

CEREAL MARKET: CURRENT STATE AND DEVELOPMENT TRENDS

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The global financial and economic crisis of 2008-2009 has created a state of uncertainty and instability in virtually all fragments of the general management system, based on market relationship. Unfortunately, this state is not overcome even today, creating different and very difficult problems deficits on managerial decision making, especially for the small farmers in rural area. The main goal of the article is to identify, based on carried out investigations, the most favorable directions of farming, given that the aforementioned global crisis has caused significant changes in the correlation between costs and market prices for many agricultural products, primarily – cereals. The methodological basis of investigations is the analysis of dynamic rows in agricultural production, as well as methods of comparison, different methodological approaches, concerning business assessment, identification and / or risk assessment etc. As a main result of the carried out investigations can be seen through the effective management of agricultural diagnosis at the level of regional market of grain products, including – planning rational structure of fruit crops for 2017 and subsequent years in the near future.

Keywords: market, market prices, cereals, cereal products, trends, regional market, global market, dynamic of prices etc.

Criza economico-financiară globală din perioada anilor 2008-2009 a format o stare de incertitudine și instabilitate, practic, în cadrul tuturor fragmentelor specializate ale mecanismului general de gospodărire de piață. Cu părere de rău, această stare nu este depășită nici până în ziua de astăzi, creând probleme dificile la luarea deciziilor manageriale, în special, pentru producătorii agricoli de dimensiuni mici. Scopul principal al cercetării îl constituie identificarea, în baza investigațiilor efectuate, a celor mai favorabile direcții de activitate agricolă, dat fiind faptul că criza mondială sus-menționată a provocat schimbări esențiale în corelația dintre costuri și prețuri de piață pentru mai multe produse agricole, în primul rând, produsele cerealiere. Baza metodologică a investigațiilor o constituie analiza rândurilor dinamice în domeniul producției agricole, metoda comparației, diferite abordări metodologice privind evaluarea businessului, identificarea și/sau evaluarea riscurilor etc. În calitate de rezultat principal al investigațiilor efectuate poate fi privită eficientizarea managementului agricol prin prisma diagnosticului argumentat al pieței regionale a produselor cerealiere, inclusiv, planificarea structurii raționale a semănturilor pentru roada anului 2017 și următorii ani din viitorul apropiat.

Cuvinte-cheie: piața de desfacere, prețuri de piață, culturi cerealiere, produse cerealiere, tendințe, piața regională, piața globală, dinamica prețurilor etc.

Мировой финансовый и экономический кризис 2008-2009 годов привел к состоянию неопределенности и нестабильности практически во всех фрагментах общего рыночного механизма хозяйствования. К сожалению, это состояние не изменилось до сих пор, что создает серьезные проблемы в процессе принятия управленческих решений, в частности для мелких сельскохозяйственных предприятий (фермерских хозяйств). Основная цель статьи заключается в том, чтобы на основании проведенных исследований определить наиболее благоприятные направления для сельскохозяйственной деятельности, учитывая тот факт, что вышеупомянутый мировой кризис вызвал значительные изменения в соотношении между затратами и рыночными ценами на многие сельскохозяйственные продукты, в первую очередь, зерновые культуры. Методологической основой исследований является анализ динамических рядов в области сельскохозяйственного производства, метод сравнения, различные методологические подходы, касающиеся оценки бизнеса, идентификации и/или оценки рисков и т.д. В качестве основного результата проведенных исследований можно рассматривать рост эффективности сельскохозяйственного управления посредством более обоснованной диагностики регионального рынка зерновых культур, в том числе, планирование рациональной структуры зерновых культур на 2017 и ближайшие последующие годы.

Ключевые слова: рынок сбыта, рыночные цены, зерновые культуры, продукты переработки зерновых культур, тенденции, региональный рынок, мировой рынок, динамика рыночных цен и др.

JEL Classification: E2, E3, L66, Q13, Q17, Q18.
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Introduction. Agricultural products market could be evaluated as a mechanism of summarizing the results of the work of farmers in comparison with existing solvent demand from consumers, likely to be present at this market. As a whole, agricultural market is a very important object of economic research, able to identify, analyze and give answers to many questions like: what must be produced; why it should be produced; where it should be produced and what we should do with the profit. Cereal market, in quality of subject to given article shows clear trends to become a market of increasingly extended and dependent not only of the local (national) market, but as well as regional and even global. It has to be mentioned, that this problem is inappropriate reflected in local scientific research. As a result, along with its main purpose – to familiarize the local agricultural producers with actual information about cereal market, it has the objective to open the general picture, correspondingly, on regional and global levels.

