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**FAO Regional Office for Europe and Central Asia**  
*Policy Studies on Rural Transition No. 2012-4*

**WHEAT EXPORT ECONOMY  
IN UKRAINE**

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**July 2012**

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# **Part I. Introduction: Export of Wheat from Ukraine**

## **1.1. Ukrainian Wheat Exports, 1990-2000**

Ukraine is a country with well-developed agricultural traditions, where the aggregate of agro-climatic factors and the high quality of land resources favor the cultivation of cereal crops, in particular, wheat.

Wheat is the most popular agricultural crop, with more than half of all Ukrainian agro-businesses being engaged in its production. Wheat accounts for 40% to 50% in the cereal crops production. Despite the quality potential of spring varieties, it is the winter wheat growing that prevails in Ukraine. The share of winter crops in the gross yield has averaged around 95.3% in the past five years. It should be noted that spring crops were virtually not sown in this country until early '90s –only 25,700 tons was gathered in 1990, making less than 0.1% of the total wheat harvest.

The quality structure of wheat production is dominated by the forage class. In accordance with a new adopted standard (DSTU-P-3768:2009), forage wheat accounted for 67% in the total production in 2009-2010. It should be noted that before adopting the new wheat standards, export operations had been accompanied by some confusion. In the internal market the quality and class of wheat were determined by gluten content, while in ports, according to European standards, they were determined by protein content in the product. As a result, food wheat (2nd or 3rd class) for the internal market could be classified as feed wheat on the world markets.

High internal production of wheat, coupled with a stable external demand, established Ukraine as one of the key suppliers of this crop to the world markets. The export factor for the internal grain market is very important, as external deliveries are the most advantageous method to utilize the surplus and adjust wheat supply and demand balance . It should be noted that this state of things is characteristic of the period of 1995-2010.

In the times of the USSR and in the independent Ukraine of mid '90, the grain market functioned based on the Government Contract system. The organizations that were affiliated with state institutions or major companies and carried out barter deliveries, had access to public finances or bank loans, came forward as the key private players at that time. As grain exports were controlled by the government, it is not surprising that external grain deliveries were few and irregular in those times.

The period of 1995-1996 may be considered as the beginning of forming the real grain market, when more than 400 cereal product manufacturers were allowed to be privatized, and independent private companies started to export cereals. Since then, the share of private exporters had been growing, and by 2000 they had squeezed the state operators.

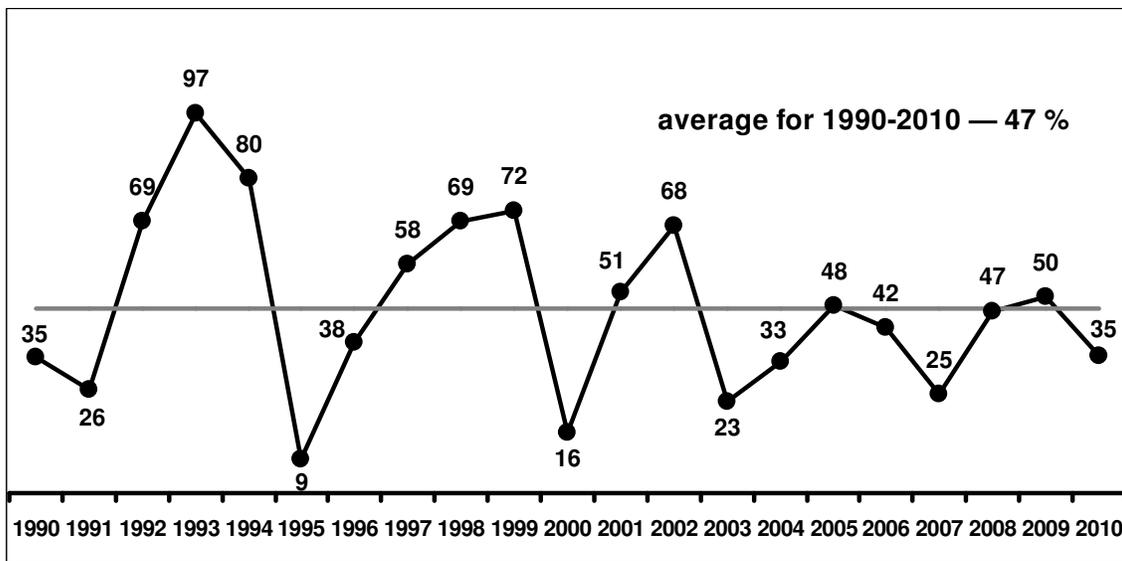
Large transnational companies such as Toepfer, Cargill, WJ Ukraine, Serna, etc. established themselves as the key players. Ukrainian trading companies were also present in the market, but by and large acted as intermediaries between the producers and large grain traders, that were, in fact, direct exporters. On the one hand, this is due to the specifics of operation of the world grain market, which is dominated by 15-20 companies and where governmental agencies of importing countries or the above mentioned large traders are the buyers. On the other hand, transnational companies, in contrast to the Ukrainian ones, had access to low-interest long-term lending resources, which gave them additional competitive advantage.

Such situation had existed up until 2007, and was followed by a noticeable increase in influence of the exporters that were not only engaged in grain resale, but also invested themselves in agricultural production and formed their own grain resources. Such structural changes brought about redistribution of market shares of the largest grain traders. Among the companies that gained leading positions in grain exports we can name Nibulon, Kernel, Serna, Mironivskyi Hliboprodukt, and Rise. Such processes are a result of establishing major agro-industrial holdings in Ukraine, including those based on trading companies.

At the same time, the market was subject to processes of strong consolidation of the grain infrastructure, such as elevators and grain reception centers, by private companies. The new facilities were not only repurchased, but also rebuilt by the market players.

The leading exporters are showing a trend towards increase of port capacities for cereals storage and transshipment. Their own infrastructure allows them to be independent from the public ports and intermediaries, to benefit from transit grain transshipments and enhanced competitiveness of their own grain, having advantage of USD 10 to 20 per ton (this sum, however, includes transshipment costs). Agro-holding Nibulon, which is actively expanding its own port infrastructure, is the leader in this regard.

Such trends also contributed to the development of the wheat export potential, having regard to the fact that wheat plays the key role in total cereal crop supplies to external markets. Its share in the period from 1990 to 2010 averaged 47% (Fig. 1). In addition to wheat, Ukrainian grain exports have been traditionally dominated by two crops – barley and corn. In the above period the share of barley in total grain exports was 35%, and that of corn, 13%. These three crops accounted for 96% of grain exports over the period from 1990 to 2010.



**Fig. 1. Share of wheat in total grain exports over 1990-2010 in %**

Source: State Statistics Service of Ukraine

As a result of these transformations, Ukraine made it to the top wheat suppliers in the world. According to the information provided by FAS USDA, Ukraine has invariably been among the top ten wheat exporting countries of the world except for lean years, when grain exports were formed by other crops.

Ukraine is one of the largest suppliers of feed wheat to the world market. The low and medium quality wheat averaged about 50% in the total structure of Ukrainian wheat exports to the world markets over 1995 to 2010, reaching as high as 75-88% in some years.

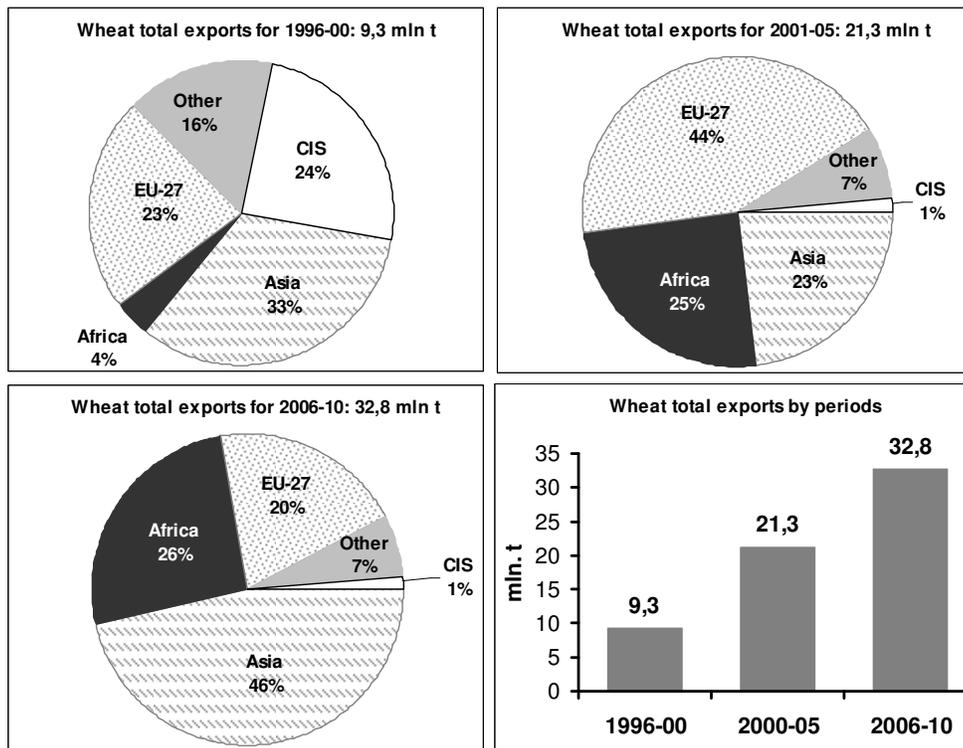
Traditionally, Near East, North African and European Union countries have been the main consumers of Ukrainian wheat. This is due to relative geographical vicinity of these regions to Ukraine, convenience of deliveries and steady requirement for this type of cereals. In this regard, Asian and African countries show demand for Ukrainian milling wheat, whereas European countries give preference to importing feed wheat from Ukraine.

We should note the transformation that has taken place in the geographic component of Ukrainian exports.

Ukrainian wheat exports have grown significantly to Asian and African countries over the last ten years. This became especially noticeable in the period of 2006-2010. This was, in the first place, due to increased demand for food wheat of medium quality in these countries. And, in the second place, a considerable reduction in freight costs as a result of the global crisis, offered the Ukrainian exporters an opportunity to open up new markets, for instance, those in South-East Asia.

This same period saw reduction in exports to the EU-27 countries. This may be due to the export quotas for low and medium quality wheat, which have been in force in the EU-27 since 2002. Exports to the CIS countries have been insignificant.

Over the long term, it is specifically the countries in South-East Asia and African Sub-Sahara that will make possible a considerable increase in Ukraine's exports, having regard to rapid growth of population in these regions and, accordingly, their increased food needs. In this regard it is necessary to note wheat deliveries carried out by Nibulon to Ethiopia under the UN Food Program.



**Fig. 2. Geography of wheat exports from Ukraine over 1996-2010**

Source: State Statistics Service of Ukraine

On the whole, despite general growth of external sales of wheat, it should be noted that there is a number of problems complicating export activities. Firstly, it is administrative restrictions on export that undermine international prestige of Ukraine as a reliable food supplier.

Secondly, it is the problem of VAT recovery to exporters.

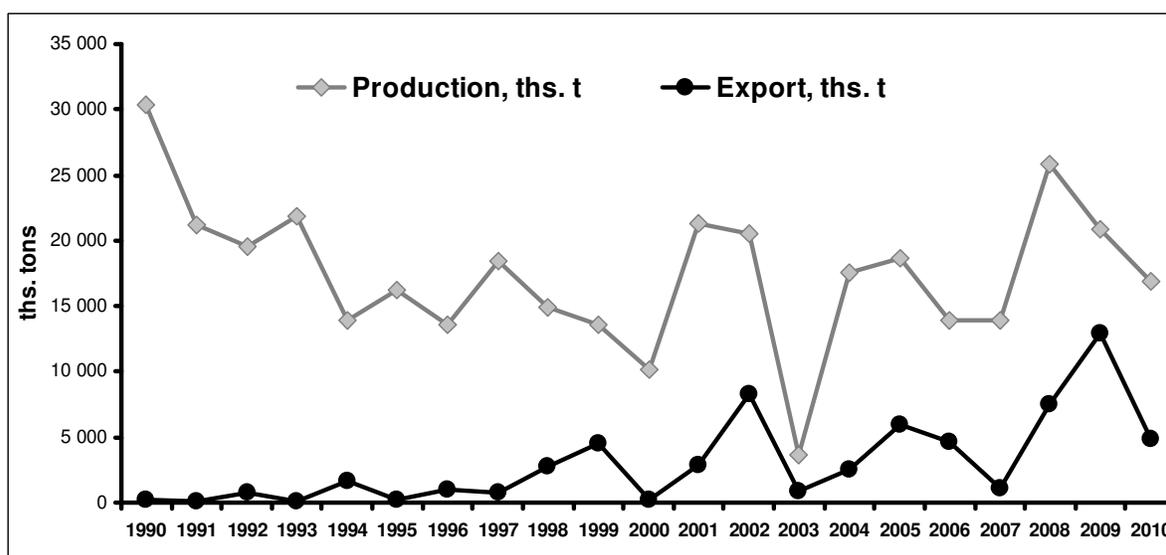
Thirdly, the quality of grain also represents a serious problem in cereals export operations. In this context we may refer to the infestation of wheat with shield-backed bugs, exceeded limits of black dockage in grain lots, high content of broken grain, etc. Such problems bring about complications in forming and further selling commercial batches of wheat. For instance, Egypt, the largest importer of wheat in the world had to suspend purchases of Ukrainian product in 2009/10 MY due to toughened requirements to the quality of imported wheat, which resulted in a 35% reduction in Ukrainian wheat deliveries to that country as compared to the previous season.

Also there is the urgency of further development of the export infrastructure and optimizing transport costs.

## 1.2. Key Factors Determining Increase of Wheat Exports

In the period from 1990 to 2000 wheat production and wheat export demonstrated differently directed trends. As to wheat production, it showed a steady downward trend, which was the direct consequence of economic hardships that affected the whole nation, as well as dramatic downsizing the role of the government on the agrarian market. At the same time, export deliveries of wheat were increasing, which was, in the first place, due to large transnational companies' entry into the Ukrainian market and high revenues obtained from export activities. In fact, internal operations were not as attractive due to considerable price fluctuations, administrative interference and limited market capacity.

However, beginning from 2000, wheat exports practically completely followed the production trend. The correlation coefficient between the wheat production and export volumes over this period amounted to 0.67, which revealed a rather close relation between these two indicators. It may be concluded that wheat production has been the principal factor determining the volume of export deliveries of wheat in 2000-2010 (Fig. 3).



**Fig. 3. Changes in wheat production and exports over 1990-2010**

Source: State Statistics Service of Ukraine

At the same time, it should be noted that if wheat production in the period of 2000-2010 was characterized by moderate variability (coefficient of variation) amounting to 37%, the variability of wheat exports was higher – 81%, which signals potential unpredictability of this indicator and impact of external factors other than production. Conditionally, these impact factors can be divided in three categories.

The first group of influencing factors represents general economic trends which have an indirect impact on the wheat market. Such trends include:

- a steady decrease in Ukrainian population: from 51.6 million in 1990 to 45.8 million in 2010, i.e. a 11% reduction over a decade;
- changes in the basic diet, which significantly reduced consumption of bread products: from 141 kg per person a year in 1990 to 111.7 kg in 2009, i.e. a 21% reduction;
- reduction in the number of livestock and poultry, in particular, cattle and pigs 5.5 and 2.4 times, respectively, in 2010 as compared to 1990, which entailed a respective decrease in feed use and stagnation of the feed mill industry.

All the above factors put pressure on the wheat market, reducing demand on the internal market and increasing volumes of wheat exports.

The second group of influencing factors is related to the improvement and development of the export infrastructure, as well as capacities for grain storage and processing. Low exports in 1995-1999 were caused, among other factors, by insufficient elevator facilities and low transshipment capacity of the ports.

With the lack of public financing, the funding required for the development of this component came mostly from private investors. Investments were made in all elements of the logistic chain: construction of elevator facilities, development of the port infrastructure, acquisition of the new and major overhaul of the old vehicles . As a result, transshipment of exported wheat was about 36 million tons in 2010, compared to mere 6 million tons seven years ago.

If the first two factor categories had a positive impact on export trends, then high level of administrative pressure on the wheat market can be pointed a negative factor, especially, in the area of export restrictions.

## **Part II. Wheat Production in Ukraine and Volatility**

### **2.1. Introduction: Wheat Production in Ukraine: Sources of Growth and Production Volatility**

Traditionally, 1990 is regarded as the base year while comparing production indicators both for the whole Ukrainian agricultural sector and for the grain production in particular. Specifically, 31 million tons of wheat was harvested in 1990 – a record crop over the whole time of statistical observations. However, it is deemed necessary to clear up some realities of those times that were behind so high production quantities. The record crop was a result of a number of factors: first of all, favorable weather conditions, and aggregate impact of technical and economic measures in the framework of the Food Program aimed at comprehensive solution of the food problem and sustainable supply of all types of food to the USSR population. In this regard, the Ukrainian Soviet Socialist Republic was to perform one of the key roles in increasing wheat production volumes, mostly for forage use.

Taking into account that intensification of agriculture was to take lead in the production volume increase<sup>1</sup>, colossal funds were invested in the material, technical and scientific support to the agro-industrial complex. Scores of research institutions in the field of genetics and molecular biology were established to create new grain cultivars and hybrids. Technical re-equipment of agriculture was carried on at a brisk pace. Government subsidy mechanisms were launched in order to compensate the cost of the new agricultural machinery and other material and technical resources. Parallel to the development of the production base, grain consumption capacities were increasing. In particular, establishing a feeding basis for the development of animal breeding was to become the principal goal of increasing grain production in Ukraine, and numerous feed mill plants were created for this purpose. At the same time, alternative selling channels were not developed. The market infrastructure state existing at that time restrained the export potential at the level of 5 to 7 million tons a year.

The constellation of the above factors predetermined the record wheat crop in 1990, providing a certain inertial state in the grain sector for the following decade.

Following Ukraine's independence, the grain market potential, designed to meet the consumer demand of a big country (former USSR) where Ukraine made only a part, was not used just as predicted. All this happened on the background of macroeconomic problems related to the transition from a command-administrative (planned) to a market economy, such as: hyperinflation, disruption of production ties, decline in production, growth of the shadow economy, and others. As a result, wheat production volumes decreased from 24.55 million tons in 1989-1990 to 14.56 million tons in 1994-1996, or by 40.7%.

The process of transition from administrative economy to market-based regulation methods in the 90's turned out very painful for the grain sector. The totality of all progressive changes (partial liberalization of trade, abolition of State orders system and fixed purchasing prices) was not sufficient to ensure a dynamic development of the grain market in the context of the falling market environment, financial and economic instability, and poor trade conditions. The situation was aggravated by incoherent reforms implemented in the agro-industrial sector, where the grain economy had to operate under pressure of the continued administrative regulation on the background of significant reduction of State subsidies and unresolved issues related to the formation of a new market infrastructure.

