

## THE NEED OF STATE INTERVENTION IN REDUCING PRICE DISPARITY BETWEEN AGRICULTURAL AND INDUSTRIAL PRODUCTS PURCHASED BY AGRICULTURAL PRODUCERS

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### **Abstract**

*The intensification of price disparity between agricultural and industrial products remains one of the unsolved problems of the Republic of Moldova's agriculture. The differences of price in the farmers' detriment are also observed in other countries' economy. In terms of trade liberalization, farmers remain unprotected. The pressure from intermediaries in trade, but also those in the field of food industry, has led to the significant reduction of the share of manufacturer price in the retail price of the final agro food product.*

*Researching this problem, the author believes that the most optimal solution to attenuate the impact of price disparity on the level of agricultural sector's development is to develop the agricultural infrastructure in complex with state support.*

**Key words:** price disparity, agriculture, parity of relations, price indices, price regulation, the Republic of Moldova.

### **INTRODUCTION**

In the Republic of Moldova, the agricultural sector has an important place in the national economy and the highest part of incomes is used for food and services of first necessity. Thus, the price change has major implications on various socio-economic aspects.

As we know, food market is characterized by a weak correlation between demand and price. Food demand is not sensitive to changes in consumer income, or lower prices. Agricultural market is characterized by a relatively low concentration. As a result prices have regular recessions and producers cannot coordinate activities that influence product offerings. In addition to the specific characteristics of agricultural production, cyclical and seasonal fluctuations in production, dependent on weather conditions make agricultural production more than remove market mechanism action regarding adjustment of supply.

A basic problem for farmers is price disparity that occurs between agricultural products and goods and services purchased by agricultural units and between the selling prices of producers and those in the retail network.

### **MATERIALS AND METHODS**

The survey on price disparity is based on the data from the National Bureau of Statistics of the Republic of Moldova, Ministry of Agriculture and FAO, as well as some researchers study on this matter (FAO Food Prices Index).

The period 2001-2011 was analyzed in this study.

For this study, the author has used the monographic method, time series analysis, trend identification, etc.

### **RESULTS AND DISCUSSIONS**

Moldova's accession to the World Trade Organization, limited opportunities under the state support of agriculture now must enhance the competitiveness of domestic agriculture sector. Global prices of food products have greatly increased in the past decade. Thus, the food price index calculated by the FAO (Food and Agriculture Organization) show an unprecedented increase in the level of aggregate food prices.

Trends in food price index are increasing and have been increasing since 2007.

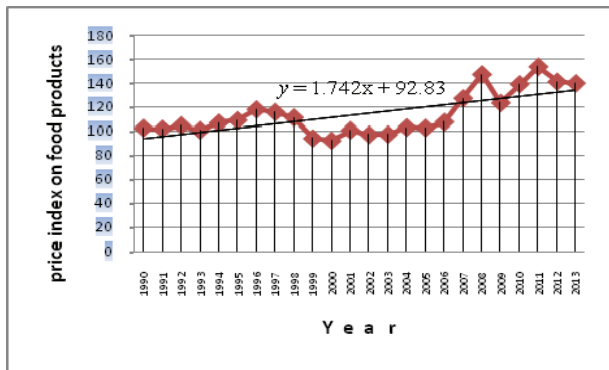


Figure 1. Evolution of price index on food products calculated by FAO in the period 1990 - 2013  
 Source: www.fao.org

From the graphic representation (Figure 1) there is a cyclical development of the food price index that can be defined conventionally in 4 periods:

Period	Duration, years	Average rhythm of price index growth
1190 – 1995	6	1.048
1996 – 1998	3	1.155
1999 – 2006	8	0.999
2007 - 2013	7	1.388

The most significant increases in world prices for food is found from 2007, recording an annual increase of about 39 percentage points. Analysis of the evolution of world prices since 2007 shows increases for all groups of agricultural products used as a basis for analysis - cereals, sugar, oils. The largest price increases were recorded for sugar (Figure 2).

