GERMAN ADVISORY GROUP FOR ECONOMIC REFORMS WITH THE UKRAINIAN GOVERNMENT

Prof. Dr. Lutz Hoffmann
German Institute for Economic Research, Berlin

Dr. Lorenz Schomerus, Former State Secretary
Federal Ministry of Economics and Technology, Berlin

Group members in Kyiv	Prof. Dr. Stephan v.Cramon-T.	Department of Agricultural Economics, Göttingen
	Ricardo Giucci	German Institute for Economic Research, Berlin
	Dr. Christian v. Hirschhausen	German Institute for Economic Research, Berlin
	Felicitas Möllers	Deutsche Bank Research, Frankfurt
	Dr. Petra Opitz	German Institute for Economic Research, Berlin
	Ludwig Striewe	Department of Agricultural Economics, Göttingen
	Dr. Ulrich Thießen	German Institute for Economic Research, Berlin
	Dr. Volkhart Vincentz	Institute for Eastern European Studies, Munich

Office: Khreshchatyk Str. 30, 01 001 Kyiv,
Tel. 0038 044 228 63 42, 0038 044 228 63 60, Fax 0038 044 228 63 36, Email: germanad@public.ua.net

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The pros and cons of food aid from a Ukrainian perspective

INTRODUCTION

Food aid has been an important form of assistance to reduce food shortages in developing and some transition countries. Food aid is made possible by large agricultural surpluses that are produced in major food producing and exporting countries, such as the United States. Humanitarian aid is a normal response to inadequate food supply and undernourishment in less fortunate countries. With growing practical experience, food aid has been increasingly used in a way that is specifically designed to foster development and change.

The low grain harvest in Ukraine in 2000 has caused the Government of Ukraine (GoU) to consider requesting food aid. It was announced in May 2000 that Ukraine intends to ask the US Government to supply food aid in the form of 500.000 t of feed corn and 200.000 t of soybeans under its so-called PL-480 program.[1] At the end of September 2000 it was announced that Ukraine plans to import 600.000-800.000 t of grain from the US under the US Goverment's PL-480 and GSM-102 programmes.[2] Finally, it is rumoured that discussions are currently taking place between the Ukrainian and US governments on possible food aid deliveries

Food aid is not panacea for the complex problem of food shortages and permanent dependence on food aid is undesirable. One would think that there is little danger of Ukraine becoming permanently dependent on food aid because it has such an impressive agricultural potential. However, since Independence Ukraine has not been able to tap its agricultural potential and production has fallen considerably. Thus there is a need to

[1] See UkrAgroConsult (Weekly #19, May 8-15).

assess the possible role, consequences and risks associated with food aid in Ukraine. This paper is intended to contribute to such an assessment. It deals briefly with:

- the principal features of food aid,
- the case for food aid, and
- the problems raised by food aid.

THE PRINCIPLE FEATURES OF FOOD AID

Food aid is granted for various purposes:

1. to alleviate the immediate consequences of food shortages. These can be due to natural disasters such as drought and emergencies such as war, or due to the negative consequences of ill-advised economic and agricultural policies;
2. to constitute an input into economic and social development programmes, in particular through labour-intensive public work projects and through nutritional programmes for vulnerable groups.

Often food aid is provided to be sold in the recipient country. The proceeds can then be used to finance development projects, such as rural public infrastructure projects, or to target income assistance to the poor. In some cases, food aid is provided directly to workers employed in development projects in the form of so-called 'food for work' programmes. Food aid can also be used to make up for short-term setbacks resulting from policies whose long-term consequences are considered desirable. For example, while land reform can make a major contribution to economic growth, its short-term results might very well be a fall in food production. In this case, food aid can help compensate for short-term losses and thus make it possible to realise long-term gains. Finally, food aid in the form of feed grain can be used to feed livestock in low-income countries, thus increasing output of livestock products and, at the same time, reducing pressure on eroded and overworked grazing lands. Of course, in practice these purposes and modes often overlap.

The principle commodities in food aid programmes are cereals. With few exceptions (such as milk powder), attempts to diversify the composition of food aid to include other commodities have not been very successful. This is because cereals have many characteristics that make them well suited to being a vehicle for aid: in particular, they are staple foods that are relatively easy to transport and store.

