.01	3.93	3.55
$Y(x_2) = -3.3337 + 0.1407x_2 - 0.000527x^2_2$ (R^2=0.979; r=0.96)	$x_2 \rightarrow$ import	+	6.07	6.07	6.03	5.96	5.02
		-	11.7	10.9	10.1	9.2	5.0
$Y(x_3) = 5.417 + 0.0683x_3 + 0.00627x^2_3$ (R^2=0.968; r=0.94)	$x_3 \rightarrow$ export	+	6.88	7.42	8.01	8.64	12.4
		-	5.1	4.76	4.47	4.21	3.57
$Y(x_1. x_2. x_3) = 8.67 + 1.016\,x_1 - 0.0316x^2_1 + 0.1309x_2 - 0.0003739x^2_2 + 0.427\,x_3 + 0.002226x^2_3$ (R^2=0.994; r=0.98)	$x_1, x_2, x_3 \rightarrow$ the set of cumulative factors	+	6.52	6.85	7.22	7.63	10.22
		-	5.57	5.42	5.31	5.24	5.45

The projected values have been structured in the given scenario system as a perceived knowledge of the consumption in kg/cap./year, alongside the total national consumption of the fish product.

Variations $\pm x$ (10% ... 50%) give the absolute and percentage levels for these indicators, the basis of calculation being the level of 2016 (the last year of analysis) [4].

a) - The scenario indicating predicted consumption based on regression functions resulted from the oscillation of the influence factors (x_1, x_2, x_3).

These are delimited by the values shown in Table 4, which can be completed with the following interpretations:

- According to the interpretive variable x1 → internal production, included in the regression equation [$Y(x_1) = 2.7984 + 0.0651x_1 + 0.00302x^2_1$] the following trends are observed: an increase in fish consumption with the increase of this domestic production are between 6.42 and 8.72 kg/cap./year); while the decrease in domestic production of fish causes a decrease in consumption (the levels are decreasing from 4.16 to 3.55 kg/cap./year);
- The variable x_2 → the import, by the values resulting from the regression function regression [$Y(x_2) = -3.3337 + 0.1407x_2 - 0.000527x^2_2$] defines oscillating values that are also expressed in the following form: the increase in the quantities imported of the fish product has a different influence on consumption, respectively up to an imported amount of 15% (from 6.03 to 6.07), followed by a decrease of 5.02 kg/cap/year; the situation of diminishing imports entails a decrease in consumption (from 11.7 to 5.0 kg/cap./year);
- The export of fish production, the interpretative formula given by x_3 → export, along with the regression equation [$Y(x_3) = 5.\ 417 + 0.0683x_3 + 0.00627x_{23}$], through the resulting levels, the following can be deduced: an increase of export causes an increase in consumption (from 6.88 to 12.4 kg/cap./ year); the decrease in exports also leads to a decrease in consumption (from 5.1 to 3.57 kg/cap./ year).
- the concomitant action of the three variables (x_1, x_2, x_3 → total cumulative factors), according to the regression equation [$Y(x_1, x_2, x_3) = 8.67 + 1.016\ x_1 - 0.0316x_{21} + 0.1309x_2 - 0.0003739x_{22} + 0.427x_3 + 0.002226x_{23}$] shows predicted consumption levels as follows: the increase of all variables determines a successive increase for all steps of amplifying the variables (where projected consumption values are between 6.52 and 10.22 kg /cap./year); the decrease of the variables levels causes a decrease in consumption (its oscillations being between 5.57 and 5.45 kg/cap./year);
- from the analysis of the correlation coefficient values for the four situations we can deduce the following: the correlation ratio measures the action of all the factors (x_1, x_2, x_3) at which there is an influence on the resultant variable (y). At the same time, there are permanent forms of the existence of a very close connection between the influence variables and consumption (the correlation ratio being between 0.94 and 0.98 in the case of the influence of import, export and cumulated influence of the three factors), the domestic production factor correlates with the consumption with only 0.66. As the share of this dispersion within the overall dispersion will be higher, the link between the two variables will be stronger;

- The determination coefficient can be considered as the most used criterion to interpret the significance of the correlation coefficient. In the analysis, the levels are between 0.813 and 0.994, indicating the existence of a covariance value reported to the total volume of the variation. This criterion does not always have special significance/ importance due to the important influence of the lot size in determining the correlation coefficient. Thus, the correlation ratio confirms the permanent existence of a very close link between the influence variables and consumption. Synthetically, the interpretation of the significance of the determination coefficient reveals that the level of the results of the correlation form is sufficiently strong (according to the value of R2 between 0.813 and 0.994).

Table 5.

