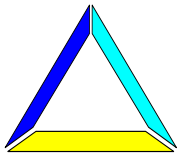
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T13

The 2003 Wheat Crisis and Food Security

Executive summary

Recent developments on the Ukrainian food market have been marked by a sharp increase in wholesale and retail prices for the majority of food products. Food price increases could not leave poor consumers unaffected, and have caused widespread public concern. As a result, government agricultural policy has been re-oriented towards more intensive administrative interference. Nevertheless, even though government policy of ensuring "affordable" food prices to consumers is intended to protect the poorest who depend on inexpensive staple food to survive, it poorly succeeds in reaching the target groups, that is, low-income households. Instead most of the benefits from low-priced food accrue to the rich.

Recommendations

1. Food market policies such as setting price ceilings, regulating profitability and mark-ups are ineffective policy tools that do not primarily reach the most vulnerable groups. As a ***short-run*** solution, the appropriate targeting of the poor through general welfare schemes and food stamps would be the best and the cheapest way of promoting food security and protecting poor consumers: food stamp program would cost twice as less as the alternative policy, which is being discussed nowadays, - the elimination of VAT on bread.
2. Direct price controls and restrictions on grain movements simply fragment markets, boost the shadow economy and undermine market-oriented reforms. A contrary policy, i.e. pursuing the common (integrated) market would alleviate short-run regional shortages and strengthen competition among regional agricultural and food producers, thus leading to both lower food prices and higher per capita incomes for farmers.
3. Rather than forcing producers to operate at low rates of profitability, ensuring competition on regional markets for flour and bread is best suited to prevent possible excess profits and keep prices at a level where they reflect the true scarcities.

4. A ***long-term*** goal should be a reduction in production variability. To this end investment into agricultural research and extension should be increased, since this would help introduction of drought-resistant and high-yield crop varieties and would help diversify production, thus reducing vulnerability to price shocks.
5. In order to reduce price fluctuations for agricultural commodities and food products, transaction costs should be reduced. To this end the whole transportation system should be improved and bureaucratic obstacles removed.
6. Storage of 2 m tons of grain could prevent serious grain shortage. However, holding buffer stocks is not the best way to stabilize prices, since during the high price phases stock releases would probably not affect price but instead simply substitute for commercial imports. Furthermore, due to uncertainty regarding which crop will be in shortage it is not clear the stocks of which crops should be accumulated, which adds to uncertainty regarding the effectiveness of buffer stocks.

1. Introduction

While Ukraine harvested around 20m tons of wheat both in 2001 and 2002, the harvest in 2003 yielded only about 5m tons. Assuming that average production of wheat is 16m tons at a price EXW of 105 US$/t (at the current world market price of 155 US$/t), this is equivalent to an economic loss of 1.16bn US$. At the current exchange rate, this is 6.16bn UAH, which represents approximately 2.5% of GDP.[1]

Thus, the wealth of the Ukrainian people as a whole will be lower by 6.16bn UAH in 2003, whatever policy measures may be taken. There is no method to "wizard away" this damage. It is **not** the guilt of bureaucrats, politicians, grain traders, farmers or consumers, or evil foreign powers, but **solely attributable to bad weather conditions** during the winter 2002/2003. What matters is how the economic damage is distributed among the Ukrainian people, and what groups of the society should be protected from too severe consequences, since bread from wheat is an important staple food for poor people in Ukraine.

In times of food shortfalls and escalating food prices, food relief for vulnerable groups is especially important. Competitive well-functioning markets are the most efficient mechanism for ensuring food availability and protecting low-income consumers during periods of food crisis. However, many governments believe that markets alone react too slowly and some administrative measures are needed. Even though

[1] Even worse, the imports necessary to cover the deficit for food wheat are estimated at 4m tons of wheat at import parity prices of at least 190 US$ EXW. This sums up to 760m US$ or 4.05bn UAH, which represents 7% of the central Ukrainian state budget for 2004.

government interference on Ukrainian food markets has been reduced during the reform period, the government remains an important player on food markets in times of 'crisis'.

To guarantee low prices and the availability of staple foods to consumers, the Ukrainian government intervenes directly by setting price ceilings for staple foods, by regulating the profitability of food-producing enterprises and mark-ups of retail stores and by providing subsidies to bread producers. Unfortunately, these policies are rather ineffective and inefficient in protecting poor consumers, and they undermine important market mechanisms that would otherwise contribute to improving the situation. What is the use for a poor consumer when bread prices are low on the one hand, but on the other hand the size of bread loafs in the shops – small wonder – is shrinking, or private bakeries close down because they cannot work profitably any more?