Furthermore the volume and composition of food aid is linked to the accumulation of surpluses of certain products in donor countries. That is,

[2] Reuters Ltd. 2000, in InsideUkraine on Sept. 27, 2000.

food aid tends to be given not only when and in the form that recipients require, but also when and in the form that is most suitable to donors who wish to dispose of surplus production. In recent years, new WTO regulations have restricted the use of export subsidies by the US and the EU. Without export subsidies, these countries find it difficult to dispose of their surplus production while simultaneously maintaining high domestic prices. In such a situation, food aid is a 'loophole' that provides a welcome means of disposing of surpluses.

Food aid can take the form of grain for human consumption and/or feed grain. While it is clear that food aid in the form of grain for human consumption can help alleviate food shortages and reduce under- or malnutrition, food aid in the form of feed grain has an indirect effect on these problems by increasing the availability of livestock products that can be valuable from a nutritional standpoint (milk, eggs and meat). In recent years, the number of livestock has greatly decreased in Ukraine. Farmers who don't have enough money to carry out fieldwork exchange cattle for inputs. A great deal of livestock is slaughtered on the ground that feed is very expensive and farmers can't afford it. By 1999 the production of meat and milk had decreased by 2,4 and 1,8 times, respectively, in comparison with 1990. This is the main reason why the GoU is also interested in food aid in the form of feed grain from the US.

THE PROBLEMS RAISED BY FOOD AID

As mentioned above, food aid has its pros and cons. Although food aid can play an important role in helping to meet urgent food requirements, it also raises a number of problems that need examination:

- it can have adverse effects on domestic agricultural production;
- it can have adverse effects on income distribution and even the food security of parts of the population;
- it can have adverse effects on international trade; and
- it can lead to problems with management, rent seeking and corruption.[3]

A major area of concern over the impact of food aid on recipient economies is that it may create disincentives for domestic producers by lowering domestic prices. In this way food aid might contribute to the solution of immediate shortages, but at the cost of increasing the likelihood of future shortages.

The effects of food aid on the distribution of income are complex. In so far as food aid contributes to lower food prices, it will improve the food

[3] See: OECD (1974).

security of those who have the means to purchase food. By lowering food prices for all (both rich and poor), however, food aid is a very unfocused type of aid. Furthermore, depressed food prices also translate into reduced income for those who earn their livings by producing food. As food producers belong to the poorest individuals in many countries, this means that food aid can, paradoxically, exacerbate problems of poverty and hunger.[4]

In the following section we concentrate on the damage that food aid could cause in Ukraine.

The impact of food aid on agricultural production

Food aid is sometimes criticised because of its possible adverse effects on agricultural production. In case of Ukraine food aid might:

1. reduce the pressure on the GoU to implement necessary, but politically difficult reforms; and
2. increase the supply of grains on local markets and thus reducing grain prices and the profitability of Ukrainian grain producers.

Reforms: In order to strengthen the agricultural sector, the GoU must maintain and accelerate the pace of reforms both in agriculture and in the economy as a whole. There is a danger that food aid might allow the government to postpone essential reforms, and in particular those reforms that would remove the existing strong policy bias against agriculture in Ukraine. The German Advisory Group has repeatedly pointed out that state-owned or state-controlled grain marketing monopolies reduce farm gate prices significantly. The less efficient the marketing infrastructure in Ukraine is, the greater the gap between world market prices and farm gate prices in Ukraine. In an export situation, this gap is positive and inflated marketing costs act to depress farm gate prices below the level that would otherwise prevail. This was the problem in Ukraine prior to 2000, as farmers received much lower prices for their grain than they should have. While the GoU talked a great deal about the need to support agriculture, it took few concrete steps to reduce this indirect but heavy tax on farming.

As a result of this taxation, it is no surprise that agricultural production has fallen in Ukraine, leading to the current situation in which Ukraine has, for the first time, become a net importer of grains in 2000/01.[5] In other words, the current need for food aid is largely a result of misguided agricultural policy in the past. Note, however, that inflated marketing costs are also damaging in an import situation. In an import situation, marketing costs are not subtracted from but rather added to the world

[4] For a detailed discussion of food security issues, see German Advisory Group (2000).
[5] Ukraine imported grains in 1999/00 as well, but was nevertheless a net exporter.

market price to determine farm gate prices. Note that recent prices for class III wheat in Ukraine, at as much as 150-160 US$/t, are considerably higher than the corresponding world market price of roughly 110 US$/t. If marketing costs were not so high, then current grain prices in Ukraine would be lower. Inflated marketing costs tax producers in an export situation (1991-1999) and tax consumers in an import situation (2000).

