WELFARE EFFECTS OF UKRAINIAN GOVERNMENT REGULATIONS OF THE WHEAT MARKET

by

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Abstract

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In the paper it was conducted the analysis of welfare effects of government regulations in the Ukrainian wheat market in 1997-1998. New wheat market regulations in 1997 liberalized the market and made it possible for non-government traders to operate in the market. Nevertheless the government introduced new interventions instruments, which substantially distort the market and generate welfare losses. The instruments are administrative restriction of wheat trade until state purchases are completed coupled with a state monopoly for storage. Losses from the government policy are estimated to be substantial. Inconsistent policy pursued by the government is expected to increase welfare losses for Ukrainian society.

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Introduction

The problem of transition from a planned economy to a market economy is the major source of concern of Ukrainian economists as well as many economists around the world. The transition economies have a complicated system of government regulations, which make analysis of individual markets a very difficult task. Only a few economists have tried to provide analysis of markets in transition economies. Such microeconomic analysis is usually widened by exchange rate regulations' analysis and rent seeking models.

In recent years Ukraine made an image of one the most slowly reformed economies in transition, and especially slow is the reform of agricultural sector. Government officials are very concerned with the consequences of deregulation for many industries of Ukraine. With the agriculture the government believes that quick reforms in this sector can lead to food shortages in the short term, which is dangerous for political reasons. There were attempts of gradual reforms in agriculture, but absence of private ownership for land, lack of financial resources, and strong opposition of directors of collective farms halted the process of creation of private farms in 1998. The slow pace of reforms exhausts resources of the economy accumulated before and makes a start of radical reforms even more difficult. Partial reforms lead to an increasing complexity of relations within the economy, while government resources constantly deplete and it cannot execute its old controlling functions any more. A trend to return to interventions in all spheres of the economic life has been already named "a hand driven management" as opposed to "automatic management".

Today there is consensus among Ukrainian economists that even under conditions of absence of such incentives for farmers as privatization of land, it is quite possible to start reforms by introduction of some form of long-term leasing and deregulation of industries servicing

agriculture. Government actions lack a conceptual framework. In 1997-1998 inconsistency of the government policy of administrative interventions into the wheat market confirmed the belief among foreign investors, that investments in Ukraine are an extremely risky business. This beyond any doubt will reduce financial resources for the industry in 1999. The government needs a conceptual framework, which would guarantee continuity of its policy.

The purpose of this thesis is to study the reasons and the results of the regulations of the government in the wheat market in 1997-1998. There should be found more consistent and less costly policies of managing the sector in terms of wealth losses for the society. In addition to it will study the influence on the market of the government monopoly for grain elevators, the role of the barter trade, and the role of the foreign trade and export capacities of Ukrainian infrastructure. It is believed that Ukraine can restore its position as large exporter of wheat. And to achieve such results the government in the medium term should adjust its price policy instruments. In the short run there should be created market instruments of intervention into the wheat market. This thesis will explore the current government policy and ways of its improvement.

Early studies, Striewe (1998) and Sedik (1999), of the Ukrainian wheat market have already identified the major problems of its transformation. Inefficiencies inherited by the market impose huge transaction tax on the wheat producers. It leads to a paradoxical situation, when without a price support pursued by the state in an open Ukrainian economy domestic prices are higher than international prices. Attempts to export are taxed by the transaction tax. Government policy declared to be directed at Ukrainian producers' support leads to both negative and positive consequences. As it will be shown in this paper negative consequences of the government interventions overweight positive ones. Conclusions drawn for this specific market can be extended to other markets where the government monopolizes the key segments.

Chapter 2 reviews the relevant literature concerning the problem of welfare loses estimation in transition economies. Chapter 3 presents theoretical framework. Chapter 4 describes Ukrainian wheat market. Chapter 5 provides estimation of direct welfare losses. Chapter 6 concludes and presents policy recommendations.

Chapter 2

REVIEW OF THE LITERATURE

The analysis of the wheat market can be conducted in several ways. Markets of transition economies have been studied by only a few authors. Many papers in the field have been produced by such international institutions as the World Bank and the International Monetary Fund. Usually the models applied for analysis of commodity markets are general equilibrium and dynamic, e.g. model developed by Figiel and Scott [Figiel, 1997]. But this is beyond the scope of my thesis. There are a number of reasons for that. The major one is the specific property structure of Ukrainian agriculture. There is no private property for land and 90% of grain producers are collectively owned enterprises. These factors undermine the assumptions of dynamic models. The other reason is the short history of market relations in Ukrainian agriculture and an absence of data necessary for such research.

According to Peter Timmer, a very fruitful approach to analysis of open agricultural commodity markets is a "border price paradigm" [Timmer, 1988]. The Ukrainian market is opening up. This is accompanied by substantial changes in the market. Before 1992 Ukraine was a part of grain importing country, but now we observe substantial shifts to export of grain by Ukraine. The state claims protections of national producers, but its policy results contradict its initial intentions. The general approach to studying the situation in Ukraine is to use comparative statistics and analyze welfare losses, for instance, the analysis of the effects of minimum price support in a competitive market [Pindyk and Rubinfeld, 1997]. The minimum price support is not the only factor which strongly influences the wheat market, the Ukrainian economy is open to external shocks. Ukraine exports wheat and is exposed to fluctuations in wheat supply in the world market. Besides, the

Ukrainian economic crisis forces the government to intervene in the currency exchange market, which greately influences the wheat market. The effects of such distortions were studied by David Tarr [Tarr, 1990] for different Polish and Hungarian markets, including wheat markets. The difference in domestic and international prices can be estimated as government taxation or subsidies equivalents. A useful methodological approach to such estimations is provided in the paper of the United States Department of Agriculture [Sedik, 1994]. Recommendations for the government concerning transition from the price-based subsidization to less distorted income support can be found in the paper by John Baffes [Baffes, 1997]. Smooth agricultural markets operations can be guaranteed when adequate financial instruments are introduced. On the other hand government interventions reduced the incentives of Polish wheat producers to use future contracts in foreign exchanges, which increased price risks and impacted negatively on the industry [Figiel, 1997].

The choice of the other literature is determined by the specifics of the agricultural market in Ukraine. Agricultural markets are the most regulated markets in the majority of world economies, but the agricultural markets of the Eastern European countries have their own specific features. Thus, studying the markets comparable to the Ukrainian one raises a lot of specific issues to be studied for these markets. The major alternative model to comparative statics for analysis of agricultural markets is the Computable General Equilibrium model. This model was used for analysis of some issues of Polish [Orlowski, 1995] and Hungarian [Morkre,1993] agricultural markets reforms, and especially the issues related to joining the European Community and the Common Agricultural Policy. This line of analysis has not been followed for lack of data, but it can be considered as a necessary step in development of comprehensive general equilibrium model.

The purpose of the paper is to reveal and analyze major problems of regulations of the agricultural sector by state bodies. The major sources of information about the Ukrainian wheat market are interviews with government officials in the Ministry of Agriculture as well as publications in leading economic newspapers in Ukraine (“Halyts’ki Kontrakty” and “Business”) by experts of the Research Institute in Agriculture, the State Corporation “Khlib Ukrainy”, “Ukragroconsult” company, and the Ukrainian Agricultural Exchange. Publications by these experts provide a comprehensive description of Ukrainian problems of wheat pricing and export. As we will see, the major problem is the state monopoly for grain elevators that gives government the means of total control of the grain market, but reduces incentive for entrepreneurship in this sector. An attempt will be made to estimate the welfare losses of these interventions.

Chapter 3

THEORY AND METHODOLOGY

3.1 Role of Government Interventions

Competitive markets analysis starts from the analysis of the competitive market environment, where two major groups of economic agents – consumers and producers – participate. In this situation the price and the quantity of the good are determined by equilibrium in the market. Government is the third agent, which can intervene in the situation directly or indirectly. There may be different reasons for interventions, as attempts of income redistribution or guarantees of domestic producers, but governments' interventions are unavoidable to collect necessary funds for performing minimum tasks, e.g. providing of public goods. Thus, what comes into consideration is a trade-off of policies in given circumstances. Most often it is a choice of price of a commodity. Direct economic consequences from interventions are deviations of consumer and producer prices from the free-market level.

Many interventions are initiated by politicians and are desirable on political grounds. But politicians take into account only budget transfers as a criterion of desirability of interventions. Economists can identify welfare losses and efficiency losses, which are often very substantial. Moreover, if income distributions are unavoidable economists are ready to provide a system of regulations producing minimum welfare and efficiency losses.

Economists always have an answer to the question as to what is the right price of a commodity. But real markets are exposed to a number of imperfections assumed away in different economic models, e.g. markets are seldom perfectly competotive. Then naturally there is a question if there

is a correct price, which maximizes society's economic welfare. Among the real world imperfections impeding analysis are imperfect information, incomplete markets, unstable border prices, distorted foreign exchange rates, political impact, and dynamic ramifications [Timmer, 1990, p. 18]. At the same time agricultural policy without any theoretical framework is easily dominated by political ideology. Any price policy can be justified on some political basis. Thus, the best approach is to work out a basic framework for economic and political decision making.

The first step in analysis is the border price paradigm. The border price is a society's short run opportunity cost of using the amount of commodity produced within the country's borders. The presence of external market can introduce many factors impossible in a state of autarky, where the supply of a commodity is equal to the demand of a commodity and consumer and producer surpluses can be increased only at expense of the reduction of each other. The presence of international markets makes an increase of total welfare of the society possible. The welfare of the society can be maximized if the domestic price is equal to the border price. Otherwise the situation can be considered as a subsidy either to consumers or producers, which inevitably leads to dead-weight losses.