In the period from late 1990s – early 2000s the grain market situation changed dramatically. The government adopted a radical program entitled "On Urgent Measures to Stimulate Grain Production and Development of Grain Market". A mechanism of pledge purchases of grain and reduced interest

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<sup>1</sup> Intensification of agriculture is consistently increasing investment of means of production and labor per unit of land area (or per head of cattle in the animal breeding sector), application of scientific and production engineering achievements for systematic improvement of productivity of livestock and land, and obtaining maximum quantity of products with minimum labor and funds per unit of product.

crediting for agricultural producers was introduced. Macroeconomic stabilization and growth also had a positive impact on the agricultural sector.

However, the appearance of the group of new market operators – the local and foreign private grain traders – became the major factor providing further growth of grain production. Focusing on export, these companies were actively developing their trading and logistic infrastructure by establishing regional networks and investing in elevators and port capacities. This enabled agricultural enterprises to enhance their direct market potential. Even with certain issues pertaining to pricing, the appearance of a new market for agricultural producers became a powerful impetus to increase the production grain, including wheat. Compared to 1998-1999, wheat production increased by 46.9% to 20.95 million tons in 2001-2002. For the first time over the years of Ukraine's independence export had become one of the key factors determining the grain market situation.

With the evolution of the market infrastructure in the years that followed, foreign economic activities remained a determining factor, influencing the structure and development of both the grain production and the agro-industrial sector as a whole. This helped Ukraine come to leading positions among the grain exporting countries, however, even then its production and export potential was not realized to the fullest extent possible.

In addition to objective causes related to the production sector, certain inconsistency and unpredictability of the regulatory and legal decisions in the agro-industrial sector continued to restrain the development of the grain market: not quite clear and transparent tax, customs, sanitary and veterinary rules implying excess bureaucratic pressure originated by corruption; periodical administrative regulation of the economy coupled with economically unfeasible restrictions and prohibitions: licensing and setting quotas for grain exports, first of all, wheat. Such limitation of grain exports in 2007/08 MY resulted in a wide gap between the internal and the world prices for agricultural products.

Decrease in profitability of wheat trade due to imposed export restrictions forced agricultural producers to switch to growing other crops while reducing wheat sown areas. As a result, the winter wheat sown area shrank to the all-time low level of 5.3 and 6.0 million hectares in 2006-2007. In the following years, lifting export restrictions and active world grain markets predetermined increase in winter wheat sown areas up to 6.9 million hectares in 2008. This increase, coupled with favorable factors, enabled harvesting a record crop since Ukraine's independence – 25.9 million tons, including 25.1 tons of winter wheat.

At present the factor of administrative interference in market operation has a direct impact on the scale of wheat production. For instance, 6.4 million hectares were sown with winter wheat in 2011/12 MY – a 4.5% reduction compared to the previous year. However, partially due to good weather conditions, in 2011/12 MY winter wheat yield may total 20.0 million tons, which is a 17% increase, compared to the gross yield marked in 2010.

## **2.2. Production Changes and Wheat Crop Yield in Ukraine**

The key stages in the wheat market formation and development described in the above section are visually demonstrated in analysis of wheat production changes (Fig. 4). These are the stages of crisis decline in production in 1991-2000 followed by market recovery in the new millennium, related, in the first place, to the development of export markets. In fact, variations in the scale of production over 2001-2010, excluding the weather conditions factor, gives evidence of certain lack of consistency in such recovery.

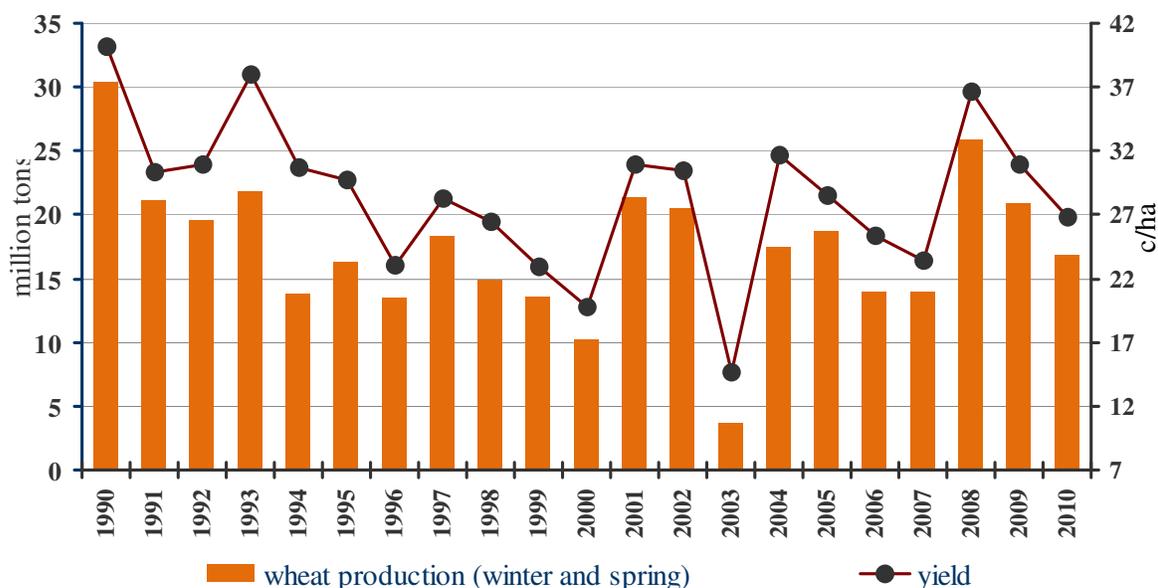


Fig. 4. Changes in production and yield of wheat in Ukraine (1990-2010, all categories of agricultural producers)

Source: State Statistics Service of Ukraine

After 1990, when intensive agro-technological production reached its pinnacle, Ukrainian agriculture and, in particular, grain production sector, experienced a long-lasting setback. In the conditions of involuntary extensive agricultural production the sown areas had a direct impact on the actual volumes of wheat production. In case of winter wheat, analysis of the primary sown areas (sown in autumn for the next year crop) is the key. While traditionally, only areas remaining after winter period are assessed.

The crisis period of 1990-2000 can be conditionally divided into two phases. The first phase is a sharp decline in sown areas in 1991-1993. The second phase is stabilization of areas within 6.6-6.9 million hectares in 1994-2000. In this regard, it is necessary to note the high degree of losses of winter wheat<sup>2</sup>. Over seven years, from 1994 to 2000, the area under winter crops had been decreasing every year by 20% or averagely by 1.2 million hectares in the winter period only. Four-fold reduction in the application of mineral fertilizers, lack of quality grain seeds, aging and wear of the material and technical resources, low ability to adapt production management to the new market conditions and other factors aggravated the negative impact of weather conditions. This resulted in significant loss of sown areas and countrywide decrease in wheat yield (Fig. 5).

<sup>2</sup> The total loss of winter wheat area is calculated as a difference between the primary sown area (sown in autumn for the next year harvest) and the harvested area. Winter losses of area under wheat are calculated as a difference between the primary sown area and the area remaining until the end of spring crops sowing.

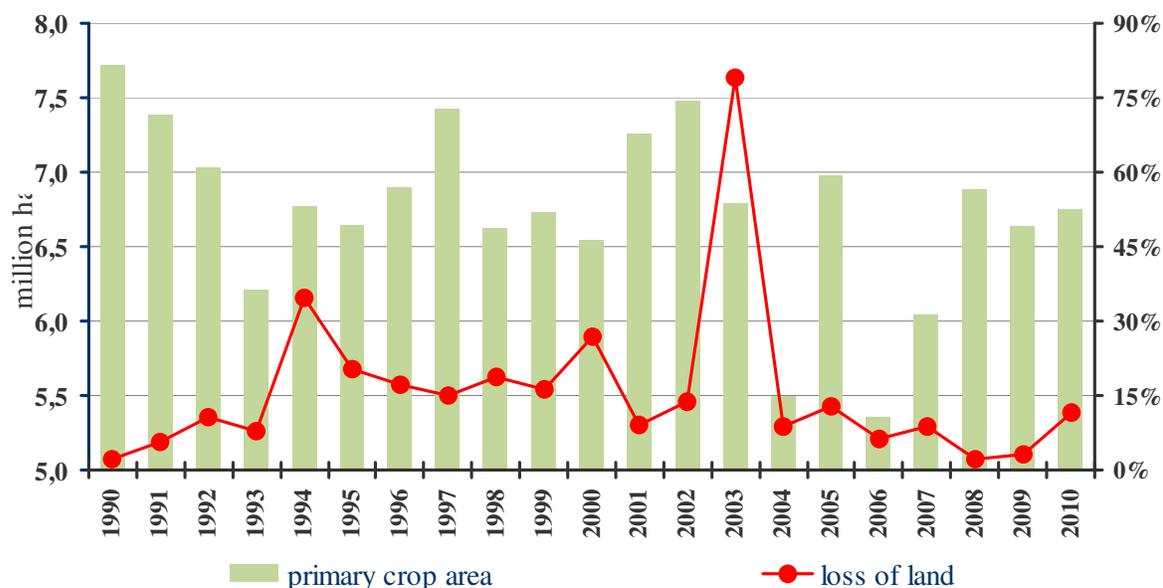


Fig. 5. Changes in primary sown areas for winter wheat in Ukraine (1990-2010, all categories of agricultural producers)

Source: State Statistics Service of Ukraine

With the development of export markets, the acreage sown with winter wheat increased as predicted. However, subsequently, the wheat market became more than ever subject to market volatility, which caused variation in sown areas. The coefficient of variation in sown areas over 2001-2010 was 0.103 against 0.052 in 1991-2000.

As a positive development, a gradual recovery of the agricultural production culture in Ukraine should be marked. The agricultural machinery fleet is being replaced. According to market operators' assessments, the new and used foreign machinery supplied to Ukraine, first of all, grain harvesters, has decreased loss of crops to 10-15%, while in '90s this indicator was as high as 30%. Use of agrochemical technology is being improved as well. The application of mineral fertilizers for winter wheat has tripled compared to 2000 to 71 kg of active ingredient per hectare of the sown area. Many agricultural producers have begun to use micronutrient fertilizers along with traditional mineral fertilizers. The process of testing new innovation technologies in the agrarian production sector has been going on actively. For instance, some large agricultural companies use No-till<sup>3</sup> technology in their production.

The above factors have significantly decreased loss of winter wheat areas and increased crop yield.

Spring wheat production is still not very popular. In Ukraine it is used most often as a valuable emergency catch crop for reseeding areas under grain crops which were lost during winter. In addition, some agricultural producers, most of which are members of agrohholdings where pasta and bakery production is one line of their business, are engaged in production of spring wheat varieties, based on their higher baking and cereal qualities (Table 1).

<sup>3</sup> No-till — is the name for a zero-till technology in crop production, where seeds are sown in the soil which has not been subject to any treatment.

**Table 1. Changes in basic indicators for wheat production (1990-2010, all categories of agricultural producers)**

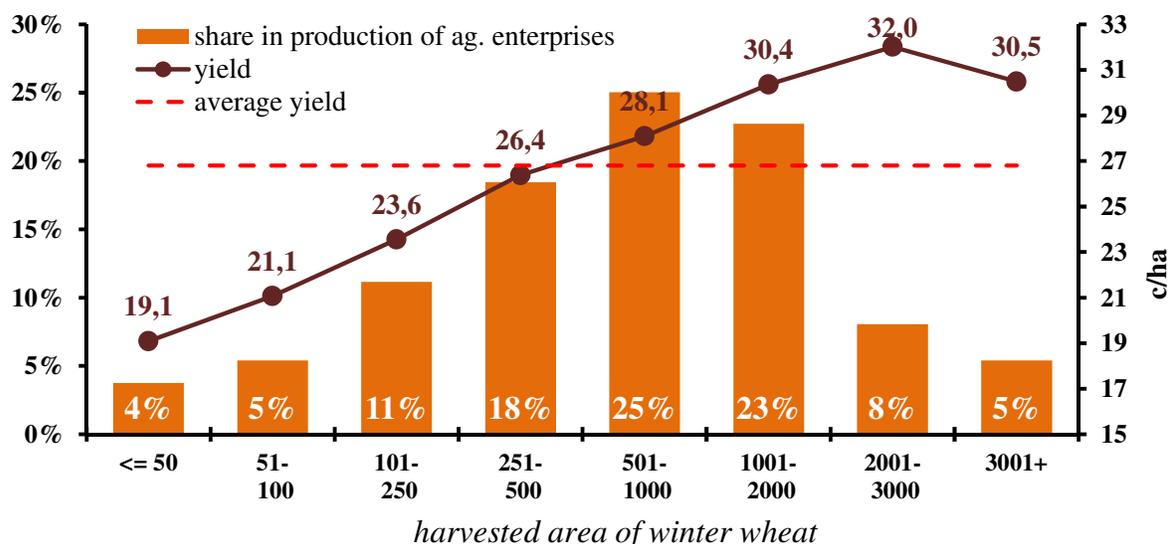
	Sown area, thou. ha			Gross yield, thou. t			Yield, centner/ha		
	total	winter	spring	total	winter	spring	total	winter	spring
1990	7576	7568	9	30374	30348	26	40,2	40,2	30,2
1995	5509	5324	185	16273	15969	305	29,7	30,1	16,9
2000	5619	5316	303	10197	9775	422	19,8	20,0	15,4
2001	7113	6831	282	21349	20795	554	31,0	31,4	20,6
2002	7126	6833	293	20556	19978	578	30,5	30,8	21,2
2003	2829	2357	472	3599	2866	733	14,7	14,1	17,2
2004	5673	5139	535	17520	16361	1159	31,7	32,6	22,8
2005	6665	6185	480	18699	17683	1016	28,5	29,0	21,8
2006	5583	5089	494	13947	12880	1068	25,3	25,6	22,1
2007	6288	5817	471	13938	13173	765	23,4	23,9	17,6
2008	7116	6802	314	25885	25050	835	36,7	37,1	27,2
2009	6852	6519	334	20886	20037	849	30,9	31,2	26,3
2010	6451	6137	314	16851	16217	635	26,8	27,1	21,0

Source: State Statistics Service of Ukraine

### 2.3. Increases in Volatility of Wheat Yields in Ukraine

The wheat market has been in the state of permanent uncertainty for the last ten years. Agricultural producers are not able to forecast how the market situation will develop, as there are always risk factors such as weather, price and political risks which challenge working out by any ordinary market participant. In this regard, any measures aimed at preventing and overcoming possible consequences of the weather factor, such as use of strong elite seed grains, application of innovation technologies, crop insurance, and etc., can be effectively offset by one political decision limiting the sale of the produced products. In such a situation the market gets disorganized due to lack of clear vision as to how to arrange one's work, while planning at a guess becomes the main approach to planning grain production volumes.

Market development expectations have a direct impact on actual production volumes and the number of business entities engaged in such production. For instance, 6,200 large and medium-sized enterprises were engaged in winter crop production (with winter crop area over 250 hectares, and the aggregate weight of the group accounted for 80%-85%) in 2008. The number of such enterprises decreased to 4,900 and 5,100 in 2006 and 2010 (the periods when export restrictions were imposed), respectively. Given that the large and medium-sized enterprises have, traditionally, higher yields of wheat, the reduction of their production share contributed, in direct proportion, to the fall in the average yield indicator in Ukraine (Fig. 6). This is one of the causes of drop in yield of winter wheat in the periods of 2005-2006 and 2009-2010.



**Fig. 6. Grouping of agricultural producers by harvested area of winter wheat (2010, agricultural enterprises)**

Source: State Statistics Service of Ukraine, the author's own calculations and estimates based on data of the State Statistics Service of Ukraine

The coefficient of variation in gross yield of wheat in the period from 2001 to 2010 was 0.329 against 0.220 in the period from 1991 to 2000. In this regard, as we noted above, the impact of the weather factor, based on the lost crops, was significantly higher in 1991-2000. As a result, the aggregate impact of the weather and political factors determines such considerable variance in the wheat production volumes over the last decade. This being the case, agricultural producers view political decision-making as the key factor for the grain and, in particular, wheat market as they determine the scale of production.

## 2.4. Implications of Wheat Production Growth for Export

One can hardly say unambiguously whether wheat production growth will continue in Ukraine, since increase in production volumes will directly depend on export regulation.

In view of the fact that external markets are facing keen demand for wheat and expecting favorable price trends, unrestricted export will undoubtedly result in production growth, particularly for short-term and medium-term outlook. Such trends will be typical both for high grade milling wheat and for wheat of middle and low quality which is especially important since that type of grain mostly forms gross yields in Ukraine.

Should Ukraine retain tendency towards tightening export regime and unjustified administrative interference on the grain crops market, then agricultural producers will have to switch to growing of more profitable crops, for example, corn or soy. Even then, wheat most likely will remain priority crop for them, at least owing to domestic demand, though limited – the feature that should be taken into account since it will be the main obstacle in the way of production intensification.

In view of the above stated aspects one shall take account of steady negative demographic tendency in the country that will contribute to reduction of wheat consumption for food purposes. In short-term outlook domestic demand for wheat (for food purposes) will vary in the range of 5.0 – 5.5 million tons, that is at the level typical for the last five years.

On the contrary, wheat use for feeding has to grow in parallel with increase in number of poultry and pigs. At the same time it should be noted that it will not be substantial, given the present increase of oilseed meal content in mixed fodder composition, particularly for poultry. In a short-term perspective feed use of wheat shall not exceed 4.0-4.5 million tons.

Given the last years trends it may be assumed that wheat use for sowing, losses and other supply-demand balance items will be in a range of 2-2.5 million tons.

In short-term and medium-term perspective, aggregate domestic use of wheat will presumably amount to 11 – 12.5 million tons, i.e. should production overstep that threshold, the difference shall be exported, needless to say, without any export restrictions.

According to the United States Department of Agriculture (USDA) forecast, in 2011 wheat production in Ukraine is expected to be about 19 million tons whereas its export would make up 8.5 million tons, which is completely in line with the above mentioned arguments.

Nevertheless, in spite of such optimistic forecasts, the Government of Ukraine intends to impose customs duties on grain export. On May 19, 2011 Verkhovna Rada approved customs duties on export of cereal crops which will be effective until January 1, 2012 (for details see section 5).

Given the absence of the grain market destabilizing factors, such ambiguous policy of Ukrainian Government with regard to regulation of grain export may have negative effect on domestic production to the extent that sown area would be reduced.