Three things have to happen within the following months:

1. Enough wheat has to be imported in order to meet at least food wheat demand.
2. Wheat prices have to increase in order to make imports profitable. This will inevitably happen as soon as wheat stocks are finally depleted in early 2004.
3. Poor consumers should be compensated for higher prices to a certain extent and in a targeted manner.

This paper is organized as follows. First, we discuss the probability of a deficit situation in Ukraine as the one experienced in 2003. Then, the risk profiles of groups exposed to under-nutrition are presented. In section 4 we provide some evidence on the effectiveness of public food security measures, and evaluate Ukrainian food policy against this background. In contrast to the policies currently pursued, we discuss the possibilities of alternative support measures in the final section, and end with concrete recommendations.

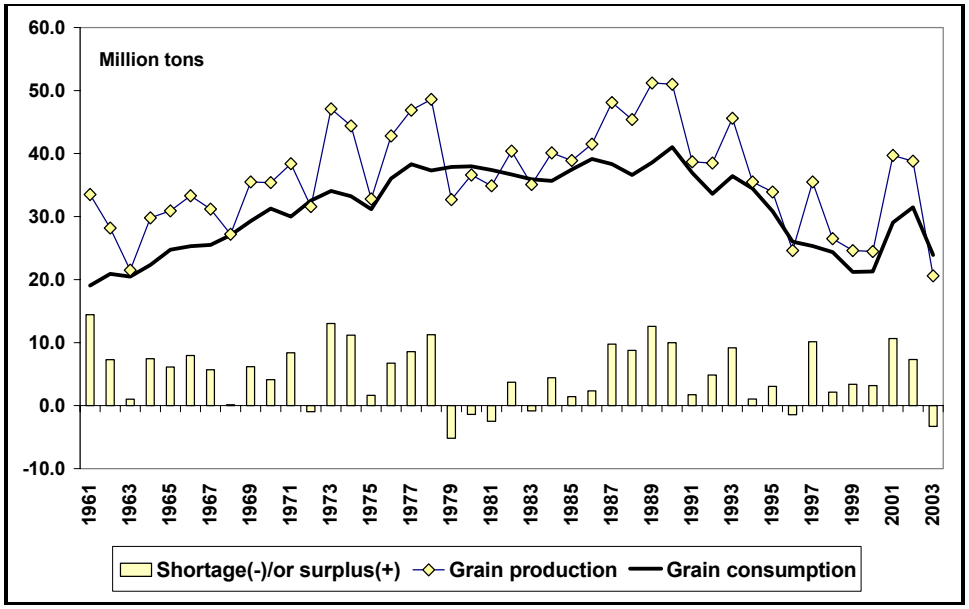
2. How Likely is a Food Wheat Deficit in Ukraine?

There can be no doubt that the wheat production shortfall caused by winterkill was serious, and that it is natural to think about measures to ease the economic impact of such a deficit situation. The deficit is absolute in a sense that the production plus stocks cannot even cover the need for average human consumption, let alone average feed use and other uses. However, when it comes to a choice between several alternatives to deal with an absolute wheat deficit in Ukraine, the likelihood of such a very special situation has to be taken into account. Were such a tremendous deficit to be expected once in three years, measures to stabilize price, for instance, would be more justified than if such a deficit would only occur two or three times per century. The following graphs put things a little bit into perspective. Let us start with grain in general (Fig. 1), and then move on to the most important staple crop for

human consumption, wheat (in Fig. 2). The first graph shows that Ukraine experienced an overall grain deficit in seven out of these 42 years. On average, the deficit was 2.2 m tons; one each occurred in the sixties, the nineties, and in 2003; and four happened between 1979 and 1983. The following conclusions can be drawn:

- The probability of a deficit is one in six years during the observed period;
- The figures do not suggest that the probability of grain deficits is increasing, despite the overall reduction in production that has accompanied transition;
- The average size of a deficit is such that storage in a magnitude of 2 m tons could (at least theoretically) prevent serious overall grain shortages; and
- The elastic component of grain demand is presumably feed demand, through which consumption adapts to production.