In summary, inflated marketing costs have contributed to the current shortage of grain, and now they are adding to the costs that this shortage imposes on the poor in Ukraine. Essential reforms directed at dismantling grain marketing monopolies in Ukraine are imperative, and food aid will be damaging in the long run if it enables the GoU to continue putting off these reforms. The recent strengthening of the role of Khlib Ukrainy, as provided for in Presidential Decree No. 832/2000, suggests that the GoU is not entirely committed to market reform in this area of agriculture. As a result, there is a very real danger that food aid could become a regular facet of Ukrainian food markets in the future.

Profitability: Recent estimates suggest that grain harvest in Ukraine in 2000 will drop to 22,2 million t, down from 24,6 million t in 1999[6]. This low level of production is a threat to food security in Ukraine. At first glance it may seem obvious that food aid would reduce this threat. However it is increasingly appreciated that simply increasing food supplies does not guarantee food security. Food security is an individual or household phenomena; individuals and households with insufficient income can go hungry even if national food balance sheets show a surplus.[7] Furthermore, additional supplies can have a disincentive effect on production by reducing prices. In order to assess to what extent food aid may influence domestic production, we need to estimate possible impact of food aid on domestic grain prices.

Figure 1 is a representation of demand and supply curves for grain in Ukraine. S_{grain} is a supply curve that shows what quantities of domestic grain will be produced at different prices. Food aid will shift this supply curve horizontally to the right by a constant amount (to $S_{grain+aid)}$. Thus, the volume of food aid is equivalent to the distance between Q_2 and Q_3. This rightward shift of the supply curve will cause the equilibrium price to fall from P_1 to P_2, thus discouraging production.[8] The market equilibrium point will shift from N to N', and domestic production of grain will fall from

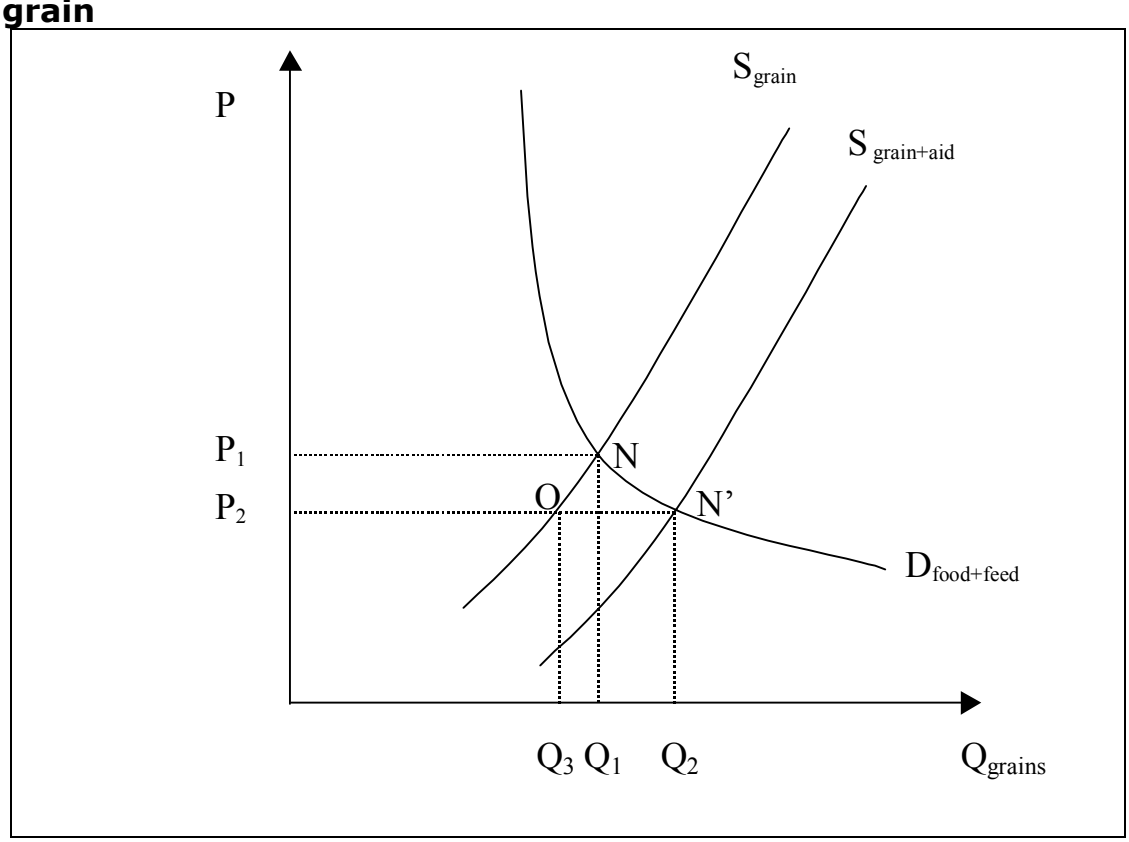
[6] UkrAgroConsult (Weekly #40, October 2-9, p. 6).
[7] See German Advisory Group (2000).
[8] If Ukraine was a truly open economy, the domestic price of grain would be determined by the world market price (net of marketing costs) and food aid would simply replace imports in the current situation, thus reducing the import bill. Ukrainian grain markets are poorly integrated, however, and it is reasonable to assume that food aid will depress domestic prices, especially in regions where food aid is marketed.

