

Analyzing the Importance of Food Security for the Romanian Economy

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Abstract

In this research, there will be analyzed the importance of food security for the Romania's agriculture and Romanian economy. For Romania, the agriculture it is one of the most important sectors - a powerful engine of economic development, given the particular potential of our country's agriculture. Sustainable development of the national economy in the next decade can be achieved only by making maximum use of agriculture, the right balance for agriculture prices for all commodities – price volatility, food processing and distribution system. Food security depends on giving the people the proper nutritious and healthy goods that enable them to develop social, political and economic activities.

Keywords: agricultural commodities, price volatility, food security, agriculture, sustainable development.

JEL Classifications: F52, F60, F64, I31, O13, Q13, Q15, Q18

Introduction

According to several experts, food security is the most important component of the national security of a state. A nation enjoys food security only when it has sufficient food and agricultural resources for the nutrition of all its inhabitants, while at the same time providing animal feed and water in the event of natural disasters, crises, war, etc. Food insecurity can generate internal instability and social pressure that can have serious, long-term effects on the well-being of the population, create economic and political instability, and externally, socio-economic threats for the national security.

Beyond the crucial aspects that underline the provision of food for sustaining economic activity, but also for satisfying a primordial need for food, the focus is on how they are met, referring in this case strictly to one key factor, namely

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"information". We live in a volatile environment, where all aspects of survival can be reduced to the concept of "knowledge", so that the intelligence product, in other words the analysis of all the information we have, is a pillar for the evaluation of all political cultural aspects but also socio-economic, which make up a nation.

Cassman and Harwood³ investigated the nature of agricultural systems and their relationship with food security and ecological balance. They concluded that "*global food security will depend in the coming years on the growth of production in those areas of the world, with favorable soils, adequate water resources, and high yields on wheat and rice crops.*" In this context, institutional research can eliminate the hazard and provide us with the resources necessary to avoid the surprise. The resources needed to produce analyzes are experts in the field that have directed their efforts to make predictions based on existing information on the state of agriculture and the natural environment, using intelligence methods of data collection, filtering and dissemination to support policy makers in developing those framework programs for improving food security.

Food security is periodically reviewed by the Food and Agriculture Organization of the United Nations (FAO). The most recent reports highlight that about one in nine people in the world still face food shortages for an active and healthy life.

"*Most of these malnourished people live in developing countries, if 791 million people have suffered from chronic hunger in 2012-2014*"⁴. Against the background of climate change, price developments, deficiencies regarding environmental sustainability, water resources, resource conflicts and weak means to ensure efficient food production, the debate on the development of food security as an essential part of the national security of any state, begins to occupy a central place on the agenda of international organizations working in the field and of national governments.

The food problem has two basic components: food policy and nutrition policy. The food policy intervenes on two levels: one regarding the supply and quality of the products, and the other directly related to the consumer and its consumption capacity.

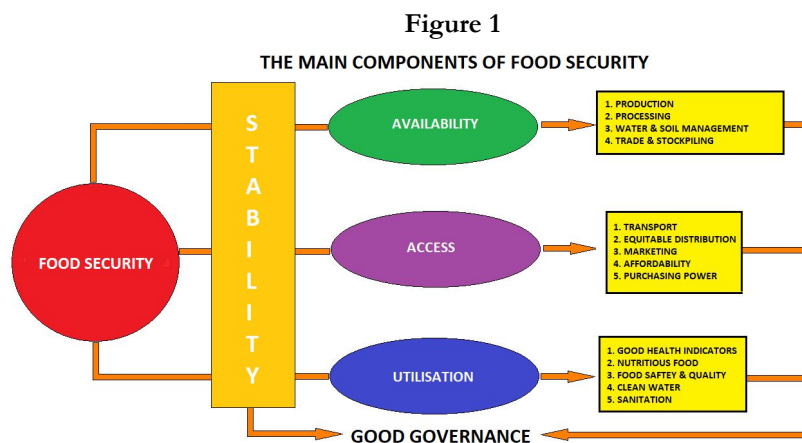
³ Cassman, K. G. & Harwood, R. R. "The nature of agricultural systems: food security and environmental balance," Food Policy, Elsevier, vol. 20(5), pages 439-454, October 1995.