Figure 1: Total grain production, total consumption, and resulting surpluses in Ukraine 1961 – 2003, in million tons

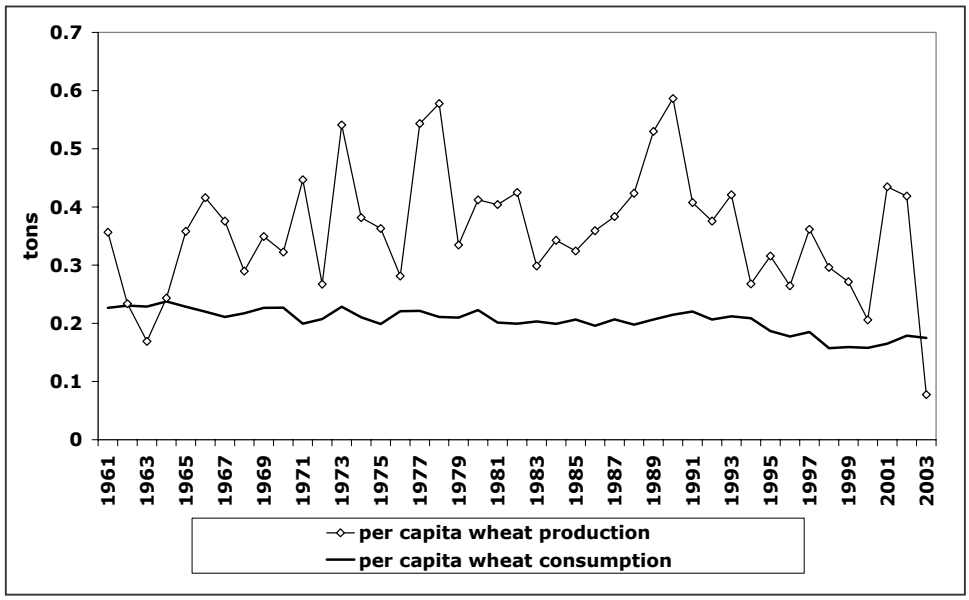


Source: the Ministry of Agrarian Policy of Ukraine, FAO

When looking at wheat in particular (Fig.2), the number of deficits decreases further when we define a food wheat deficit as one where wheat production falls short of wheat consumption for food purposes, i.e. total consumption minus feed use. Two deficits occurred which made imports of food wheat absolutely necessary, namely 1963 and 2003. The conclusions are as follows:

- True food wheat deficits are relatively seldom;
- The adaptation of grain and wheat demand is happening through decreased feed use of grains and wheat in particular. Feed use is thus implicitly functioning as a "hidden grain silo";

Figure 2: Wheat production and consumption (not including feed use) 1961 – 2003, in million tons



Source: the Ministry of Agrarian Policy of Ukraine, FAO

- as long as the wheat deficit can be offset by the reduction in feed use and the substitution of feed wheat by other feedstuffs, food wheat imports are not necessary;
- this means that prices for food wheat need not to shoot up to the import parity price level (world market price plus tariff, transport costs from port to elevator, etc.) as long as feed wheat can still be substituted;
- this means that wheat storage is not necessary to keep prices within a tolerable range as long as production plus existing private stocks is higher than food consumption; and,
- major public storage facilities for food wheat would be useful only every 25 years on average. It is questionable whether the costs of extensive public storage could be justified, given the extremely long period over which grain would have to be stored on average.

To summarize this section, grain storage might rather be justified for feed grains than for food grain.

3. Identification of Vulnerable Groups

Food security cannot be measured meaningfully at the national or regional level. Even if a country is a net exporter of food, some vulnerable low-income groups within the population might still suffer from malnutrition. Thus, adequate grain production in a certain region is neither a sufficient nor a necessary condition for the food security of all households and individuals in that region. The food security of an individual crucially depends on his or her endowments, working capacity and other production factors and his or her exchange entitlements[2], i.e. the ability to exchange these endowments for food. Hence, food security can be endangered by a decrease in a person's endowment (e.g. alienation of land, or loss of ability to work due to ill health), or due to an unfavorable shift in exchange entitlements caused by a loss of employment, a fall in wages, a rise in food prices – for which a bad harvest is just one possible reason – a drop in the price of goods or services the person sells, a decline in self-employed production. The failure of any of these entitlements can threaten the food security of an individual or household.[3]

What might characterize a vulnerable household in the Ukrainian context? It is obvious that poor people are prone to under-nutrition. But official poverty lines are mostly based on the concept of relative poverty. A household, which is officially poor in Germany, has still a real income that is far above the Ukrainian average.[4]

But what, then, are the characteristics of an absolute poverty level, which makes household members vulnerable to undernutrition? The following factors contribute to risk:

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[2] It was the pioneering work of AMARTYA SEN in his book *Poverty and Famines – An Essay on Entitlement and Deprivation* (1981) that gave us a different and much broader view of the notion of food security. SEN introduced the so-called **entitlement approach**. According to this approach the food consumption of individuals, families or social groups depends on what they are able to acquire by whatever legal ways. Although this seems to be rather obvious, it had in the past all too often been forgotten in the analysis of the causes of under-nutrition.