The information base. Initial data base information was taken from FAO statistics on those issues, as well as the available information from local and regional markets of cereal products, from other regular sources of information, including Internet and different monographic studies.

The core content. From the entire range of food basket, the group of grain plants represents the main nutritional and caloric value of food for human being. Cereals are rated as the basis for ensuring people's food security simply because they contain essential nutrients elements, have highly developed energy, can be easily kept a relatively long period of time either as raw material, or in the form of semi-finished or ready for consumption products.

Directly for the Republic of Moldova specific characteristic of the grain products is that more than 40.0 percent of the country's citizens rational food consists of bread and bakery products, such as the cereal products, cafeteria flour, pasta, etc. All these products, as it is very well known, have as raw material various kinds of cereals [6].

Obviously, the market movement of cereal occurs in the form of functioning of local markets. However, being in full swing stage scenario of globalization of economic activity, any local or regional market is directly or indirectly (tangential) oriented to the economic (financial) criteria of world cereal market. The most famous representatives of the world cereal market are organizational structures of Food and Agriculture Organization (FAO), as the principal structure of the UN on issues of food security of the population of the planet. Next one is the International Grains Council, followed by different international exchanges cereal crop markets etc.

With reference to the reasoned and most professional assessments we will analyze the current state of the world market for grain products (rice, wheat, corn, barley and others) through the prism of structures in charge of FAO. At the same time, this approach will reflect a small perspective trend, but we will not discard either hindsight.

First of all, it should be emphasized, that a relatively stable trend of rising prices (the main indicator in any market products) is globally occurred in a period of time, including up-to 2004. As consequently, the last 3 years of this period of stability – namely 2002-2004 were selected as the basis for comparison, including the so-called – Food Price Index for more kinds of food [2], but primarily – for cereals (figure 1 and 2).

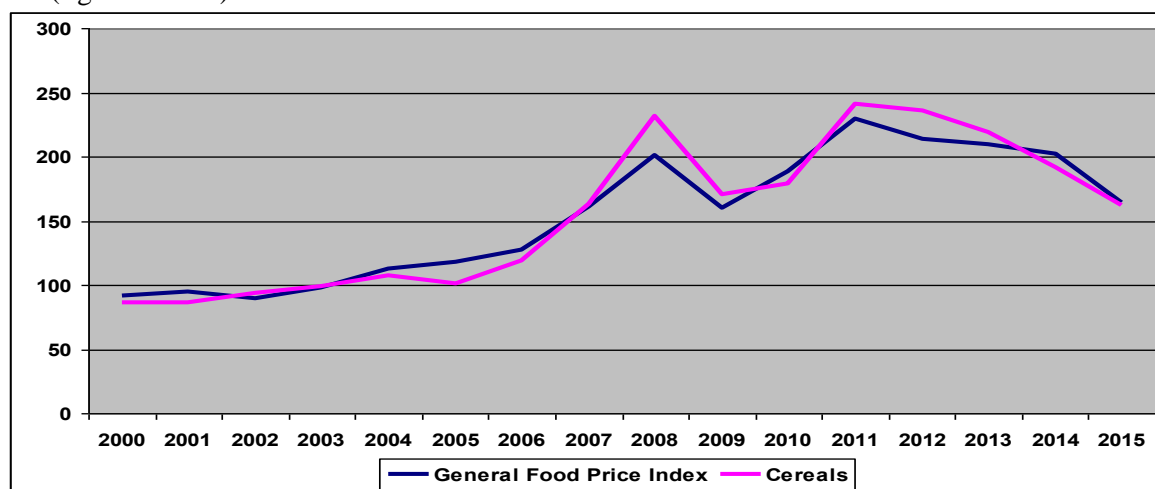


Figure 1. Trend of General Food Price Index and trend of prices of cereals (at annual level)