On the other hand, application of export quotas may promote increase in wheat export volumes in the 2011/2012 marketing year, taking into account that the total volume of export quota for wheat, to be in force from early October 2010 until July 1, 2011, made up only 1 million tons.

Market operators intend to cover expenditures for export duties at the cost of margin between domestic and world prices. For the time being the world market is facing big demand for inexpensive fodder wheat due to high prices for corn and its limited reserves. Such situation spurs mixed fodder producers on to use more fodder wheat.

## **Part III. Role of Agroholdings in Wheat Production**

Over the last years the term *agroholding* has taken root and become customary to characterize agricultural production in Ukraine. This is a new production structure, that has the competitive advantage both in production and investment spheres, brings ever-growing influence almost in all fields of agricultural production. According to 2010 results the share of agroholdings in total agricultural production amounted to 17.2%.

The share of such entities in cereals production in 2010 made up a little bit more than 20% of all the yield volume, including 18.2% in wheat production. Taking into account the fact that intensive development of agroholdings has direct links with consolidation of agricultural land, their further evolution will have real effect on structure and dynamics of production of grain crops, on the whole, and wheat, in particular. That is why we decided to add a review section containing answers to basic questions about origin and role of agroholdings in the agricultural sector of Ukraine, as well as about their prospects and influence on the grain market at present and in the future.

### **3.1. Agroholdings in Ukraine: Origins and Significance**

Reforming of Ukrainian agricultural sector that was begun in late 90-s of the last century and focused on restructuring of collective farms with further privatization of land, exposed a problem of inadequacy of the existed institutional framework against a background of growing distrust between main players of the market, that was entailed by transition to market relation. Severance of inter-branch industrial relations, non-fulfillment of contractual obligations between business entities, unavailability of financial market tools and other problems of agrarian production predetermined appearance of a new organizational-and-legal structure – an agroholding. The new structure could get engaged in a wide sphere of activity: agricultural production, food processing, service maintenance, logistics, sales and other activities which, on the whole, brought about better coordination, controllability and steadiness of main business-processes. There also was an orthodox opinion that such business structures enjoyed additional competitive advantages thanks to evening-out the intermediate services factor, emerging in the process of purchasing material resources and services from outside organizations, and this fact had beneficial effect upon business efficiency, on the whole.

At present there is neither uniform definition of the term *agroholding* in Ukraine, nor official statistical data on the scope of such entities activity. At the same time for a last decade, scientists and analysts of the agrarian market formed common and similar interpretation of the *agroholding's* concept. Agroholding is an association of legal persons (affiliated and associated enterprises) connected by contractual obligations or mutual property, having joint purposes and tasks, and with one company acting as a parent enterprise. Affiliated companies are the companies where more than half voting shares directly or indirectly belong to the agroholding, or where it can otherwise control their financial and operating policy. Associated companies are the companies where less than half voting shares directly or indirectly belong to the agroholding, but where it can have effect upon their financial and operating activity within agreed limits of a sole business strategy, without direct control of an enterprise.

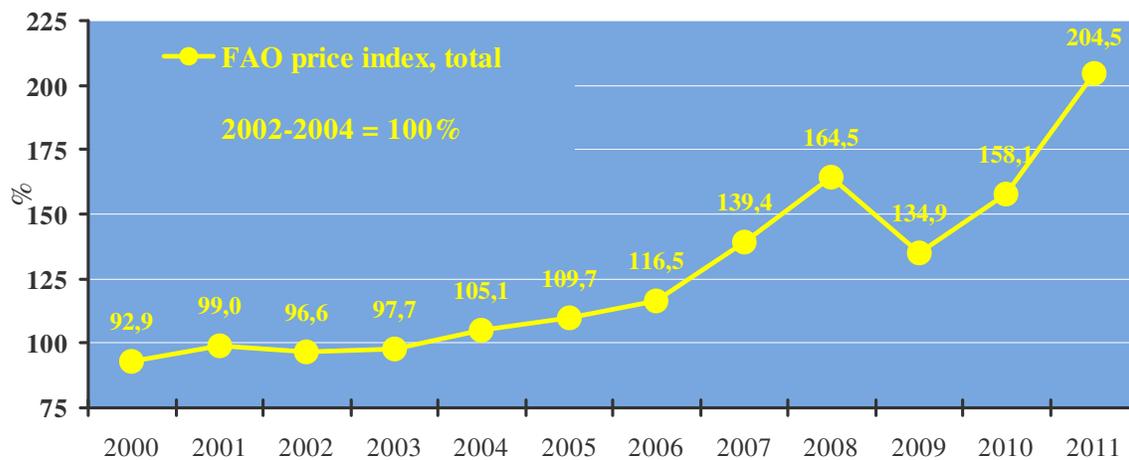
Turning back to the history of agroholdings formation, it is necessary to point out that despite the fact that first holding companies appeared in late nineties, their active formation began a little bit later – in 2005-06.

At the initial stage, the major incentive to establish an agroholding was instability of prices and volumes at raw materials supplies to processing enterprises. As a result, first attempts to set up agroholdings were made on the basis of food industry enterprises that arranged vertical integration with raw materials producers. The most successful experience was realized in the sphere of sugar production and baking industry. But notwithstanding positive examples of efficient activity of such associations, the process of setting new vertically-integrated structures did not become wide-ranging in Ukraine, just remaining in category of exceptions. Thus, in 2000-2003 the volume of sugar-beet

production by agricultural enterprises, integrated with sugar-refineries, made up only 3.7%. According to the results of 2010 this indicator was 49.6%. Poor investment appeal of agrarian sector, as compared with other super-profit sectors, hampered the processes of innovative renewal both in production and organizational spheres.

Special attention shall be focused on springing up of several large agrarian companies in 2000-2002 specialized in poultry meat production, which later became a kind of quintessence of agro-holding phenomenon in Ukraine. Having adhered to a strict strategic development plan and in parallel with the development of poultry production facilities, those companies developed and integrated in their production process such elements as own forage reserve, truck fleet, marketing network and other business elements. At that, following the principle of diversification, these companies were also engaged in active development of other lines of agricultural production. For the last decade such companies took leading positions in the agro-industrial sector of Ukraine. According to own analysis of the three largest companies, which principal activity is poultry farming, in 2010 their share made up 15.3% in the total gross production volume of agricultural enterprises, including 34.7% of animal production.

Beginning from 2005 the world has been facing soaring prices for food, which affected almost all main groups of foodstuffs (Fig. 7).



**Fig. 7. Dynamics of price index FAO in 2000-2011**

Source: Food and Agricultural Organization of the United Nations

That rise in prices resulted from complex combination of specific factors, typical for food markets, and global factors, which exerted influence on all spheres of the world economy and keep changing habitual order in the world. These are the following factors:

- Rise in prices for mineral oil and energy, which brought about intensive use of grain, oil and sugar-containing crops as raw materials for production of alternative energy sources and partially transferred the above mentioned crops to the energy category;
- High rates of development of the developing countries, first of all those of Asian region;
- Growth of the world population;
- Climate changes, limiting useful land and water resources;
- Instability at financial markets.

All these in combination with reduction of profitability in usually super-profit sectors, such as financial and banking spheres, transport, construction, realtor's activity and mining operations, caused capital outflow into food industry. Agricultural production does not offer the advantage of fast capital

turnover as compared with other business sectors, but it can ensure steadily growing demand with rising prices (in long-term outlook) which, in the future, may guarantee stable profit.

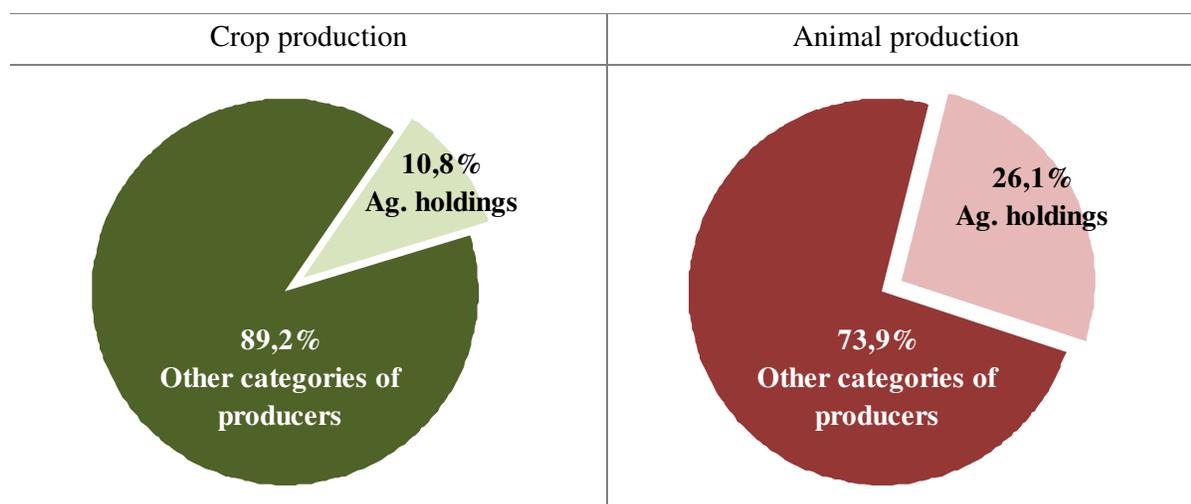
In this state of affairs it is not surprising that Ukraine as a country with strong traditions of agrarian production aroused keen interest of both large national capital and foreign investors. In a period from 2005 to 2008 volumes of internal investments in the agriculture increased by a factor of 3.4, to the record-breaking high level of UAH billion 16.9 that was equal to USD 3.4 billion. Foreign investments in Ukraine increased almost 4 times for the same period. For a period of 1991-2004 the agriculture attracted a total of USD 200 million, whereas from 2005 to 2008 more than USD 150 millions were invested in the agriculture annually.

It is worth to note that investment appeal of the agriculture, apart from such widely known reasons as: fertile land, good natural and climatic conditions, favorable geographic location (for export) was determined by certain internal specific factors, i.e. low rental fee for land in Ukraine, in comparison with that existing in other European countries, and expected revocation of moratorium for sale of agricultural land, encouraging accumulation of land resources for the purpose of their further resale. In that state of affairs, a holding company, that consolidated production resources and, first of all, agricultural land, was a property for possible further resale.

Due to objective reasons (mostly through shortage of valid data), information-and-analytical environment for a long time was lacking any available aggregated information about agroholdings activity. At that, information about active processes of such entities formation used to be considered as just sporadic corporative news. Only by the middle of 2007 was published the first independent analysis "Agroholdings and future trends of the land market" where an attempt was made to study reasons of agroholdings appearance, scope of their activity and prospects for the future development. At that, assessment of the activity scope was based only on one indicator – area of cultivated agricultural land. According to the above mentioned publication, as of July 2007 there were at least 20 operating agroholdings in Ukraine, which managed about 1.7 million hectares of agricultural land, that is 11% of all land used by agricultural enterprises. At the same time forecasts were made that by the end of 2008 the total area of agricultural land managed by agroholdings may increase by 52% - up to 2.6 million hectares and in 2010 this area would reach at least 3 million hectares.

Analysts' forecasts exactly demonstrated the trend to increasing land resources by agroholdings, but real rate of growth was much higher than forecasted one. According to our assessment by mid 2010 there were over 100 agroholdings in Ukraine with different production volumes and specialization, which consolidated in total more than 1.2 thousand individual agricultural enterprises. Accumulated area of agricultural land managed by the agroholdings made up 4.47 million hectares or a little bit more than 21% of the area managed by agricultural enterprises.

For the last five years agroholdings have made noticeable players in the sector of agrarian production of Ukraine. In 2010 the share of agroholdings in total agricultural production came to 17.2%.



**Fig. 8. Share of agroholdings in total agricultural production in 2010.**

*Source: State Statistics Service of Ukraine, the author's calculations and assessment based on the State Statistics Service of Ukraine data, information of agrarian companies and from other open sources*

According to preliminary data, the total agricultural production of agricultural enterprises in 2010 amounted to UAH 45.4 billion (in comparable prices of 2005). The share of agroholdings was UAH 17.37 billion or 38.4%. At that, agroholdings are among the main large-scale producers of animal products (UAH 11.06 billion or 59% of the total animal production of agricultural enterprises). The role of agroholdings in crop production was not dominating and their share made up less than one quarter.

Concerning the structure of animal production, agroholdings dominate in production of poultry meat and eggs. In 2010, enterprises which belong to the structure of agroholdings produced 830,000 tons of poultry meat that is 66.7% of the total poultry meat production by all categories of business entities and 83.1% of the volume of its production by agricultural enterprises. Almost 41% of 17 billion eggs produced in Ukraine in 2010 came from poultry factories managed by agroholdings. The share of vertically integrated structures in eggs production of agricultural enterprises made up 68.1%.

Large-scale commercial production of pork has been intensively developed for last few years. As early as 2006 the first ten agroholdings formed less than 12% of the pork market whereas in 2010 the share of TOP-10 companies made up 26% of the total volume of pork production by agricultural enterprises. On the whole, 15% of pork production falls to the share of agroholdings, including 36.9% of pork, produced by agricultural enterprises. Taking account of development plans, announced by the largest pig-breeding agroholdings, a process of consolidation and expansion of production facilities will remain in the near future.

The share of large-scale production in cattle-breeding and dairy sectors remains the least. In particular, according to results of 2010 the enterprises produced 177,900 tons of cattle meat or 24.5% of the total production; with regard to milk production - 2,216,000 tons or 19.7% correspondingly. The share of agroholdings in beef production made up 5.6% and in milk production – 4.2%.

It is also necessary to note, that at present, irrespective of the extent of concentration and scale of production, sectoral leaders – the largest agricultural enterprises of all sectors of animal production belong to the main vertically-integrated agrarian companies of Ukraine.

In spite of relatively little share of agroholdings in gross crop production (only 10.8% in 2010) such structures play key role in production of certain crops in Ukraine. In particular, in 2010 agricultural enterprises belonging to agroholdings gathered in half of the sugar-beet yield and almost one third of gross yield of corn. In addition, agroholdings are among the largest producers of potatoes and commercial volumes of fruits and berries.

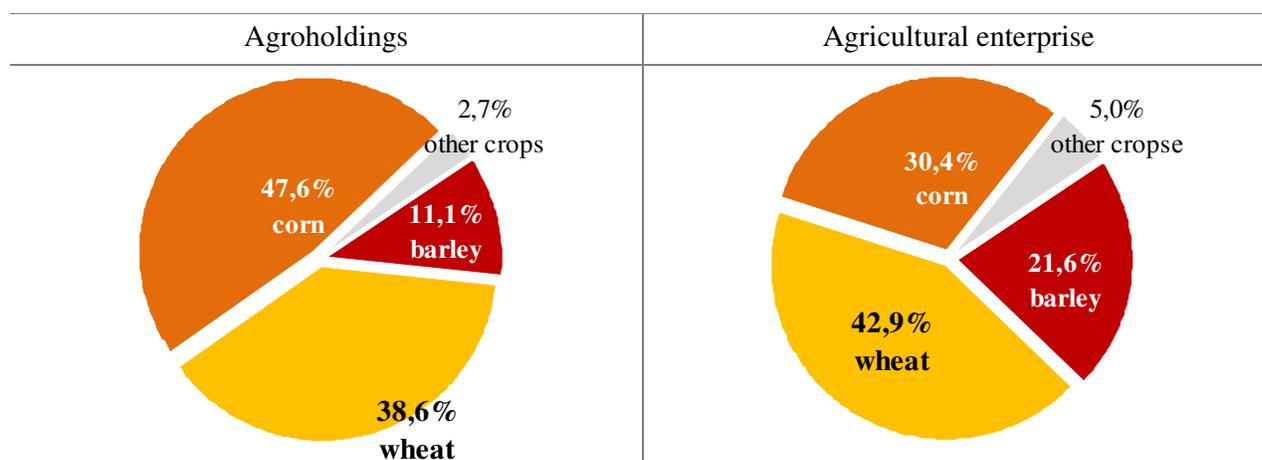
**Table 2. Share of agricultural enterprises and agroholdings in production of main types of agricultural products in 2010 (%).**

	Agricultural enterprise	<i>including:</i>
		agroholdings
<b>Total agricultural production, total</b>	<b>44,9</b>	<b>17,2</b>
<b>total crop production</b>	<b>45,1</b>	<b>10,8</b>
Grain crops	75,8	20,3
Sunflower	82,5	13,2
sugar beet	92,1	45,5
potatoes	2,6	0,6
<b>total animal production</b>	<b>44,7</b>	<b>26,1</b>
beef and veal	26,7	5,6
pig	45,0	15,0
poultry	81,9	66,7
eggs	60,1	41,0
milk	19,7	4,2

The role of agroholdings in grain production has increased essentially for the last few years. According to our assessment, in 2010 gross grain production by these entities made up 8 million tons or a little more than 20% of the total grain yield. It is necessary to emphasize that the largest grain producers are agroholdings, the primary activity of which is animal production. At that, the main purpose of grain production is to meet the company's needs in fodder. Partially this explains prevalence of corn in the structure of grain production (Fig. 9). The share of such companies makes up about 35-40% of the total volume of grain production by agroholdings.

**Table 3. Grain production in 2010 by producer categories, thousand tons**

	Total	Agricultural enterprise	<i>including:</i>		
			agroholdings	%, to total	%, to ag. enterprise
<b>Grain crops</b>	<b>39 271</b>	<b>29 779</b>	<b>7 963</b>	<b>20,3</b>	<b>26,7</b>
corn	11 953	9 464	3 787	31,7	40,0
wheat	16 851	13 315	3 074	18,2	23,1
barley	8 485	5 514	884	10,4	16,0
peas	452	428	76	16,7	17,7
other cereals	607	518	69	11,3	13,3
rye	463	292	45	9,8	15,5
oat	459	250	28	6,2	11,4



**Fig. 9. Structure of grain crops production in 2010.**

*Source: State Statistics Service of Ukraine, author's calculations and assessment based on the State Statistics Service of Ukraine data, information of agrarian companies and from other open sources*

### **3.2. Comparison of performance of agroholding enterprises and non-agroholding agricultural enterprises in wheat sector**

One of fundamental grounds for establishing agroholdings is considered to be its higher efficiency.

Integration of agricultural and processing industries, trade and logistics offers considerable advantage to agroholdings as compared with other types of agrarian production entities. Absence of intermediary structures in the consecutive production chain (raw material production, its processing to finished products, delivery to the point of sale, trading network) allows agroholdings to reduce relevant expenses and increase profit to the maximum level.