The predicted percentages of consumption for fish product ($Y \rightarrow +10\% ... + 50\%$) following the influence of variables ($\pm x$). Regression function		Amplification (with reference to variable x)	Predicted values of fish quantities/consumption resulting from amplification (+) of regression function (in kg/cap./year)				
Presentation of the regression function (y = consumption)	Different factors (x_1, x_2, x_3)		10%	15%	20%	25%	50%
$Y(x_1) = 2.7984 + 0.0651x_1 + 0.00302x^2_1$ ($R^2 = 0.813$; $r = 0.66$)	$x_1 \rightarrow$ internal production	Variational evolution of domestic production level (thousand tons)	25,498	26,657	27,816	28,975	34,770
		Percentage variation in consumption levels (%)	8.29	12.64	17.13	21.75	46.93
$Y(x_2) = -3.3337 + 0.1407x_2 - 0.000527x^2_2$ ($R^2 = 0.979$, $r = 0.96$)	$x_2 \rightarrow$ import	Variation evolution of import level (thousand tons)	130,693	136,633	142,574	148,515	178,218
		Percentage variation in consumption levels (%)	1.86	1.85	1.22	-0.04	-15.29
$Y(x_3) = 5.417 + 0.0683x_3 + 0.00627x^2_3$ ($R^2 = 0.968$, $r = 0.94$)	$x_3 \rightarrow$ export	Variation evolution of export level (thousand tons)	127,030	132,804	138,578	144,352	173,223
		Percentage evolution in consumption levels (%)	16.42	25.70	35.68	46.38	110.49
$Y(x_1, x_2, x_3) = 8.67 + 1.016x_1 - 0.0316x^2_1 + 0.1309x_2 - 0.0003739x^2_2 + 0.427x_3 + 0.002226x^2_3$ ($R^2 = 0.994$, $r = 0.98$)	$x_1, x_2, x_3 \rightarrow$ the set of cumulative variables	The cumulative level of quantities given by the variable factors (thousand tons)	283,221	296,095	308,968	321,843	386,211
		Percentage evolution in consumption levels (%)	9.25	14.82	21,01	27.83	71.31

b)- The scenario that frames the knowledge of total fish consumptions (Y) follows by the regression equations, the variational evolution of the influence of the successive level of the influence factors (x_1 , x_2 , x_3). The results are presented in **Table 5**, which represents the projected values of the total consumption (in thousand tons) and percentage (the basis of comparison being the quantitative level of 2016). The following can be deduced from the interpretations of the forecasted values:

- The variation in the level of total domestic fish production (+10% ... + 50%) also leads to a percentage increase in consumption (successively these increases being between 8.29% and 46.93%);
- On the increase of the import there is a variation increase (between 113.06 and 178.2 thousand tons), where the percentage oscillations of the consumption levels represent an increase for the sequences up to 20% followed by a decrease;
- The variation evolution of the export level is represented by a successive increase (between 127.0 and 173.2 thousand tons), which at the same time determines a percentage increase of the consumption levels (according to the size steps the level of growth starts from 16.42% and reaches 110.49%);
- The concomitant overall influence of the three factors (x_1, x_2, x_3) determines that the cumulative level of sequential amplifications will cause a total consumption between 283.2 and 386.2 thousand tons, the growth percentage being between 9.25% and 71.31%.

Conclusions

The structural shapes presented in the two scenarios particularly target the consumption of fish in Romania. According to the values derived from the data processing carried out in the 2005-2016 dynamics, the following conclusions can be drawn:

Conclusion (1). The existence of a trend of provenance for the fish product accompanied by variations, which can be made in the following references: the domestic production is recorded as a growth trend considered as an increase in the period 2005-2010, together with a decrease in the last period (2011-2013); the import of fish is a priority (represents over 4/5 of the total) with very high annual shares (between 81.50% and 88.67% of the total); the level of self-supply is at modest and very variable levels, which only partially cover internal consumption requirements (these levels being between 14.1% and 18.8%).

Conclusion (2). Fish exports are represented by very low shares compared to the total annual, the trend being initially of increasing (until 2013), followed by decreases.

Conclusion (3). Human consumption embraces differentiations as follows: the total consumption of fish is increasing, but an oscillation was noticed whose variations are significant (between 81.32% and 99.55%); the annual growth rate of annual consumption per capita (compared to 2005, there are the 2007-2008 and 2011-2013 periods when the consumption level is below the year of comparison. Compared to 2016 there is a tendency to approach the annual consumption of this last year of analysis); comparisons of the main nutritional elements represented by the nutritive and protein elements significantly show the consumer's behaviour by the quantitative trend through the increasing annual consumption level along with the qualitative side represented by the consumer behaviour orientation with reference to the tendency to increase this consumption in feed food quantum (given the comparison of total calories and protein).

Conclusion (4). The levels of the predicted values according to the regression equations and the results of the variations ± *x* (10% ..... 50%), referring to the consumption per capita, were as follows: a trend of increase in consumption with the increase in domestic production and, at the same time, a decrease in this consumption as the production decreases; the import of fish production determines a differentiated form of behaviour of the Romanian consumer: with the increase of imported quantities we have an increase of consumption up to a certain limit (up to a share of the imported quantities of 25%, is increased from 6.03 to 6.07 kg/year/cap.), after which the increase in imports leads to a decrease in consumption (from 6.07 to 5.02 kg/cap./year); at the same time, the decrease in imports leads to a decrease in the consumption per capita below half (from 11.7 to 5.0 kg/year/cap.); on export it is found that an increase also leads to an increase in consumption (from 6.88 to 12.4 kg/year/cap.), and the decrease also leads to a decrease in consumption (from 5.1 to 3.57 kg/cap./year); the presumed level of consumption through the concurrent action of the three variables (domestic production, import, export) determines a successive increase (from 6.52 to 10.22 kg/cap./year), respectively a decrease from 5.57 to 5.45 kg/year/cap.

Conclusion (5). The forecasted values of the total consumption by the singular and overall influence of the three variables highlight the same trends. With particular reference to the imported quantities where the percentage change in consumption levels shows an increase for sequences up to 20% followed by a decrease.

Conclusion (6). The correlation report confirms the permanent existence of a very close link between the influence variables and consumption and the interpretation of the significance of the determinant coefficient shows that the results of the correlation form are sufficiently strong (R^2 values are between 0.813 and 0.994).

Fish consumption in Romania will continue to grow, which will depend on the behaviour of the Romanian consumer but in a very close correlation with other socio-economic factors.

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[7] Food balances, National Institute of Statistics, Data series, **2005-2015**.

[8] Romania's Statistical Yearbook, National Institute of Statistics, **2016**.