Source: <http://www.fao.org/worldfoodsituation/foodpricesindex/en>

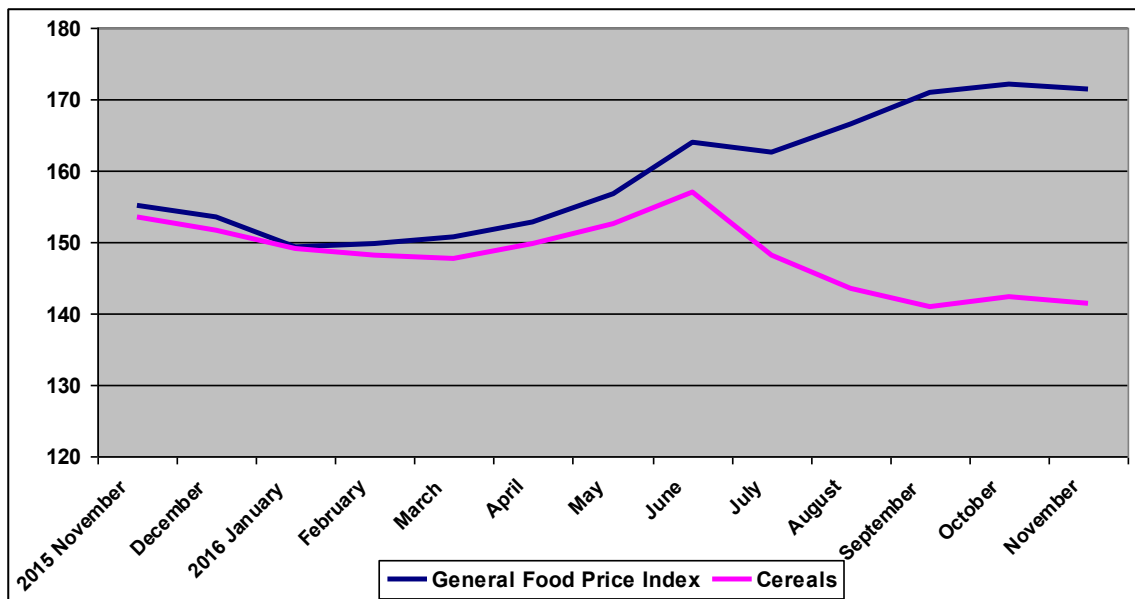


Figure 2. Monthly trends of General Food Price Index

Source: <http://www.fao.org/worldfoodsituation/foodpricesindex/en>

As it was already mentioned, since 2005 and onwards, prices of cereals showed a more chaotic motion, with growth of 17,6 percentage points in 2005 and then – 44,5 p.p. in 2007, and even 68,7 p.p. in 2008, reaching proportions of 232,1 percent over the base period. As a result of measures undertaken by various countries – both with potential for export and clearly highlighted intentions of import, first of all – the Arab countries of the North African Continent, during the years 2009-2010 the cereal price index fell back (to 170,2 and correspondingly to 179,2).

However, within the next two years, namely 2011-2012, the price index has increased considerably again, reaching its peak of growth, correspondingly 240,9 and 236,1 per cent, compared to the base period. In absolute amounts of money these increases were reflected, for example, at the wheat prices (standard conditions) at 350-360 \$ USA per ton and, in some cases, more than 400 \$/ton.

It should be mentioned, that already at the first wave of price increases, the global community reacted promptly and fairly efficient. Virtually all UN bodies showed signs of concern about the increasingly limited access of poor people (with a daily income of less than 1 dol. USA per capita) to the food, needed to survive [1].

As a result, very active actions were taken, this time not formal, but really with the high level of results, lifting the production volumes of cereal crops in virtually all the world. In some countries these were orientated to combat poverty, in others – some steps to use the time to gain extra profits, given that wheat production in some regions ensured producers annual profitability level of 200-250 percent and even much more.

The very fact that the undertaken measures have led to the positive results, which really reversal before existing trend, is reflected in the prices of cereals. Since 2013 until today the price index of global cereal products is steadily decreasing, reaching proportions of only 141,4 towards the end of 2016.

The right result of our analysis confirms, that the world prices on the cereal market in 2016 was (permanently) lower as the price level of 2007. Without any exceptions. In comparison with 2011 these prices are almost 2 times lower. We are talking, first and foremost, about export prices. It is well known, however, that not every grains producer has the capacity to export them. Sequentially, the prices directly from producers are much lower, compared to those, fixed in export transactions.

The conclusion is simple. Nearly 10 years of decreasing prices (this time with a few exceptions, obviously), brought farmers, primarily – small producers, enormous drop in revenues or profitability levels. Much of the wheat and corn producers in the Republic of Moldova have finished 2016 with financial losses. By realization prices, often below 2 lei/kg, they have not been able to cover even variable costs of producing those crops [2].

More basic, FOB prices of cereal products, established in 2016 at the seaport, nearest to domestic agricultural producers – Constanta (Romania) are reflected in table 1.