[3] Ludwig Striewe, Victoria Galushko & Stephan von Cramon-Taubadel "Promoting Food Security in Ukraine"// "Policies and Agricultural Development in Ukraine" edited by Stephan von Cramon-Taubadel, Sergiy Zorya, Ludwig Striewe. – 2001

[4] The most common definition of a poor household in Germany is an income level only up to half the average monetary household income. This is far above the average income of a Ukrainian household. Social welfare programmes in Germany prevent net household income from falling below a certain level (~ 1500 € per month). Hence, according to Ukrainian standards, there should be only rich households in Germany. Only a very small share of individuals earns less, particularly homeless people with mental disorders who simply do not manage to follow the necessary bureaucratic procedures of the existing social welfare system.

- Low wage or pension earners

According to the Ukrainian law, there is both a minimum wage and a minimum pension. But it cannot be taken for granted that employees or pensioners can always manage to really receive this amount. The results of the household surveys on which official statistics are based suggest that the lower income strata receive wages below the official minimum level.

- Members of households with only one earner

As a legacy of its socialist past, Ukraine has a high share of labor market participation by women. Nevertheless, this share has been decreasing, which means that an increasing number of households depend on a single income. Single parent households are a related problem, because good nutrition and health also depend on care, especially for children.

- Children, or elderly people without pension in low-income households

The lowest income group in rural areas according to national expenditure statistics has the biggest average number of household members (4,7). Most likely, these are households with children. Families with many children (or with elderly members who are not entitled for a pension for whatever reasons) thus face an increased poverty risk.

- Members of a household where the earner is jobless, or suffers from wage arrears

The level of unemployment in Ukraine is modest by international standards, which may have to do with the low levels of unemployment benefits. Nevertheless, poor families with unemployed earners will tend to have difficulties mobilizing the monetary resources for sufficient food. The same holds true for employees faced with wage arrears.

- Households in remote areas

Given that a production shortfall in a region requires imports of food, the costs to ship food to these areas may increase prices tremendously compared to a situation in which the region produces staple foods in sufficient quantities. Moreover, the transport of self-produced non-staples to the next market (where they can be turned into cash which then can be used to buy staples) is more costly.

- Rural households without land titles among the members

Lease payments from land shares of former collective or state farms constitute an important income item for rural households. These lease payments are either paid in cash or in-kind, e.g. a certain amount of wheat.[5]

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[5] In the case of a food shortage, payments in the from of wheat have the advantage that they are not dependent on the wheat price. However, it is likely that the tenant will try to reduce his lease payment obligations in the case of a harvest shortfall. Hence, the security function of wage payments in kind in the case of a harvest shortfall like that of 2003 may be less than expected.

- Households which have no access to a garden plot or dacha

There are two major staple crops in Ukraine, wheat and potatoes. While wheat is produced predominantly on large farms, potatoes are typically produced in private gardens. The same holds true for fruits, vegetables, and small livestock. The access to such a production resource still represents the most important insurance against food shortages that exists in Ukraine today.[6] Generally, it can be suspected that it is the urban poor who are at a higher risk to have poor access to food, while the rural poor suffer rather from lacking access to health service and education.

- Individuals with low incomes and no support from relatives

The family is still an important safety net for elderly or disabled persons. Grandparents often receive support from their working children or grandchildren, because the pensions are sometimes very low. Pensioners without children or with disrupted family ties are at high risk. The typical beggar on Ukrainian streets is a female pensioner.

- Poor households in poor regions with an under-developed system of social welfare

It is obvious that poor households in poor regions run a higher risk of decreasing purchasing power for food. Moreover, poor regions often cannot afford sufficient welfare programs to protect the poor.

This list could be continued. The more of these characteristics an individual or household shares, the more likely will this household be prone to nutritional problems. It is important to recognize that this is not only the case when there is a grain shortage in the region. According to official Ukrainian statistics for the year 2002 (a year with abundant grain and very low grain prices), the lowest income level (average expenditure per household member lower than UAH 60 per month) consumed only 1530 calories per day. Even when taking into account that there are small children among the household members, this nutritional level is insufficient. This is surprising, since chronic hunger does not seem to be an obvious problem in Ukraine. Only biometric measurements among members of vulnerable groups can determine whether undernutrition is a widespread fact – and not simply a statistical arte-fact due to under-reporting of food intake during household surveys.