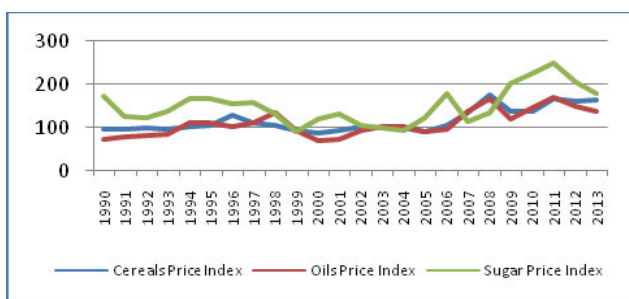


Figure 2. Evolution of price index on main agricultural products  
 Source: elaborated by author based on FAO data

To this increase have reacted the domestic prices too. Despite this income the farmers in developing countries do not increase proportionately with the increase in world prices. Pressure from intermediaries in trade area, but also those in the field of processing

industry of agricultural raw materials led to significant reduction in the share of the manufacturer's price in the retail price of the final product of agro home origin. Price differences are also observed against farmers in other countries economy.

Agricultural price parity issue is discussed in detail in the work of researchers, especially the mechanism and cause of the phenomenon price disparity also are assessed losses for farmers resulting from disparities between agricultural prices to producer and consumer prices to them.

Research on price disparity pays scant attention to the impact of price support processes in agriculture, i.e. maintaining parity. To introduce the notion of parity prices in use since the 1930s, the United States was first creating the methodological basis for the development of measures to support income farm families. The main problem is not on land consolidation and increasing farm size, but on maintaining price parity. Maintaining price parity is fairly current socio-economic conditions existing as an indicator of the effectiveness of government efforts to regulate agriculture.

Another disadvantage of the existing approaches on the price disparity is emphasis on the relationship between the sales price and purchase prices to producers by processing industry of agricultural raw materials, but not sufficiently studied the influence of trade sector on prices agricultural sector. It is in this stage, there is "inhibiting" production price increases. Concentration of retail exceeded not only agriculture, but also industry. This sector has practically monopolized the access of producers to final consumers. Chains unconditionally agriculture and food industry dictate the price and other conditions of agricultural raw material supply. The value added of this sector turnover is growing. This is accomplished by applying new marketing strategies. One of the most commonly practiced is the manufacture of branded products trading network, which ultimately bears and most of the profit from this cooperation with the manufacturer. Such a situation is observed in Moldova, where consumer prices of agricultural products far exceed manufacturers' selling prices (Table 1).

Table 1. Differences between average selling prices of agricultural producers (farmers) and consumption average prices of main vegetal origin products, lei/tonne

Indicator	Y e a r									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Cattle meat</b>										
Producer's price	6404	7813	5889	7468	10504	10696	9841	16013	16469	14082
Consumption average price	23910	24450	21920	28340	33380	33390	36290	60240	59920	54760
<b>Pork meat</b>										
Producer's price	13111	12923	9037	13069	19303	16121	15427	27999	26067	25771
Consumption average price	30030	30390	26080	33940	44430	43220	44420	71570	70510	61430
<b>Poultry meat</b>										
Producer's price	13456	12812	12647	14686	16854	14231	17944	21903	18535	20088
Consumption average price	22410	22330	22820	24990	28790	30580	35900	43310	43730	40750
<b>Milk</b>										
Producer's price	1833	1844	2079	2453	2672	2881	3255	3939	3387	3809
Consumption average price	3610	3840	4440	4860	5070	5770	7650	7750	7850	8090
<b>Consumption eggs, lei per 10 pcs.</b>										
Producer's price	5.26	4.06	5.39	6.73	6.17	6.27	6.28	9.52	6.73	7.17
Consumption average price	7.94	6.64	8.26	10.67	10.49	10.59	11.86	16.79	12.69	11.39

Source: elaborated by author on the basis of State National Bank's data / www.statistica.md

From the analysis of author it is shown a fundamental difference of producer's prices and consumer's (the price you pay the final consumer). The added value of links that do not produce is very high. For example, the eggs that are sold directly from the manufacturer in the trading chain, the added value tax (VAT) is between 50 and 75%. To other products, given the fact that they pass through the processing and marketing processes, the gap is even greater.