Another positive economic effect is achieved due to the scale of agricultural production. Large-scale production let them use efficient equipment and machinery, as well as up-to-date processes, which ultimately contributes to considerable increase in production and reduction of costs. In particular, grain crop capacity in large enterprises (harvested area of grain crops is more than 2,000 hectares) is usually 25-30% higher than average.

It is necessary to note that apart from above mentioned conventional features, application of uniform technological and administrative approaches in the operation of production facilities of agroholdings implies faster, flexible and adequate response to the outside changes. Not less important is the factor of facilitated access to financial resources which, theoretically, encourages active introduction of technical and technological innovations.

For the purpose of assessing productivity of an agricultural enterprise forming a part of an agroholding and that of average usual agricultural enterprise (without taking account of the agroholding enterprises activity) it is necessary to analyze averaged pattern of each for crop production and animal breeding spheres, to determine production volumes of main products and productivity of processes.

**Table 4. Comparison of productivity indicators for crop production of average enterprise and enterprise that forms a part of an agroholding (2009).**

	Average agricultural enterprise	Agroholding	
		average enterprise	maximum
<b>Area of cultivated land, ha</b>	<b>1703</b>	<b>5732</b>	<b>148529</b>
<b>Gross yield, thou. t</b>			
grain crops, total	2,79	13,30	511,7
winter wheat	1,46	6,33	171,6
corn	1,35	9,44	326,7
spring barley	0,57	2,08	36,9
sunflower	0,70	2,14	48,2
sugar beet	6,41	52,81	444,8
<b>Yield, centner/ha</b>			
grain crops, total	29,5	39,9	97,2
winter wheat	31,3	38,3	85,2
corn	51,7	59,9	122,1
spring barley	22,7	27,1	74,3
sunflower	15,6	18,6	49,8
sugar beet	284,2	335,0	552,0
<b>Cost of production, UAH/t<sup>4</sup></b>			
grain crops, total	667,0	728,5	3707,4
winter wheat	653,0	760,1	4696,3
corn	636,7	645,7	4933,3
spring barley	685,4	766,3	3510,6
sunflower	1147,1	1320,6	5122,4
sugar beet	270,1	313,0	700,2

*Source: State Statistics Service of Ukraine, the author's calculations and assessment based on the State Statistics Service of Ukraine data, information of agrarian companies and from other open sources*

In terms of yield per hectare, as an indicator of partial productivity, the agroholdings are at great advantage in comparison with other producer categories. Average yield per hectare in agroholdings for all main crops is 15-20% higher which is an evidence of higher rate of land utilization. However, when having a look at the cost of production, which demonstrates overall productivity, then one can easily notice that agroholdings incur large production costs per one ton of products. One of possible reasons is the lack of economic grounds (in a number of cases) for purchasing the highest-quality seeds, expensive foreign machinery, microfertilizers, and original agencies for plant protection. Also, it is not ruled out that the quality of products is higher than average and high cost of production is recovered by higher price for products.

<sup>4</sup> Cost of production includes the following costs: direct material expenditures (feed, seeds, mineral fertilizers, energy resources, amortization, payments for services and activities of other enterprises; salaries; other expenditures, including land rent.

**Table 5. Comparison of productivity indicators for animal breeding of average enterprise and an enterprise that forms a part of an agroholding (2009).**

	Average agricultural enterprise	Agroholding	
		average enterprise	maximum
<b>Number, thou. heads</b>			
beef and veal	0,29	0,88	16,67
cow	0,18	0,48	9,16
pig	0,44	3,39	74,60
poultry	76,2	844,9	10251,2
<b>Production, thou. centners</b>			
beef and veal	0,44	1,62	49,6
pig	0,52	5,44	130,6
poultry	5,90	94,91	1973,5
milk	6,49	21,10	399,5
<b>Productivity, g/day</b>			
beef and veal	419	502	782
pig	326	444	824
poultry	21	31	68
milk (kg/year)	3733	4389	10514
<b>Cost of production, UAH/centner</b>			
beef and veal	1342	1516	5059
pig	1173	1025	6872
poultry	790	632	3337
milkl	151	168	417

*Source: State Statistics Service of Ukraine, author's calculations and assessment based on the State Statistics Service of Ukraine data, information of agrarian companies and from other open sources*

In the animal breeding, just as in crop production, productivity of enterprises belonging to the largest agrarian companies is above average in Ukraine (for all main products). Poultry and pork production seems to be the most successful spheres. Cost of production of these products in agroholdings is lower as compared with an average agricultural enterprise. Cattle breeding and milk production is more expensive in agroholdings. As for milk, it is explained by higher quality. Cattle's breeding is less expensive in specialized cattle farms pasturing animals on grassland, whereas agroholdings are often focused on more intensive fattening technologies.

As an indicator of general effectiveness we have taken the profitability of sold products, since it is the only indicator that brings all activity results into correlation with all respective expenses incurred for their achievement.

**Table 6. Profitability in an average enterprise and enterprise that forms a part of agroholding (2009).**

	Average agricultural enterprise	Agroholding	
		average enterprise	maximum
Agricultural products, total	14,5%	12,4%	144,0%
Animal products	-4,0%	18,0%	155,4%
Crop products	20,2%	9,3%	219,2%
grain crops, total	9,0%	3,7%	137,2%
winter wheat	9,1%	2,1%	151,0%
corn	21,9%	23,0%	217,9%
spring barley	-3,1%	-15,8%	122,2%
Sunflower	47,5%	17,8%	280,7%
sugar beet	25,1%	45,2%	224,5%

*Source: State Statistics Service of Ukraine, author's calculations and assessment based on the State Statistics Service of Ukraine data, information of agrarian companies and from other open sources*

Obtained results show that profitability of the sold products by agroholding enterprises in 2009 turned out to be a little bit less than average, despite excellent figures regarding animal production. Then a reasonable question emerges: why do not the obtained results confirm diffused opinion about the agroholdings efficiency? There is no simple answer to this question because of subjectivity of cause-and-effect relations, which predetermined such results. Of the main factors we may mark out the following assumptions that exert influence upon agroholdings' productivity.

1. Given the multifunctionality of certain agroholdings, the shown profitability indicators can not be objective. In particular, profitability of crop production and animal breeding directly depend on the price of grain transfer from one production branch to another through intracorporate channels of the agroholding. Also, the situation is possible when real profit is formed on other levels of vertically-integrated production. This is particularly relevant to foodstuffs which fall under the governmental price regulation.
2. Accumulation of land assets to the prejudice of their quality. Land-bank accumulation in 2005-2007 most often was carried out through purchasing of non-efficient agricultural enterprises, the price of which was lower. Bringing these assets to the cost efficient mode of operation requires both time and additional material expenditures.
3. Great investments in technological processes and production predetermined higher cost of production. In addition, some cases came to light when technical re-equipment policy was not harmonized with production process chart. Unlike agricultural enterprises with established production traditions, for agroholdings that was rather disadvantageous factor.
4. Financial crisis factor. Rapid land expansion was possible mostly due to affordable loans. Correspondingly, when loans became expensive and unavailable a number of agroholdings could encounter problems that had been well known to agricultural producers in nineties, i.e. difficulties in financing the stage of field work, need for sale of products immediately after harvesting, etc. Successful independent agricultural enterprises are usually very cautious in relations with banking system and do their utmost to minimize their need in loans. Thanks to such enterprises average indices on crop production could be better than in enterprises forming a part of agroholdings.
5. Problem of multilevel hierarchy. Many hierarchic levels, that is brought about by a boost of production activity, at a certain stage may result in additional administrative expenses, deaden flexibility and response to the change of situation, in addition intraorganizational contradictions may rise.

### **3.3. Conclusion: Ukrainian Grain Sector and Agroholdings**

We expect that further development of agroholdings will bring about growth of grain production with partial redistribution of objectives, set by producers to themselves as regards grain crops growing. As already mentioned earlier, present production of grain crops in agroholdings is mostly targeted towards forage purposes. Besides, a number of companies specialize in production of bread-grain to provide own processing facilities of food industry with raw materials, for the purpose of further production of flour, bread and bakery products, cereals, etc. Other agroholdings produce cereals for sale through usual channels: export-oriented trading companies (traders), processing enterprises, resellers. At the same time, at later stages of business expansion, most agrarian companies treat the grain as entirely export product. At the same time, at their own development in the grain sector they look not only through the prism of growing production but also they consider opportunities for independent entry to export markets. Such companies are active in build-up of own facilities for receiving and storage of grain, set up their own transport companies, develop logistics. Our appraisal is that in 2010 agroholdings managed about 18% of certified facilities for grain storage (27% - if taking account of national export-oriented companies, such as Nibulon and Kernel, which also belong to a number of large agroholdings). On the whole, as of September 2010, there were 724 certified grain storage facilities in Ukraine with the total storage capacity of 30.7 million tons of grain.

Formation and development of agroholdings did not pass unnoticed for the largest international and national trading companies (grain traders). Such companies, that were at the beginnings of grain market development, for a long time stood aside of production sector. Their investment program was focused exceptionally on the development of export infrastructure in Ukraine, including all components of the logistics chain: construction of grain elevators, development of port infrastructure, purchasing new and major repair of used vehicles, build-up of own network for grain purchase. At the same time, for the last five years, the several largest grain export operators joined the production sector. We can identify at least two main factors out of those that stirred up such a move: 1 – agroholdings expansion both in grain production and grain storage and processing; 2 – build-up of grain storage facilities which allowed agricultural producers to use sale restraining tactics in expectation of more favorable market conditions, which reduced trader's profit margin essentially and, even more, could threaten the fulfillment of contractual obligations by the latter. According to 2010 results, three largest grain exporters (more than one third of annual export volume) in total consolidated the land-bank of 360,000 hectares.

To sum up, let us remind that by mid 2010 the total accumulated area of agricultural land managed by agroholdings reached 4.5 million hectares or over 21% of area under control of agricultural enterprises. After a number of mergers that took place early 2011 at least three mega-latifundia formed in Ukraine. These are agroholdings with agricultural land area exceeding 400,000 hectares. Taking into account the announced plans of some agrarian companies expansion and based on the market experts' opinion, in 2015 the area of agricultural land managed by agroholdings may increase to 6.5-7.0 million hectares.

In the process of agricultural land extension, the agroholdings influence on the grain market will grow inevitably. Aggregate volumes of grain production by agroholdings may increase up to 13-15 million tons by 2015 (while the current production volume is 8 million tons).

## **Part IV. Wheat Utilization in Ukraine**

Many problems existing at Ukrainian grain market, refer to formation of Ukrainian agrarian policy on the whole. This entails difficulties for formulation of strategic objectives and the lack of system approach to solution of problems that emerge.

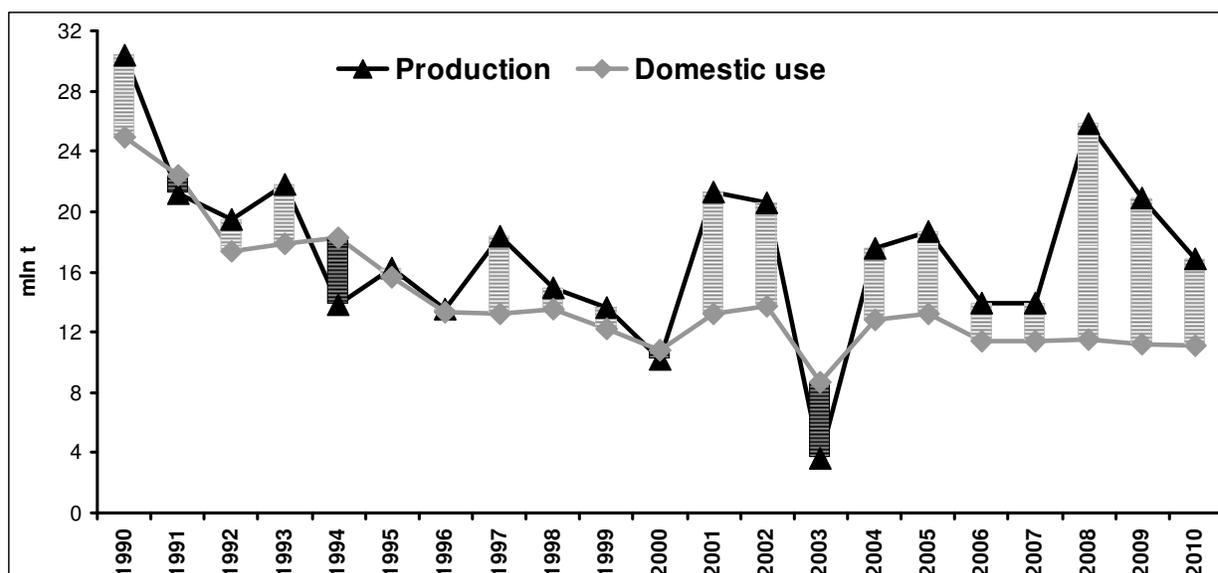
For example, at present none of governmental agencies has solved a basic problem, from which one shall proceed when forming agrarian policy, i.e. drawing up objective balances of grain supply and

demand in the context of individual crops. Since only such balances can show the future of the market and shall be a main tool for determining further actions.

Hence, in this study, to determine and assess channels of wheat use we will rest upon the balances of Food and Agricultural Organization of the United Nations (FAO), taking account the data of the Ukrainian State Committee for Statistics and our own estimations.

Analyzing the wheat balance we would like to point out that heteropolarity of two balance-forming items (production and domestic consumption) shall be considered to be the main trend that characterizes changes in this crop use in Ukraine for a period of 1990-2010.

Until 2000, the rates of decline in production and domestic use of wheat were almost the same. However, beginning from the next year wheat production grew sharply, setting growing trend for the following years. At the same time, domestic use of wheat kept showing the dropping trend. Under those conditions only export could be a main balance regulating factor (Fig. 10).



**Fig. 10. Dynamics of production and domestic use of wheat in 1990-2010**

*Source: State Statistics Service of Ukraine, Food and Agricultural Organization of the United Nations (FAO), the author's calculations and assessment based on the State Statistics Service of Ukraine data, information from agrarian companies and other open sources*

Further in this study we will dwell upon this phenomenon and analyze major contributing factors.

#### **4.1. Changes in Wheat Utilization in Ukraine over 1990-2010**

The major items forming the wheat balance for 1990-2010 can be listed as follows: consumption by the population; use for feed needs; and export. It should be noted that these items differ in their impact on the balance over the observation period. For instance, use of wheat in Ukraine from 1990 to 1995 was focused on meeting the needs of the domestic market, predominantly those related to feed supply, as the development of animal breeding had been a priority since the Soviet times.

Subsequently, with strengthening of the role of the private capital in relations governing production management activities in agriculture, the companies shifted their focus on producing profitable goods with a short payback period. As a result, many companies started giving up animal breeding, first of all, cattle and pig breeding. Consequently, there was a significant reduction in the market share of wheat used as forage.

In this period Ukraine's population was on a steady downward trend on the background of increasing negative balance of external migration. This resulted in continuous decrease in demand for wheat used for food needs.

Cumulative domestic demand for wheat in Ukraine fell over the period from 1995 to 2010 by 29%, from 15.7 to 11.1 million tons, with annual consumption amounting to about 50% to 70% of total production. In this context, export became the major element regulating the balance of the grain market, nudging Ukraine to the path of an export-oriented country (Fig. 10).

**Table 7. Changes in wheat balance items over 1990-2010, million tons**

Years	Production	Export	Domestic use, total	including		
				food use	feed use	other
1990	30,4	0,2	24,9	7,7	13,8	3,5
1991	21,2	0,1	22,4	7,8	11,6	3
1992	19,5	0,8	17,3	7,7	6,6	3
1993	21,8	0,2	17,9	7,6	6,9	3,4
1994	13,9	1,7	18,2	7,3	7,4	3,5
1995	16,3	0,2	15,7	6,8	6,1	2,8
1996	13,5	1	13,3	6,6	4,2	2,4
1997	18,4	0,8	13,2	6,6	3,7	2,9
1998	14,9	2,8	13,6	6,3	5,4	1,8
1999	13,6	4,5	12,2	6,5	4	1,7
2000	10,2	0,2	10,8	6	3	1,8
2001	21,3	2,9	13,2	6,1	5	2,1
2002	20,6	8,3	13,7	6,3	5,3	2,1
2003	3,6	0,9	8,7	5,8	1,6	1,3
2004	17,5	2,6	12,8	5,8	5	2
2005	18,7	6	13,2	5,9	5,5	1,8
2006	13,9	4,7	11,4	5,5	4,1	1,8
2007	13,9	1,1	11,4	5,3	4,1	2
2008	25,9	7,5	11,5	5,2	3,8	2,5
2009	20,9	12,9	11,2	5,1	3,8	2,3
2010	16,9	4,9	11,1	5,2	3,8	2,1

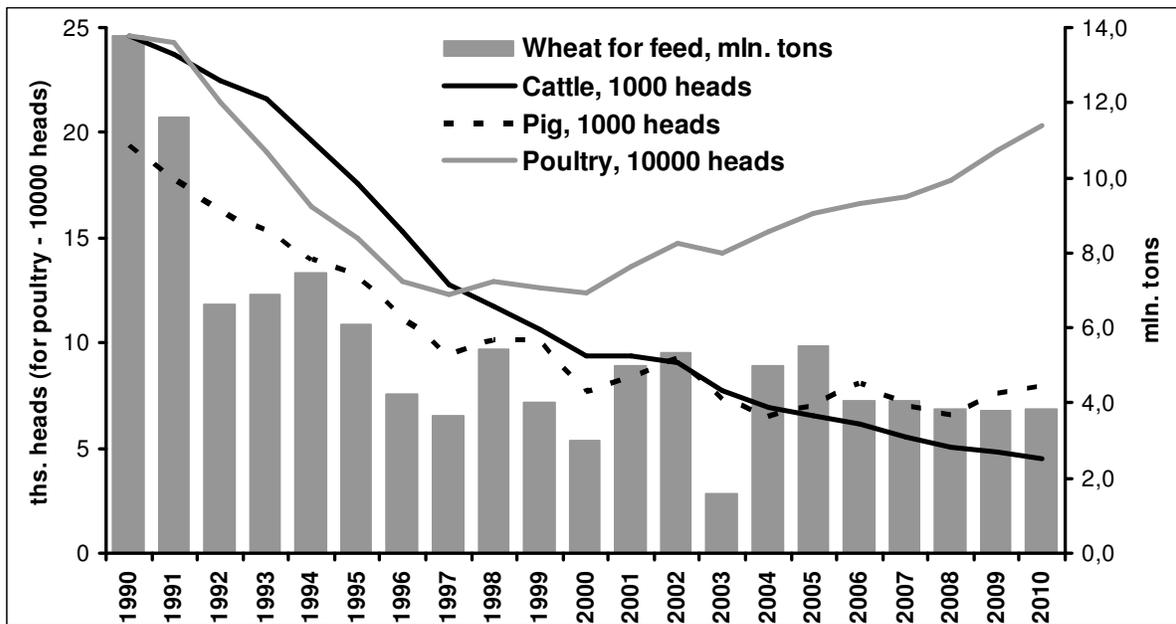
*Source: State Statistics Service of Ukraine; Food and Agriculture Organization of the United Nations (FAO); the author's own calculations and assessments based on data of the State Statistics Service of Ukraine and other open sources*

## 4.2. Driving Factors Behind Changes in Wheat Utilization

**Feed use.** Wheat with substandard bakery qualifications is suitable for use as forage. As a rule, it is used in feeding animals either in its original form, as grain, or as a component in premixed or mixed feeds.