The border prices are a starting point. Then there are considered the reasons of distortions to border prices. Distortions to the optimal border price often arise from violations of such assumptions as competition in the markets and markets fragmentation. A very important factor is political considerations of support of some interest groups of the society as consumers and producers. Rigidity of administrative processes of price policy implementation against quickly changing international prices also adds to the distortions. [Timmer, 1990, p. 23] The factor of international prices and the necessity to use different currencies led to the necessity to use exchange rates, which is a source of substantial distortions to the price. But the situation can be

handled if different exchange rates are referred to as additional tariffs or subsidies [Tarr 1990, p. 107]. Such a macroeconomic factor as the exchange rate should be considered in transition economies where exchange rate control is a usual practice.

Basic neoclassical theory starts with interactions of supply and demand curves. The result is an equilibrium quantity and price. In the real world slopes and positions of curves are to some extent determined by an earlier history of prices and price policies. It is practically impossible to construct a demand or supply curve over extended range. So, they are often determined only by equilibrium quantities and elasticities of supply and demand for small changes in price. Distortions to prices cause deviations of them from an equilibrium market price. This outcome is considered to be economically inefficient since it leads to efficiency losses and decreasing welfare of the society. The starting point of welfare analysis is studying of a static and partial equilibrium situation. Without such an analysis it is extremely difficult to determine dynamic and general-equilibrium consequences of price changes. Changing prices and incentives in the commodity market have very strong impact on the structure of investments and consequently economic growth. This result has very strong economic and political consequences.

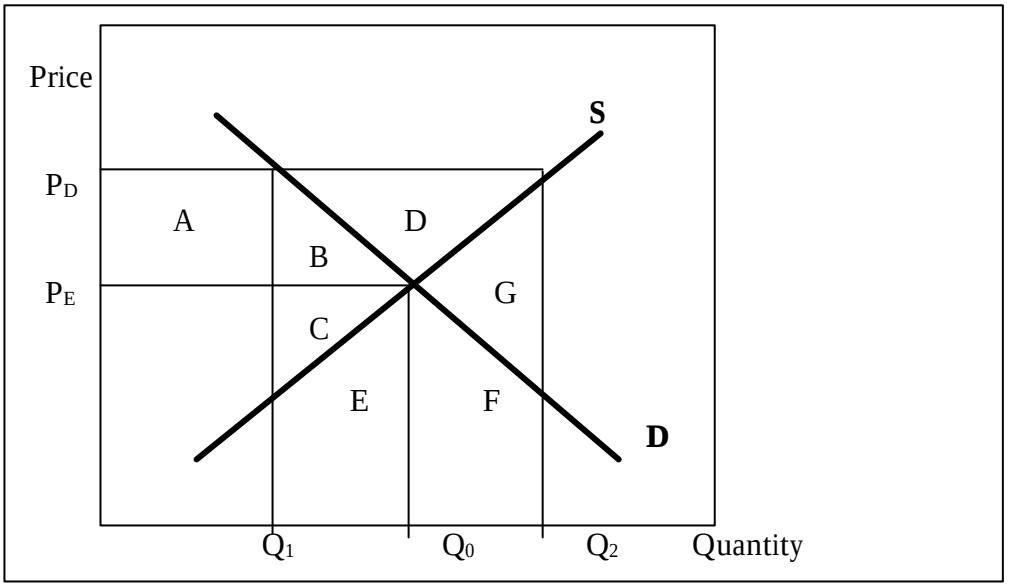
There is always a discussion among economists as to whether interventions should exist at all. The traditional point of view held by neoclassical economists was that there should be no regulations. But, according to Stiglitz this maximizes efficiency only under condition of competitive markets and complete information [Stiglitz, 1990, p.9-10]. This is not the case in developing countries, and in this situation efficiency of the market can be improved by necessary interventions. So there is a role for government.

3.2 Price Support and Export Taxation Policies

Starting the discussion of government policies it should be noted that implementation of the policies in a closed economy is an extremely difficult task, so most policies are implemented for open markets. Then the basic instruments are tariffs, subsidies and quotas. The wheat market in Ukraine is open, and state policy is declared to be directed at stimulation of exports. Markets for grain are separated in Ukraine and we can observe the situation of multiple prices (See Table1, p.16). The structure of the market, which will be discussed in chapter 4, shows that world prices are higher than equilibrium prices and the state procurement monopoly prices fall in between.

Due to the situation in Ukraine there should be analyzed such policies as subsidies to commodity producers and taxes to commodity exporters. A policy of subsidies to producers is realized through imposing some minimum price or a production quota.

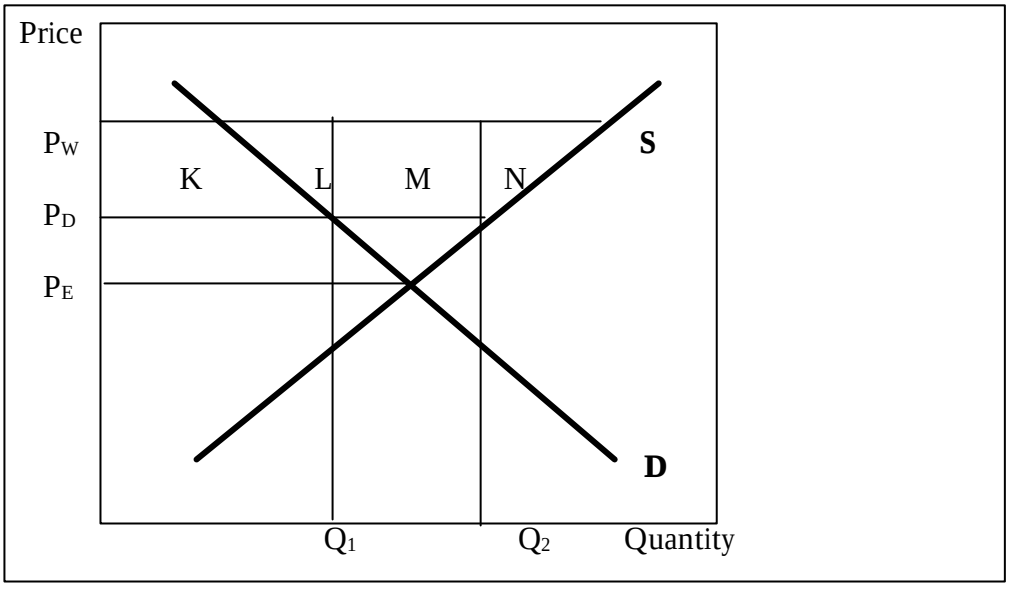
Figure 1. The Policy of Minimum Price Support.



? CS=-A-B
? PS=A+B+D
? SS=-B-C-D-E-F-G
? W=? CS+? PS+? SS=-B-C-E-F-G

The total welfare of the society is the sum of its agents welfare – consumers, producers and the state. The change in welfare (? W) is the change in surplus of the consumers (? CS) or the change in surplus of the producers (? PS), or the change in state spendings (? SS). The state can pursue two policies – minimum price support or imposing the production quotas. In the first policy the state buys out the product at the minimum price imposed (Figure 1). P_D is a minimum price imposed by the state, P_E is a market equilibrium price. The consequences of the policy of price support is the loss of the welfare Usually the policy of minimum price support is difficult to implement, it requires substantial expenses, only the EU and Japan can afford that at present time. How can Ukraine follow that policy? The answer could be in the fact that world prices are higher than state determined prices. To implement such a policy the state has to exercise monopsonistic power in the wheat procurement market and monopolistic power as a wheat exporter.

Figure 2. The Policy of Export Taxation



? CS=K
? PS=-K-L-M-N
? SS=M
? W=? CS+? PS+? SS=-L-N

In other words the state implements the policy of taxation of exporters. The mechanism is presented in Figure 2, where P_E is the market equilibrium price, P_D is the domestic minimum price supported by the state, P_W is a world price. In this situation the government treasury earns revenues, although this produces efficiency losses for the society, the triangles L and N. The net effect of this policy can be approached in several ways. For a poor country, which searches for additional sources of revenues, such an export tax may be the only source of revenues. Any developing government has to look for additional sources of government revenues. Thus, the efficiency losses should be considered with respect to marginal social revenues of the government being into existence. And how important are the efficiency losses? The first experience of estimations of allocation inefficiency represented by the triangles shows that the amount of the losses is negligibly small compared to the amounts of transfers; more important sources of concern are other inefficiencies, such as X-inefficiency. Nevertheless, the recent estimation shows that dynamic effect of allocation efficiency losses is quite substantial. Thus, the allocation efficiency losses draw more attention in the recent studies [Timmer, 1986, p. 23].

3.3 Subsidy Equivalents Estimation

Numerous distortions to the market make it difficult to calculate the true consequences of government regulations. There was designed a very useful methodological approach. It is extremely useful, on the basis of the border price paradigm, to compare domestic and world prices to make conclusion about likely consequences of government regulations. There are considered prices received by producers and paid by consumers and f.o.b border prices for the commodity. The approach is technically simple. The producer and consumer subsidy equivalents are calculated according to the following formulas. Producer subsidy equivalent (PSE) per unit value

$PSE=(P_F+S-P_W)/P_F$

P_F – farmgate domestic price, S – per unit subsidy to farmers, P_W – world (reference) price

Consumer subsidy equivalent (CSE) per unit value

$CSE=(P_W-P_R)/P_R$

P_W – reference consumer price (world price), P_R – domestic consumer price.

In developed countries the producers are usually subsidized, while consumers are taxed. In developing countries the situation is just the opposite. Sedik (1994) considers the welfare effects of American agricultural regulations and European agricultural regulations. Similar calculations for the Ukrainian market face problems of interpretation [Sedik, 1999]. Therefore the market has to be desaggregated and impacts of the government policy should be studied closer.