Q_1 to Q_3. As a result, the incomes of domestic grain producers will fall. Total losses to farmers are equal to the area P_1 NOP_2.[9]

So, food aid can have the same effect as a tax on producers. How large will this effect be in reality? This depends on *elasticities of demand and supply*. An elasticity is a parameter which describes how much one variable (for example, a quantity) varies as a function of another variable (for example, a price). Elasticities describe such relationships in relative, in other words percentage terms; this makes it easier to compare markets in which different physical and monetary units are used (i.e. UAH and tons as opposed to US$ and bushels). The price elasticity of demand (ε_D) is defined as the percentage change in quantity demanded ($\%\Delta Q_D$) that is induced by a one percent change in the market price ($\%\Delta P$):

$$\varepsilon_D = \frac{\%\Delta Q_D}{\%\Delta P} \quad (1)$$

Figure 1: The influence of food aid on the domestic price of grain



Source: Own depiction

[9] This is the so-called producer surplus that is defined as the excess of revenue over cost.

The demand for many agricultural products is rather inelastic, in other words, quantity demanded does not vary greatly as a function of price. This can be explained by the fact that food is necessary to support a healthy and active life. People can refrain from buying cars, appliances and even clothes, but no one can live long without food. Of course, the elasticity of demand also depends on stockholding behaviour. Demand for grain will be more elastic when prices are low and storage becomes increasingly attractive because stockholders will be increasingly likely to anticipate that prices will increase in the future. Demand will be less elastic when prices are high and stockholders must expect that prices can only fall. This explains why demand curve for grain in figure 1 is rather steep at high prices and tends to be almost parallel with the Quantity axis at low prices. Because demand curve has negative slope, a decrease in price is associated with an increase in quantity demanded and vice versa. Because the percentage changes in price and quantity have opposite signs, the elasticity of demand is a negative number.

Own production of grain in 2000 in Ukraine is estimated at 22,2 million t. So, without food aid 22,2 million would be supplied in the market. If the GoU accepts all of the food aid that has been mentioned or rumoured in the media in recent months, 500.000 t of feed corn, 200.000 t of soybeans and a further 600.000-800.000 t of unspecified grain would be added to this domestic supply.[10] Note that while shipments of corn and soybeans are meant to be used to feed livestock, they will nevertheless have an impact on the grain market as a whole, since they compete directly with wheat which can be used for both feed and human consumption. Altogether, this volume of food aid would shift the supply curve to the right by roughly 1,4 million t from 22,2 to 23,6 million t.

To estimate the resulting impact on prices and incomes, assume first that the current domestic grain price without food aid (P_1) is 800 UAH/t[11]. Assume further that supply is completely inelastic in the short-term, in other words:

$$\varepsilon_S = \frac{\%\Delta Q_S}{\%\Delta P} = 0 \qquad (2)$$

This assumption is plausible because in the short-term the farmers will not be able to re-allocate resources and change production plans.

[10] New rumours about volumes and types of food aid for Ukraine arise almost weekly and probably contain much mis-information. We use the amounts listed above for illustrative purposes only. The calculations we present can be adapted to reflect different volumes of food aid.

