

THE ESTIMATION OF SELF-INSURANCE LEVEL WITH FOOD IN THE REPUBLIC OF MOLDOVA

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Abstract

The purpose of this work consists in estimation of self-insurance level with food of the Republic of Moldova. There would have been Used methodological instruments the analysis and synthesis of conclusive information for the topic approached. The Republic of Moldova is supplied with cereals, except the year 2012, when the level of self-insurance was less than 80 %. The level of self-insurance with sunflower production increased in 2014 compared to 2009 and 2010 years respectively by 116.0 and 80.8 p.p., and compared to 2011 and 2012 it increased by 41.5 and 93.6 p.p. The level of self-insurance with vegetables and melons has been reduced in 2014 compared to 2009 and 2010 by 3.9 and 9.5 p.p. and compared to the years 2011 and 2013 it has reduced respectively by 5.8 and 7.7 p.p. Over-insurance with fruits allows us to increase the volume of export. In the years 2013 and 2014 the Republic of Moldova was not insured with meat production. The Republic of Moldova was insured with eggs, milk and dairy products. In 2014 the degree of covering the necessary of fruits determined on the basis of normatives of average balanced basket is higher than in the years 2010, 2011, 2012 and 2013.

Key words: average balanced basket, food balanced sheets, food security, self-insurance level

INTRODUCTION

Food Security (as defined by FAO) represents a well organized functional system that insures all categories of the population with food in accordance with the physiological norms based on own production and on the rationing of the import that is necessary for those products, the production of which is impossible due to the lack of internal conditions [11].

To achieve food security at individual level the following measures are needed:

- insuring food availability (production, reserve stocks);
- redistribution of food availabilities within the country or abroad through international exchanges;
- effective access of the population to purchase of food products, by insuring solvent demand according to its requirements.

Food security occupies a special place among other types of security, because nutrition is the basic indicator of vital human activity, the lack of which causes hunger or death [1].

The level, at which the food security of people is assessed, may be the world (global),

regional, national, family and individual.

MATERIALS AND METHODS

The informative material on which this paper is based includes scientific and reference studies from national and international literature. As methodological instruments there have been used the analysis and synthesis of conclusive information for the approached topic.

In order to determine food balanced sheets the following formula is applied:

$$V_s + P + I = E + UI \quad (1)$$

where: V_s - Variation of stocks;

P - Production;

I - Import;

E - Export;

IU - Internal Use.

The algorithm for calculating the ratio of self-insurance can be shown by the following formula:

$$SIR = (P/IC) * 100 \quad (2)$$

where: IC - internal consumption;

SIR - Self-Insurance Ratio.

Internal Consumption includes [5].

- production consumption in agriculture;
- personal consumption (consumption fund);
- production losses;
- uses in nonfood purposes.

RESULTS AND DISCUSSIONS

The performance of the agrifood sector is reflected in the degree of food security insurance of the population and in its participation at the structuring and harmonization of the national economy development [9].

NBS elaborated the food balanced sheets and determined the self-insurance level with food that represents an important indicator to assess the food security of the country.

The following table presents the self-insurance level with food determined by NBS.

Table 1. The self-insurance level with food in the Republic of Moldova, %

Specification	Years					
	2009	2010	2011	2012	2013	2014
Cereal crops	105.0	117.8	115.6	60.8	150.3	173.9
Leguminous crops	82.9	121.6	95.8	76.2	123.5	101.0
Sunflower	121.4	156.6	195.9	143.8	326.3	237.4
Potatoes	89.4	100.4	116.2	66.6	89.8	95.8
Vegetables and melons	98.6	104.2	100.5	93.3	102.4	94.7
Fruits	213.9	207.7	237.7	245.2	264.2	205.0
Grapes	104.3	104.6	102.8	104.0	103.7	106.4
Meat	86.7	86.0	86.1	81.5	69.8	65.4
Milk	95.0	94.1	92.0	84.7	86.8	90.3
Eggs	100.3	98.8	95.4	102.2	98.0	98.8

Source: Own calculations based on the data from [10]

The data of the table note that the Republic of Moldova is supplied with cereals, except 2012, when the level of self-insurance is less than 80%, due to the drought of this year that has considerably diminished the volume of the agricultural production.