3.4 The Role of Market Infrastructure

Price formation has three major aspects 1) determination of price by buyers and sellers relative to its border price, substitutes and complements; 2) stability of price over time given considarable fluctuations of international prices; 3) the price margins formed for a commodity between points in time, points in space, and forms of transformation [Timmer, 1990, p.29].

Price policy is designed to effect only the first aspect – the domestic price level – although, by influencing producers and consumers, it inevitably influences price stability and market margins. Price contains important information for market participants, so any interventions can alter resources allocation and efficiency of the market. Price margins can influence public and private decisions as to food marketing activities. The efficiency of these activities can be estimated by comparing the cost of storage, transportation and processing. The situation with these marketing

costs will be considered in the next chapter. Before that we will briefly overview basic theoretical approaches to all parts of the marketing chain.

3.4.1 Storage Costs

Many price policies are designed in such a way that they also influence price margins. This often has unexpected outcomes for the government. Here is considered how price policies influence the behavior of public and private agents.

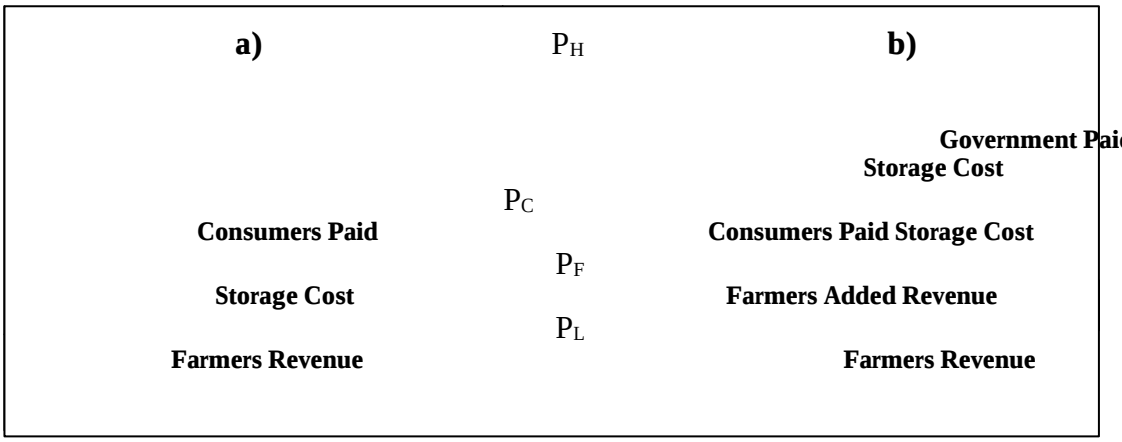


Figure 3. Impact of Price Policies on the Amount of Government Subsidies.

The supply of agricultural commodities is discrete and is realized only during a short harvesting season, while demand for the commodity continues throughout the year. Thus, the commodity needs to be stored. The cost of storage reflects a constant increase of the cost of a commodity (Figure 3a). Price policy of a state usually imposes a floor price of the commodity and a ceiling

price. The floor price is designed to support incomes of producers and ceiling price is designed to support incomes of consumers. The possible outcome can be seen in Figure 3b.

The result of introduction of floor price (P_F) and ceiling price (P_C) is an increase in government expenditures. And the increase is not linear, since the area representing subsidies is increasing in a non-linear way [Timmer, 1990, p. 41].

3.4.2 Transportation cost

Transportation costs are usually a function of distance. If international prices are higher than domestic prices and the price difference is increasing at the border, it becomes possible for commodities to be delivered from more distant areas of the country to the port. Imposing of price floors and price ceiling has the same affect as it is in the time dimension. For example, a floor price will create incentives to deliver grain to ports from regions near to the port. This sector will be handled by private traders, while the grain in other areas will be left to the state.

Analogous to the situation of storage cost the government will end up with procurement of lower quality grain. Price differentials usually reflect the quality of the grain. Defending the floor the government will be sold low quality grain, when higher quality grain will be sold through other channels.

3.4.3 Processing cost

The impact of the processing cost is probably the smallest among the three mentioned, but it can be significant. Production of an agricultural good requires inputs of labor and capital. Capital intensive production is more efficient, but capital is usually imported from abroad. The

agricultural product is exported. Border price paradigm and regulations of the exchange rate turn production of any agricultural product into a constrained maximization problem. There are substantial feedback effects. Deep analysis of the market requires careful extension of the model to a general equilibrium model.

Chapter 4

THE UKRAINIAN WHEAT MARKET

4.1 Supply of Wheat

Ukraine used to have the image of a "breadbasket" of Europe. In the beginning of the century it was one of major wheat exporters in the world. The potential of wheat production in Soviet times was higher than the level of production planned. There were expectations that after the USSR break down Ukraine would become a large wheat exporter.

Table 1. Wheat Balance of Ukraine

Item	Measure-ment Units	Year			
		1995/96	1996/97	1997/98	1998/99 (estimates)
Area Planted	10^3 ha	5509	6253	7195	6800
Area Harvested	10^3 ha	5479	5892	7095	6692
Yield	Mt/ha	2.97	2.30	2.80	2.50
Production	10^3 mt	16273	13550	18400	15500
Import	10^3 mt	70	20	50	5
Beginning Stock	10^3 mt	3630	3403	1200	2390
Total Supply	**10^3 mt**	**19973**	**16970**	**19650**	**17895**
Utilization:					
?? Food	10^3 mt	7600	7320	7350	7400
?? Feed	10^3 mt	4900	4300	6060	4300
?? Seeds	10^3 mt	1980	2200	1950	1900
?? Losses	10^3 mt	590	490	900	720
?? Industrial Processing	10^3 mt	500	260	300	400
?? Export	10^3 mt	1000	1200	700	1100
Total Utilization	**10^3 mt**	**16570**	**15770**	**17260**	**15820**
Ending Stock	10^3 mt	3403	1200	2930	2075
Source: Research Institute of Agricultural Economics					

But wheat production has declined from an average 47.4 million tons in 1986-1990 (the highest yield of 51 million tons in 1990) to average 36.4 million tons in 1991-1996 [Siedenberg, 1998, p. 318.]. For the last few years the production has stayed at lower levels notwithstanding the attempts to increase through extension of the planted area – productivity is declining (Table 1).

The lowest level of production was in the 1996-1997 marketing season due to unfavorable weather conditions and lack of investment resources. In the 1997-1998 and 1998-1999 marketing seasons weather conditions were favorable, so the wheat production was stabilized at the level of 21-22 million tons.

4.2 Demand for Wheat

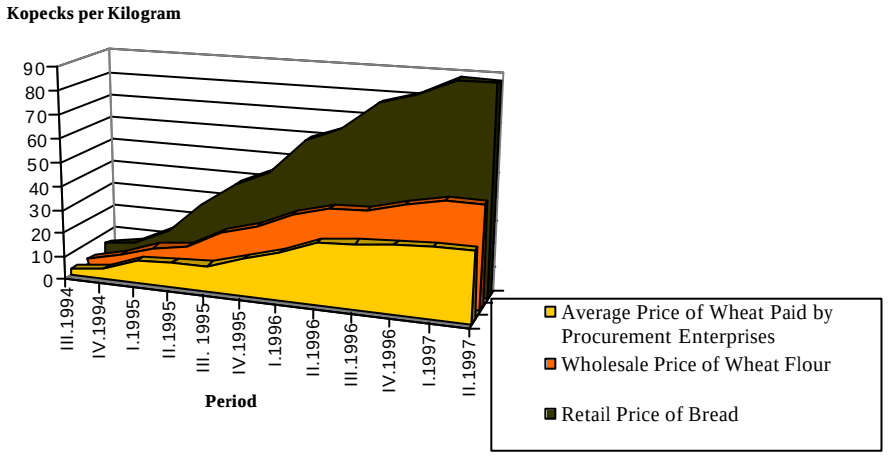
Demand for wheat has several components. The major component is food demand. The quantity of flour demanded has been constantly declining due to rising price of bread products (Figure 5). In 1994-1995 marketing year the demand for food flour was 7218, in 1995-1996 it was 6738, in 1996-1997 it was 6368, in 1997-1998 it was 6094 thousand tons. Prices for wheat products were rising at the highest rates if to compare to other agricultural products [Analysis, 1997, p.6]. At the same time the real income of Ukrainian consumers is falling, the net effect for consumption of different income groups is forecasted to be low, the demand for bread and other wheat products will be stable [Analysis, 1997, p.7].

Wheat for feed purposes is mainly a residual and its consumption is very variable. The low supply of feed grain in 1996-1997 led to a decrease of livestock. Low payment ability of live farming leads to the situation, when they cannot buy enough feed grain although there could be a potential demand.

The demand for seeds is stable and it varies from 4 to 4.2 million tons. But because of payments problem the farms sometimes use as seed their own grain, which leads to a decline in wheat variety and therefore yields.

Industrial processing of wheat into alcohol products is a profitable business. Therefore the demand for wheat is stable and has remained at the level of 0.6 million tons.

Figure 4. Prices of Wheat, Wheat Flour and Bread



Source: Research Institute of Agricultural Economics

The export of wheat has a strong trend of increasing. In 1996 export was restricted by government regulations. Most export contracts as well as trading on the Ukrainian agricultural exchange is usually done in autumn. In autumn 1997 wheat export was restricted by government intervention. In autumn of 1998 export of wheat from Ukraine was estimated as aggressive, notwithstanding continuous attempts of the government to regulate the market. Production of wheat in Ukraine is

estimate to be a profitable business. In Figure 7 it can be seen that prices for wheat in Ukrainian and international markets converge, which is a sign of the Ukrainian market opening up, and the international market becomes a factor influencing Ukrainian prices [Analysis, 1997, p.7] . But the increase in export is restrained by a number of administrative impediments and by weak infrastructure of the Ukrainian export market.