Such a situation is given in the case with the agricultural products of vegetable origin (Table 2), the gap 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.

A phenomenon that has a significant negative impact on the performance of agricultural entities is „scissors” prices, which expresses the relationship between agricultural and industrial prices.

Table 2. Differences between selling average prices of agricultural producers and consumption average price son main food products

Indicator	Y e a r									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Potatoes</b>										
Producer's price	1203	1639	2033	1445	1365	2464	2158	2145	2040	2426
Consumption average price	1920	2790	3820	2770	2970	4980	5370	5440	5482	6340
<b>Dry onion</b>										
Producer's price	674	984	2720	1851	1473	1859	3032	2238	1842	2735
Consumption average price	1760	2220	5700	4560	3160	4500	6270	6780	4730	8420
<b>Cabbage</b>										
Producer's price	534	1474	1251	839	1428	1149	2537	1326	1561	2136
Consumption average price	2050	4070	4330	2360	4080	4540	6450	6150	4100	5710
<b>Carrot</b>										
Producer's price	689	1130	2031	1303	1380	1447	3285	1984	2531	2542
Consumption average price	2600	3850	5850	3460	4290	5770	7480	7880	7390	8170

Source: elaborated by author on the basis of State National Bank's data / www.statistica.md

Analysis of price indices for products and services purchased by entrepreneurs in agriculture shows that they were registered in the period 2005 - 2011 with the annual growth rate of 12% (Table 3).

Table 3. Indexes of prices of items and services purchased by the agricultural enterprises (in % as a percentage of the previous year)

Indicator's name	Years							Growth annual average index, %
	2005	2006	2007	2008	2009	2010	2011	
Items and services - total from which:	120.6	121.9	112.2	114.1	90.2	115.7	111.8	111.89
Industrial items	124.8	114.3	109.1	115.2	87.0	118.1	111.0	110.76
From which:								
Farm machines and equipment for phytotechnics	107.0	107.6	111.1	107.3	103.9	105.2	102.2	106.29
Tractors	111.9	113.3	105.5	115.3	104.6	107.6	106.5	109.20
Mineral fertilizers	107.5	112.1	117.5	130.7	86.7	117.5	119.5	112.30
Chemical means of plant protection	108.1	115.7	103.4	100.5	110.6	112.7	105.3	107.93
Lubricants, combustible and electric power	141.5	114.7	107.3	122.9	74.7	125.6	120.2	111.15
Seeds and planting material	109.6	181.0	125.6	107.8	101.9	110.9	114.7	119.50
Offered services to farm enterprises	98.8	139.0	117.4	112.3	98.4	104.9	116.1	111.70

Source: State National Bank's data / www.statistica.md

At the agricultural products (Figure 3), there is attested a lower annual price increase - 7.5 percentage points including vegetal crop production prices increased by about 9.22 percentage points annually.

„Scissors’ price index is estimated as the ratio of agricultural prices and price index of industrial products bought by farmers and reflects the redistribution of income between branches, influencing development and build capacity of the agricultural sector.

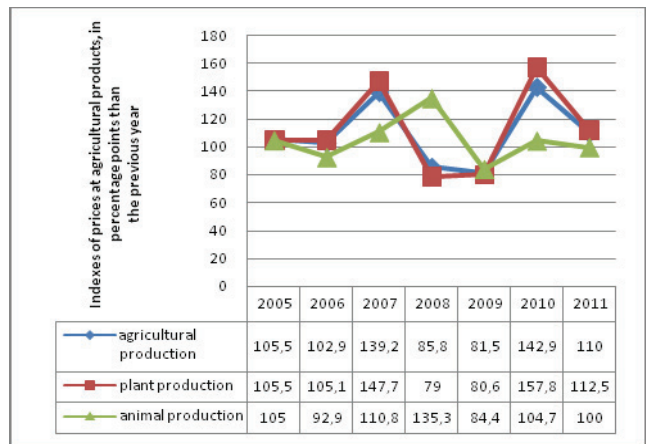


Figure 3. Indexes of prices at agricultural products, in percentage points than the previous year

Source: elaborated by author on State National Bank's data / www.statistica.md

Intensification of agricultural prices disparity of industry remains one of the unsolved problems of agriculture of the Republic of Moldova. In terms of trade liberalization the farmers remain unprotected. The analysis of parity between agricultural prices and the prices of goods and services purchased by farmers is shown in Figure 4.