Mixed feed production is an integral part of the grain processing sector, providing a link between the plant growing and the animal breeding sector, which makes it dependent on both the grain market and the livestock products markets. Grain components account for 70% to 80% of the mixed feed production.

Decrease in the number of livestock, as well as its concentration in private households entailed a crisis in the mixed feed sector, with volumes of production sinking from 16.5 million tons in 1990 to 1.1 million tons in 2000. Such trends directly reflect declining demand for feed as a component of the total wheat balance. In this period most support to using wheat as feed for livestock came from private households that fed the animals with the wheat they had received for leasing their land shares (Fig. 11).



**Fig. 11. Correlation between feed use of wheat and changes in number of cattle, pigs and poultry in 1990-2010**

*Source: State Statistics Service of Ukraine; Food and Agriculture Organization of the United Nations; the author's own calculations and assessments based on data of the State Statistics Service of Ukraine and other open sources*

In the period of 2001-2003 mixed feed production began to grow, mostly due to intensive development of poultry farming. Its annual growth up until 2010 averaged 16% as a result of increase in numbers of poultry and pigs, for which concentrated feed is the basic feed. Such trends are the direct consequence of the arrival of big investors to the animal breeding sector.

According to the data of the Ukrainian State Statistics Service, mixed feed production was 4.5 million tons in 2010; however, this indicator characterizes the production volumes of large producers. There are a lot of small producers on the market, and taking into account their mixed feed output, the above figure may increase to about 6 million tons.

In the context of using wheat as one of the major ingredients in mixed feed, it is necessary to take into consideration its price correlation with other forage crops.

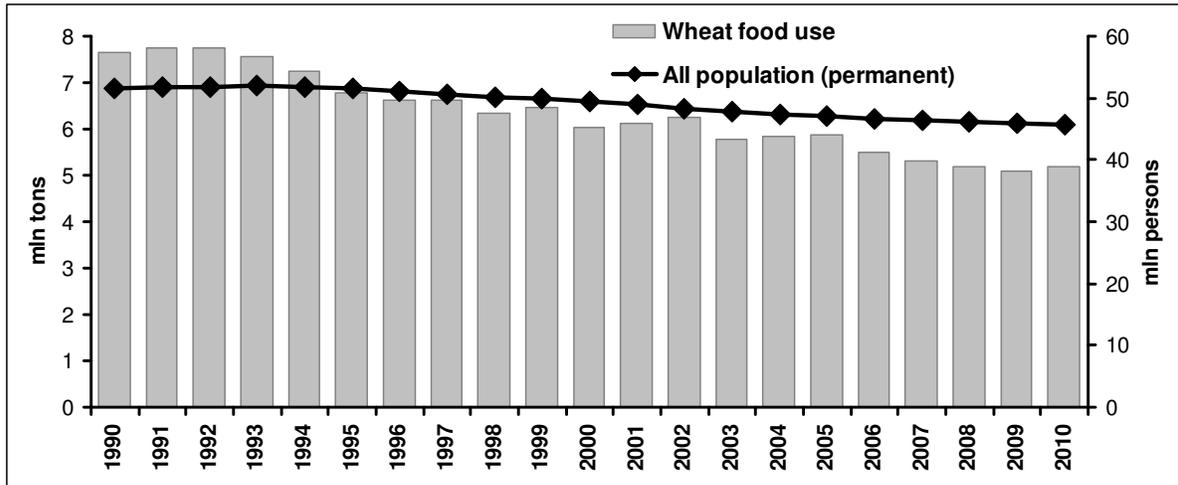
In fact, over the period from 2001 to 2005, feed use of wheat increased to 5.0-5.5 million tons except for 2003, which was a lean year. However, as soon as in 2006 it shrank from 5.5 to 4.1 million tons, which was caused, in the first place, by a jump in price for wheat. The price for wheat sold by agricultural companies in 2006 averaged UAH 527/ton versus UAH 415 in 2005, while the price for barley – another important feed ingredient – remained unchanged. Corn also rose in price significantly, from UAH 343 to UAH 518 per ton, but was still less expensive than wheat.

Such price fluctuations caused changes in the feed formula for poultry, which is the major consumer of mixed feed at agricultural companies: over the period of 2005-2010 mixed feed consumption by poultry averaged 69% in the total mixed feed consumption. On the other hand, if earlier wheat could account for up to 60% of total grain used for feeding purposes, then subsequently it dropped to 30% or 40% due to wider use of barley and corn, as well as non-grain components, in the first place, oil-plant processing products.

Feed use of wheat over the years that followed after the 2006 drop stabilized at the level of 3.8-4.1 million tons, without significant fluctuations, which in the first place was due to intensive development of large-scale pork production in Ukraine.

At the moment Ukraine's feed mill production capacities exceed the actual level of production. The mixed feed plants use maximum 30% of their capacities, except the companies which belong to agro-holdings having their own livestock breeding complexes and ensuring stable growth.

**Food consumption.** In 1990-2010 this balance item was a major component of the cumulative domestic demand, and its specific weight was stable within 45% to 50%. At the same time, in absolute figures wheat consumption showed a steady downtrend. Two factors are responsible for such a trend. Firstly, it is the negative demographic changes on the background of active external migration, which obviously implies decrease in internal consumption of wheat (Fig. 12).

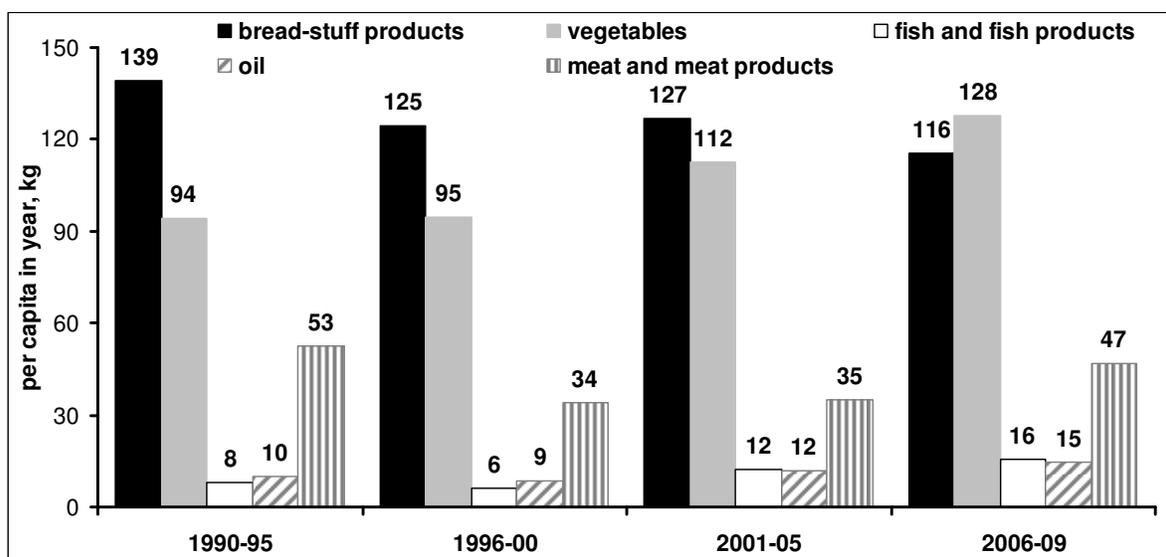


**Fig. 12. Changes in number of population and food use of wheat in 1990-2010**

Source: State Statistics Service of Ukraine; Food and Agriculture Organization of the United Nations (FAO)

This trend will continue further on; if in 2010 Ukraine's population totaled 45.8 million, then according to estimation of the Food and Agriculture Organization (FAO), as early as in 2020 it will decrease to 42.9 million, going down to 35.0 million by 2050.

While the rate of population decline was rather high in Ukraine – averaging 0.6% in 1990-2010, it was lower than the rate of decrease in internal food consumption of wheat, averaging 1.9% over the same period. This trend can be explained by a significant fall in consumption of bread and bakery products in Ukraine resulting from the transformations that are taking place in the diet of the Ukrainians and gradual replacement of carbohydrates by fats, vegetables, as well as protein products; the share of more nourishing products in the Ukrainians' diet is growing with increase in their incomes (Fig. 13).



**Fig. 13. Average consumption of food products in Ukraine**

Source: State Statistics Service of Ukraine

### 4.3. Implications of Changes in Utilization of Wheat for Exports

Taking into account the arguments set forth in the sections above, it would be safe to say that export was the only effective mechanism for regulating wheat balance in 1995-2010. It is necessary to note that export deliveries could have been more significant and stable, if the state policy regarding export regulation of the grain market had been more well-thought-out and appropriate.

The situation on the world food markets also contributed to increase in export deliveries of wheat from Ukraine. World population growth requires large volumes of grain crops, both for food and feed purposes. Demand for grain crops, in particular, corn, has grown due to their use for ethanol production. In this regard, the role of wheat as a food crop has increased, especially in Near East, African and Latin America countries. Wheat consumption has also risen in traditional rice-growing nations, especially in Indonesia and Bangladesh, due to urbanization and a significant shift to the Western dietary pattern.

Therefore, the situation existing on the world wheat markets, as well as the country's export potential, contributed to establishment of Ukraine as one of the world market leaders. Ukraine's role especially strengthened after 2001, when world wheat reserves decreased and, as a consequence, the wheat prices went up.

## V. State Intervention in Ukrainian Wheat Market and its Effects

### Introduction

For a period of 2000 – 2010 the State policy measures with regard to the wheat market was diverse (subsidies, procurement activity of state trading agencies, quantitative restrictions of export , special taxation procedures and others). Direct budgetary subsidies of wheat producers were inessential and missing in most years under review. Per-hectare payments for wheat were made from 2006 to 2008 and discontinued in 2009. That subsidy when compared to production costs per 1 hectare of wheat made up only 6% and had just marginal effect on profitability of wheat production. Other budgetary programs of support to the agricultural sector, e.g. partial reimbursement of agricultural machinery cost and mineral fertilizers, reduction of the insurance premium, reimbursement of interest rate for commercial banks' loans had beneficial effect on stabilization of this crop production. Unfortunately, budgetary financing under certain support programs was not steady over the years. Essential part of funds in a form of VAT accumulation was used for the purchase of inputs for wheat production. Purchases of governmental agencies were not restrictive for the domestic grain market and for its export since they were carried out for prices not exceeding market ones and in small volumes. Forward or state pledge purchases had a cushion effect at landslide of market prices for wheat within periods of the grain bulk sale by agricultural producers.<sup>5</sup>

At the same time, budget allocations against high negative % of wheat PSCT (-33% on average in a period of 2008-2010) look like inessential and wasted state resources. State policy of negative market price support of the wheat producers' to a great extent destabilizes markets of agricultural products in Ukraine thus aggravating risks faced by grain producers and, therefore, restricts production. Among governmental actions which abetted the most in decline of wheat production were export restrictions, quotas, non-recovery of VAT at export. New measures, namely export duties for wheat, in 2011/2012 marketing year may bring similar losses of agricultural producers as a result of the sale price reduction. As regards curbing the rise in prices for foodstuffs, in which the cost of grain component does not exceed 20%, the policy of imposing export restrictions for wheat has very short-term effect. Efficient state policy of targeted aid to the population groups with scanty income would be more effective for solving the problem of affordability of socially important foodstuffs for them.

### 5.1. Budget transfers to wheat producers

**Per-hectare payments.** Beginning from 2006 wheat producers were paid subsidies in a form of per-hectare payments. Those subsidies were focused on partial reimbursement of expenses for crops sowing. In order to obtain the subsidy an enterprise has to furnish certificates of using mineral and/or organic fertilizers, plant protection agencies, herbicides and seeds. In 2006/2007 a subsidy for winter wheat was UAH 100.0 (USD 20.0) per one hectare of sowing; for spring wheat – UAH 63.0 (USD 13.0) per one hectare of sowing. In 2008, per-hectare subsidy of UAH 100.0 was granted on the basis of information about an area of sprouted winter and spring crops. For the purpose of per-hectare payments for winter and spring wheat all over Ukraine the following sums were allocated: in 2006 - UAH 432 million (USD 85 million), in 2007 - UAH 438 million (USD 87 million), in 2008 - UAH 414 million (USD 78 million). Per-hectare payments for cereals were stopped in 2009. That subsidy made up only 6% of production costs per 1 hectare of wheat and didn't effect on profitability of grain production substantially.<sup>6</sup>

In addition to per-hectare payments agricultural producers were paid non-product specific subsidies within the period involved, as an incentive for grain production. Agricultural producers used considerable part of those subsidies for wheat production since it accounted for 14% in the value of

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<sup>5</sup> Annex 1 demonstrates all measures of government intervention in Ukrainian wheat market (in dynamics) for a period of 2000-2010.

<sup>6</sup> Official wheat profitability was: 10% in 2006, 28.7% in 2007, 18% in 2008. Data of the State Statistical Department.

crop production, and 9% in total value of agricultural production (on average for 2008-2010 in actual farm gate prices). Below is a list of such subsidies that had been paid within a period of 2000-2010.

**Budgetary program "Partial reimbursement of the cost of domestically produced mineral fertilizers"** was financed in 2004 (UAH 110 million) and in 2007 (UAH 150 million). The amount of this reimbursement was calculated per one ton of a certain type of fertilizers. Relevant payments made up only 4% of the cost of all fertilizers bought by agricultural producers but the aggregate volume of mineral fertilizers used by agricultural producers for those years increased noticeably, e.g. in 2007 they used fertilizers by 28% more than in 2005 while the fertilized area increased by 40%.

**Reduction of the cost of insurance premium** actually paid by agricultural producers. This budgetary program was launched in 2005. UAH 61 million (USD 12 million) were actually allocated from the State Budget in 2008, whereas in 2009 this figure was only UAH 12 million (USD 1.5 million). Areas insured by agricultural producers do not exceed 1% of all sown areas under crop.

**Partial reimbursement of the cost of domestically produced agricultural machinery** started in 2002. Until 2009 budgetary financing of that program had been gradually increased. In 2009-2010 it was reduced substantially. Partial reimbursement makes up 30% of the machinery cost.

**Compensation for the losses of wheat crops.** In 2003 on-budget expenditures for agricultural programs were increased because of a need to provide financial support to agricultural enterprises suffered from a natural disaster that resulted in heavy loss of winter wheat and rye on large areas. Due to adverse weather conditions the gross wheat production in 2003 was 3.6 million ton that made up only 17.5% of the yield in 2002 and 35% of that in 2000.

**Partial reimbursement of interest rate for commercial banks' loans.** To ensure better access of agricultural producers to the credit market of Ukraine a program of reducing interest rate for short-term, intermediate and long-term loans of commercial banks at the expense of state budgetary resources was launched in 2000. In 2010, UAH 476 million were allocated for this program out of the State budget.

**Fixed agricultural tax.** Producers of agricultural products, including wheat, shall pay the fixed agricultural tax (FAT). This tax was introduced in 1998 in order to improve situation in the agricultural sector of Ukraine. The tax curtails tax burden on agricultural producers thus offering incentives for efficient use of land and expansion of agricultural production. For the last years benefit of agricultural enterprises from the fixed agricultural tax reduced considerably due to decreased use of agricultural land which results in curtailment of taxable land and withdrawal of some taxes from the fixed one. In 1998 the FAT embraced 12 taxes whereas in 2011 – only 4 of them.

**Special procedure of VAT payment by agricultural producers, including wheat producers.** VAT accumulation by agricultural enterprises is classified as input subsidy for agricultural production. Total of VAT amounts accumulated by agricultural enterprises under said procedures of tax legislation was as follows: in 2008 – UAH 2.5 billion, in 2009/2010 – about UAH 8 billion per annum. Considerable increase of accumulation amounts for the last few years was caused by notable rise in sale prices for agricultural products.<sup>7</sup>

According to article 209.2 of the Tax Code of Ukraine<sup>8</sup>, VAT accumulation by agricultural enterprises that chose a special taxation procedure, from January 1, 2011 has been realized by means of reducing the value of inputs purchased for production of agricultural products to the amount of paid (charged) VAT for the agricultural products they sell but without defining its further end use.

Table 8 shows the support (taxation) received by Ukrainian wheat producers per annum in a period from 2000 to 2010. For 9 years (out of 11 under review) wheat producers were taxed. Negative market

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<sup>7</sup> Price index for agricultural products sale in 2010 was 130%, including 140% for crop production, as compared to the corresponding period of 2009.

<sup>8</sup> Tax Code of Ukraine (TC) took effect on January 1, 2011

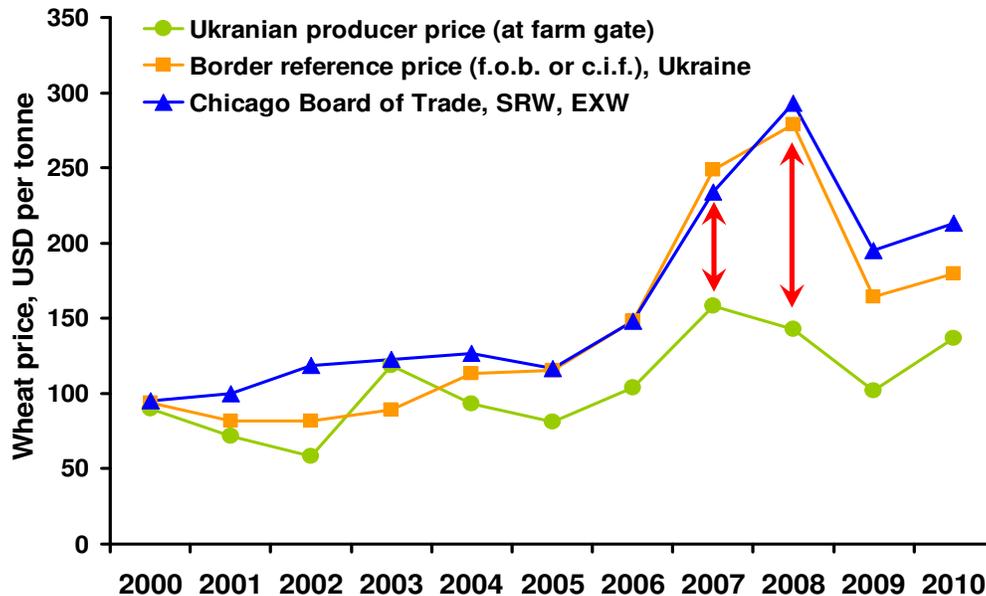
price support was many times more than the amount of subsidies paid out of the State budget. Such calculations are based on a new OECD method (since 2007) according to which the budgetary subsidies are referred to a specific product only if they are allocated for this product by the terms of their payment. According to the Single Commodity Transfer (SCT) only a part of budgetary transfers for a product are included, just those made as target allocations for it (see Table 13 for SCT data). For this reason Table 8 does not contain the non-product specific subsidies (of those abovementioned in this section).