Biometric studies that have been carried out in Ukraine in 1999 by UNICEF have shown that the most widespread malnutrition indicator among children was stunting, which means a reduced height for age. In Ukraine, 15.4 percent of children are classified as stunted. But the reason for this is generally not a caloric deficiency, but rather weaknesses in feeding practices in young children. Ukraine still follows Soviet recommendations, which underestimate the importance of breastfeeding in the early

[6] Tho Seeth et al. (1998) found that the access to a garden plot tremendously decreases the risk of extreme poverty for a household in Russia.

months of a child (Sedik and Wiesmann 2003). According to these authors, there have been no further indications of undernutrition for Ukraine on a broad base. Only five percent of the population have inadequate diets, which are inadequate with respect to deficient calorie intake.

From a political perspective, this finding is fundamental, **because it disproves the common notion that half of the population are so poor that they need low bread prices for survival**. It is only a relatively small fraction of the population, which is at risk, and it is important to recognize that this group also suffers when bread prices are low, not just in years of shortage such as 2003.

4. Do Existing Policies Help the Poor?

The large share of food in total per capita expenditures in Ukraine emphasizes the vulnerability not only in terms of ability to purchase food when it is available in the market, but also to price shocks and temporary downturns in income. In times of food shortfalls and escalating food prices, food relief is especially important for the most vulnerable groups. To achieve its food security goals the Ukrainian government adopts a highly interventionist approach to grain markets and undertakes the following activities: releasing grain and staple food products from the State Reserve fund at subsidized prices, administering farm-gate and retail prices, fixing maximum profitability rates for food-producing enterprises and maximum mark-ups. The goal behind this set of policies is easy to understand: they intend to ensure low food prices. However, this set of policies is an extremely ineffective means of reaching the poor: because these policies ensure low food prices for all and the rich consume more of all food products, these policies yield more benefits to high-income population groups, while providing an insignificant food relief to the poorest. This argument is briefly discussed in the box below.

During 1966 and 1982 the government of Brazil attempted to achieve self-sufficiency in wheat production and at the same time provide cheap wheat to its consumers. As part of its attempt to achieve these goals, the government became the sole seller and buyer of both domestically produced and imported wheat. The prices of wheat were rigidly controlled throughout the economy. Farmers were encouraged to increase wheat production through a price-support subsidy, and millers were provided with wheat at a price substantially below that paid to producers, with the government making up the difference out of the general tax bill.

In their study of the Brazilian wheat policy, Calegar and Schuh (1988: 9-10, 43-45) determined that 86% of the subsidy went to consumers, while 14% went to administration or were lost through slippages such as manipulations by the millers. On the other hand, only 19% of the total subsidy went to the target group, the low-income consumers. Furthermore, gains in consumer welfare were slightly biased

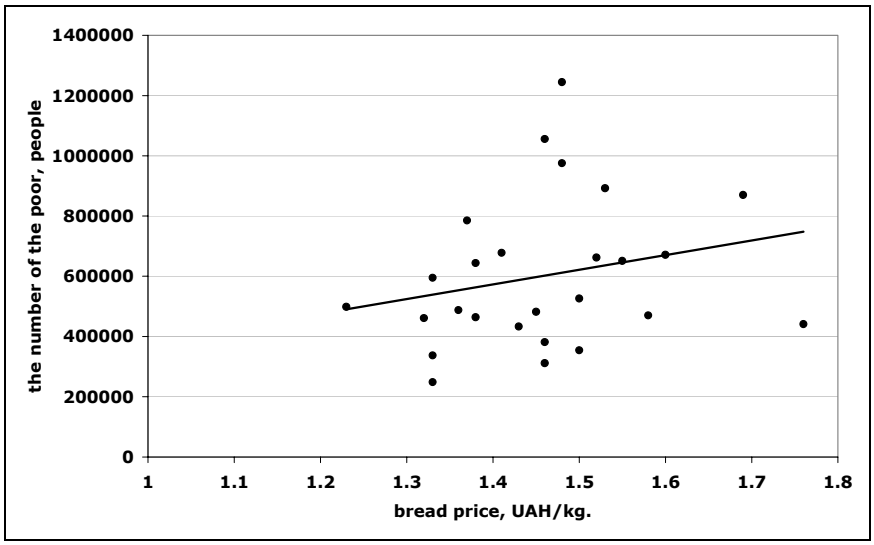
toward the high-income population groups because they bought more bread per capita than low-income groups.