Analysis of figure 4 reflects an increasing trend of the price indices for agricultural products, as well as the services and goods purchased by farmers in the last 7 years. Average annual growth rate of agricultural output prices is 7.52%, while the services and industrial goods purchased by farmers prices increased on average by 11.9% annually. It is manifested, therefore, the „scissor” prices that are affecting farmers.

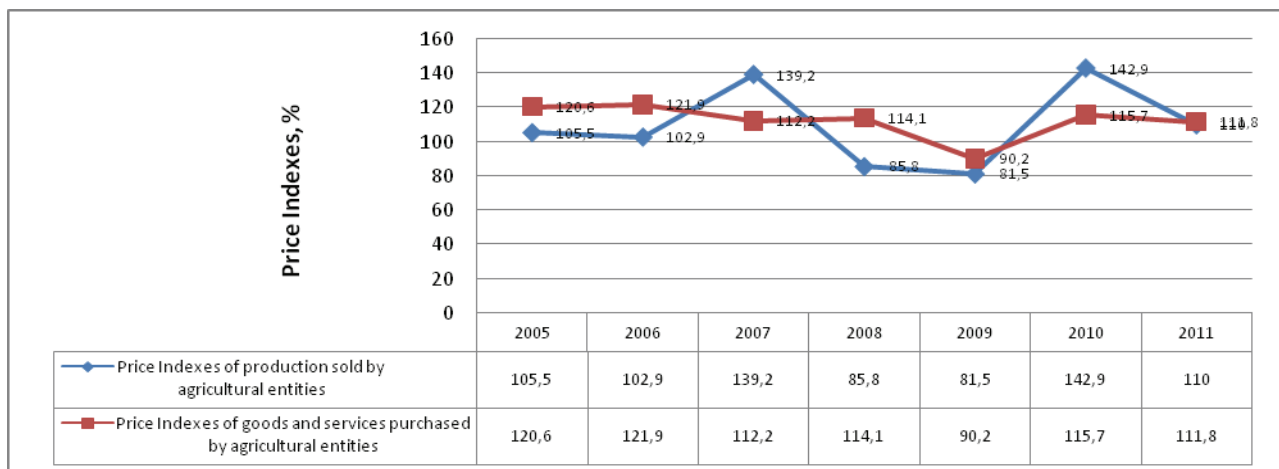


Figure 4. Indexes of agricultural products and goods and services purchased by economic entities, as % of previous year 2001 = 100 pp

Source: elaborated by author on State National Bank's data / www.statistica.md

Price developments in industrial goods and services purchased by farmers, has a decisive influence on the profitability of agricultural enterprise on its ability to create value. High price level of industrial inputs and services used diminishes the resources available for the development of agricultural entities.

Table 4. Report of parity of price indexes of agricultural products and goods and services purchased by farmers (in % than the previous year)

Indicator's name	Years						
	2005	2006	2007	2008	2009	2010	2011
1. Goods and services - total	120,6	121,9	112,2	114,1	90,2	115,7	111,8
2. Agricultural products - total	105,5	102,9	139,2	85,8	81,5	142,9	110,0
Report of parity, coef. ind.1 : ind.2	0.87	0.844	1.24	0.752	0.903	1.235	0.983

Source: author's calculations

Parity ratio calculated for Moldova (Table 4) indicates an opening of scissors' prices in years with favorable weather conditions for agriculture and a reverse situation in dry years when the harvest is lower and prices higher. Under the National Bureau of Statistics of Moldova, the author determined the quantities needed for crops (tons) to buy a ton of oil or a ton of nitrogenous fertilizers.

From the graphical representation it is shown that there is a slow increase in the quantity of grain to buy a ton of gasoline, which indicates to exceed the growth rate of energy prices in the growth rate of prices for cereals. This exchange ratio becomes less favorable for agriculture. Thus, the opening 'scissors' price adversely affects the profitability of farmers and creates difficulties for expanded

reproduction. It can be concluded that the price disparity is a contradiction characteristic of the price system during the transition period.