⁴ Food and Agriculture Organization (FAO), International Fund for Agricultural Development (IFAD), World Food Programme (WFP), The State of Food Insecurity in the World 2014. Strengthening the Enabling Environment for Food Security and Nutrition, FAO: Rome, Italy, 2014.

These interventions aim at one or more of the following objectives:

- Establishing food prices against the strong fluctuations of international prices;
- Ensuring a certain nutritional level of the undernourished population;
- Control of food prices;
- Limiting inflationary pressure by controlling food prices.

Therefore, food policies represent the set of governmental measures of legislative, normative, administrative and financial nature that take into account previously defined objectives, based on the fourth pillar “governance”. Nutrition policy aims to ensure a balance between the physiological needs of food consumption and the contribution of nutrients to their satisfaction.



Source: www.fao.org. Own interpretation

The role of food production, availability and consumption, have broad implications for human activity and future well-being. To the extent that food security is located in complex social, economic, political, cultural contexts, it is difficult, if not impossible, to detach the role of food security from the agricultural sector and food production, rural agricultural reform and economic development. Food security is closely linked to sustainable development, as proper nutrition and quality foods are the basis of population well-being and productivity growth.

For Romania, agriculture with its sub-sectors - plant and animal growth, the agro-food industry, is one of the most important resources of development.

In addition, by identifying the dangers, threats and risks to food security, one can foresee the main vulnerabilities in agriculture and the agro-food industry, which are among the most diverse:

- Vulnerabilities that directly affect the natural environment - soil, water, air, energy resources);
- Excessive population or exploitation: underdeveloped infrastructure, mainly the critical one, starting with the one of production: morally and physically used agricultural equipment, storage areas, insufficiently developed energy networks, food merchandise transport networks;
- The impossibility of accessing the European funds, which were established by the Common Agricultural Policy (CAP) for the period 2007/2013;
- Accentuated fragmentation of agricultural lands mostly owned by farmers (where only 4% of the national arable land is owned by 50 top agricultural producers with potential for exploitation and exploitation; only 7 million ha can be subject to EU funds because 2, 4 million ha are from subsistence farms);
- Lack of adaptation of the legal status of farmers' households, to that of micro-farms in order to qualify both for accessing funds for the development of rural infrastructure and for improving the standard of living of farmers, through national financing and accessing funds for agriculture from the funds specific.
- Impairment of the technical base and stagnation of investments, destruction of assets (irrigation systems, plantations, equipment, zoo technical complexes etc.).

Agriculture Component of Economy

Economic analysis of the main agro-food products

Taking into account the background of severe economic stress during the peak of the global economic crisis, the most affected countries were the developing ones, depending on the food imports. They instantly felt a negative impact due to the high prices and the fears related to the deficit.

Going back to the current period 2017-2018, for a large part of the world's states, the situation has not changed at all. Thus, the most vulnerable are the developing countries that are still threatened at the macro level by the increase of prices for international food products, which determines at micro level the volatility of prices in the internal market.

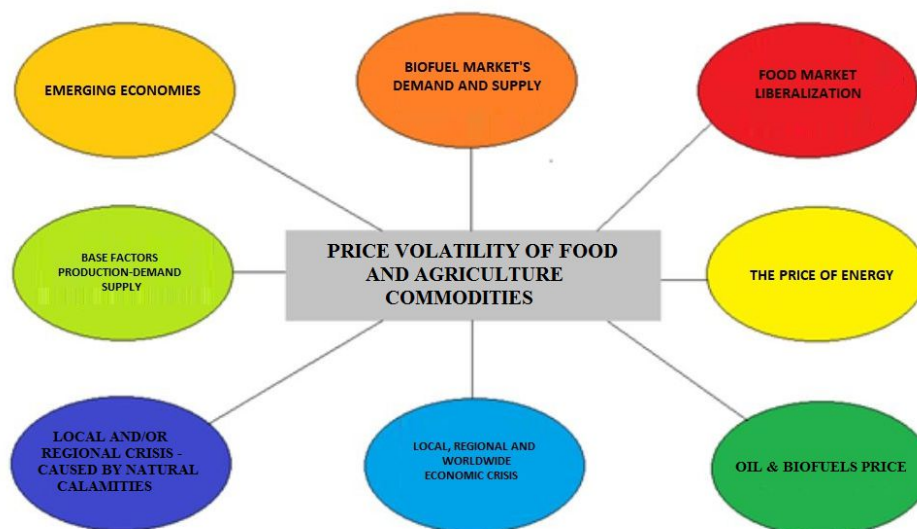
For example, the international increase in prices from 2009/2016 and the subsequent decrease in prices at the same level before the onset of the global economic crisis were only partially transmitted internationally. In practice, average consumer prices in developing countries have remained up to 50% higher than they were before.

