

## TRENDS IN THE PRICE OF AGRICULTURAL INPUTS AND PRODUCTS AND THE PHENOMENON OF "PRICE SCISSORS" IN REPUBLIC OF MOLDOVA

**Maria COJOCARU**

Moldova State University, 60 Alexie Mateevici, Chisinau, MD-2009, Republic of Moldova,  
Phone/Fax: 373 022 57 77 75; Email: [\\_fse.usm@gmail.com](mailto:_fse.usm@gmail.com)

**Corresponding author:** [cojocaruum@gmail.com](mailto:cojocaruum@gmail.com)

### **Abstract**

*The paper aimed to present a comparative approach of price indices development in agriculture and price variation in resources and services purchasement by agricultural producers. Based on the analysis of price development report "industry - agriculture," the author gives an appreciation of the phenomenon of "price scissors" for the period 2005-2014. The data sources are the studies from the issue of the National Bureau of Statistics of the Republic of Moldova. The data were processed with the following methods: monograph, analysis, synthesis, trend analysis, graphical method, etc. It was concluded that the state should support a manufacturer's target price. The target price of the manufacturer supported by the state should provide producers a profit above the average in economy. Such an approach to the subsidization of agriculture will provide an increased reproduction without excessive expenses, will reduce the risk of overproduction due to excessive subsidies, and at the same time entities will have an incentive to increase the efficient use of assets.*

**Key words:** price scissors, price indices, disparity of prices

### **INTRODUCTION**

In the Republic of Moldova the contribution of agriculture to the national economy is relatively high. The largest part of the population's income is used for food and essential services, therefore the change of prices has major implications on various socio-economic aspects, including the development of the agricultural sector [3]. It is known that the food market is characterized by a weak correlation between demand and price. Food demand is not sensitive to changes in consumers' income, or the decrease of prices. The agricultural market is characterized by a relatively low level of concentration. Therefore, prices have regular recessions, and the manufacturers cannot coordinate their activities to affect product offerings. In addition to the specific characteristics of agricultural production, with cyclical and seasonal fluctuations in production, dependent on the weather conditions, it leads agricultural production away from the action of the market mechanism in terms of supply adjustment. All of the above create disparities in the field of prices and agricultural inputs.

### **MATERIALS AND METHODS**

Republic of Moldova's adherence to the World Trade Organization, under the limited possibilities of the state to support agriculture, has updated the task to improve the competitiveness of agricultural producers on domestic and foreign markets. The global level of prices for food products has increased highly in the last decade. Thus, the food price index calculated by FAO (Food and Agriculture Organization) reveals an unprecedented growth in the aggregate level of food prices [2].

The information base used to create this study consists of data from the National Bureau of Statistics of the Republic of Moldova, FAO statistics, researchers' studies on the analyzed problem. The materials were processed by applying the following methods: monograph; comparison, analysis, synthesis, the graphical method, the indices' method, etc.

### **RESULTS AND DISCUSSIONS**

Price disparity is one of the main causes that hinder the development of Republic of Moldova's agricultural sector.

The price parity issue in agriculture is discussed in detail in the works of researchers around the world, especially the mechanism and cause of the price disparity phenomenon.

development of science, industry and agriculture.

Between the development of science, industry and agriculture there is a direct dependence.