Source: Foster, P. "The World Food Problem: Tackling the Causes of Undernutrition in the Third World", Lynne Rienner Publishers, 1992, p.268

Subsidizing food through administered prices, profitability and markup controls

There are large efficiency costs of the policies such as explicit or implicit food subsidization through government procurement (sales) programs and setting ceiling prices. Even though the recent administrative measures have been criticized by many for being anti-reform ones, the government claims that under the current fiscal constraints they are the only way to help the needy. But are these policies effective? The correlation coefficient of 0,24 between the number of the poor in a region (we identify the poor as those living on less than $1 a day) and administratively set regional bread prices illustrates that administrative price control measures are extremely poorly targeted. The correlation between the bread price and the share of the poor in the region is even higher at 0,35. To better visualize the situation we present a scatter plot (Fig. 3).

Figure 3. The relationship between the number of the poor and the regional bread price



Source: Derzhkomstat

The positive value of these correlation coefficients implies that in regions where the number of the poor is larger, bread prices are higher. **This is the exact opposite of what a rational policy aimed at helping the poor should achieve!** Generally if the government decides to support the poor it should ensure that regions with larger

number of the low-income consumers enjoy lower bread prices. Administering prices is, however, not a market-oriented policy and it had better be avoided.

Implicit subsidization of food through administered staple food and grain prices does not meet the objective of providing relief to the vulnerable groups. In the table below we provide the information on bread,[7] meat and milk[8] consumption for different income strata.

Table 1: Bread, meat and milk consumption by the poor and the non-poor[9]

	Consumers living on less than $1 a day		Consumers living above the minimum subsistence level	
	Rural areas	Urban areas	Rural areas	Urban areas
The number of people, mln.	3.67	5.48	2.40	8.10
Per capita bread consumption, kg/month	8.1	8.8	15.6	11.6
Bread consumption by the income strata, tons/month	*29727*	*48224*	*37440*	*93960*
Per capita meat consumption, kg/month	1.2	1.6	5.05	5.45
Meat consumption by the income strata, tons/month	*4404*	*8768*	*12120*	*44145*
Per capita milk consumption, kg/month	13.3	9.9	30.7	25.0
Milk consumption by the income strata, tons/month	*48811*	*54252*	*73680*	*202500*

Source: Derzhkomstat and own calculations

As can be seen from the table, the consumption of bread, meat and dairy products increases with income. The share of the poor in the total bread consumption accounts for 15%, meat consumption – 8% and milk consumption – 11%. This means that keeping prices for bread, flour and cereals low would yield much larger benefits to high-income population groups and only a small share of the total food subsidy would go to the poor. Furthermore, the benefits from cheap feed (grain) would accrue largely to the wealthy who consume the livestock products.

Restricting mark-ups in rural stores can be especially harmful for the rural poor. In view of poor infrastructure the cost of transporting products is rather high, which is translated into a higher retail mark-up. Limiting the mark-up to a level that makes transportation unprofitable cuts rural residents off from food supplies and forces them to incur additional costs by traveling to neighboring centers for bread, pasta

[7] Bread includes rice, bread, bakery products, flour and cereals.

[8] Milk includes fluid milk, cheese and butter measured in milk equivalents.

[9] Non-poor are defined as those living above the minimum subsistence level (UAH 342 per month per capita in 2002)

and other foods or by buying products on black markets at much higher prices. Thus, the rural poor can end up paying more than they would without the government policy. Further, to ensure that the profitability or a mark-up does not exceed the legislatively set level the government is obliged to organize permanent inspections, which means that the government bureaucracy controlling prices tends to get bigger, more intrusive and more expensive.

Another question that arises is: Are administrative controls over bread, cereals and grain prices really necessary in the current situation? The situation this year can be comparable with the situation that occurred in 2000, when the harvest was poor and milling wheat price increased by 2.1 times (in 2003, the milling wheat price increased by 2.4 times). In response to the grain price increase, retail prices for bread, meat and dairy products increased by 67%, 45% and 35%, respectively.[10] Nevertheless, there was no threat to food security and significant impoverishment of the population. Furthermore, over the two consequent years food prices were steadily declining, as the grain price decreased. Assuming that this year grain price increase is translated into the same increase in food prices then, given the shares of bread, meat and dairy products in total consumer expenditures, the increase in the cost of consumer basket is estimated at 9.4% for the poor and 11.0% for the non-poor (see Table 2).