**Table 8. Subsidies (taxes) to producers for wheat production in Ukraine, 2000-2010**

	Units	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Total subsidies (taxes) to producers for wheat [SCT<sub>WT</sub> =BT<sub>WT</sub> +MPS<sub>WT</sub>]</b>	Mln UAH	783	-83	-688	776	-279	-721	-855	-3868	-11842	-4931	-1524
<b>1. Direct budget transfers to producers (total) [BT<sub>WT</sub>]</b>	Mln UAH	2	9	0	0	20	22	444	438	414	0	0
---a. Budget payments based on output	Mln UAH	2	9	0	0	20	22	12	0	0	0	0
---b. Budget payments based on current production required, single commodity	Mln UAH	0	0	0	0	0	0	432	438	414	0	0
<b>2. Market price support (taxes) to producers (total) [MPS<sub>WT</sub>]</b>	Mln UAH	782	-92	-688	776	-299	-743	-1 299	-4 306	-12 256	-4 931	-1 524

## 5.2. Implicit taxes for producers through trade policies

As an analysis shows, average annual prices for wheat in Ukraine (as well as annual monthly prices – for last years) follow the run of the world wheat market, except the years of drastic changes in gross yield of wheat, e.g. in 2003. A gap between the world prices for wheat and domestic prices in Ukraine is shown in Table 5.2 beginning from the year of 2000. For the purpose of comparison, two indices are given to demonstrate *world prices*: (1) the price of Chicago Board of Trade, USA and (2) reference price at the boarder (export price for 1 ton of wheat on FOB terms, adjusted for transportation, storage and transshipment).



**Fig. 14. Comparison of Ukrainian wheat producer price, border price and price on Chicago Board of Trade, USA**

*Source: made by the author on the basis of data from the State Statistics Service of Ukraine, the State Customs Service and CBOT information (USA)*

Difference in prices for 2006-2008 was much more than within other years under review (Fig.14). To a great extent it resulted from imposing quantitative restrictions on wheat export in Ukraine for those years (Fig. 15 and Table 9).

**Export restrictions.** One of main WTO requirements refers to quantitative restrictions on export. Ukraine as a member of WTO undertook not to apply quantitative restrictions on export unless it is called forth by critical shortage of food products in the country. Ukraine also assumed obligations to lift restrictions for export of grain which were in force at the time of accession. Before entry into WTO, export quotas for grain and oil crops were imposed to mitigate the effect of crop failure on internal prices of main foodstuffs. For example, within a period from 2006 to 2008 export quotas for wheat had been imposed five times. Overall grain quota used from July to October of 2007 made up only 12,000 tons (for wheat, barley, rye and corn – 3,000 tons for each), in fact, it meant prohibition of export. Immediately after accession in 2008, an export quota (300,000 tons) for sunflower-seed oil and prohibitive quota (1000 tons) for sunflower seeds were imposed for a short period of time. The President of Ukraine abrogated that resolution as conflicting with Ukraine's commitments to WTO.<sup>9</sup>

<sup>9</sup> Decree of the President of Ukraine #481 of May 28, 2008.

According to the World Bank estimations, the imposition of export restrictions for cereals and sunflower seeds in 2007/2008 resulted in losses of agricultural producers amounted to USD 1.8 billion for wheat and barley and USD 0.66 billion for sunflower seeds.<sup>10</sup>

In 2009 the Government refrained from imposing any quantitative restrictions of agroexport. However, in 2010 it reverted to setting quotas for grain export. Specific quotas were imposed on five grain crops (wheat, corn, barley, rye and buckwheat). At first, the total amount of the authorized export for all cereals was limited to 2.7 million tons for a time period from October 2010 to December 2010 (500,000 tons for wheat, 2 million tons for corn, 200,000 tons for barley, 1000 tons for rye and 1000 tons for buckwheat)<sup>11</sup>. In December of 2010, more 1.5 million tons were authorized within quota limits (500,000 tons for wheat and 1 million tons for corn) up to March of 2011. Thus, in a period from October 2010 to March 2011 the overall export volume for five cereals was limited to 4.2 million tons and by January of 2011 that quota was almost used up. Export quota was imposed after a drought of 2010, from which Ukraine, as well as Russia and Kazakhstan suffered. The drought increased anxiety of the Government regarding high prices for bread and for domestic forage supplies, especially taking account of notable rise in prices in Ukraine for the last few years. But the quota resulted in losses of grain exporters and producers while its compliance with respective WTO agreements was put in question. Those measures did not exert any considerable influence on the level of retail prices. From March 2011 the quota for corn was increased by 2 million tons. That quota for corn was effective until May 5, 2011. The total export volume of five types of grain was limited to 6.2 million tons (from October 2010 until May 2011 inclusive), for wheat – to 1 million tons.

On April 7, 2011 Verkhovna Rada of Ukraine adopted the Draft Law #8324 on sale of quotas by auctions. Corresponding amendments have been made to Article 10 of the Law of Ukraine "On grain and grain market". Early in May the President of Ukraine vetoed that Law. One of the reasons was that the sale of quotas by auctions was in conflict with Ukraine's obligations specified in Article III GATT-1994, assumed by Ukraine at accession to WTO. Besides, the cost of a lot was an additional duty on export.

History of imposing quotas for wheat over 2006-2010 and change of its price on domestic market of Ukraine is shown by Fig. 15. Restrictions on export bring about very short effect of grain price falling (no longer than for 1 – 1.5 months). Fig. 15 demonstrates a clear trend of rising domestic prices for wheat immediately after revocation of export quotas for wheat.

**Export duties.** For 2000-2010 export duties had been applied in Ukraine for none of cereals (including wheat). From July 2011 Ukraine started using the following export duties: for wheat – 9% but not less than 17 euro per ton; for barley – 14% but not less than 23 euro per ton; for corn - 12% but not less than 20 euro per ton<sup>12</sup>. From the day of taking effect by this Law the mode of free trade with foreign countries will not any longer be applied to these commodities. Losses of agricultural producers caused by imposition of export duties on grain crops may run up to USD 440–680 million as a result of selling price reduction (according to authors' calculations).

**Non-return of VAT to grain exporters.** According to data of Ukrainian Grain Association (UGA)<sup>13</sup>, the State is in debt (for VAT non-return) to grain companies as much as UAH 2.5 billion (USD 315 million). Some experts assume that CJS Cargill, a company that used to be among leaders of grain export in previous years, did not rank among the ten largest grain trading companies (according to results of 2009/2010 marketing year) just because of non-return of VAT out of the State Budget. Non-return of VAT to a great extent foils the grain trading companies' plans aimed at increase of export volumes. Export of grain could exceed the actual volumes by 1-1.5 million tons if there were

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<sup>10</sup> Competitive agriculture and state control: Ukraine's response to the food crisis. Document of the World Bank, May 2008, page 15.

<http://siteresources.worldbank.org/INTUKRAINE/Resources/WorldFoodCrisisandRoleofUkraine.pdf>

<sup>11</sup> Resolution of the Cabinet of Ministers of Ukraine #938 of October 4, 2010.

<sup>12</sup> The Law adopted by the Parliament on May 19, 2011.

<sup>13</sup> As of April 1, 2011.

no problems of VAT non-return to grain trading companies<sup>14</sup>. In 2010 the Government attempted to settle the matter of VAT debt pay-off through issuance of bonds of internal government loan (BIGL).<sup>15</sup>

In spite of grain traders' appeal to the Cabinet of Ministers of Ukraine concerning repayment of indebtedness with bonds until the beginning of harvesting campaign of 2010 for the companies could obtain funds to purchase products of a new harvest, the Ministry of Finance issued bonds only in August of 2010.<sup>16</sup>

As an interim measure, according to the Tax Code of Ukraine adopted on December 2, 2010, all transactions related to delivery of grain and oil crops shall be exempted from VAT until January 1, 2014 except their first delivery by agricultural producers. In case of export, zero rate of VAT was applied only until July 1, 2011. Thus, VAT will be imposed on wheat only for the first delivery by agricultural producers. At all that, the VAT balance will be accumulated on a special account of an agricultural enterprise. Wheat buyers will enjoy zero rate of input VAT. This will allow wheat exporters to carry out transactions without VAT transfer to the budget, thus, there will be no need to demand VAT repayment from the State Budget. The abatement of VAT reimbursement to grain exporters from July 1, 2011 will result in 20% reduction of the purchasing price (in UAH) to producers of agricultural commodities. Given the harvest of 40 million tons of grain this will make up about UAH 12 billion.<sup>17</sup> This may be considered as imposing additional duty for grain export from Ukraine.

**Registration of export contracts.** According to Decree #832/200 of the President of Ukraine *"On Urgent Measures to Promote Production and Development of Grain Market"* of June 29, 2000, grain export transactions shall be carried out only under export contracts, made and registered with exchanges duly accredited for such transactions.

By Resolution #1254 *"Some Aspects of Conclusion and Registration of Foreign Trade Contracts"* of December 13, 2010, the Cabinet of Ministers of Ukraine actually introduces from February 1, 2011 the State Agrarian Exchange's monopoly in activity related to conclusion and registration of foreign trade contracts for main types of agricultural products. Registration of all contracts for grain export with one exchange will allow the Government to take over the control of the whole grain export flow and the Agrarian Exchange – to raise income. Most likely, for grain traders it means increase in costs of preparing transactions by a factor of ten. Cost of registration services at the State Exchange is much more than the market average rate: maximum market rate is 0.05% of the contract value, whereas registration with the Agrarian Exchange will be 0.5%, plus 0.25-0.5% of broker's fee.

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<sup>14</sup> According to UGA assessment.

<sup>15</sup> Cabinet's Resolution of May 12, 2010, No. "On Issuance of Bonds of Internal Government Loan for Reimbursing Value Added Tax Amounts"

<sup>16</sup> For all exported goods, not only for agricultural, to the total amount of UAH 16.4 billion.

<sup>17</sup> Interview of Mr. Klimenko, President of Ukrainian Grain Association / <http://uga-port.org.ua/obzory> pressy/vestnik-55

**Table 9. Wheat prices and market price differential in Ukraine, 2000-2010<sup>18</sup>**

			2 000	2 001	2 002	2 003	2 004	2 005	2 006	2 007	2 008	2 009	2 010
<b>I. Producer price (at farm gate)</b>	data	LC/t	487	386	310	635	493	415	527	797	753	792	1 086
<b>II. Reference price (at farm gate)</b>	(II.1)*(II.3)*	LC/t											
	(II.4)-(II.2)		410	390	343	420	510	455	620	1106	1226	1028	1176
1. Border reference price (f.o.b. or c.i.f.)	data	USD/t	94	82	82	89	113	115	148	249	279	164	180
2. Handling and processing costs	data	LC/t	131	118	107	138	146	134	126	154	244	249	253
3. Quality adjustment	data	ratio	1,05	1,16	1,03	1,17	1,09	1,00	1,00	1,00	1,00	1,00	1,00
4. Official exchange rate	data	LC / USD	5,44	5,37	5,33	5,33	5,32	5,12	5,05	5,05	5,27	7,79	7,94
<b>III. Market price differential</b>	(I) - (II)	LC/t	<b>77</b>	<b>-4</b>	<b>-33</b>	<b>216</b>	<b>-17</b>	<b>-40</b>	<b>-93</b>	<b>-309</b>	<b>-473</b>	<b>-236</b>	<b>-90</b>
	III*II.4	USD/t	14	-1	-6	40	-3	-8	-18	-61	-90	-30	-11
IV. Chicago Board of Trade, SRW, EXW	data	USD/t	95	100	119	123	127	117	148	234	293	195	213
V. Differential between Ukr producer price and CBT	I/II.4 - IV		-5	-28	-61	-4	-35	-36	-43	-77	-150	-93	-77

<sup>18</sup> Based on OECD database for Ukraine and CBOT

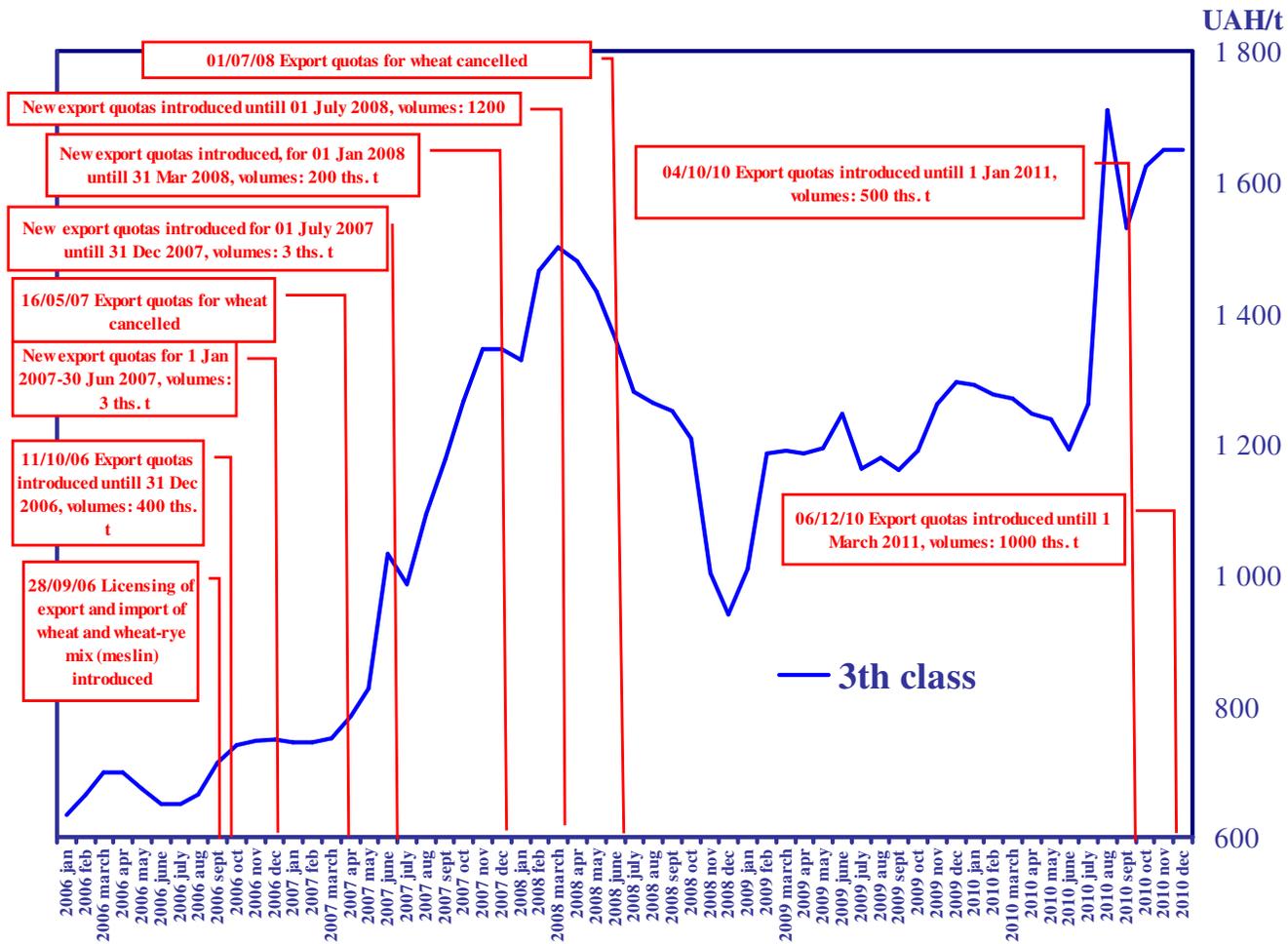


Fig. 15. Chronology of export quotas for wheat and average monthly price of food wheat (3<sup>rd</sup> grade) in Ukraine, EXW, demand.

### 5.3. Government Institutions for Commodity Intervention Purchases and Sales

#### State operators at the grain market of Ukraine.

##### *State joint-stock company Khib Ukrainy*

State Joint-Stock Company *Khib Ukrainy* was founded in August, 1996 as an open joint-stock company – assignee of rights and duties of the Central Administrative Board for grain products and the Central Administrative Board for mixed fodder industry of the Ministry of Agriculture and Food.<sup>19</sup> The main purpose of this company establishment was to ensure the state and population interests during reforming of the purchase system and use of state grain resources.

Authorized fund of SJSC Khib Ukrainy took over the state property of 100 enterprises of the grain product industry, for which were issued nominal shares to the amount of UAH 1.3 billion and registered at the securities commission.<sup>20</sup> The State, in the person of the Cabinet of Ministers of Ukraine, became a holder of those securities.

Overall privatization in the grain products sector of Ukraine took place within a period of 1997-1999 in consequence of which the grain products sector, as an integral state system that included elevators, flour-and-cereals industry; baking, macaroni and feed mill industries, actually ceased functioning.

Until 2005, i.e. up to the Agrarian Fund establishing, SJSC Khib Ukrainy was active state operator dealing with the state purchase of grain. At present the company is engaged in provision of agricultural producers and commercial companies with services related to acceptance, processing, bringing up to basic conditions, storage, shipping and transfer of grain and oil crops, as well as in production of flour, cereals and mixed fodder out of own and give-and-take primary products.

Until August of 2010, organizational structure of the Company was represented by 81 affiliated production enterprises in all regions of Ukraine. Affiliated enterprises of the Company include elevators' storage facilities, grain reception centers (grain elevators), grain depots, grain processing factory for seeds treatment, two harbor elevators, production facilities of grain product industrial complexes including mills, cereals and mixed fodder factories, scientific and research institute of grain products.