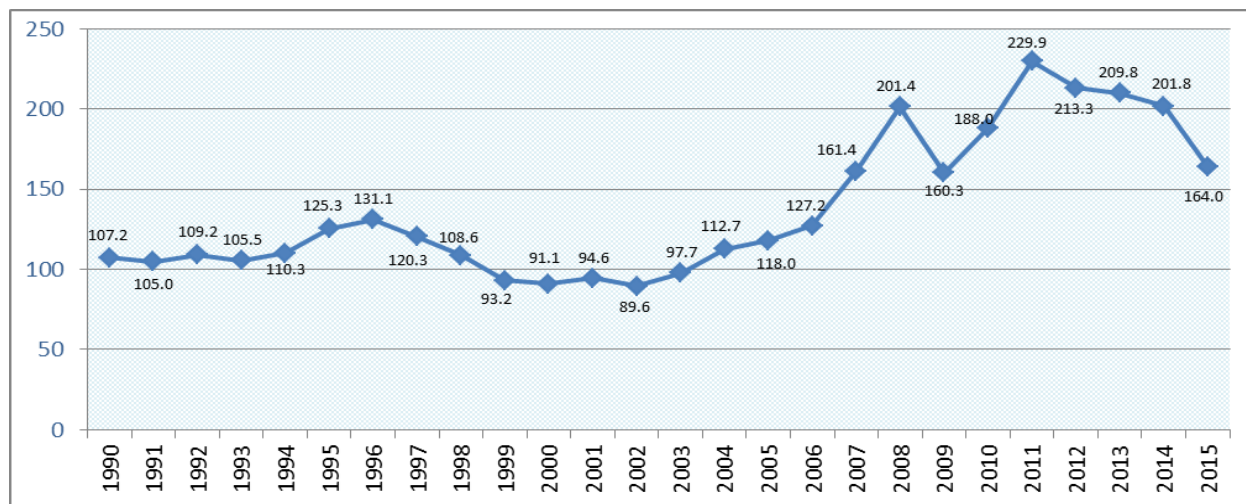


Fig. 1. The development of the food price index calculated by FAO during 1990 – 2015

Source: prepared by the author based on statistical data of FAO // [www.fao.org](http://www.fao.org)

In particular, there are assessed the farmers' losses arising from disparities between agricultural products' prices at the producer and their consumer prices [5, 6].

The development trend of the food price index is increasing and is highlighted starting with 2007, reaching the highest level in 2011. The analysis of the evolution of prices at the global level, since 2007 shows increases for all groups of agricultural products used as base for analysis - grains, sugar, oil. The largest price increases were recorded for sugar.

To this increase have reacted the domestic prices. In spite of this, the income of farmers in developing countries does not increase proportionately with the increase of world prices. The pressure from intermediaries in the trade business, but also from those in the agricultural raw materials processing industry has led to a significant reduction in the share of the manufacturer price in the retail price of the final product of agricultural origin.

The price disparities at the expense of agricultural producers can be also noted in the economy of other countries. The experience of the farmers in countries with a developed economy shows that to execute agricultural functions and ensure balanced growth, it is necessary to ensure the mutually supported

Both science and industry, through innovative means and technologies, provide superior capitalization of the agricultural production, this being the promoter of the technological modernization of agriculture. Between the manufacturing industry and agriculture there are direct dependence relations, but also relations of mutual influence and conditionality. The level of development and the diversity of manufacturing industries depend directly on the volume and range of raw materials provided by the agricultural sector.

A serious problem for agricultural producers is the disparity of prices that occurs between agricultural products and goods and services purchased by agricultural units, and also between the producers' sale prices and those charged in the retail network.

The interrelationships between industry and agriculture are reflected in the ratio between industry and agriculture prices. The tracking relationship of the price ratio industry-agriculture progress is calculated by "price scissors" or by determining the quantity of agricultural products needed to be sold in order to buy an industrial product or a service unit needed for agriculture.

- The function of agricultural products provider for the populations' consumption in the named country
- A stimulus for the industrial development and economic growth. The market for the industry of manufacturing production goods
- The function of raw materials supplier for manufacturing industries
- The function of ensuring the revenue in the central and local budgets through the tax system, other categories of breakdowns
- The function of setting up foreign currency resources by exporting surpluses of agricultural products, contributes to the foreign currency entering the
- The social function manifests by providing jobs and contributes to the development of rural areas
- Ecological function. Sustainable agriculture contributes to the environmental restoration and maintenance
- The function to create state savings of agricultural products etc.

Fig. 2. The functions of agriculture  
 Source: elaborated by author.

The capitalization prices of agricultural products include a lower share of net profits than the prices of industrial products. This phenomenon is called economic *disparity of prices*, which at the moment represents a vital matter for agricultural producers, because the price disparity between agricultural and industrial products procured by them maintains. [4, page 58].

The evolution of industrial goods and services' prices purchased by farmers has a decisive influence on the profitability of an agricultural enterprise, its ability to create value. The level of high prices of industrial inputs and services used diminishes the resources available to develop agricultural entities.

The analysis from Fig. 3 reflects a growing trend of price indices of both agricultural products, as well as the services and goods purchased by farmers in the past 10 years.