Even when international prices were stable (as they were between 2000 and 2007), many developing countries were exposed to volatility in very high prices in space and time.

Price volatility is one of the main subcomponent of food security with the greatest influence when it comes to social imbalances at national level. Price volatility affects directly the population's income and influence the normal life of each family all over the world in the short, medium and long term. This phenomenon interacts with price levels, thus affecting food welfare and security by increasing the vulnerability of the population. As the price increases, the consequences for consumers become substantial.

Analyzing in depth the phenomenon of price volatility for food and agro-food commodities, we highlight a number of external factors that directly influence this phenomenon and implicitly food security. (Figure 2)

Figure 2. Main components of price volatility for food and agriculture commodities



Source: www.fao.org, www.oecd.org. Own interpretation

First of all, starting from the raw materials, the states of the world that are dependent on their producers face great problems due to price volatility⁵. Almost a third of the world's population depends on the production of cereals, sugar, oil, meat, rice, cotton, ferrous and non-ferrous metals, etc. In a single year, commodity prices may vary by over 50% - 60%, thus expressing high volatility in the short term.

This instability of the economy will lead from low prices to raw materials to lower incomes for farmers and implicitly fewer jobs for workers in the agro-industrial environment. Therefore, food insecurity in relation to the inherent uncertainty of prices leads to complication of the entire agro-food management and implicitly to a financial planning with a low yield both locally, regionally and globally.

At the same time, the close connection with the volatile price of basic energy (natural gas, electricity, heating) shows that for consumers it is much more difficult to replace the heating system when the price of natural gas, for example, fluctuates, compared to the speed with which could replace food.

The prices of agricultural raw materials are increasingly correlated with the prices of oil, as oil prices directly and indirectly affect the prices of agricultural inputs (for example, the price of fuel and fertilizer). In addition, depending on the relative prices of agricultural crops and oil, biofuel production can become profitable (without government support).

Secondly, because of price volatility, the volatility of national and individual incomes is an issue that obstructs the planning in the medium and long term of governments and commodity units. Thus, the inequality between states is exacerbated, which leads to the continuous degradation of the business environment.

Therefore, each country must identify precisely the sources of volatility of its own prices. Appropriate policies to stabilize, manage and deal with domestic price volatility can be very different, depending on the sources of price volatility.

We can say that, without a collective consensus and a good international coordination, we will never be able to achieve a healthy management of incomes or market stabilization interventions, thus the states of the world continue to lose both economically, socially and politically.

⁵ <http://www.fao.org/3/ca5162en/ca5162en.pdf>, The State of Food Security and Nutrition in the World (SOFI 2019).

There are two types of interventions that could be explored in detail, namely: policy options aimed at preventing or reducing price volatility and those aimed at mitigating its consequences.

There are several factors that led to this volatility, such as: fundamental, structural problems in the functioning of markets, demand shocks, local / regional / global economic crisis, lack of a national strategy for food security, different levels of development between regions and countries, lack of immediate action - lack of coherent policies, lack of control and traceability on the food chain.

The most serious consequence of this phenomenon is the deterioration of the food security and the nutrition of the population in the rural and urban areas following the peaks of the food prices, considering that the food represents a very large share of the total budget of the poorest households. Therefore, due to the fact that poor households often consume less processed foods, the effect of rising commodity prices is felt more strongly.