In August of 2010 the Government of Ukraine set up *State Food-and-Grain Corporation of Ukraine* (SFGC) in order to reorganize SJSC Khib Ukrainy and settle its financial problems. At that, 36 affiliated companies of SJSC Khib Ukrainy were wound up. The Cabinet of Ministers of Ukraine ordered to establish the state-run enterprise *State Food-and-Grain Corporation of Ukraine* and assign it to the Ministry of Agrarian Policy.

The Government transferred in possession of SFGC 36 grain elevators, grain product industrial complexes and grain depots including Odessa and Nikolaev harbor elevators, SJSC Khib Ukrainy that found itself in a complex financial situation. In February of 2011 the Cabinet of Ministers of Ukraine made a decision to transfer another 13 enterprises of SJSC Khib Ukrainy to the Corporation. All enterprises of SJSC Khib Ukrainy put out of its structure in the process of reorganization will not be affected by creditors' claims to Khib Ukrainy enterprises. As of July 1, 2010, the debt of SJSC Khib Ukrainy to its creditors was UAH 462 million.

New state company has at its disposal a branched network of regional line grain elevators. SFGC's total capacity of grain storage is 3.2 million tons which makes up 70% of all elevators capacity of SJSC Khib Ukrainy.

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<sup>19</sup> Resolution of the Cabinet of Ministers of Ukraine #1000 of August 22, 1996.

<sup>20</sup> Resolution of the Cabinet of Ministers of Ukraine #1218 of November 5, 1997 "On expediting privatization of cereal reception and procurement companies"

OJSC Khib Investbud is an organizational unit of the State Food-and-Grain Corporation of Ukraine, which share in the authorized fund of OJSC Khib Investbud is 41%. This company was founded by SJSC Khib Ukrainy in December 2004.

In 2010/2011 marketing year OJSC Khib Investbud appeared in the five largest grain traders of Ukraine and obtained the fifth part of the grain export quota, that was 224,000 tons for wheat export and 653,000 tons for corn.

In 2010-2011 OJSC Khib Investbud was involved in a system of state forward purchases of grain to be effected by the Agrarian Fund. A request from agricultural grain producers is to be filed to regional branches of OJSC Khib Investbud. The Company prepares and finances forward purchases of grain to the state intervention fund upon receipt of state cash tranches from the Agrarian Fund. According to information received from the Company, in 2011, one month before the beginning of intensive harvesting in Ukraine, producers – members of forward program received about UAH 1 billion from the State Budget as 70% advance of the future harvest value.

### **Agrarian Fund**

The Agrarian Fund was established in 2005 as a state operator intended to ensure the policy of price regulation in Ukraine. It has a status of a state specialized budgetary institution. According to the Law of Ukraine "On State Support to Agriculture of Ukraine" the first priority task of the Agrarian Fund is formation of the state intervention fund. State Intervention Fund shall be established by the Agrarian Fund by means of financial interventions, state pledge and forward purchases and shall be used to carry out commodity interventions for the purpose of maintaining price stability.

Over the first year of its operation the Agrarian Fund acted as a creditor on behalf of the State for duration of state pledge grain purchases.<sup>21</sup> Within last few years a range of state programs implemented by the Agrarian Fund expended, among them: spot purchases of grain, forward purchases of grain, state pledge purchases of grain, interventions with sugar, grain processing into flour and its further sale, sale of grain, diesel fuel and mineral fertilizers for agricultural producers' needs. The Agrarian Fund participates in regulation of food prices by means of selling flour to baking companies for administrative prices (according to a list approved by local authorities) which is a component of strategy aimed at keeping low level of bread prices.

The Agrarian Fund carries out spot and forward purchases of grain from agricultural producers for minimum intervention prices. They are set at the level not exceeding that of domestic market prices. After accession to WTO Ukrainian administrative prices shall not exceed the level of market ones for not to violate Ukraine's commitments to AMS.

In 2009 the Agrarian Fund (AF) paid agricultural producers UAH 388 million under forward contracts for 640,000 tons of grain of 2009 harvest.<sup>22</sup> For a period of 2008-2010 budget allocations for the Agrarian Fund increased essentially. The following budget allocations have been earmarked: for state purchases in 2008 through the Agrarian Fund – UAH 2,417 million (USD 458 million); for AF food reserve formation and state pledge purchases in 2009 – UAH 3,098.7 million (USD 398 million) plus UAH 139 million to cover AF expenses for storage of purchased grain, and in 2010 – UAH 2,141 million (USD 270 million) plus UAH 191 million to cover expenses for storage. Funding of AF purchases is effected through special fund of the State Budget of Ukraine which means that planned financing of its purchases in full volume is possible subject to adequate receipts from other financial transactions (sources) to the special fund of State Budget.

When purchasing grain products for the state intervention fund in 2010 the Agrarian Fund used a procedure of grain purchase from one entity - OJSC Khib Investbud. 65% of the total amount allocated for grain crops purchasing was advanced to the agent company (not an agricultural producer)

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<sup>21</sup> Resolution of the Cabinet of Ministers of Ukraine #543 "On Agrarian Fund" of July 6, 2005.

<sup>22</sup> Forward purchases were carried out until July 1, 2009.

from the State Budget which allowed it to deliver 73.3% of grain crops purchased for the state intervention fund. In 2010 about 70% of the intervention fund grain was sold to six enterprises which obtained quotas for the grain export. Sale of grain of the state intervention fund to individual companies did not contribute to settlement of price and demand issues on domestic market.<sup>23</sup>

### **State Reserve Agency of Ukraine**

The State Reserve Agency of Ukraine (before 2011 – the State Committee of Ukraine for State Material Reserve) forms government orders at the food market and keeps material reserve in order to ensure food security.<sup>24</sup> The State Reserve Agency purchases foodstuffs at existing market prices and sells them from reserve – at the price not less than the price of the same quality product existing at the domestic market. After bad harvest of 2003 there was considerable increase in budgetary crediting of the State Committee of Ukraine for State Material Reserve for the purpose of forming a government order at the foodstuffs market. From 2003 to 2007 about UAH 400 million were annually earmarked from a special fund of the State Budget for funding the above purposes on return basis.<sup>25</sup> Lack of coordinated activity of the State Reserve Agency and Agrarian Fund aimed at forming and operating grain reserves makes uncertain the matter of guaranteeing price stability on domestic market.

Sometimes the Government gave preferences to state operators trading in grain. For example, in 2005 special conditions were introduced for state agents of the grain market, in particular, reduction of tariffs for transportation, VAT reimbursement at export operations within a three-day period, opportunity not to pay for a number of services at export, etc.<sup>26</sup> But later, in order to stir up grain export, the Cabinet of Ministers of Ukraine issued Decree #375-p of August 31, 2005 according to which for all grain market entities (without exception) equal conditions for work were established. That Decree revoked all norms and measures used in the interests of state trading companies, i.e. SJSC *Khlib Ukrainy* and the State Committee of Ukraine for State Material Reserve.

## **5.4. Policies to reduce price variability over the marketing season**

Idea of supporting incomes of agricultural grain producers through state pledge purchases at administrative prices sprang up in 2000. In 2001 the Government introduced pledge prices for grain. For a year state officials repeatedly emphasized a need to prevent reduction of incomes of agricultural grain producers, however there were no funds appropriated from the State Budget to activate the state pledge purchases mechanism. No real tools of state pledge purchases have been developed. State Joint-Stock Company *Khlib Ukrainy* purchased very small quantity of wheat at pledge prices – 100,000 tons in 2001 and 2002. In June 2002 the Parliament adopted the Law of Ukraine "On Grain and Grain Market of Ukraine". State pledge purchases and intervention purchases of grain were among most important activities provided for by this Law.

Three-year experience in pledge purchase of grain (2000-2002) demonstrated that such purchases had no any considerable impact on market price for grain, therefore, it means that the purpose of that program was not achieved. In 2003, under conditions of wheat shortage, the state pledge purchase program had to ensure grain supply to the market, however there was no information

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<sup>23</sup> Report of the Accounting Chamber of Ukraine: <http://fakty.ua/news/print/23528-agrarnyj-fond-v-2010-godu-ne-vypolnyal-funkcij-cenovogo-regulyatora-chetnaya-palata>

<sup>24</sup> State Material Reserve – special reserve of material values, intended to meet mobilization needs; to provide for priority works during liquidation of consequences of extraordinary circumstances; to provide state support to different sectors of national economy, enterprises, institutions, organizations and entities for the purpose of economy stabilization at temporary failure of supplies with the most important types of raw materials, fuel and energy resources, as well as foodstuffs if disproportion arises between demand and supply at the domestic market; to provide humanitarian aid; to provide regulatory effect on the market.

<sup>25</sup> More detailed information about actual volumes of purchased foodstuffs and other aspects of such operations of the State Reserve Agency is not available.

<sup>26</sup> Decree of the Cabinet of Ministers of Ukraine # 295-p "On measures to stabilize prices at the grain market and to ensure its loss-free production" of July 29, 2005.

that would have proved any real supply. Tight price management introduced at the grain market in 2003 and insufficient reserves which could be put on the market considerably reduced expediency of using such a regulatory tool as a state pledge purchase program. In that period of time the Government did not have adequate financial opportunities to implement that program in such a way that would have exerted noticeable influence upon the market. Budgetary funds, earmarked for that program, could be used for implementation of other measures which would have been more bolstering for stabilization of prices and incomes.

In the year of bad harvest (2003) Oblast administrations were entitled to exercise control over grain supplies as well as prices for grain and bread. This measure was taken temporarily to the entire chain of production and sale of grain and bread in all regions. Not only prices for grain and bread but also for other foodstuffs were under control. These measures were a response to severe shortage of bread-grain of wheat and an attempt to prevent negative social consequences.

In 2004-2006 grain market stabilized, gross production increased by a factor of two as compared to 2003. In 2005/06 marketing year 13 million tons of grain were exported (25% more than in 2004), including 6.4 million tons of wheat.

This coincided with the first year of implementing provisions of the Law of Ukraine "On State Support to the Agriculture of Ukraine" regarding the state regulation of prices at the grain market. On the eve of 2005/06 marketing year the Ministry of Agrarian Policy of Ukraine set minimum purchasing prices for grain crops. Minimum purchase prices were set on the basis of prices existed within previous five marketing periods and the inflation index over that period of time. Minimum purchase price was a kind of criterion for making decisions on financial interventions.

In 2005 no decision to undertake financial interventions was taken by the Government. Agrarian Exchange, that should have fulfilled decisions of the Agrarian Fund on introduction of price regulation procedure, was set up only in December of 2005. In a period of the bulk sale of grain (harvest of 2005) the level of internal market prices was lower than minimum purchase prices set by the Government.

In 2005, in order to support prices on the domestic market the Government entrusted different governmental agencies with purchase of 5.5 million tons of grain. The State Committee of Ukraine for State Material Reserve had to purchase 1 million tons, SJSC Khib Ukrainy – 2 million tons, regions – 1.5 million tons and the Agrarian Fund – 1 million tons under pledge transactions. But these grandiose plans were not fulfilled: The State Committee of Ukraine for State Material Reserve contracted for 450,000 tons of grain but even that amount was not paid in full (the Government arrested accounts of the institution for unknown reasons), SJSC Khib Ukrainy contracted for a little more than 200,000 tons. Only regions fulfilled the government order, having purchased over 1.7 million tons of grain to regional reserves.

In 2005 the Agrarian Fund purchased about 645,000 tons of grain using the state pledge purchase tool, but the pledged grain was bought back by agricultural producers almost in full. At that, UAH 278 million of budget loans were granted. Charge for use of budgetary funds was set at the level of 8.95% per annum. In 2005 an annual weighted average interest on commercial bank loans made up 17.9%. Budget loan per 1 ton was set at 80% of minimum purchase price. State pledge purchases facilitated withdrawal of over abundant supply from the market for the first months of the marketing year. As a result, seasonal variation of prices in 2005/06 marketing year was the least as compared with previous years (Table 10).

**Table 10. Fluctuation of farm gate prices of wheat in July-September 2001/02-2005/06 MY, in % to previous month<sup>27</sup>**

Months	2001/02	2002/03	2004/05	2005/06
July to June	- 28	- 18	- 44	-9
August to July	- 8	0	+ 0,6	+3
September to August	- 7,4	+0,9	+0,4	+2

*Source: author's calculation made on the basis of data from the State Statistics Service of Ukraine*

Positive is the fact that the Governmental policy was implemented in such a way that minimum purchase prices were not restrictive for the grain market. They were used only for the state purchases and were not binding for other transactions. They were calculated on the basis of market conditions, which is proved by large volume of grain export. Amount of exported grain made up 65% of all marketable grain in 2005.

In 2006/07 marketing year minimum purchase prices were set for the Agrarian Fund to form State Food Reserve<sup>28</sup> in a volume of 565,000 tons of wheat and rye in total. This amount made up only **4% of annual gross wheat production or 6% of the total volume of wheat sold by producers in 2006**. At the beginning of 2006/07 marketing year market prices for grain were higher than minimum purchase prices approved by the Government.

In 2006 the Agrarian Fund purchased 175,500 tons for the State Food Reserve (44% of recommended by CMU volumes) to the amount of UAH 146 million (USD 29 million). In addition, in 2006 the Agrarian Fund gave budget loans for the state pledge purchases of grain to the amount of UAH 138 million (USD 27 million) on the security of 265,000 tons of grain.

For the year of 2007 a mechanism of state forward purchases by the Agrarian Fund was identified for the purpose of forming the State Food Reserve. Forward purchases implied buying of grain from agricultural producers within defined marketing period for a fixed price and on terms of 50% advance payment of the overall value at the moment of forward contract signature. Contractual delivery of grain had to be carried out until October 1 and final payments had to be effected until December 1. The Agrarian Fund carried out forward purchases for minimum purchase prices by means of contracts made between the Agrarian Fund and producers at the Agrarian Exchange<sup>29</sup>.

The Agrarian Fund of Ukraine was charged with purchase of 710,000 tons of bread-grain (2007 harvest) for the food reserve by means of state forward purchases of grain.<sup>30</sup> In 2007 the Agrarian Fund purchased 425,000 tons of grain for the food reserve (60% of recommended volumes). UAH 547 million (USD 108 million) of budget funds were spent for that purchase activity of the Fund. 170,000 tons of flour were supplied by flour milling company SJSC Khlib Ukrainy to the regions owing to the sale of a part of state food reserve.

In order to stabilize pricing trends at the domestic market in 2008, characterized by large supplies and considerable amount of grain remained from previous years<sup>31</sup>, the Agrarian Fund was recommended to proceed to financial interventions for at least 3 million tons, mostly of forage wheat and barley. There were enough funds earmarked in the State Budget to purchase such amount of grain, however actual volume of the Agrarian Fund purchases did not exceed 800,000 tons.

<sup>27</sup> calculation on the base of data from State Committee of Ukraine for Statistics

<sup>28</sup> Until 2009 the State Intervention Fund was called the State Food Reserve in accordance with national legislation.

<sup>29</sup> Resolution of the Cabinet of Ministers of Ukraine #301 "Issues of the Agrarian Fund activity at the Organized Agrarian Market in 2007/2008 MY" of April 28, 2007.

<sup>30</sup> Resolution of the Cabinet of Ministers of Ukraine #794 "On urgent measures to mitigate negative impact of drought and to ensure forming of grain resources of 2007 harvest" of June 04, 2007.

<sup>31</sup> Gross yield of all cereal crops in 2008 was 53 million tons, of them 26 million tons of wheat. As of June 1, 2008, agricultural enterprises and companies engaged in storage and processing of grain crops had available 6.7 million tons of grain (44% more than they had by June 01, 2007).

Minimum purchasing prices (for above purchases) for wheat of 3<sup>rd</sup> grade were set at the level that was lower than domestic market prices existed at the beginning of the marketing year. The same situation was also in 2007 (Table 11).

**Table 11. Comparison of administrative and market prices for wheat at the beginning of 2007/08 and 2008/2009 MY in Ukraine**

Year, month	Wheat 3d grade		Wheat 4th grade		Forage wheat	
	actual market price, EXW	minimal purchase price	actual market price, EXW	minimal purchase price	actual market price, EXW	minimal purchase price
Jul-07	986	875	931	820	828	750
Aug-07	1,094	875	1,074	820	862	750
Jul-08	1,280	1,251	1,190	1,135	1,033	968
Aug-08	1,250	1,251	1,150	1,135	850	968

*Source: weekly APC-inform and CMU Regulations*

In 2008, the Governmental policy of setting minimum purchasing prices as well as the policy of different state purchases had no beneficial effect of supporting market prices at domestic grain market. Minimum purchasing prices in both 2007 and 2008 were set lower than market prices. Volumes of state purchases during a marketing year, even if spot, forward and pledge purchases are taken together, were not sufficient to have effect on the price situation.

In 2009/2010 marketing year the Government commissioned the Agrarian Fund to form the state intervention fund for wheat and mix of wheat and rye (889,000 tons). Planned volumes of wheat purchase **did not exceed 6% of annual volume of wheat sale** on the domestic market in 2009/2010 marketing year, whereas actual volume of purchase made up **4% at the most**.

In 2009, along with spot purchases the Agrarian Fund carried out forward and pledge purchases. In 2010/2011 marketing year the amount of budget loan on the pledge of grain was set at the level of 60% of minimum intervention price<sup>32</sup> of an individual agency of the state price regulation. An agricultural producer had to pay interest for a budget loan. The rate of interest was reduced if compared to the interest rate of commercial banks' loans. According to a resolution of the Government and upon approval of the National Bank of Ukraine that preferential interest rate was set for corresponding marketing period at the level of 50% of average weighted interest on banking loans, granted for a period up to 12 calendar months and fully secured by a pledge actually formed as of May 1 of 2010 budget year. An annual payment for use of budget loan was set at the level of 7.55 %.

In 2010/2011 marketing year the Cabinet of Ministers of Ukraine approved the volumes of the state intervention fund: total grain – 1,204,400 tons, of them wheat and mix of wheat and rye – 1,084,000 tons. Until the end of 2010 the Agrarian Fund continued to sell wheat and rye flour produced of grain of the state intervention fund (2006-2009 harvests) to baking industry enterprises, identified by regional executive authorities<sup>33</sup>.

Thus, purchasing activity of State operators at the wheat market in a period from 2000 to 2010 was not a constraint to grain export owing to setting administrative prices lower than market ones and small volumes of purchases. Forward and pledge purchases of the Agrarian Fund mitigate annual seasonal drop in prices in a period of bulk sale of grain.

<sup>32</sup> In 2009 minimum purchase prices were renamed as minimum intervention prices. Respective changes were made in the Law of Ukraine "On State Support to Agriculture".