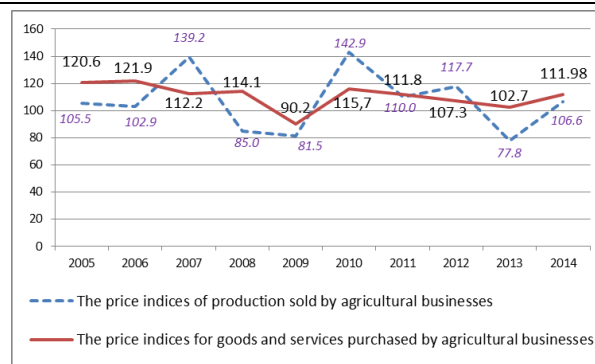


Fig. 3. The price indices for agricultural products, goods and services purchased by economic entities, in % compared to the previous year, 2001 = 100 p.p.  
 Source: elaborated by the author based on data B.N.S. / www.statistica.md

The average annual index of increase in prices of agricultural production is 4.31%, while the prices for services and industrial goods purchased by agricultural producers increase yearly in average by 10.38%. It manifests therefore the so called phenomenon "price scissors", which affects to certain extent the agricultural producers.

There were calculated average rate of growth for eight years in Table 1. Calculations show that the average rate of prices' increase for goods and services purchased by agricultural producers in Republic of Moldova is of 7.47% annually.

For comparison, the average annual increase in prices of agricultural products sold by agricultural producers for the same time period was of only 0.87%. The largest increase is observed in the prices of current assets of first necessity in agriculture: fertilizers and energy (lubricants, electricity etc.)

Thus, the highest annual average growth in purchase prices in the period of 2008-2015 is registered for mineral fertilizers and amounted to 10.54%.

During 2008-2015 the prices for petroleum products and other energy resources purchased by farmers for carrying out agricultural works has increased annually by an average amount of about 6.50%. Tariffs on services purchased by agricultural enterprises have increased by 8.79% annually.

Table 1. The price indices of goods and services purchased by agricultural businesses (in % compared to the previous year)

Agricultural inputs	Years								The Average Annual Growth Rate
	2008	2009	2010	2011	2012	2013	2014	2015	
<b>Goods and services - total</b>	<b>114.1</b>	<b>90.2</b>	<b>115.7</b>	<b>111.8</b>	<b>107.3</b>	<b>102.7</b>	<b>111.98</b>	<b>108.9</b>	<b>107.47</b>
from which:									
<b>Industrial goods</b>	<b>115.2</b>	<b>87.0</b>	<b>118.1</b>	<b>111.0</b>	<b>106.1</b>	<b>102.6</b>	<b>110.74</b>	<b>107.9</b>	<b>106.86</b>
including:									
Agricultural machines and equipment for plant growing	107.3	103.9	105.2	102.2	108.2	107.9	109.89	113.2	107.17
Machines for livestock breeding	108.3	107.8	102.0	100.0	104.4	104.1	104.72	94.8	103.13
Machines and equipment for the gathering and preparation of fodder	102.3	101.0	106.5	100.0	106.7	107.9	108.77	111.4	105.50
Tractors	115.3	104.6	107.6	106.5	104.0	107.6	107.89	112.8	108.23
Mineral fertilizers	130.7	86.7	117.5	119.5	109.2	108.1	108.07	109.8	110.54
Chemical means for plant protection	100.5	110.6	112.7	105.3	105.2	107.4	116.13	117.9	109.32
Lubricants, fuel and electricity	122.9	74.7	125.6	120.2	104.3	102.5	113.16	98.7	106.50
Construction materials	102.6	102.2	104.4	111.5	108.5	110.5	109.57	108.6	107.17
Seeds and seedlings	107.8	101.9	110.9	114.7	109.8	112.8	126.51	113.9	112.10
<b>Services provided to agricultural businesses including:</b>	<b>112.3</b>	<b>98.4</b>	<b>104.9</b>	<b>116.1</b>	<b>114.3</b>	<b>111.1</b>	<b>106.90</b>	<b>107.4</b>	<b>108.79</b>
Agrochemical services provided to agricultural businesses	116.2	95.4	102.5	114.5	100.3	106.9	110.59	106.6	106.41
Repair and maintenance of agricultural machines and vehicles	107.6	90.3	108.7	127.5	127.8	118.3	105.18	99.6	109.93

Source: www.statistica.md [7]

A visible difference is observed between prices of agricultural products from the manufacturer and consumer goods (the price paid by the final consumer).

Therefore, the added value of links that do not produce is very high.

For example, for eggs sold directly from the manufacturer in the trade network, the added value is between 50 and 75%.

For other products that pass through the processing and trading process, the gap is even greater. Such a situation can be seen in products of plant origin, where the gap between producer prices and the trade network is even greater.