[11] According to the UkrAgroConsult (Weekly #44, Oct. 30 – Nov. 6, p. 8), the EXW price of class III wheat at the end of October was 800 UAH/t.

Therefore, no matter what price is offered, the quantity supplied will remain the same in the current marketing year.[12] This assumption also simplifies the estimation of price and income effects considerably, as it permits us to redraw figure 1 as figure 2 below.

Rearranging equation (1) permits us to calculated the domestic price reduction as follows:

$$\%\Delta P = \frac{\%\Delta Q_D}{\varepsilon_D} \quad (3)$$

Furthermore, total losses to farmers can be calculated multiplying the price reduction by the quantity produced domestically (i.e. by calculating the volume of the rectangle P_1 NOP_2 in figure 2).

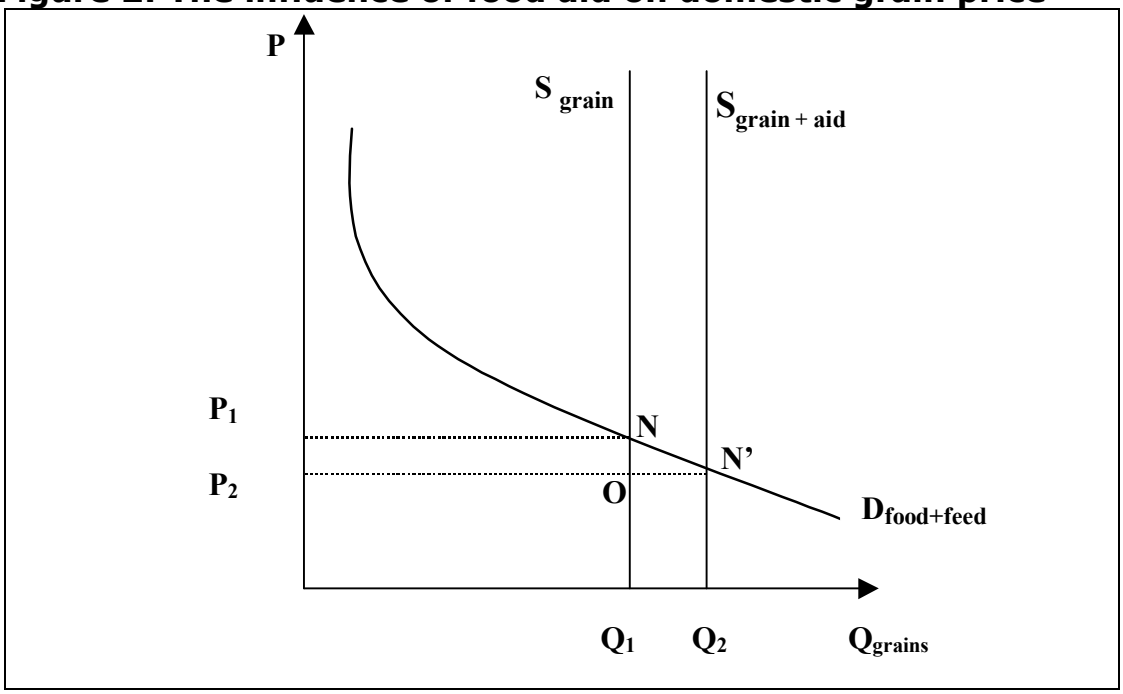
Food aid of 1,4 million t amounts to 6,3% of anticipated domestic grain production in 2000. Assume that the elasticity of the demand for grain is equal to –1.

$$\%\Delta P = \frac{6,3}{-1} = -6,3 \quad (4)$$

Hence, domestic grain prices would drop by 6,3% as a result of the proposed food aid. Given a current market price of roughly 800 UAH/t, this percentage reduction amounts to approximately 50,4 UAH/t. This price reduction applied to a total harvest of 22,2 million t implies a total income reduction for producers of almost 1,12 billion UAH.

[12] Of course, as prices and incomes fall, grain production will become less attractive to producers, and they will allocate less resources to grain production in the following years than would otherwise have been the case. Hence, while the short-term elasticity of supply is roughly equal to 0, the long-term elasticity will be higher.