<sup>33</sup> Resolution of the Cabinet of Ministers of Ukraine #1128 "Some Issues of Using Grain from the State Intervention Fund" of December 27, 2008.

Below we will analyze main channels of wheat sale in Ukraine and identify the most preferential channels in terms of prices and terms of contracts.

**Main channels of wheat sale in Ukraine.** Households-producers of wheat, sell about 30% of wheat to purchasing enterprises and 70% on markets, including outside the regions of growing. Agricultural enterprises sell more than a half of produced wheat, the rest is consumed by themselves. Average marketability of grain crops varies by years from 52% to 63%. Wheat marketability is higher: from 56% (in 2000) to 65% (in 2010).

In the course of time the role of different sale channels changed fundamentally (Table 12). State procurement agencies are not main players at the domestic market any longer. In 2008-2010 primary wheat producers sold 5% of grain at the most to procurement agencies. Importance of markets for wheat sale in villages and town was lowered considerably: 37% of wheat was sold there in 2000, whereas in 2010 – only 7%. Volumes of wheat the enterprises sold to their employees have been reduced noticeably: from 33% in 2000 to 1% in 2010, i.e. payment of wages by cash increased. At the same time they began to sell grain on account of payment for land rented by agricultural producers: 9-11% of all marketed wheat. There were no barter transactions observed for the last years, whereas in 2000 they amounted to 25% and in 2002 – only 7%. These are positive signs of the market formation. Primary agricultural producers sell the major part of wheat to trading companies, suppliers of inputs and machinery, including for export. According to statistics, these channels fall under category of "other channels". 76% of wheat was sold through "other channels" in 2010. This is the category that forms export lots of wheat.

**Table 12. Channels of wheat sales by all categories of agricultural producers in Ukraine**

	2000		2008		2009		2010	
Production (1000 tons)	10197		25885		20886		16845	
Marketed (1000 tons)	5714		13672		16204		10894	
Percent marketed (%)	56		53		78		65	
Structure of sales (%)	100		100		100		100	
	1000 t	%						
Procurement agency	276	5	674	5	685	4	490	4
Farmers markets, retail trade	2099	37	1470	11	1505	9	810	7
Payment to land shareholders	0	0	1571	11	1394	9	1207	11
Population (payments in kind, public catering)	1913	33	237	2	180	1	120	1
Other channels	3	0	9720	71	12440	77	8267	76
Barter	1417	25	0	0	0	0	0	0

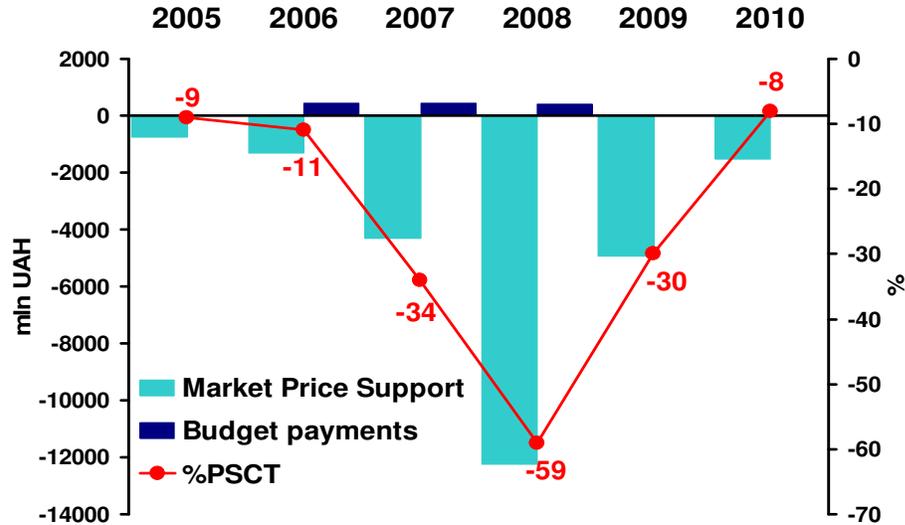
*Source: Author's calculation based on data of the State Statistics Service of Ukraine*

In 2000-2002 there were traces of considerable seasonal instability of wheat sales by months. Peak of grain sales fell on July – September, the time when agricultural producers were selling about 50% of the harvest, and July – December, when sale volumes reached 90% of the harvest. In that period of time the average sale price of wheat dropped by 20-30%.

For the last years the situation has changed. Development of storage facilities allows producers to hold back grain sales in expectation of more advantageous prices, which somewhat evens up market conditions. Besides, grain purchases by the Agrarian Fund (forward and pledge purchases) mitigate drop in prices in periods of bulk sale. For example, in July of 2010 drop of grain farm gate price made up only 9% as compared with June of 2010.

## 5.5. Evaluation of the Government's Intervention in the Wheat Market of Ukraine and its Effects

Evaluation of the Government's intervention in Ukrainian wheat market, based on OECD methodology, demonstrates that wheat is successively taxed (Table 13). Due to a series of political measures agricultural producers of wheat receive less income from wheat sales because of understated domestic prices for wheat as compared with the world price level. For example, for a period of 2008-2010 negative market price support (MPS) in total amounted to UAH 18 billion, and % PSCT<sup>34</sup> was -33%. This means that all governmental transfers (budget subsidy payments and negative market price support) on average for a period of 2008-2010 made up 33% of total value of wheat production (Fig. 16).



**Fig. 16. Wheat: Product Single Commodity Transfer, %**  
*Source: based on OECD database for Ukraine*

Analysis of price situation demonstrated that for a period of 2006-2008 difference in domestic price of wheat producers and world price was very big if compared to other analyzed years, and to a great extent due to the use of quantitative restrictions on wheat export from Ukraine.

Taxation of wheat in 2008 was the most considerable. Lack of efficient state gear of financial interventions on wheat market at rich harvest of 2008, big ending stocks of grain that remained at the end of 2007 as a result of export restrictions in 2006-2007, financial crisis, problems of crediting both producers and sellers of wheat – all these factors brought about maximum negative price support (taxation), the wheat producers ever had since 2000. In 2008 % PSCT for wheat was -59% and negative market price support amounted to UAH 12 billion (Table 13). At the same time budget subsidies of UAH 414 million (or USD 80 million) look like negligible and wasted state resource against large negative % PSCT. Such governmental policy heavily destabilizes agricultural product markets in Ukraine thus increasing risks to grain producers and, consequently, restricting production.

**Table 13** demonstrates amount of subsidies (taxes) against annual value of wheat production in Ukraine by years (from 2000 to 2010).

<sup>34</sup> PSCT – Product Single Commodity Transfer

**Table 13. Subsidies (taxes) to (on) producers as a portion of wheat production cost in Ukraine, 2000-2010**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Total subsidies (taxes) to producers for wheat as a portion of value of production (after subsidies (taxes))</b> (%) [%SCT <sub>WT</sub> ]*	%	<b>16</b>	<b>-1</b>	<b>-11</b>	<b>34</b>	<b>-3</b>	<b>-9</b>	<b>-11</b>	<b>-34</b>	<b>-59</b>	<b>-30</b>	<b>-8</b>
1. Level of wheat production [Q <sub>WT</sub> ]	1000 tons	10197	21348	20556	3599	17520	18699	13947	13938	25885	20886	16845
2. Price of wheat production at farmgate [P <sub>WT</sub> ]	UAH/ton	487	386	310	635	493	415	527	797	753	792	1 086
3. Value of production (at farmgate) [P <sub>WT</sub> *Q <sub>WT</sub> ]	Mln UAH	4 966	8 241	6 370	2 287	8 634	7 764	7 350	11 104	19 491	16 533	18 290
4. Total subsidies (taxes) for wheat producers [S <sub>WT</sub> from Table 5.1]	Mln UAH	783	-83	-688	776	-279	-721	-855	-3868	-11842	-4931	-1524
5. Value of production (at farmgate) after subsidies (taxes) to producers [(P <sub>WT</sub> *Q <sub>WT</sub> )+ S <sub>WT</sub> ]	Mln UAH	5749	8158	5682	3063	8355	7043	6495	7236	7649	11602	16766

\*%SCT<sub>WT</sub> = (100 \* S<sub>WT</sub>) / [(P<sub>WT</sub> \* Q<sub>WT</sub>) + S<sub>WT</sub>]

This study proved that export restrictions had direct effect on wheat production volumes (*see section 2.1. of the Study*). Decrease in wheat profitability due to export restrictions, additional expenditures of exporters for export contracts registration charges, non-reimbursed VAT to grain exporters make agricultural producers switch to growing other agricultural crops and cut down sown area for wheat.

Wheat producers taxation policy yields certain benefits to producers of animal products in Ukraine since it makes fodder not so expensive, but this policy is not defined by the legislation as a part of the general agrarian policy of livestock farming support and, to a great extent, it is focused on search of rent for individual business entities rather than real political objectives.

Export restrictions in Ukraine are also initiated by the Government because of inefficient work of state trading operators on the state price stabilization policy on Ukrainian wheat market..

The Agrarian Fund was not efficient when playing a role of price regulator for domestic market. Actual volumes of state purchasing transactions on Ukrainian wheat market were insignificant after 2000: they did not exceed 4% of gross yield of wheat or 6% of marketable wheat. Efficient functioning of the state purchases system is not possible because of lacking such components as valid data on total grain beginning/ending stocks in the country, prompt and realistic assessment of grain supply and demand balance and a balance for individual cereal crops, price monitoring system, well coordinated purchasing activity of different state trading operators (e.g. the Agrarian Fund and State Reserve Agency).

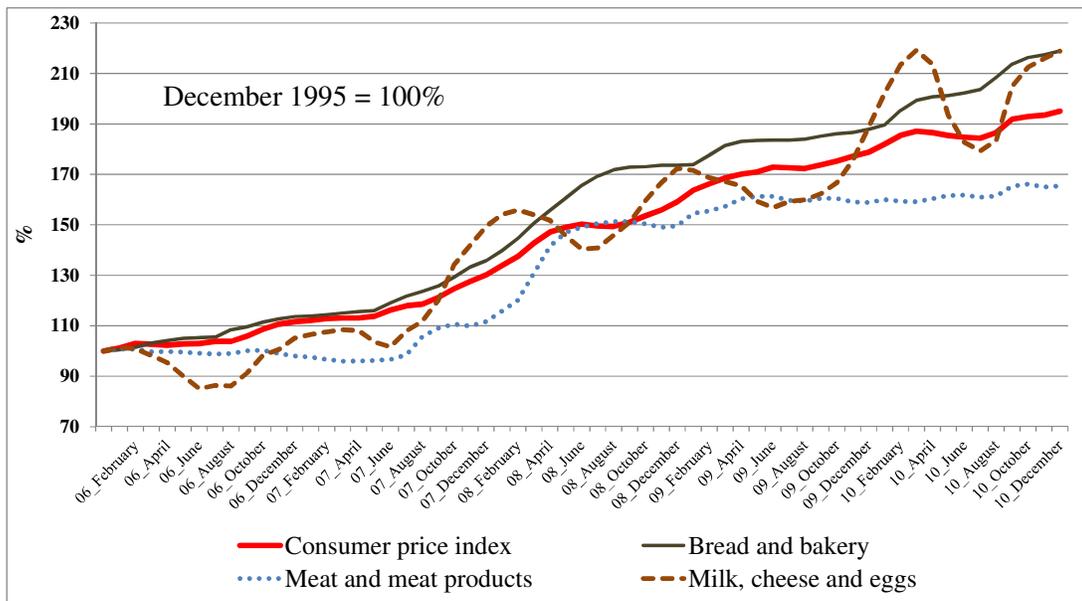
Minimum intervention prices for price regulation objects are set lower than actual market prices in order to ensure observance of commitments to WTO and not to exceed Ukraine's Total AMS of the base period. At the same time, among positive factors of the state forward purchases of wheat is absence of sharp seasonal reduction of producers' prices at the sale of wheat during harvesting period.

Desire of the Government to monopolize grain export causes great anxiety. Draft Law #8053 "On amendment to the Law of Ukraine "On State support to the agriculture of Ukraine" of February 2, 2011<sup>35</sup> and Draft Law #8163 "On amendments to the Law of Ukraine "On grain and grain market" of February 25, 2011 practically mean introduction of state monopoly to the export of agricultural products and grain export in particular.

Draft Law #8163 proposes that the Cabinet of Ministers of Ukraine select (on competitive basis) a State operator for grain export, the State's share in the authorized fund of which will be 25% and more. This agency would be engaged in export of grain and grain products. Adoption of these Draft Laws will bring about strengthening of administrative control over the market and weakening of competition on Ukrainian market. Some doubts are cast upon the State operator's ability to carry out efficient export activity and pay agricultural producers for grain in full and timely. Only wheat, purchased during a year from direct producers for export, costs about UAH 10 billion (according to data of 2009) whereas all cereal crops cost much more. Taking account of the deficit of the State Budget of Ukraine, the Government will hardly be able to obtain funds in a volume sufficient to large purchases of grain for export.

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<sup>35</sup> After sharp criticism, on April 7, 2011 Verkhovna Rada of Ukraine withdrew the Draft Law #8053 from consideration.



**Fig. 17. Behavior of consumer prices on the whole and by commodity groups**

*Source: State Statistics Service of Ukraine*

Policy of export restrictions on highly competitive agricultural products has very short-term effect of restraining foodstuffs price increase but does not tackle a problem of the most vulnerable groups of population. Thus, behavior of consumer price index for main foodstuffs proves that export restrictions of 2006-2007 and 2010 did not restrain rise in prices for main foodstuffs in Ukraine (Fig. 17). One can trace clear and constant trend of foodstuffs price grow. Index of consumer prices for foodstuffs was as follows: in 2008 – 136.7%, in 2009-2010 – 110.9% annually. In May 2011, rise in prices for bread and bakery made up 9.9%, as compared to that index of December 2010.

Efficient State policy of targeted aid to the population groups with scanty income would be more effective for solving the problem of availability of socially important foodstuffs for them.

**Annex 1. Measures of State intervention in domestic wheat market of Ukraine, 2000-2010\***

<b>Year</b>	<b>Subsidies</b>	<b>Taxes</b>	<b>Trade companies – state operators</b>	<b>Export quotas; import/export duties</b>	<b>Export taxes, other measures</b>
1	2	3	4	5	7
2000	Write-off and restructuring of agricultural enterprises' debts under state commodity credits	Fixed agricultural tax (FAT) on agricultural producers; special regimes on VAT payment (VAT accumulation)	National State Joint-Stock Company <i><b>Khlib Ukrainy</b></i>	No export quotas	Registration of grain export contracts with any accredited agrarian exchanges of Ukraine (registration fee 0.03-0.05% of the contract value)
2001	–	-“-	SJSC <i><b>Khlib Ukrainy</b></i> purchased 100,000 tons under pledge purchases	-“-	-“-
2002	Partial compensation for combine harvesters and tractors	-“-	SJSC <i><b>Khlib Ukrainy</b></i> purchased 100,000 tons of wheat under pledge purchase program	-“-	-“-
2003	Compensation to producers for losses of wheat harvest ; partial compensation for combine harvesters and tractors	Fixed agricultural tax on agricultural producers; regimes on VAT payment (VAT accumulation)	SJSC <i><b>Khlib Ukrainy</b></i> purchased wheat to ensure food safety	Zero rate of import duty for wheat from July of 2003 to July of 2004.	Registration of grain export contracts. Oblast authorities were entitled to control grain flows as well as prices for grain and bread.
2004	Compensation to producers for losses of wheat; partial compensation for combine harvesters and tractors; partial compensation of mineral fertilizers	-“-	SJSC <i><b>Khlib Ukrainy</b></i> purchased wheat to ensure food safety	No export quotas	Registration of grain export contracts with any accredited agrarian exchanges of Ukraine.
2005	Reduction of the insurance premium; partial compensation for combine harvesters and tractors	6 taxes were withdrawn from FAT	SJSC <i><b>Khlib Ukrainy</b></i> purchased 200,000 tons of grain to support market prices Agrarian Fund was set up. It effected pledge purchase of 645,000 tons, which were taken out of pledge by agricultural	-“-	-“-

Year	Subsidies	Taxes	Trade companies – state operators	Export quotas; import/export duties	Export taxes, other measures
1	2	3	4	5	7
			producers.		
2006	Per-hectare payments (UAH 432 million); partial compensation for combine harvesters and tractors; reduction of the insurance premium	-“-	Agrarian Fund effected pledge purchase (265,000 tons) and purchases for state food reserve (176,000 tons).	28 September, 2006 – introduced licensing of export and import; export quota was applied from 11 October, 2006 to 31 December, 2006 (400,000 tons).	-“-
2007	Per-hectare payments (UAH 438 million); partial compensation of mineral fertilizers cost; partial compensation for combine harvesters and tractors; reduction of the insurance premium	Fixed agricultural tax on agricultural producers; regimes on VAT payment (VAT accumulation)	Agrarian Fund purchased 425,000 tons of grain for state food reserve.	Quota was applied from 1 January, 2007 to 16 May, 2007 (3,000 tons); From 1, July 2007 to 31 December, 2007 – new quota for 3,000 tons.	-“-
2008	Per-hectare payments (UAH 414 million); partial compensation for combine harvesters and tractors; reduction of the insurance premium	-“-	Agrarian Fund effected pledge purchases.	Quota was applied from 1 January, 2008 to 31 March, 2008 (200,000 tons); From 1, April 2008 to 31 June, 2008 – new quota for 1.2 million tons; On 1 July, 2008 the quota period expired.	-“-
2009	Partial compensation for combine harvesters and tractors; reduction of the insurance premium	-“-	Along with spot purchases the Agrarian Fund effected forward and pledge purchases.	No export quotas	-“-
2010	Partial compensation for combine harvesters and tractors; reduction of the insurance premium	-“-	According to the Cabinet of Ministers resolution the Agrarian Fund had to form State intervention fund (the part of wheat had to be 1,084,000 tons). In August the Government	Quota was applied from 1 November, 2010 (500,000 tons); size of quota was extended by additional 500,000 tons.	December of 2010 – introduced compulsory registration of export contracts with sole commodity exchange – Agrarian Exchange (registration fee – 0.5% of the contract value)

<b>Year</b>	<b>Subsidies</b>	<b>Taxes</b>	<b>Trade companies – state operators</b>	<b>Export quotas; import/export duties</b>	<b>Export taxes, other measures</b>
1	2	3	4	5	7
			founded <i>State Food-and-Grain Corporation of Ukraine</i> and transferred to it 36 enterprises of SJSC Klib Ukrainy.		

(–) — no state intervention measure of such type

(-“-) — similar measure, like in previous years

*\*The table was compiled by the authors*

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