Basically the consumer pays a price 3-4 times

higher than the price at which farmers sell their products on the market [1].

The existence and maintenance of price disparity leads to unfavourable economic consequences and the price mechanism plays a reduced market regulation role. In agriculture, the tendencies to monopolize the market are basically excluded due to the relatively low concentration of production and the industry branches supplying agriculture with the necessary material and energy resources, also the ones which purchase raw materials from agricultural producers (the food industry and trade sector can be in a position of oligopoly, or even monopoly).

This creates the disparity in price. Therefore

appears the necessity to counter this phenomenon by coordinating the actions of small producers and compensation of adverse variations in prices by the intervention of governmental structures. State regulation of supply, prices and incomes in agriculture should prevent market failures, overproduction, mitigate price fluctuations, compensate the decline in income as a result of these variations and the implementation of organizational functions, due to the relatively low concentrations of production in agriculture, but in no case should not interfere in ongoing systemic restructuring of the relationship between prices.

A price is considered at equal if it allows agricultural businesses to gain an average profit, the costs of which are at the required level for development under normal conditions [4].

“Profit is a key criteria of the economic activity, setting unrealistic costs or setting them incorrectly, generates false signals about what is profitable and what is not” [5].

Therefore, the state should support a manufacturer's target price. The target price of the manufacturer supported by the state should provide producers a profit above the average in economy.

Such an approach to the subsidization of agriculture will provide an increased reproduction without excessive expenses, will reduce the risk of overproduction due to excessive subsidies, and at the same time entities will have an incentive to increase the efficient use of assets.

Under these unfair conditions for farmers, there is a continuing disinvestment in the agricultural sector. Investments do not have a favorable effect on the development of this sector, because revenues do not allow returning the investments that were made. These effects discourage farmers to develop their business, and young people are not tempted to work in this field.

Price discouraging in the agricultural sector has negative consequences for the countryside. Young families, who are daily facing these issues, emigrate either to urban places or abroad in search of a stable source of income.

## CONCLUSIONS

The level of concentration achieved in the industry sector of processing agricultural production and in the retail one disadvantage agricultural producers very much.

In these circumstances, the state has the role of organization and regulation of the agricultural products in order to ensure agricultural producers enough profit for increased reproduction.

At the same time, the state's support must avoid overproduction and create an incentive for a more efficient exploitation of the production potential.

Agricultural producers' reduced incomes due to the parity relations' drift must be compensated by determining the level of the target price in accordance with economic and sustainable grounds for the development of agriculture.

The disparity of prices, the prices charged by processors of agricultural products and cartel prices established by trade companies in the field of oil products, mineral fertilizers and chemicals for destruction of pests and diseases are the main factors that adversely affect the agricultural sector in Republic of Moldova.

Solving these problems requires tactical and strategic measures from authorities. According to the author, the problem could be partly solved by a sufficient subsidy of this sector. At present, the system of subsidizing agricultural sector has no favorable effects on its development.

## REFERENCES

- [1]Cojocaru, M., 2012, Disparity of prices in Republic of Moldova: the effects. In: Journal Studia Universitatis Moldaviae, nr. 2 (52), 2012, pg. 126-130
- [2]FAO Food Price Index. <http://www.fao.org/worldfoodsituation/foodpricesindex/en/> (cited on 02.09.2015)
- [3]Popa Ana (coord.), Prohnițchi Valeriu, Alex Oprunenco et al., 2011, MEGA: Moldova Economic Growth Analysis. Ch.: “Bons Offices” SRL, 2011
- [4]Rural economy. <http://www.managusamv.ro/fisiere/file/ECONOMIE%20RURALA.pdf> (cited on 20.04.2016)
- [5]Simtion, D., 2014, Green Prices – a reflection of environmental protection, Scientific Papers. Series

"Management, Economic Engineering in Agriculture and rural development", Vol. 14, 2014(3):315-318.

[6]The CAP towards 2020. Implementation of the new system of direct payments. DG Agriculture and Rural Development. [http://ec.europa.eu/agriculture/direct-support/direct-payments/docs/implementation-ms-notifications-slides\\_en.pdf](http://ec.europa.eu/agriculture/direct-support/direct-payments/docs/implementation-ms-notifications-slides_en.pdf) (cited on 02.05.2016)

[7] [www.statistica.md](http://www.statistica.md) (cited on 10.06.2016)