Table 2. Sales of Wheat by Producers through Different Channels*)

	1995		1996		1997		1998	
	Average Price, Hryvnias /Ton	Quantity, Thsd Tons	Average Price, Hryvnias /Ton	Quantity, Thsd Tons	Average Price, Hryvnias /Ton	Quantity, Thsd Tons	Average Price, Hryvnias /Ton	Quantity, Thsd Tons
Total	**83.9**	**7415**	**168.8**	**7079**	**177.8**	**11270**	**158.0**	**9571**
Procurement Enterprises	114.2	3634	216.4	3425	213.6	3300	178.6	1699
Cooperatives	102.5	15	194.1	12	201.6	11	147.1	5
State Food Industry, Wage Payments	41.8	2429	97.7	2209	132.6	2780	135.8	2594
Markets	77.7	1338	164.6	1432	176.8	2059	157.8	2079
Barter Trade	-	-	-	-	180.7	3116	165.1	3190
Export	-	0.1	-	1.2	213.7	3.7	189.4	4.3
) In Nominal Prices								
Source: State Statistics Committee of Ukraine								

As already mentioned, wheat market in Ukraine is segmented. Wheat is sold through different channels (Table 2). “Procurement enterprises” is the state monopoly controlling all the procuring enterprises of the industry and the storage facilities, including elevators. The role of the monopoly

in the market is decreasing because of the lack of financial funds provided by the state. Therefore there increase attempts to influence the market through administrative measures.

The second largest way of wheat sales is sales to state food industry enterprises and wage payments. The state food industry is represented by small local enterprises producing flour and making bread. This is a small part of the market. More important are wage payments in wheat. This is a way around the government monopoly for storage of wheat. These barter relationships lead to complicated welfare consequences. The major outcome is indirect encouragement of small farming. The wheat is used by farmers for feeding of poultry or milled and used for feeding pigs. Then the meat is sold through intermediaries, which come to a village from the city and buy pigs and cattle. After that the meat is sold in city markets. According to the State Statistics Committee, collective-farm production of meat generates losses in Ukraine. For this reason the total amount of meat produced by state farms fell from 1.1 mln tons in 1995 to 0.5 mln tons in 1998. At the same time the total amount of meat produced by farmers and households remained stable at 1.19 mln tons in 1995 and 1.15 mln tons in 1998. Private production of meat is profit generating. Experts of the Research Institute of Agricultural Economics believe that the wage payments price of wheat reflects the farm-gate price of wheat, for 1997 it is 132.6 hryvnias [Analysis, 1997, p.12].

Market sales reflect an activity of domestic market intermediaries, which sell wheat in local markets. This method of sales is forecasted to be increasing due to the contraction of the state role in the market and the contraction in the amount of barter trade. Sales through agricultural exchange are very low (0.6 % of total trade). This is the result of the absence of necessary infrastructure, although this segment has potential for extension.

4.3 Market Infrastructure

4.3.1 General Inefficiency

Comparison of wheat production in Ukraine and Western European countries reveals significant inefficiency of the sector in Ukraine. A Ukrainian farmer receives only 40 % of wheat f.o.b. Odessa export price for wheat sold, while a European farmer receives about 70 % of export f.o.b. price. This is a consequence of the general inefficiency of market infrastructure. German experts believe this to be the major reason of Ukrainian terms of trade deterioration and reduction of capital invested into agriculture. Nowadays Ukraine is just not ready for handling an amount of grain twice higher than currently produced, because in this case worse storage facilities will be used and longer period of storage there will make Ukrainian wheat price too high for export. This conclusion is especially surprising due to the fact that Ukraine total storage capacity is over 50 mln tons and in mid 80s in handled such amount of wheat. Losses of wheat in 1997 were unusually high. It can be inferred that it is related to the new structure of new relations created in the market and inflexibility of new market agents.

Lower income of Ukrainian farmers is the result of inefficiency at all stages of the marketing chain, as transportation, reloading, storage, and sale. The monopoly of the state of grain transportation and storage does not create incentives to innovate and to reduce the costs. Most storage facilities are owned by the corporation controlled by Bread of Ukraine. There is no alternative to railroads for transportation of grain for distances longer then 200 kilometers. Reduction of transportation costs could significantly improve the terms of trade of the sector through reduction of transportation costs both of inputs and output. Arbitrary management of transport introduces uncertainty into grain delivery and thereby increase traders margin transferred to wheat producers (see Chapter 4.3.3). There are two major sources of uncertainty faced by wheat traders. First, it is price uncertainty due to absence of financial markets in Ukraine and,

second, poor contracts' performance by state monopolies for storage and transportation, for instance, transportation terms violation or substantial difference in quality of wheat delivered for the storage and received from the elevator. The situation is favorable for different forms of corruption. According to estimations of traders "facilitation fees" add up to 2% of the value of a good. The mentioned uncertainty factors increase traders' margin up to 15%, which is three times the margin in European countries [Striewe, 1998, p. 6].

4.3.2 Grain Sales

Ukraine's record harvests were in mid 80s, then there were harvested more then 60 mln tons of grain. Then for several years there were produced 45 mln tons of grain and later the yields constantly declined. The lowest grain production of 25.6 mln tons was in 1996. Currently 90% of the grain is produced by collective farmers and only 1.5% by individual farmers.

Even after reforms were introduced into the market the state remains the major player in it. The system of state ordering was replaced by the mechanisms used by the State Corporation "Bread of Ukraine". Now every year (1997-1999) the state starts a barter scheme, exchanging agricultural inputs for wheat. This introduces numerous distortions into the market. The trick is that most agricultural enterprises are collectively owned and have no incentives to introduce new ways of production. They historically rely on the state. The state is afraid to face a shortage of wheat, so it supports the current system. This results in soft budget constraint problem with market inefficiencies accumulating.

The second group of traders in the market is represented by suppliers of fuel for agriculture, a majority of them are controlled by Russian companies. The major way of trade is barter. This group buys 15% of the grain produced. Although the number of traders is large, competition is

absent because the market is divided into small regional monopolies. And the other 15% of wheat is bought out by international traders exchanging wheat for herbicides [Striewe, 1998, p.15].

4.3.3 Grain Storage

As already mentioned, the State Corporation "Bread of Ukraine" is the monopolist in storing of grain. It consists of 17 large warehouses and 500 grain elevators, wholesaling warehouses, and bread producing works. The total storage capacity of the corporation is 30 mln tons of grain. In 1997 the corporation stored only 7 mln tons of wheat. And only 1.6 mln tons belonged to non-state enterprises. The reason is high fees charged by the elevators. After the 1997 reform the elevators give priority to those who pay by grain to the state and only later service commercial traders. The cost of storing the grain in 1997 has raised substantially as a result of regulations by the monopoly. A sign of monopolistic pricing by the corporation is the difference in prices for flour in different regions: in the Crimea it is 714 hryvnias per ton and in neighboring Kherson region 405 hryvnias per ton. This price difference will unavoidably be reflected in prices for bread [Sledz', 1997, p.37]. The state does not pay for grain storage, and the corporation attempts to cover the cost of storage at the expense of private traders. Some elevators charged up to 41 USD per ton for the first month. The average fee to be paid by wheat owners for the first two months of storage is about 17%. Storage pricing is the result of the reform in the wheat market and temporary measures taken by the state, which will be explained in subchapter 4.4. In 1996, elevators charged 5% of wheat value for the first month and 0.5% for each following month. For comparison, in Germany the costs of the payment for the first month of storage totals 6-7 USD. Weight losses in Ukraine during the storage are 2-5%, while in Germany 0.5% [Striewe, 1998, p.19].

The amount of grain stored at the elevators of the corporation is so low, because it can be substituted for storage at farms. Grain producers warehouses capacity totals 26 mln tons, although the capacity does not always match the amount of wheat produced in the farm. The warehouses are usually in a very poor condition, so weight losses amount to 3-8%, as compared to 1% in Western Europe [Striewe, 1998, p.20].