These households are affected both in terms of nutritional status (especially of pregnant women, children and those affected by long-term illnesses, such as HIV/AIDS), as well as their ability to buy education, medical care or other basic needs when food prices are high.

As far as farmers are concerned, they face great difficulties even in meeting their own food and nutrition needs due to unstable energy prices and lack of market access infrastructure.

The concern of most of the states of the world and of the various world organizations regarding the impact of price volatility, both internally and externally, has increased lately, given the increasingly unpredictable environment that can lead to the inability of states to- and further ensure food security for its own population.

Following the analysis and research, it can be stated that most agricultural commodity markets are characterized by a high degree of volatility, which can be explained by three fundamental ideas:

- First, agricultural production varies from one period to another due to natural shocks, such as climate change and pests;
- Secondly, the elasticity of demand and supply is relatively low, at least in the short term. Thus, in order for supply and demand to balance after a shock, prices have to vary quite strongly, especially if stocks are low;
- Thirdly, because agricultural production requires a fairly long period of time, the supply cannot be too responsive to short-term price changes.

According to the forecasts made by the FAO⁶ and the UN⁷, the reports published by them show a considerable increase of the population and the incomes in the emerging countries, in parallel with the increase of the demand of food in the following decades. By 2050, the world's population is expected to reach about 9 billion, and food demand will increase by 70% to 100%. This will put pressure on commodity prices and sustainable development.

At the macro level, a distinction has to be made between long-term and short-term effects of commodity price volatility and between importing and exporting countries. For exporting countries, whose economies are heavily dependent on agricultural commodities, exceptionally low prices will have an immediate impact on the balance of payments, and in the long run uncertainty can reduce investment and affect the use of production capacities.

Importing countries are facing exceptionally high prices and they may also face deteriorating balance of payments and deteriorating public finances. Rising food prices can have major repercussions on the entire economy. For low-income food importing countries, high food prices can lead to inflation and high import bills, which in turn produce a "hole" in the budget.

Analysis of the main agro-food products in Romania

For Romania, agriculture together with its sub-sectors - the agro-food industry, plant cultivation and animal husbandry, are the most important resources of development. At the same time, foods with high nutritional value, obtained through an efficient use of the existing natural resources and by fully exploiting their potential offer the country and a solid food security.

With the evolution of technology and most of the components of the environment, the population began to feel the need for new foods that improve the nutrition and health of the individual. Also, Romania's accession to the European Union has created a multitude of challenges that Romania has to face, and in the future we expect some new ones due to the low degree of compatibility and uniformization of the agricultural sector and the rural economy in Romania, with the example of developed countries of the European Union.

At the national level, agriculture is one of the important branches of the Romanian economy. The contribution of agriculture, forestry and fish farming to

⁶ www.fao.org

⁷ https://esa.un.org/unpd/wpp/publications/files/wpp2017_keyfindings.pdf. World Population Prospects - The 2017 Revision

the formation of the Gross Domestic Product is around 5.2% of the 10-year average (2007-2016) of GDP, and in the EU Member States it is about 1.6%⁸.

The Romanian agro-food products are distinguished both by the way they are prepared and by the ingredients used and their membership. Therefore, the promotion of traditional products with specific characteristics can be considered as a step forward for the rural economy, especially in the disadvantaged areas, both by increasing the income of the farmers and by establishing the rural population in these areas.

For the proper functioning of the internal market in the food sector, economic operators need certain tools to help them increase the market value of the products and to defend them from abusive practices in order to conduct fair trade transactions.

The group of UN Food and Agriculture Agencies FAO, IFAD and WFP based in Rome, also called "Roman Organizations", developed and implemented a report in 2017⁹ that reflects the view of international organizations on price volatility and its effects on food security. It was concluded that price volatility is a complex issue with many dimensions, both agricultural and non-agricultural, in the short and long term, with a much differentiated impact on consumers and producers in developed and developing countries.