The level of self-insurance determined for cereal crops increased in 2014 compared to 2009 and 2010 respectively by 68.9 and 56.1 p.p., and compared to 2011, 2012 and 2013 it increased by 58.3; 113.1 and 23.6 p.p. Our country was insured with leguminous crops, except 2012, when the self-insurance level was below the allowable limit of 80%.

The level of self-insurance with leguminous crops increased in 2014 compared to the years 2009, 2011 and 2012 respectively by 18.1 %, 5.2 % and 24.8 %. and compared to the years

2010 and 2013 it decreased by 20.6 % , and 22.5 %.

The Republic of Moldova was over-insured with sunflower production. The level of self-insurance with sunflower production increased in 2014 compared to 2009 and 2010 respectively by 116.0 and 80.8 p.p, and compared to 2011 and 2012 it increased by 41.5 and 93.6 p.p.

Due to the reduction of the potatoes area in 2014 the level of self-insurance decreased compared to the years 2010 and 2011 respectively by 4.6 and 20.4 p.p., and compared to the years 2009, 2012 and 2013 it increased by 6.4 %, 29.2 % and 6.0 %.

The level of self-insurance with vegetables and melons reduced in 2014 compared to 2009 and 2010 by 3.9 % and 9.5 %, and compared to the years 2011 and 2013 it decreased respectively by 5.8 % and 7.7 %. The level of self-insurance with fruits reduced in 2014 compared to 2009 and 2010 respectively by 8.9 and 2.7 p.p., and compared to the years 2011, 2012 and 2013 it reduced by 32.7 %, 40.2 % and 59.2 %. Over-insurance with fruits allows us to increase the export volume.

Our country was over-insured with grapes production. The droughts of recent years have seriously affected the livestock sector. The data of the table show that we weren't insured with meat production in the years 2013 and 2014, and the level of self-insurance reduced in 2014 compared to the years 2009; 2010 and 2011 respectively by 21.3 %, 20.6 % and 20.7 %, and compared to 2012 and 2013 it decreased by 16.1 and 4.4 p.p. due to the reduction of the livestock of cattle and cows, while the livestock of pigs, sheep and goats increased.

The Republic of Moldova was insured with milk and dairy products. However the level of self-insurance with milk reduced in 2014 compared to the years 2009, 2010 and 2011 respectively by 4.7 %, 3.8 % and 1.7 %, due to the reduction of the cow livestock, and compared to 2012 and 2013 it increased by 5.6 and 3.5 p.p. Also our country was insured with eggs production during the analyzed period. Self-insurance level determined for 2014 reduced compared to the years 2009 and

2012 by 1.5 and 3.4 p.p.

The degree of covering the necessary of fruits, berries and nuts is determined in the following table.

Table 2. The degree of covering the necessary consumption of fruits, berries and nuts determined on the basis of domestic production,%

Indicators	Years				
	2010	2011	2012	2013	2014
The annual minimum (balanced) food basket thousand tons	293	293	293	292	292
Produced quantity, thousand tons	322	378	380	419	497
The degree of covering the necessary of fruits, berries and nuts,%	110.1	129.2	129.9	143.3	170.1

Source: Developed by the author based on the sources [6, 7, 12].

The Republic of Moldova is over-insured with fruits, berries and nuts. The degree of covering the necessary of fruits determined on the basis of the normatives of the average balanced basket [12] in 2014 was by 60.0 and 40.9 p.p. higher than in 2010 and 2011 and by 40.2 and 26.8 p.p. more than in 2012 and 2013 years. This raise is due to increasing the achieved production volume during the analyzed period.

The degree of covering the necessary of potatoes is presented in Table 3.

Table 3. The degree of covering the necessary consumption of potatoes determined on the basis of domestic production, %

Indicators	Years				
	2010	2011	2012	2013	2014
The annual minimum (balanced) food basket thousand tons	337	337	337	338	338
Produced quantity, thousand tons	280	351	182	240	268
The degree of covering the necessary of potatoes%	83.09	104.1	53.93	71.06	79.35

Source: Elaborated by the de author on the basis of the sources [6, 7, 12].