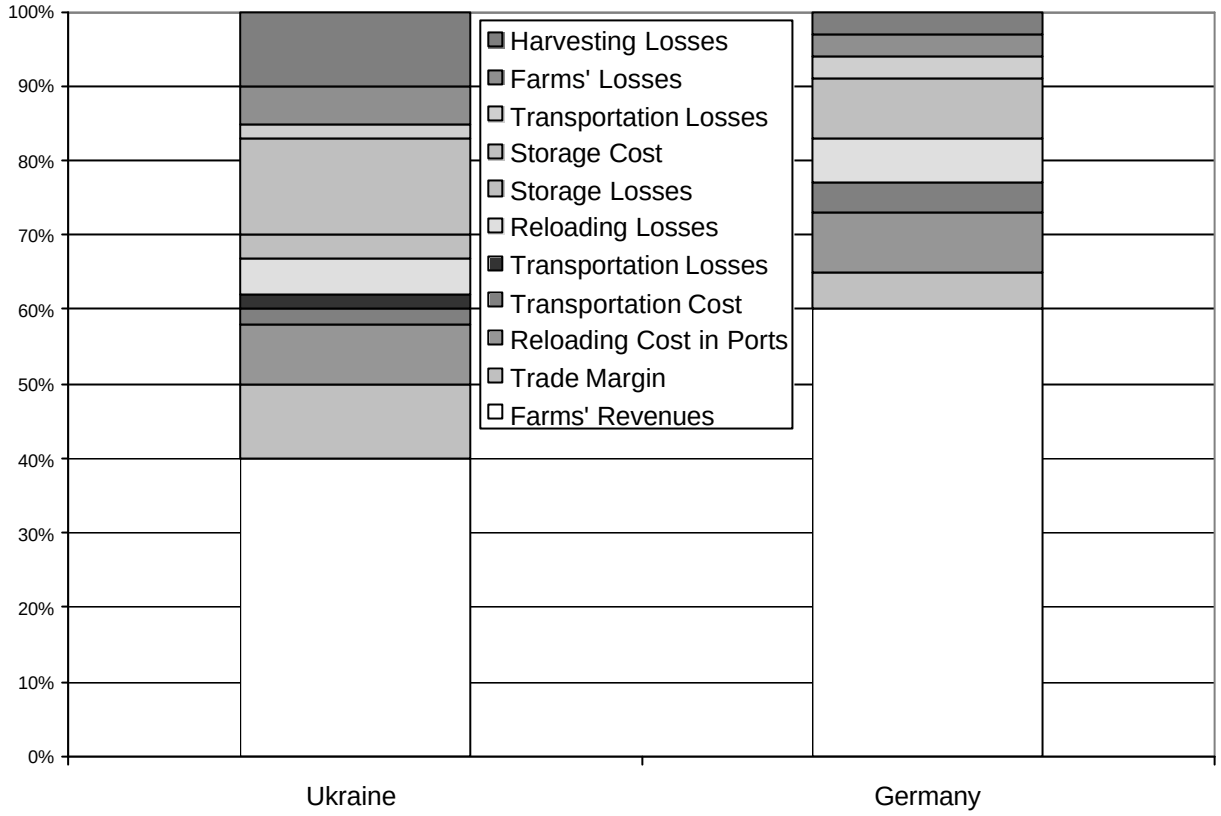
4.3.4 Grain Transportation

The transportation system consists of several parts. To deliver grain from a field to a ship it should be reloaded several times. The first kind of transportation is trucks. They are efficient to use on distances up to 100 kilometers. According to TASIS studies 70% of all agricultural products are processed within the distance of 100 kilometers from the field. The cost of local transportation became an important factor of price formation. Unfortunately the legacy of the Soviet system makes transportation by trucks very inefficient. The peak load of trucks is during the harvest, which is 30-40 days a year. The farm needs less trucks if an elevator is close to the field. In a market economy the total cost of elevators placement and trucks maintenance throughout a year is minimized. Usually elevators are close to production areas. In Ukraine elevators are close to consumers, though the distances during the harvest increase and more trucks are needed. Optimization of elevators location would reduce transportation during the harvesting season from 270 to 80 mln kilometers. The other problem with trucks' transportation is that most of the industry is state controlled and the service is priced wrong. The depreciation rate is fixed at a low level, therefore the service is cheaper and the condition of trucks is much worse. This makes it almost impossible for private transportation providers to compete and they are left with a tiny niche [Striewe, 1998, p.22].

Railroads have an advantage in transportation for distances longer than 300 kilometers. In Ukraine only 10% of wheat is transported for such distances. Railroad transportation is also monopolized. Negative consequences of the monopoly are that the services are underpriced, and the cost of roads' maintenance is not included into the price. Therefore the quality of service is very low and consumers have to incur higher indirect costs. The terms of contracts performance are usually longer than 6 weeks. In 1997 transportation fees were raised from USD 12 to USD 25 for delivery of wheat to the border of Belarus [Sledz', 1997, p.37].

The monopoly for railroad transportation could be undermined by introduction of transportation by river ships. This will be an indirect welfare improvement for Ukraine. A direct welfare improvement will be lower river transportation costs. So, investments in ports infrastructure are very promising. The problem is that the ports are the part of the same monopoly, the Ministry of Transport. Poor quality of services increases the cost of reloading twice as compared to Western European ports [Striewe, 1998, p.26].

Figure 5. Wheat Export Costs.



Source: German Consulting Group

One of the largest limits of Ukrainian wheat export is the capacity of Ukrainian seaports. The speed of reloading is 12 times lower than in Western European ports. The maximum tonnage of ships loaded is 25 thousand tons, while in Rotterdam it is up to 200 thousands tons. Ukraine has four major ports in Odessa, Illichevsk, Kherson, and Mykolaiv, and very often the ports fail to coordinate their activity. In 1996 in Odessa there were 6000 railway cars waiting for unloading of wheat out of a total 15000 cars in Ukraine [Striewe, 1998, p.29].

High fees in ports (see Figure 5) act as export taxes and reduce welfare of the society. Odessa port historically was one of the major terminals for imported US grain. Nowadays Odessa port, being the major outlet for many other exports, regards grain as not the top priority. Demand for extra

export facilities from wheat traders coincided with more export oriented policy of state grain monopoly “Bread of Ukraine”. There were supported investments in infrastructure of Illichevsk port next to Odessa. Finished in 1997, Illichevsk port alone can now handle 2.5 million tons of grain a year, which significantly increased the export capacity of Ukrainian ports. Now Illichevsk and Odessa ports have 80% of total grain capacity of Ukrainian ports. Finalizing of the investment project immediately resulted in significant increase of export through Ukrainian ports.

The inefficiency of Ukrainian infrastructure is summarized in Figure 6. The figure represents inefficiencies which do not appear if the grain is not exported. Thus, the price of wheat in the internal market is expected to be up to 28% lower than the f.o.b price. Inefficiency losses act as 11% export tax. If the infrastructure is improved, Ukrainian exports can be increased.

4.4 The Reform

4.4.1 The Market Reform Initiative

Before the end of 1996, there was a system of state orders to create an inventory of grain each year; the system existed since the time of planned economy. At the end of the 1996 by the initiative of the Prime Minister of Ukraine Pavlo Lazarenko, there was created the State Corporation “Khlib Ukrainy” (“Bread of Ukraine”), which replaced about ten state structures dealing with state contracts before. The purpose of creation of such a monopolist was to improve control over financial resources of the state distributed among grain producers. Also the main pressure for a reform came from the IMF, which insisted on abolishing the system of state orders. The Ministry of Agriculture was asked to take measures to improve the mechanisms of grain provision for the state. The Ministry refused to take radical measures and the reform of the system came from the Cabinet of Ministers. The provision of grain was separated from the Ministry of Agriculture and transferred to the State Corporation “Khlib Ukrainy” [Koroliuk, 1997, p10]. The

Corporation is responsible for financing of inputs supplied to the agricultural producers and purchase of wheat. The necessary machines, seeds, chemicals were supplied in spring and the value of the inputs supplied had to be repaid in grain in autumn. There was proposed a system of state contracts. The state would order grain from producers, which have no debts; the producers can also obtain advance payments at current wheat prices of the agricultural exchange with refunding of the difference at a future date at prices of the agricultural exchange. It's a result of the creation of the Corporation, the Ministry of Agriculture lost its control over grain storage. There also was an initiative to create a market for land, but it was strongly opposed in the Parliament of Ukraine. Thus, the Cabinet of Ministers directed its efforts at improvement of the current system of regulations in agriculture. The new system of relations between the state and agricultural producers, among other purposes, was aimed at assistance to producers of machines for agriculture. The state uses the fund for grain purchases to buy, say, tractors from a tractor plant and supplies them to farmers. Farmers are supposed to repay for the tractors in grain delivered to elevators. Below we will see how the system worked in practice.

The history of reforms of the Ukrainian agricultural industry started in 1992. The experience of countries in transition as Central European countries and China shows that the transformation of the economy is impossible without reforming agriculture. The Soviet government for years pursued a strategy of moving funds from the agricultural sector to industrial sectors. By 1989 there was raised a question of agricultural sector rehabilitation. The statistics of 1970-1991 show that the level of mechanization of agriculture increased 7 times while the efficiency of its utilization only 4 times. Ukrainian agriculture uses for a unit of production 5 times more fuel than German or French. This is the result of the pervasive incentive structure in Ukrainian economy, where the ways of achieving managers' welfare, who are directors of collective farms, do not coincide with those of collective farmers. The statement is supported by the decline in production

of agricultural goods at all state-owned farms, while there was no decline in privately-owned farms [Koroliuk,1997, p.11].