Existence and maintenance of price disparity result in detrimental economic consequences and the price mechanism plays an increasingly reduced market regulation. In agriculture, practically excluded monopolization of the market trends because of their relatively low concentration of production and agriculture industries supplying energy and material resources required and those who purchase raw materials from farmers (food and trade is may be in a position oligopoly and monopoly right. This disparity raises the price. It raises the need to counteract this phenomenon, the coordination of small and offsetting unfavorable price fluctuations through the intervention of government authorities.

Further reform of the agricultural sector in Moldova requires a new operating model and a new vision of agriculture, targeting its optimal structure and the place and role of the state in the reproduction of agricultural. For this it is necessary to study the international experience in this field and understand the latest trends that have been seen in our country.

State regulation of supply, prices and farm income should prevent market failures overproduction mitigate price fluctuations, offset the decline in revenues as a result of these fluctuations and implementation of organizational functions, due to the relatively low concentration of production in agriculture but in any case not to intervene in ongoing systemic restructuring of the relationship between prices.

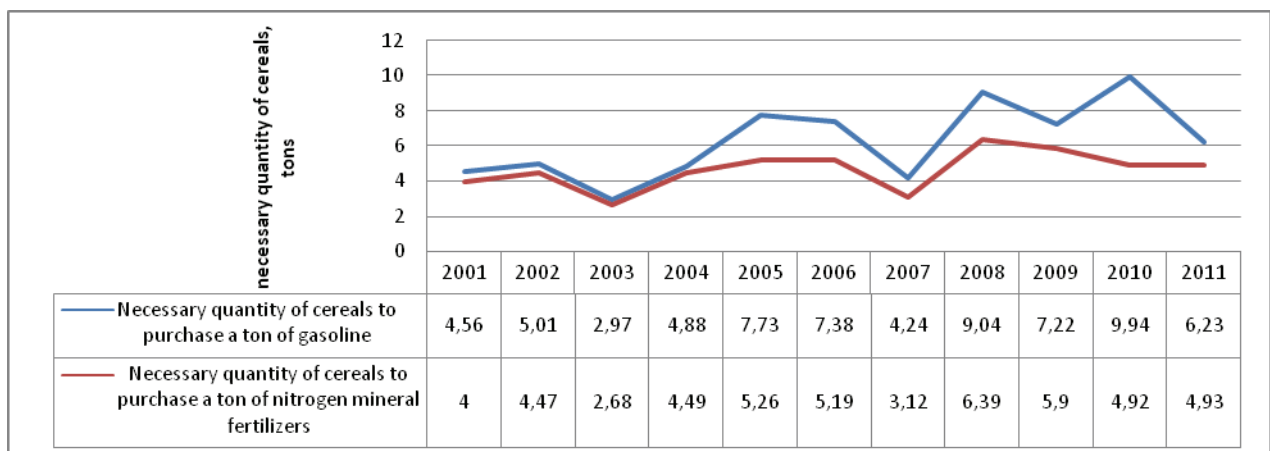


Figure 5. Necessary quantity of cereals to purchase a ton of gasoline/a ton of nitrogen mineral fertilizers, tons.

Source: author's calculations

Price parity is considered to allow a profit if the average agricultural entities whose costs are necessary for the normal development (Price in the Republic of Moldova). Thus, the state must pass a target price of manufacturer. Target price supported by the state producer must provide producers a profit above the average in the economy. Such an approach will ensure agricultural subsidies extended reproduction without excessive costs, reduce risk of overproduction because of excessive subsidies, while entities will have an incentive to increase asset efficiency.

## CONCLUSIONS

Concentration levels achieved in industry processing agricultural production and retail trade greatly disadvantage farmers. In these circumstances, the State has the role of organizing and regulating the market of

agricultural products by farmers measures to ensure a sufficient profit for expanded reproduction. However, state support must avoid overproduction and provide an incentive for efficient recovery of production potential.

Reducing household income of drift parity relationship must be compensated by determining the target price level scientific and economic criteria.

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