Analyzing the data of the table we can observe that the degree of covering the necessary of potatoes decreased in 2014 compared to 2010 and 2011 respectively by 3.74 and 24.74 p.p., due to the decrease of the produced amount in this period, and compared with the years 2012 and 2013 the value of this indicator increased by 25.42 and 8.29 p.p.

The following table presents the degree of covering the necessary of vegetables on the basis of domestic production.

The degree of covering the necessary of vegetables with domestic production determined by the normatives of the average

balanced basket [12] decreased in 2014 compared to 2010 and 2011 respectively by 3.4 and 8.62 p.p. because of the reduction of the production volume achieved in this period.

Table 4. The degree of covering the necessary consumption of vegetables determined on the basis of domestic production,%

Indicators	Years				
	2010	2011	2012	2013	2014
The annual minimum (balanced) food basket thousand tons	401	401	401	401	401
Produced quantity, thousand tons	341	362	231	292	327
The degree of covering the necessary of vegetables	84.97	90.19	57.55	72.76	81.57

Source: Developed by the author based on the sources [6, 7, 12].

In 2014 compared to 2012 and 2013 the degree of covering the necessary of vegetables went up by 24.02 and 8.81 p.p., the reason being the increase of vegetable production in this period compared to 2012 when the drought happened.

Table 5. The degree of covering the necessary consumption of sugar with domestic production,%

Indicators	Years				
	2010	2011	2012	2013	2014
The annual minimum (balanced) food basket thousand tons	48.3	48.3	48.2	48.2	48.1
Produced quantity, thousand tons	103.2	88.4	83.4	140.3	177.7
The degree of covering the necessary of sugar, %	213.7	183.0	172.9	291.1	369.3

Source: Developed by the author based on the sources [2, 6, 12].

The Republic of Moldova was over-insured with granulated sugar, so the degree of covering the necessary of this product increased in 2014 compared to 2010 and 2011 respectively by 155.6 and 186.24 p.p., and compared with 2012 and 2013 the value of this indicator increased by 196.4 and 78.19 p.p.

Table 6 presents the degree of insurance with eggs.

Analyzing the data from Table 6, we can conclude that the degree of insurance with eggs, determined on the basis of the normatives of the average balanced basket [12], decreased in 2014 compared to 2010 and 2011 respectively by 8.53 and 7.09 p.p., the reason being the droughts from 2010 and 2011 that affected the livestock sector.

Table 6. The degree of covering the necessary consumption of eggs determined on the basis of domestic production,%

Indicators	Years				
	2010	2011	2012	2013	2014
The annual minimum food basket million pieces	787	785	783	781	779
Produced quantity, million pieces	718.5	705.2	621.9	623.7	645.0
The degree of covering the necessary of eggs, %	91.28	89.84	79.43	79.82	82.75

Source: Elaborated by the author based on the sources [6, 7, 8 12].

The degree of covering the necessary of eggs on the basis of domestic production increased in 2014 compared to 2012 and 2013 by 3.32 and 2.93 p.p.

CONCLUSIONS

The Republic of Moldova has been supplied with cereals, except 2012, when the level of self-insurance was less than 80%, due to the drought of this year which reduced considerably the agricultural volume. Our country has been insured with leguminous crops, except the year 2012, when the self-insurance level was below the allowable limit of 80%.

The Republic of Moldova has been over-insured with sunflower, fruits and grapes production.

The droughts of recent years have seriously affected the livestock sector. Thus in the years 2013 and 2014 the Republic of Moldova was not insured with meat production.

The Republic of Moldova has been insured with milk and dairy products. Also our country has been insured with eggs production during the analyzed period.

Thanks to the increase of the obtained fruits production volume in the analyzed period, the degree of covering the necessary of fruits determined on the basis of the normatives of the average balanced basket was higher in 2014 than in the years 2010, 2011, 2012 and 2013.

In 2014 compared to 2010 and 2011 the degree of covering the necessary of vegetables with domestic production reduced .

The degree of covering the necessary of granulated sugar increased in 2014 compared to the years 2010, 2011, 2012 and 2013. Thus we can conclude that the Republic of

Moldova is over-insured with granulated sugar. In 2014 compared to the years 2012 and 2013 the degree of covering the necessary of eggs on the basis of domestic production registered an insignificant rise.

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