Table 1

FOB – port of Constanta (Romania) (Dol. USA / ton, a.2016)

	Name of cultures		
	Wheat	Barley	Corn
Minimum price	165,5	160,00	151,94
Maximum price	211,05	210,00	200,31
Average annual price	178,3	176,1	154,3

Source: <http://www.madr.ro/prețul-cerealelor-pe-pietele-reprezentative-din-romania.html>

As it is shown in the tab. 1, during a single calendar year, oscillation in prices was: the wheat – 27.5%; maize – 31.25%; barley – 31.83%. Although there is no direct correlation between prices and the season of the year, as we found out, the highest prices were fixed usually in the first half of the year, than in the second half.

In turn, market prices are less oscillating in the local markets, which have more considerable flows of grains. Accordingly, prices at the small markets are relatively and absolutely more unstable.

Also during 2016 the market prices of wheat in the ports of Odessa oscillated around gradation of 158,0 USA \$ per ton (standard conditions); corn – 146,0 dol. USA per ton and only 138,0 dol. USA \$ per ton of barley. It is to stress, that alongside to production costs, these prices, almost symbolic, must cover the expenses of loading and transport to the seaport for export, as intended respectively.

Making comparisons regarding the correlation between production costs (for example – barley) with the income as a result of selling, we can see the emergence of damages for the producers, in the best case – variant of "zero" profit.

Referring to the global trend of change in prices of cereal crops has to be noted, that to a considerable extent they are dependent on cereals stocks at the end of the year at the global level. According to the FAO the annual production of cereal crops in the last 10 years (2006/2007-2015/2016) increased from 2012,12 up to 2533.78 mil. tons or by 25,9 percent. It has to be mentioned, that for the year 2016/2017 are forecasted 2577.86 mil. tons of cereals production, which is still 44 million tons more, compared to the previous year.

It is important to emphasize, that the high volume production increases the volume of consumption, but this rate is lower than the growth rate in production volume. Hence, the almost constant growth (at least for the last 5 years) the stock at the end of the period is the biggest issue in global grain reserves, which are forecasted for the current year (2016/2017), nearly 670,35 million tons or 26,0% based to the volume of production [3]. The fact, that more than a quarter of the volume of production of cereals is permanently stored, negatively influence the dynamics of market prices of these products.

All we can conclude from the analysis performed, the consumption of cereals generally speaking, has a domestic character. More than 84.3 percent of the production of grains is oriented to the domestic consumption and only the rest, approximately, 15.7% are subject to export-import. For the years 2016/2017 are forecasted to be exported 388,45 mil. tones or 15.1% of global production [4].

Main features of the world market of wheat are shown in table 2, figure 3 and 4.

Table 2

The volume of global wheat production and its use [2], mil. tons

	2006/07	2012/13	2013/14	2014/15	2015/16	2016/17 (forecast)
Production	600,910	655,090	711,500	730,480	735,070	749,290
Domestic Supply	779,030	851,960	883,960	914,400	946,850	975,840
Domestic Use	622,520	684,490	692,890	703,920	714,940	734,650
Trade (Exports)	113,840	143,420	157,750	156,630	167,830	168,490
Closing Stocks	159,040	172,450	183,910	211,770	226,540	238,510