Table 2. Increase in the cost of the consumer basket due to an increase in bread, meat and milk prices

	Consumers living on less than $1 a day	Consumers living above the minimum subsistence level
Increase in the cost of consumer basket due to an increase in the bread price of 31%[11], %	3.7	2.2
Increase in the cost of consumer basket due to an increase in the meat price of 45%, %	3.3	6.6
Increase in the cost of consumer basket due to an increase in the milk price of 35%, %	2.4	2.2
Total increase in the cost of consumer basket	*9.4*	*11.0*

Source: own calculations

Can government intervention prevent this increase? In the short-run maybe, but the policy-makers should bear in mind that such a policy creates a dual "public-private"

[10] Source: Derzhkomstat

[11] According to our calculations based on the information provided by the Ukrainian Association of Bakeries, for bakeries to break-even bread prices would have to increase by 23%. An increase in bread prices of 31% would ensure the profitability of bread production of 10%.

grain market in which private sector activity is stifled[12] and economic growth is hampered; this policy would be very costly in the long-run. A 9.4% increase in the cost of the consumer basket may do less damage to consumers than the government interference.[13]

Subsidizing food through non-competitive procurement of grain from farmers

In addition to direct price controls the Ukrainian government undertakes a number of measures including non-competitive procurement of grain from farmers to replenish regional reserves and restrictions on inter-regional grain movement. Non-competitive procurement of grain from farmers at below-market prices with a view to ensuring the availability of grain in the market at a "reasonable" price is an implicit taxation of agricultural producers that creates disincentives to agricultural production. It also renews mistrust in government grain interventions so that systems like the pledge price have even less chance of being accepted by farmers. Policy-makers would be well advised to bear in mind that "the price paid for cheap food today is a lethargic agricultural performance tomorrow".[14]

The role of interregional barriers to grain movements

Placing controls on inter-regional grain movements has become a common practice to ensure a region's self-sufficiency. However, such controls create wedges between regional grain prices due to an increase in prices in importing regions and a decline in prices in exporting regions. In Ukraine, for example, the Western regions are the poorest and they import grains, which means that by restricting inter-regional grain movements the government effectively increases grain prices in the Western regions, thus making food less affordable to the poor. The costs of interregional trade barriers can run very high.

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[12] "The situation on the grain market: Crisis! What crisis?", Institute for Economic Research and Policy Consulting, T9, September 2003

[13] Administrative measures can help restrain price increase in the short-run. However, taking into account that the price of all components of production costs (labour, electricity, raw-materials, etc.) increase over time later there will be a sharp increase in prices rather than a gradual one. Furthermore, government intervention is likely to result in some firms closing down, thus contributing to higher unemployment. Or enterprises may reduce wages in order to keep production costs from increasing, thus contributing to a reduction in per capita incomes. Thus, prices will increase sooner or later, however, by not intervening the government can avoid such negative consequences as increased unemployment and lower per capita incomes.

[14] Foster, P. "The World Food Problem: Tackling the Causes of Undernutrition in the Third World", Lynne Rienner Publishers, Inc., USA, 1992, p.306

For example, until recently in Canada no one had a precise idea of how many barriers existed between provinces. It was found that there exist hundreds of them (both to agricultural and non-agricultural trade). There are numerous examples in which product standards and marketing agencies have been used to block the trade between the provinces. Due to the Canadian Agricultural Product Standards Act, for example, the Alberta-based fruit and vegetable company could not make bulk shipments of carrots for processing in British Columbia, Saskatchewan and Manitoba. Under the National Farm Products Marketing Agencies Act interprovincial movements of chickens, turkeys, eggs and milk were regulated through quota systems. Inspection regulations and enforcement practices also served as impediments to interprovincial trade. At one time inspections were the principle means used to control interprovincial movements of milk and a dairy could not ship to the processor unless the provincial milk inspector had approved the farm. These are only few examples of impediments to free internal trade in Canada, and the costs of restricted interprovincial trade are magnified beyond the farm gate. The barriers to the free movement of raw commodities require the processing sector to operate smaller, less efficient plants, which is translated into higher prices to consumers, while a contrary policy, maintaining an open common market would strengthen competition among regional agricultural and food producers, which would manifest itself in lower food prices and higher per capita incomes. It was estimated that interprovincial barriers overall costed Canadians at least $6.5 billion a year in lost income, while an estimate of gains from free internal trade for Canada is a permanent increase in income of 1.5 percent.[15]

5. Public action to protect vulnerable groups: What can be done?

In the following we discuss a set of policies advocated for relieving the hardship of the poor in years of bad harvest. One has to distinguish between emergency measures and long-term measures.