4.4.2 1997/98 Marketing Year

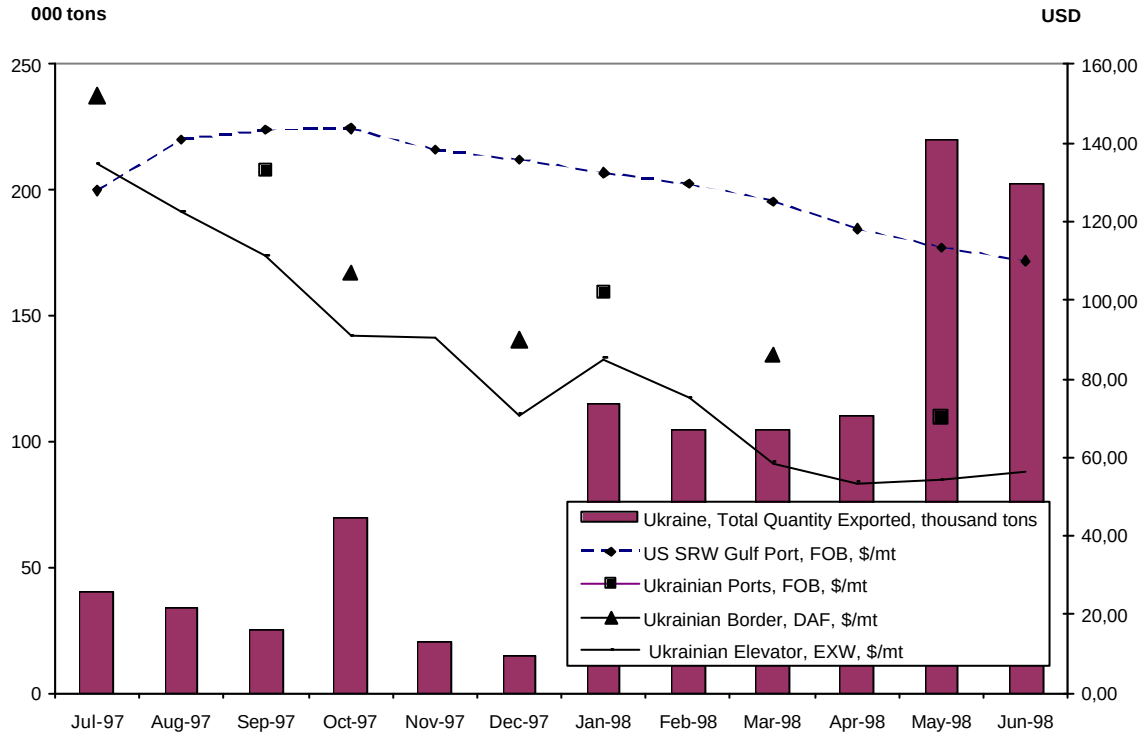
The first step in reforming the market was founding of the State Corporation "Bread of Ukraine" by Decrees of the Cabinet of Ministers in August of 1996. The Statute of the Corporation was adopted in November of 1996 [Decree of the Cabinet of Ministers #1375, 1996]. The stock of the Corporation is formed by a transfer of the state property; 100% of the Corporation shares are owned by the state. The Corporation started playing in the market at the beginning of 1997 [Decree of the Cabinet of Ministers #124]. It was planned that the Corporation would buy 4.7 mln tons of food wheat (1.6 mln tons for government export contracts, 1 mln tons for special consumers, 1.5 mln for the intervention fund), 0.3 mln tons of seeds, and 0.88 mln tons of low quality wheat for the alcohol industry [Analysis, 1997, p.15]. The advance price was fixed at 135 hrn per ton. The final price was determined as the spot price of wheat at the agricultural exchange at the date of contract's delivering. Seasonal price fluctuations resulted in a rise of the price by 27 % in the first quarter of 1997 and 44% in the second quarter of 1997. [Khudoliy, 1998a.]. In June 1997 the price for wheat at the agricultural exchange was 310 hrn per ton. Just after the harvesting started, by the end of August, the price fell to 230 hrn per ton. The Cabinet of Ministers believed that the price was too low and issued another Decree fixing the date of spot price determination – the 9th of July. The price was fixed at a level above the market equilibrium - 270 hrn per ton for food wheat and 215 hrn per ton for feed wheat (according to the Decree). The reasoning of the regulation was protection of national producers suffering from international wheat traders' pressure and the need to secure purchases for the government. The intervention of the government maintained the price for wheat at above-the- market-equilibrium levels, while in the

world markets wheat was in excessive supply. This made it impossible for wheat traders to export wheat from Ukraine [Vernytsky, 1997]. Administrative measures of the government led to a 8% price per ton increase while supply had increased by 30% compared to the previous year [Khudoliy, 1998a]. The regulation destabilized the market, the wheat producers turned into tough bargainers with traders. On the one hand, producers did not sell wheat to traders; on the other hand, they did not load wheat to state elevators casting doubts on the state price and the terms of payment [Makarchuk, 1997, p.95]. As it turned out only 3% of advances for state contracts were paid in money the rest in barter, so after having repaid the advances the farmers could not get money for the rest of wheat provided according to state contracts.

To force producers to deliver the grain there were taken other administrative measures, which became unavoidable the following years. The state wants to guarantee the delivery of grain and sets it as the priority during the harvesting season. No other trade can be done until the state grain is delivered are performed. Thus, the local administrations restrict export of wheat outside the region. The other instrument of coercion was utilization of the elevators. In the new “market” the state monopoly was just refusing to store grain in the elevators or charging up to 80 hryvnias per ton for the first month of storage, which would increase the price of wheat by 30% in one month. By September the state had bought enough grain for its purposes and the Cabinet of Ministers issued one more Decree, which forbade for local administrations intervening in the market [Decree of the Cabinet of Ministers #1062, 1997]. By this time the situation in world wheat markets became clear and it was found that 1997 was a good year for wheat, so contract makers found themselves in inferior position to that they could have a month ago if were allowed trading freely. Moreover, during the harvest a part of food wheat was turned into feed wheat. Food wheat was only 35% of the total wheat harvested. The price for food wheat stayed rather stable but the price for feed wheat plummeted. The market price fell from 180 hryvnias per ton in July to 140

hryvnias per ton in October [Khudoliy, 1997a]. The overproduction of feed wheat was especially severe because the previous year was the worst in terms of wheat production for last years, and farmers had to reduce the livestock herd. In 1997 there was not enough demand for feed wheat. State intervention purchases planned by the state to stabilize the market did not work for two major reasons. First, the agricultural exchange infrastructure was not developed enough and, second, the intervention fund did not have money for its operations. [Sledz', 1997a, p.27].

Figure 6. Export of Feed Wheat in 1997-98



Source: UkrAgroConsult, author's calculations

The excessive supply of wheat in world markets and the downward trend of wheat prices undermined the government ability to export its wheat abroad. World prices began to fall in March. In the domestic market, as it turned out, the inventories of feed wheat were high. All

attempts by the government to sell its wheat failed. The ending stock of wheat according to different estimations was more than 7 mln tons [Ostankov, #37].

After having stored the wheat for half a year the state sold the wheat at prices lower than those at which it bought it. Potential importers of Ukrainian wheat traditionally were Belorus, Poland, Czech Republic, Slovakia, Bulgaria and several CIS countries. CIS countries usually take 60% of the total Ukrainian export of wheat. [Khudoliy, 1997b] Some large contracts for export of wheat were made with South Korea and Middle East countries. In the figure it can be seen that most exports were in the spring. They can be attributed to government export contracts according to interstate agreements (Figure 7).

4.4.3 1998/1999 Marketing Year

This year the situation during the harvesting season of the previous year was repeated although with variations. The government again intervened into the market and used administrative measures to guarantee purchases for the state. The reason of the intervention was the claim on debts to the government for the the last four years. The exogenous destabilizing factor was the Russian currency crisis and the sudden national currency depreciation during the harvesting season. During the first month of the crisis the wheat market died, as traders were waiting for market developments. Then the price of wheat fell in dollar terms, which led to high activity of traders selling wheat for dollars. CIS countries demand was substantially undermined by the crisis.

In the beginning of 1998 it was declared that the government will not make any barter contracts with wheat producers and supply agricultural inputs. The market was open for private investors, and they contributed the major share of investments into inputs necessary for wheat production this year. State policy of price support in 1997 could be a positive signal for investors, a guarantee

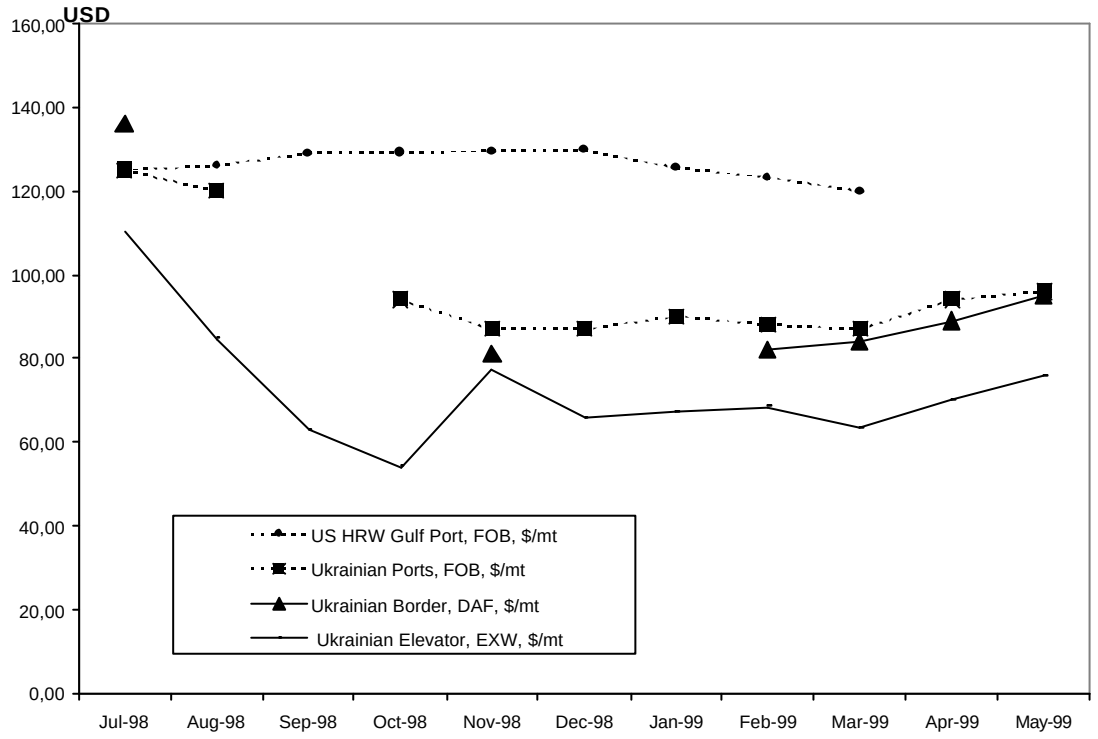
of positive returns on their investments. But investments were not sufficient for the industry and there were supplied only 26% of the gasoline and 42% of the diesel fuel necessary. As the result many agricultural processes were took longer than required by the technology. [Khudoliy, 1997b] At the same time the payability coefficient was expected to be 0.3-0.4, which means agricultural producers will be able to pay only for 30-40 % of credits.