Figure 2: The influence of food aid on domestic grain price



Source: Own depiction

Of course, this result depends on the assumed elasticity of demand, ε_D. While ε_D has been estimated econometrically for many countries, the lack of reliable data and stable time series makes this estimation very difficult in the case of Ukraine. Rather than assume a fixed value, we present the results of calculations with a range of possible values of ε_D (table 1). Note that the extreme values of 0 and -∞ are not very likely, and that for all intermediate values, whether we assume an elastic or an inelastic demand response, food aid results in significant losses for farmers in Ukraine. This effect of humanitarian food deliveries on domestic producers is well documented in Russia, where deliveries of pigmeat and poultry from the US among others have had a devastating impact on local producers.

Table 1: Price reductions as a function of the elasticity of demand

	Elasticity of demand (ε_D)	Percentage change in price ($\%\Delta P$)	Price reduction (in UAH/t)	Losses to farmers (million UAH)
Perfectly elastic	-∞	0	0	0
Elastic	-2,5	-2.52	-20,2	448
	-2,0	-3.15	-25,2	559
	-1,5	-4,20	-33,6	746
Unit elasticity	-1,0	-6,30	-50,4	1.119
Inelastic	-0,7	-9,00	-72,0	1.598
Perfectly inelastic	0	∞	∞	∞

Source: Own calculations

A particular problem associated with food aid in the current situation in Ukraine is timing. If it is true that Ukrainian and US authorities are discussing possible food aid shipments now (November 2000),November 2000, then these discussions will likely take several weeks. Furthermore, it is well known that food aid deliveries generally require several months organise and ship; i.e. the food in question would first arrive in Ukraine after a further delay of 4 to 5 months. Distribution within Ukraine would also take time. This means that any food aid that is being planned today is unlikely to arrive on Ukrainian markets any earlier than April or perhaps even May 2001. In other words, the aid that is currently being discussed is likely to arrive just before the next harvest begins in Ukraine. At the moment, the prospects for this harvest are optimistic. While this is good news for Ukraine, it does mean that grain prices in Ukraine can be expected to fall considerably in mid-2001 (i.e., as discussed above, from the current world market price plus marketing costs level, back to the world market price minus marketing costs level that prevailed prior to 2000). And just as grain prices in Ukraine are falling, food aid from the US would arrive, further depressing markets.

Hence, there is a very real danger that the food aid in question could arrive at just about the least opportune time imaginable. Whether one accepts the calculations presented above or not, there would seem to be very little justification for planning new food aid deliveries to Ukraine at the current point in time. If at all, food aid should have been planned several months ago and should be arriving now.

Management and other problems

Experience shows that the benefit of food aid varies greatly according to whether or not it is properly managed. Food aid is effective when directed to those who will benefit most from food aid shipments, i.e. when it is channelled to the poor via food for work programmes and similar

schemes. Roughly one half of the food aid for Ukraine that has been discussed above will take the form of feed grain. Hence it will be directed primarily towards the livestock sector. Here it could make a contribution to increasing livestock production (i.e. meat and dairy products) and, in turn, reduce the prices of these commodities. But these are products that the poorest in Ukraine (about 30% of the population) cannot afford to buy whether prices are at the current level or slightly reduced. For example, meat is consumed most by richer members of the population who do not suffer from food insecurity in the first place.

Therefore, it is important to ask who will benefit from the inexpensive deliveries of feed made possible by food aid. If past experience is any indication[13], cheep feed will probably be supplied primarily to large collective feed processing and livestock producing enterprises, and/or their pseudo-privatised successor enterprises. The fact that many of these enterprises have accumulated large debts *vis a vis* suppliers and workers suggests that they are not competitive. In Ukraine, livestock is increasingly held on private and not collective farms. In 1999, the private sector produced 93% of the milk and meat in Ukraine, 89% of the eggs, and 83% of the wool. Unless some way is found to channel food aid in the form of feed grain to this private sector, it will probably be wasted in propping up value subtracting activities in collective and un-restructured post-collective enterprises.

Of course, food aid can also take the form of food grain for human consumption, and it will reduce grain prices in general as demonstrated and estimated above (table 1). While there is no doubt that this will also help the poor, the price effect will be small (the estimates in table 1 point to a price reduction of perhaps 3-9%) especially in view of the fact that grain prices only account for a fraction of the retail price of bread. Furthermore, as mentioned above, price reductions benefit all consumers, including the rich. If the GoU is serious about helping the food insecure, it should target aid to the poor and not grant 'blanket' subsidies to all consumers. And if it is serious about reducing and stabilising grain prices, then it should take steps to reduce the exercise of monopoly power by state and para-statal enterprises in the grain marketing channel (see above).