The share of agriculture, forestry and fish farming in GDP

Table 1. Current Prices Expressed in Millions lei

The gross domestic product	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Sem I
Agriculture, forestry and fishing	28879,6	35939,7	27788,8	34402,8	31568,5	29825,4	31077,8	37018,6	41014,3	9441,6
TOTAL GDP	529623,5	562062,4	595367,3	637456,0	668143,6	712658,5	765135,4	856726,6	944220,2	440962,0
% of GDP	5,5	6,4	4,7	5,4	4,7	4,2	4,1	4,3	4,3	2,14

Source: 2010-2015 INS, *Tempo online*, CON103G, 2016-2017 ASR 2018 tab 11.1, 2018 INS Press release no. 83/8 April 2019 - provisional data (2), table 8 and 2019 sem I INS Press release no. 219/6 September 2019 - provisional dates (1)

⁸ <http://www.insse.ro/cms/>

⁹ <https://docs.wfp.org/api/documents/8dee4498-15c3-40d5-89cf-b4132a6b10f5/download/>.

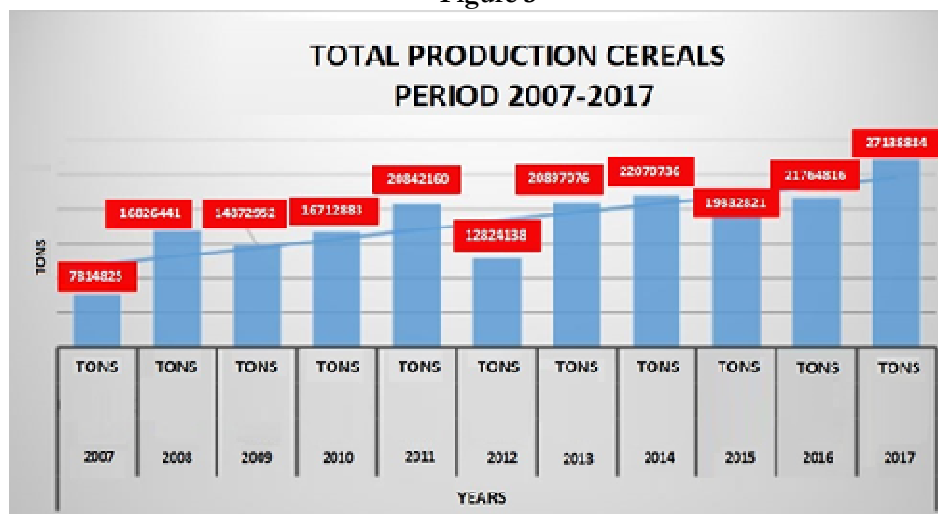
Progress Report on Rome-Based Agencies (RBA) collaboration.

The contribution of the sector to the formation of GDP by quarter in 2017 was 1.7%, 2.3%, 9.2% and 2.6% respectively. In 2018 the quarterly contribution was 1.9%, 2.5%, 10.4% and 1.8%.

The National Commission for Strategy and Forecast estimates a contribution of agriculture, forestry and fisheries in GDP 2019 of 4.2% (Spring forecast - May 2019).

- Of the 23.8 million ha as the sum of the Romanian territory, the agricultural area used in the agricultural holdings was, according to the General Agricultural Census 2010, about 13.3 million ha (55.9%), of which about 8.3 million ha represents arable land and according to the data of the Agricultural Structural Survey 2016 it was about 12.5 million ha (52.5%), of which about 7.8 million ha was arable;
- Depending on the mode of use, the arable land occupies approx. 64.2% of the total agricultural area;