In July the Cabinet of Ministers issued a Decree #1146 on the adjustment of grain usage as the mean of payment for advances received in the previous four years. According to it the traders would receive their payments only after payments in grain to the state are finished. The decision of the government could have very dramatic consequences for the market. For 1994-1998 agricultural producers of grain owed to the state 1.2 bn hryvnias. According to estimations of the Ministry of Agricultural Complex it can be up to 8.7 mln tons of grain. [Analytical Note, 1999] One of the major creditors was the Ukrainian Pension Fund. Grain was transferred to the Pension Fund, the Pension Fund transferred grain to pensioners. Thus, the abolishment of state contracts did not mean that the state abolished the policy of government interventions. According to the Head of the Association of Plant Protection Means Suppliers, in 1998 traders total investment in grain production was about USD 500 mln or equivalent of 5.5 mln tons of wheat at USD 90 per ton. It was clear that the size of Ukrainian market will not make it possible to pay for these purchases. The result was expropriation of wheat in the market by the state monopoly and the transfer of it to major suppliers of agricultural inputs, which won the favor of Bread of Ukraine. [Krot, 1998]

The production of wheat in the summer of 1998 was average for last five years. 1998 was good for food wheat, which consisted 70-80% of total wheat harvested (10-12 mln tons out of 15.5) [Sledz', 1998, p.34]. The yield in other exporter countries were above average, so world prices for

wheat kept declining. Nevertheless prices for both food and feed wheat in Ukraine were attractive for exporters. Because of the currency crisis the Ukrainian wheat price fell twice in dollar terms to 54 USD per ton and traders have good incentives for arbitrage buying wheat and exporting it aggressively. It was reported that for 3 months of the new marketing season, Ukraine exported 1 mln tons of wheat.

Figure 7. Food Wheat Market Prices in 1998-99



Source: UkrAgroConsult, author's calculations

The currency crisis strongly distorted wheat prices. Domestic wheat prices in dollar terms became too low and income of wheat producers in dollar terms fell. The national currency stabilization measure by the National Bank of Ukraine included 75% foreign currency obligatory sale. As it was mentioned the first way to circumvent the regulation was the activity of foreign traders. The other way to circumvent the regulation was import goods at an amount equivalent to the payment for

wheat. This, of cause, produced additional cost of wheat sale and distorted the market. Foreign traders had an advantage, they could not be required to return foreign currency to Ukraine for obligatory sales. The state fixed its price on food wheat at 265 hryvnias and feed wheat 121 hryvnias. In the wheat markets during the harvesting season prices declined to 180 and 100 hryvnias respectively. [Ostankov, 1998, p.47] At the beginning of 1999 in the Ukrainian market there was a deficit of wheat. Part of it was taken by the state for four-year debts, a part of it was sold to traders by the wheat producers and exported.

By September 1 the Pension Fund only received 1.2 mln tons of grain. The average price proposed by the state was 20-40 hryvnias higher than the market price, but wheat was taken for debts and was not paid for. As a result of administrative restrictions on export of wheat Bread of Ukraine elevators managed to procure large amounts of wheat. At the same time the state did not export any wheat, so it can be expected that the wheat will be exported in the spring. The major wheat producer and importer in the region, Russia, had the lowest historical yield of wheat, so its import demand is estimated to be 4 mln tons of wheat. The situation is favorable for Ukraine, but the only trader, which can benefit from it now is the Bread of Ukraine.

Chapter 5

WHEAT MARKET ANALYSIS

5.1 Government Policy Failure in Ukrainian Wheat Market

As we could see the necessity of government interventions is disputable. Even proponents of the interventionist policy agree government policy should be directed at an improvement of resources allocation in an economy. The market mechanism allows achievement of a Pareto efficient resources allocation only under very specific circumstances: competitive market and complete information. If an economy is open there are additional sources of uncertainty coming from opportunities of trade in international markets. Foreign trade in a good alters the welfare distribution within an economy. Existence of external markets makes possible for the government to intervene and redistribute welfare at low cost. Government policy can improve consumers or producers welfare but it always generates deadweight losses. Protection of producers or consumers is a usual defence of the government.

In Ukraine the government claims to protect producers. In an interview with a Vice Minister of the Agro-industrial Complex I was told that the government protects local producers from ureasonably low prices during harvesting season; international traders understate prices in the local market to make higher profits on resaling of wheat at international markets. The state protects local producers by proposing higher prices for the grain.

Does this government policy protect domestic producers indeed? If not then who benefits from such a policy? Consumers? The state? Bread of Ukraine?

The state ordering system before 1997 led to conservation of the situation in the wheat market with all the market inefficiencies of Soviet economy, huge subsidies to the industry, inefficient technologies used, debts and deteriorating soils. The regulation of the Cabinet of Ministers of 1997 introduced market instruments of government regulations. Optimistic prospects of the industry led to relatively large investment flow to agriculture. There is identified the need for a careful study of the extent at which the harvest of 1997 can be attributed to good weather conditions and to what extend to investments in agriculture. Information available does not allow estimation of the influence of each factor separately.

The government appeared to be unable to operate in the market as just another buyer. It turned out that the major aim of the government was to secure 4-5 mln tons of wheat for its purposes. For the government the problem could be solved in two ways, either by creation an adequate incentive system for wheat traders and receive grain as payment for storage and other services, to force traders to deliver wheat to elevators. It chose the second way. The problem was the government agent Bread of Ukraine lacked of financial resources. Thus, the state used two measures to force delivery to elevators. It proposed a price higher than the market price on one hand and it restricted the export of wheat outside production areas on the other. The cost of government wheat storage was intended to be compensated by the traders' wheat storage fee. The fee was imposed without considering the reaction of traders. The price elasticity of demand for storage turned out to be higher than it was expected by the state monopoly. The storage fee was raised from 5% to 17% of wheat value. Farms storage quality losses were an additional 5%. Therefore a trader facing the problem of storage at government controlled elevators chose storage on farms. The society as a whole loses 5% of wheat value in quality losses.

Table 3. Summary of Government Interventions and their Consequences

Period	Government Actions	Consequences
January-March 1997	Barter credits made to agriculture	Indebtedness of the producers to the government
July 1997 (harvest) 18.4 mln mt Food wheat 35% Feed wheat 65% (ex post, poor weather)	Minimum prices imposed Food wheat 270 Hrn/mt Feed wheat 215 Hrn/mt Only 3 % of purchases are done in cash	Market price Food wheat 240 Hrn/mt Feed wheat 180 Hrn/mt Government has no money to purchase, but offers premium prices to attract wheat paid against state farm debts to government
	Administrative export restrictions	To "encourage" grain deliveries to state
	Elevator storage cost raised to 17% of wheat value for two-months storage	Farms store only 7 mln mt vs. total capacity 30 mln mt Farms use on-farm storage with losses running 5% higher Barter wage payments
September 1997	No feed wheat procurement No purchasing interventions	Feed wheat price at 140 Hrn/mt
January- June 1998	Execution of government wheat export contracts	Feed wheat export price 160 Hrn/mt Price at elevators 130 Hrn/mt
	Foreign investors barter credits to agriculture 500 mln USD	Indebtedness of the producers to the foreign investors
July 1998 (harvest) 16 mln mt Food wheat 70% Feed wheat 30% (ex post)	Claim on debts for government barter credits from previous years Claim on debts to the Pension Fund	Foreign investors scared with government attempt to procure 8.5 mln mt of wheat Domestic market prices fall to 54 USD per mt, arbitrage opportunities are open Aggressive export, 1 mln mt for 3 months
	Administrative export restrictions	To "encourage" grain deliveries to state
	Elevator storage cost high	Export "from the field" Barter wage payments

August 1998 Currency crisis	Obligatory sales of foreign currency income	Incentives to leave foreign currency abroad or import against export Advantageous position of foreign traders, major part of arbitrage benefit received
January-May 1999	No sales interventions	Absence of supply in the Ukrainian wheat market Favorable situation in international wheat market, lost profit making opportunities

As a result of harsh government policy traders were encouraged to look for ways to circumvent the regulations. The major ways around them were to export grain right from the field, to pay wages in wheat, and to store grain on farms. The first way around restricts Ukrainian traders' ability to take advantage of the best timing of wheat sales in international markets. This specific situation was in autumn of 1998-99 marketing year. The second way around distorts prices for wheat and leads to its misallocation. This was presented above as leakage of value to private farming. As it was shown notwithstanding the fact that 90% of farms are collective owned the major part of meat is produced by private farmers in Ukraine. The third way around leads to additional storage losses, estimated at the level up to 5%. This raised the price of grain and deteriorates competitive position of Ukrainian wheat in international markets even further.

Consumers also incurred substantial welfare losses. Since the price elasticity of demand for consumers is estimated to be very low, around -0.2 [Pindyck, 1997, p. 120], then producers can easily transfer additional costs of wheat marketing to consumers. Eventually all storage fees are included into bread prices.

Government had no welfare gains. At the same time its market operations were directed against world price tendency, and the government did not assist Ukrainian producers in this situation. The estimation of government losses can be found in the next section.