Source: <http://www.fao.org/worldfoodsituation/csdb/en/>

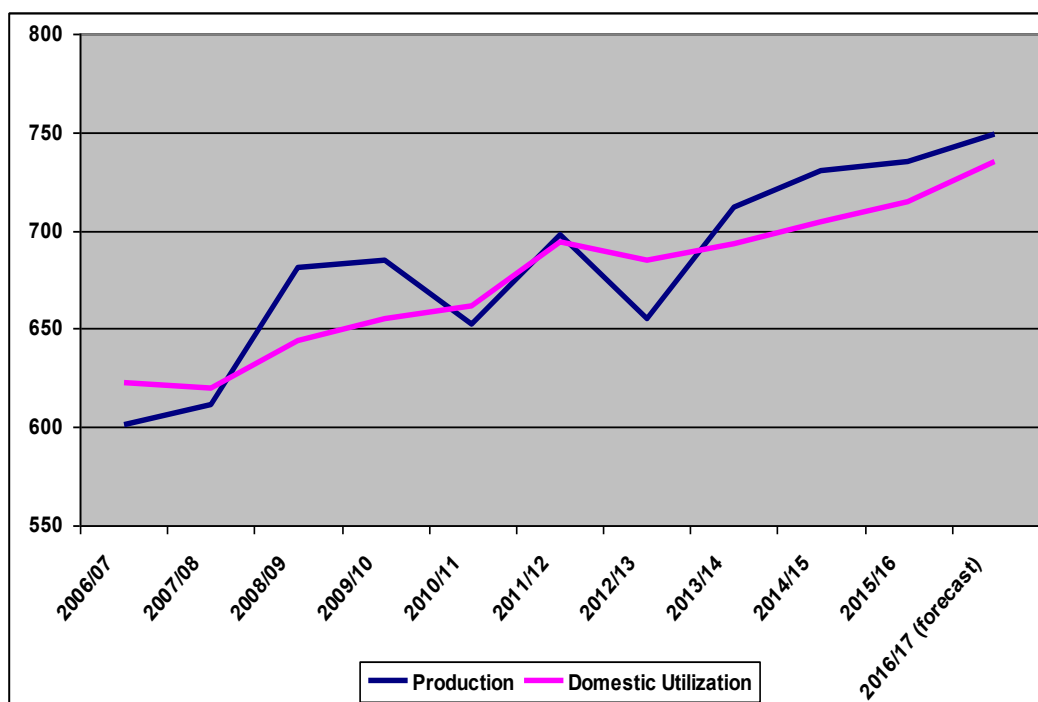


Figure 3. Volume of production and domestic use

Source: <http://www.fao.org/worldfoodsituation/csdb/en/>



Figure 4. Volume of export and stocks at the end of period

Source: <http://www.fao.org/worldfoodsituation/csdb/en/>

It has to be mentioned, that in comparison with the whole cereal group, the stocks at the end of the year of wheat crop, which is the main export crop for the Republic of Moldova, has increased more – 30.8%. The share of exports trade for wheat crop is as much high as for the agricultural year 2015/2016 – 22.8% compared to the total production of 735,07 mil. tons of wheat. Otherwise, general grain trends of market (maize, barley, etc.) correspond to those, fixed for the full range of cereal, which can be taken as a basis for planning for future agribusiness periods.

With the aim to familiarize farmers with local food market development trends it is worth noting, that not all agricultural markets are equally fluctuating (volatile) as the cereal market. According to the survey, the most stable (less fluctuating) is the market of meat and meat products. Although broadly followed the example of cereal (from which it is depending really considerably) the range of oscillating market prices of meat and meat products throughout the analyzed period (from 2000 onwards) did not exceed the level of 98.3 percentage points. Otherwise, as already mentioned, market prices for meat and meat products have followed the example of cereals, reaching 198.3 percent in 2014 and constituting 161.5 percent late in the 2016 (percentages are taken into compared to the base period – 2002-2004).

However, it has to be pointed out, that during the years, when the prices of cereal products drop, instead of selling these products, it is better to turn them into meat (milk) and products of their processing.

As another alternative of grain production would be production of oilseed crops (sunflower, soybean, rapeseed) and other cereal crops (peas, beans, chickpeas etc.).

It has to be noted, that index of prices of oilseeds late of 2016 was (the global) – 175.6 percent, or 34.2 percentage points more than the index of prices for cereals. Based on data from the past two years (2015-2016) the price index for cereals, for example, has been in constant decline (from 160.3% in 2015 to 141.4% in late 2016 (rather November 2016), whereas for oil products, conversely, this index increased correspondingly from 147.0% to 175.6%.

The more fluctuating market prices in the reviewed period were found, however, for sugar market. Oscillating range for this product was 101.7% in 2004 (minimum) and properly 368.9% in 2011 (maximum). However, towards the end of 2016 (October) this index lowered to 315.3%.

General conclusions and recommendations. Looking at the general picture of the food market the main conclusion should be, that virtually all fragments of this market, being taken into territorial aspect or in the diversified plants, are very unstable, really unpredictable as their changes in trends [5]. As a result of the influence of a whole set of variables, the main of which are: production areas; yield obtained; solvent demand of potential consumers; consumer's preferences; the political will to export or increase internal reserves of state etc., it is expected, that the market for cereal products in the nearest future will maintain the same level of high volatility.

In these conditions farmers must have, first of all, constant access to updated information about the actual state and future trends of development of local and international cereal product markets to take the right decisions in agribusiness and their proper execution.

The following proposal is that, being in the face of extraordinary inequality either energy endowment or technical and / or technological systems, the Government must take into account and subsidize domestic farmers through the mechanism of market pricing cereals, purchased for reserves of state paying for them relatively and absolutely higher prices in comparison with those, existing on the local market.

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