Figure 3



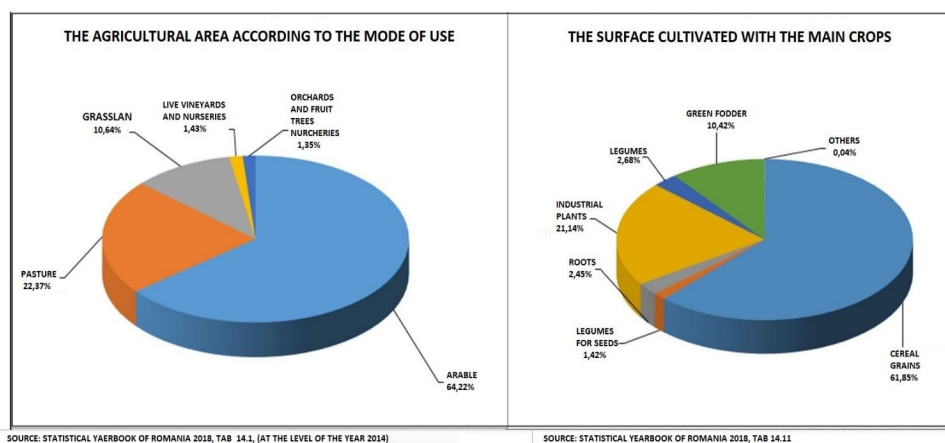
Source: www.madr.ro

Table 2. Land fund, according to the way of use

Specification	2010	2011	2012	2013	2014
The agricultural surface, of which:	14634,5	14621,5	14615,1	14611,9	14630,1
Arable	9404,0	9379,5	9392,3	9389,2	9395,3
Pastures	3288,7	3279,3	3270,6	3273,9	3272,2
Rough	1529,6	1554,7	1544,9	1541,9	1556,3
Live vineyards and nurseries	213,6	211,3	210,5	210,3	209,4
Orchard and fruit growing nursery	198,6	196,7	196,8	196,5	196,9

Source: Statistical Yearbook of Romania, 2013-2018 tab 14.1

Note: Until the completion of the cadastral action of the country, by the National Agency for Cadastre and Real Estate Advertising, the data series presented will remain blocked at the level of 2014.

Figure 4**Table 3. The evolution of the value of agricultural production is as follows:**

	UM	2010	2011	2012	2013	2014	2015	2016	2017	2018
Vegetable	million lei current prices	43488,5	54179,8	40169,1	53843,8	49058,3	43574,1	45155,2	53216,7	61216,2
	% of total	67,5	70,8	62,5	68,6	65,8	63,4	65,1	67,8	70,9
Animal	million lei current prices	20406,8	21784,1	23555,2	23876,5	24481,6	24315,8	23293,6	24331,9	23903,5
	% din total	31,6	28,5	36,7	30,4	32,9	35,4	33,6	31,0	27,7

	UM	2010	2011	2012	2013	2014	2015	2016	2017	2018
Agricultural services	million lei current prices	557,3	544,8	535,1	744	984,5	859,6	899,8	945,5	1229,6
	% din total	0,9	0,7	0,8	1	1,3	1,2	1,3	1,2	1,4
TOTAL		64452,6	76508,7	64259,4	78464,4	74524,4	68749,5	69348,6	78494,1	86349,3

Source: Statistical Yearbook of Romania, 2010-2019 - tab. 14.8, 2016-2018 table 14.9; 2018 INS Press release no 187 / 25.07.2019, semi-final data

Conclusions

At the international level, based on the various analyses made by FAO and OECD, the real numbers of people suffering from hunger and food insecurity are no longer declining – on the contrary, they have been slowly on the rise in the last few years.

For our country, we can say that, although Romania has a real agricultural potential, however, it is not enough done on the policy and political decisions, even if we are on the top EU countries as agricultural potential.

To revive the Romanian agriculture and its agricultural potential can transform our country into a state with a real independent food security - in full compliance with the right national policy decisions.

In the next period, on short and medium time, it is urgent need to apply these principles and measures:

- Establishment of a favorable financial package 2020-2025 for agricultural needs and priorities;
- Coupling of beneficiaries of agricultural policies (lack of dialogue with all stakeholders and political instability are vulnerabilities);
- Relaunch of the unqualified workforce, aging and disregarded;
- Eliminating disproportionate gap between rural and urban living conditions related to infrastructure, services etc. (lack of middle class in rural areas is a vulnerability);
- Reducing major disparities in the access to technological resources between Romanian and other European producers;
- Avoiding trigger infringement proceedings due to non-compliance with EU rules. (frequent reorganizations, on unclear criteria, the structure of the agricultural administration and over regulation are vulnerabilities);

- It is important to manage our resources well, to avoid new crises;
- Education and information is essential, especially in the rural area.

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