Short-Term Measures

Food subsidies for poor people

One technique for ensuring immediate relief to the most vulnerable groups in times of food shortfalls is a **subsidized food-rationing system or food stamps** that

[15] Filip Palda, Preface: Why Canada Must Rid Itself of Inter-provincial Trade Barriers (The Fraser Institute, 1994)

would allow a consumer who hold a ration or a stamp to purchase a specific amount of some food at a below-market price. Since in urban areas it is mostly pensioners who are poor, pension payments could be supplemented with discount coupons. In rural areas identification of the poor is more difficult and will require greater effort on the part of the authorities.

How costly would food transfers be? According to the official statistics the calorie intake is less than the norm for households with less than UAH 120 per capita monthly income. Thus, they are the ones who should be targeted in the first place. Given that there are 4.6 m people belonging to 30-120 UAH income strata and assuming that the government subsidizes bread price by UAH 0.3 per kilo, with per capita monthly bread consumption of 8.1 kg. the government expenditures on food transfers would be about UAH 11.2 m per month [4.6*0.3*8.1]. If administrative costs accounted for 10% of the total costs of the food stamp program, such a program would cost Ukrainian government altogether about UAH 12.3 m per month. Is this cost too high? Let us compare it to the alternative means of keeping bread prices low which is being considered by the government at the moment: the elimination of VAT on bread. The elimination of VAT would guarantee a bread price reduction of UAH 0.08 per kilogram. Assuming total monthly bread consumption is 286 thousand tons (if each person consumes 200 gr of bread daily), the budget would forego revenues from the VAT payments of approximately UAH 23 m per month [286*0.08]. Thus, targeted food relief would cost the government twice less than the policy of ensuring low bread prices for all (via eliminating VAT). Even though elimination of VAT may seem a reasonable policy to keep bread price low because it does not involve explicit payments from the budget as the food program does, in reality it happens to cost more.

Subsidies to inferior staple foods

Another technique to reach the target group might be a self-targeting policy. This policy provides for subsidization of food with negative income elasticity. For example, the government could subsidize the kind of bread (low-quality bread) that would be consumed only by the poorest and would not be consumed if the consumer's income increased.

Food-for-work programmes

To alleviate the hardship of the bad harvest and escalating prices for the unemployed employment schemes such as food-for-work where workers are paid most of their wages in kind could be launched. *This is rather a long-term measure, and few people will be willing to accept this.*

Long-Term Strategies

However, to be effective food-rationing and stamp programs must be well administrated, which implies high administrative costs. Thus, even though food transfers can succeed in providing immediate relief to vulnerable groups, they should be recognized as short term only, and the priority should be given to the policies that would ensure long-term food security.

Improved productivity of the cropping sector

Looking at Figure 2 it is evident that over the whole period there have been large fluctuations in Ukrainian wheat production. Thus, the long-term goal should be to reduce production fluctuations, thus avoiding frequent switches from an import to export situation and vise versa. Since domestic production plays a major role in the food security of rural households, efforts to improve agricultural technology could have a significant impact. Drought-resistant and high-yield crop varieties can significantly reduce annual production variability and support long-term productivity growth. Investment into research and extension would help production diversification, which would reduce vulnerability to price shocks, and favor technology diffusion through Ukrainian agriculture.

Improvement of rural infrastructure

Food grain price stabilization policies should be implemented through marketing support services and infrastructure. Investments in transport infrastructure must be the most important component of price stabilization policies, since improved transportation networks increase farm-gate prices (thus increasing farmers' incomes), lower input costs (which is manifested in lower prices for consumers) and significantly contribute to a reduction of price fluctuations (which reduces the probability of low-income households being food insecure during the years of bad harvest). Furthermore, improved infrastructure increases off-farm employment opportunities, which translates into higher rural incomes, thus improving economic access by rural households to food.

Public reserves

It is also important to emphasize that trade should be recognized as a potential instrument for food security. At a first glance, holding reserves with a view to stabilizing prices in lean years might appear to be a good solution. However, stock releases during the importing period would probably not affect price but would

instead substitute for commercial imports.[16] Furthermore, releasing grains and food from the state reserve at below-market prices discourages the involvement by private traders and, as a result, hampers saturation of the grain and food markets.

Instead of trying to gain the major role in the grain marketing system the government should boost confidence and encourage the private sector to make the needed efficiency enhancing investments in the marketing system. Ad-hoc features of government intervention and the uncertainty regarding its timing discourage involvement of the private sector, thus contributing to market inefficiencies and fragmentation[17]. A government competition policy would also be critical to ensure fair trading practices by the private sector. Competition among domestic producers would stimulate introduction of cost-reducing technologies, which would inevitably lead to increased supplies and reduced food prices.

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