[13] In the past, benefits and special treatment in many areas of agriculture (access to credit and inputs such as fuel, access to farm machinery imported with government guarantees, access to import quotas for oilseeds, raw sugar and other products at reduced import duty rates, etc.) have been channelled overwhelmingly towards large state and para-statal enterprises whose managers have good political contacts.

Most donor countries provide food aid on a grant basis. In this case it is given free of charge to the recipient government or some non-government organisation (NGO). Note that this aid has a considerable value if it is sold on the market (corresponding to the rectangle Q1ON'Q2 in figure 2). In the case of the proposed food aid for Ukraine, 1,4 million t at a price of roughly 750 UAH/t amounts roughly 1 billion UAH. What will happen with this money?

The answer to this question depends on who finally gets to sell or use the aid. On the one hand food aid can be sold, for example by the recipient government or an NGO, and the proceeds used to generate a counterpart fund that can be used to finance development projects. For example, such a fund could be used to support agriculture (i.e. to finance agriculture research and extension services, to create rural infrastructure, or to fund agricultural colleges and universities), or to target aid directly to the poor and food insecure (for example via income transfers, food for work programmes, etc.). On the other hand the government could simply give the aid to certain firms (traders or users), thus subsidising their economic activity.

With so much money involved in the case of the proposed food aid for Ukraine, the danger that corruption and rent seeking would flourish is very real. The managers of large feed processing enterprises and traders with political contacts would lobby extensively for shares of the 'free' corn and soybeans, and the managers of large flour mills and bakeries would lobby for shares of 'free' milling wheat. Policy makers would come under extensive pressure to direct the aid towards those who promise various types of political support. One possible danger is that the food aid might first 'disappear' into the state reserve, which is considered 'strategic' and therefore not subject to rigorous public accounting. Hidden from public scrutiny, the authorities in question could then grant favours and serve their political clients with impunity.

CONCLUSIONS

Food aid represents an in-kind transfer from food-surplus, high-income donors to food-deficit, low-income recipients. Food aid thereby provides resources that can potentially help stimulate development and increase food security. Although food aid has been widely accepted as a potentially useful tool, it is not without pitfalls. Food aid can sometimes generate more negative effects than benefits. The most substantial argument against food aid is that it reduces prices in the recipient country, thus creating disincentives for local production. We have provided estimates of this effect in Ukraine and demonstrate that the price and income reductions that can be expected are significant. As this reduces the profitability of farming, it could lower production and thus lead to a

dependence on food aid in the future. This possibility will be even more likely if food aid enables the GoU to avoid taking painful but long overdue steps to reform agriculture. Finally, there is a danger that the income transfer that is implicit in food aid shipments could exacerbate Ukraine's problems with corruption and rent-seeking.

If it accepts food aid, the GoU should take steps to minimise these dangers.

- First, the responsibility for the distribution of food aid should be given to an independent organisation, for example a respected international NGO, that is under no pressure to grant aid to political favourites but rather has a mandate to ensure that aid is channelled towards the truely needy. The activity of this NGO must be subject to public audit.
- Second, the funds generated by the sale of food aid must be used in ways that are compatible with enhancing growth and reducing poverty. This means that the use of food aid must be integrated with national development and poverty reduction programmes. In particular, funds from the sale of food aid could be directed towards the development of agricultural infrastructure (for example, improving the quality and efficiency of Ukraine's road-, rail- and waterways), towards investments in Ukraine's agricultural research and extension capacities and, most immediately, towards providing food and income to the truly food insecure.
- Third, food aid must not be allowed to reduce the pressure to implement long overdue reforms. Inflated grain marketing costs, largely due to the continued exercise of monopoly power by state and para-statal enterprises are largely responsible for the current grain shortage and grain price instability. Food aid can help alleviate these symptoms, but only if it is used correctly, and only for a limited period of time.

Finally, there appears to be little justification for planning new deliveries of food aid at the current time. Such deliveries would be unlikely to arrive much earlier than May-June 2001. Hence, these deliveries would arrive just as the prospect of a good harvest in 2001 is beginning to subject grain prices in Ukraine to downward pressure. The result would be even more downward pressure. If there ever was an 'open window' for food aid in Ukraine, this window is closed today.

VG, SvC. Lektor: LS, SZ.

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