5.2 Government Policy Welfare Losses

The policy of the government introduced two major distortions into the market. The first distortion was in the 1997-98 marketing year. The government restricted export of wheat in autumn through direct administrative measures. Instead the government procured wheat at prices substantially higher than equilibrium prices. After the government achieved a target level of grain inventories the wheat market was liberalized and prices plummeted. The government stored its expensive inventories for more than half a year and then sold at prices lower than procurement prices. Most of the government sale was performed in interstate agreements. Welfare losses of the government policy throughout the year can be estimated. In the section 4.3.3 on storage costs it was shown that before 1997 storage fee was 5% for the first month and 0.5% for other months, and that this was below the real cost. The monopolistic price in 1997 was 17% for two months [Sledz', 1997, p.37]. Under these circumstances traders preferred to incur 5% storage losses. Striewe (1998) estimated elevator storage cost as 10 % of value. So, it is reasonable to assume that cost of storage is 10% of wheat market price for the first month and 1% for every additional month. In 1997 the state procured feed wheat at 215 hryvnias per ton. 420 mln tons were sold after 5.5 months of storage and 430 mln tons were sold after 8.5 months of storage. Price of a ton of wheat for that time would be 243 and 248.3 hryvnias respectively. The price of wheat at elevator at that time was 135 and 120 hryvnias per to respectively. Sum of products of amounts exported and the price difference between export price and calculated price after storage shows that the loss generated by government policy was 101 mln hryvnias. This amount is equivalent to 0.1% of GDP. This is the direct loss of government regulations. Indirect losses will consist of higher transaction costs associated with circumvention of government regulations. These are the higher cost of storage at farm warehouses, the cost of barter trade, the lost opportunity of trade throughout the year, since it is safer to sell wheat as soon as possible instead of keeping it at state controlled elevators.

The second large distortion to the market happened in 1998-99 marketing season. That year the harvest coincided with the currency crisis in Ukraine. Although the price was stable in the Ukrainian market in hryvnia terms in dollar terms, it fell two times and bottomed at 54 USD per ton of food wheat, which was half the world price at that time. Every month Ukraine exported on average 200 thousand tons of wheat. According to USDA reports by December there were exported 1 mln tons of wheat from Ukraine. In January the price in dollar term stabilized and reached 75 USD per ton in May. In thespring there is no supply of wheat, the market is dead. There would be an opportunity to sell wheat in spring. If storage costs are deducted than the equivalent price in September 1998 had to be 63 USD. As Ukraine exported aggressively it lost 9 USD on every ton of wheat in the autumn (the difference between the price of sale 54 USD and price calculated 63 USD). As the wheat could be sold without storage for 2 months only the loss can be estimated as the product of the amount exported at that time and the price difference, which results at 3.6 mln USD. Availability of storage capacities and consistent policy of the government would discourage Ukrainian wheat producers from selling wheat at such low prices in the autumn and encourage them to wait for wait for a more favorable situation. Every producer could expect in August that the price will be higher but preferred to avoid the risk of wheat expropriation by the state delivering wheat to the state controlled elevators. This welfare loss can be attributed to inconsistency of the government policy.

Chapter 6

CONCLUSION AND POLICY RECOMMENDATIONS

The study of particular markets in transition economies reveals the essence of economic problems in transition. David Tarr noted that economists often avoid conducting microeconomic research in transition economies due to the numerous distortions of the markets [Tarr, 1990, p. 106]. At the same time macroeconomic research often produces results which contradict expectations derived from a standard neoclassical theory. The reason is in specific features of individual markets. Without understanding how individual markets work and what incentives are dominant for economic agents it is difficult to predict the likely outcome of macroeconomic policy.

Reforms in a transition economy are supposed to be directed at establishment of appropriate market institutions but may suffer from the lack of confidence in new ways of doing things on the side of the government. The case of reforms in the Ukrainian wheat market illustrates this situation. The Ukrainian government abolished the practice of state orders, but left little alternative to wheat producers in terms of selling wheat. Wheat needs to be stored. The monopoly of storage capacities complements government administrative measures with the purpose of wheat procurement for state needs. This practice causes numerous distortions in the market and generates direct and indirect welfare losses. Direct welfare losses are associated with wrong timing of wheat sales in international markets. It was estimated in the paper that direct losses only add up to 0.1% of Ukrainian GDP. Indirect welfare losses are associated with higher transaction costs. According to the estimations of Striewe (1998) transaction costs of exported ton of wheat in

Ukraine are 20% higher than in Germany. For 1997-98 that means loss of 28 mln hryvnias, or 0.03% of Ukrainian GDP.

In Figure 6 it can be seen that f.o.b prices for wheat are higher in Ukraine than e.x.w. prices for 1997-98 marketing year. According to some research this is the consequence of high transaction costs and producers do not get any additional income from export of wheat. Estimations of Center for Privatization and Economic Reform reveals that subsidy equivalent for Ukrainian wheat averages 40%. Surprisingly enough Ukrainian wheat producers are subsidized, but high transaction costs tax away the price support for agriculture [Sedik, 1999, p.2].

Thus, it would be promising if government policy would be directed at the elimination of distortions in the market and at correcting poor infrastructure performance. This would reduce direct and indirect losses for the society and transaction losses. Improvement in the efficiency of the wheat sales infrastructure would not depress incomes of Ukrainian farmers any more and there would be potential for growth of incomes and production.

The best way to improve the general efficiency of the system is to introduce competition into both storage and transportation services. This can be done through privatization of the facilities. The payments of the government for the wheat procured are recommended to be at market prices, which would cut direct expenses and increase the chance of prompt payment. The government should abolish barter schemes in paying for wheat, this would make the payment system transparent for economic agents. Nowadays the government directs wheat money for purchase of fuel and tractors, which are transferred to farmers in exchange for future grain. In this situation all the market agents have disperse control over performance of contracts. As the result the contracts are not met.

Thus, government expenditures should be directed at the improvement of market infrastructure, which potentially would result in higher revenues of wheat producers and improvement of total welfare of the society.

DATA APPENDIX

Date	US HRW FOB, Gulf Port, $/mt	FOB, Ukrainian Ports, $/mt	DAF, Ukrainian Border, $/mt	EXW, Elevator, Hrn/mt	Ukrainian Agriculrtural Exchange, EXW, Elevator, Hrn/mt	US SRW FOB, Gulf Port, $/mt	FOB, Ukrainian Ports, $/mt	DAF, Ukrainian Border, $/mt	EXW, Elevator, Hrn/mt	Ukrainian Agriculrtural Exchange, EXW, Elevator, Hrn/mt	Official Exchange Rate Hrn/$
Jan-96	206,9			232,9	253,0	197,0				193,0	1,8632
Feb-96	218,9			242,8	259,0	204,0				202,0	1,8673
Mar-96	215,3			239,4	265,0	205,5				209,0	1,8700
Apr-96	257,6			235,9	271,0	247,5				246,0	1,8722
May-96	262,1			267,1	292,0	213,4				241,0	1,8419
Jun-96	227,3			318,5	290,0	180,6					1,8198
Jul-96	202,6			308,1	283,0	181,1	141,0	162,0		240,0	1,7808
Aug-96	191,6			299,2	300,0	175,0	139,0	165,0		254,7	1,7600
Sep-96	178,7			290,4	292,0	169,7	140,0	150,0		251,0	1,7601
Oct-96	178,0			275,1	287,0	158,4	141,0	160,0		249,0	1,7748
Nov-96	176,4			284,5	270,0	158,2	144,0	166,0		250,0	1,8592
Dec-96	175,7			301,5	310,0	158,6	149,0	163,0			1,8843
Jan-97	175,7		191,0	312,0	300,0	154,0	143,0	172,0		253,1	1,8915
Feb-97	172,4				310,0	143,6	138,0	154,0	255,0		1,8436
Mar-97	176,6					153,8	146,0	147,0			1,8371
Apr-97	183,5		186,0	297,0		158,6	142,0	152,0	253,0		1,8479
May-97	172,6			315,0		152,7	120,0		250,0	241,5	1,8428
Jun-97	148,4			304,0	275,0	131,6	135,0		257,0	210,0	1,8578
Jul-97	136,2			314,0	245,0	127,8		152,0	250,0	196,0	1,8570
Aug-97	150,6				260,0	140,9			227,0	175,0	1,8563
Sep-97	151,7			300,0	251,0	143,2	133,0		207,0	135,0	1,8606
Oct-97	151,6			260,0	255,0	143,7		107,0	170,0	133,0	1,8713
Nov-97	149,9		175,0	262,0	259,0	138,2			170,0	163,2	1,8794
Dec-97	144,6	112,0		258,0	258,0	135,7		90,0	134,0		1,8950
Jan-98				245,0	260,0		102,0		162,0	150,0	1,9091
Feb-98		161,0		257,0	265,0				147,0		1,9566
Mar-98	136,8	160,0		277,0		125,1		86,0	119,0		2,0340
Apr-98	128,8			252,0		118,0			109,0		2,0399
May-98	130,2			247,0		113,4	70,0		111,0	121,0	2,0493
Jun-98		140,0	141,5	233,0					116,0		2,0589
Jul-98	125,0	125,0	136,0	232,0	205,0			79,0	125,0	115,0	2,1026
Aug-98	126,0	120,0		185,0	179,0		66,0		97,0	110,0	2,1832
Sep-98	129,0			175,0	195,0			58,0	113,0	105,0	2,7850
Oct-98	129,2	94,0			190,0					115,0	3,4232
Nov-98	129,5	87,0	81,0	265,0	198,0			70,0	153,0	135,0	3,4272
Dec-98	129,8	87,0		225,0	200,0	108,5			167,0	139,0	3,4270
Jan-99	125,5	90,0		230,0		103,6	77,0		175,0		3,4270
Feb-99	123,1	88,0	82,0	234,0		100,5		68,0	170,0		3,4270
Mar-99	120,0	87,0	84,0	241,0		92,1	71,0	73,0	176,0		3,8000
Apr-99		94,0	89,0	270,0			84,0	78,0			3,8600
May-99		96,0	95,0	297,0				86,0			3,9200

Source: UkrAgroConsult, USDA

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