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Grain Bank or Grain Reserve?

by Richard S. Weckstein, Waltham, Mass.*

This article discusses the advantages and disadvantages of grain reserves and grain banks. One important argument against establishing official reserves is that they are more likely to stiffen the barriers to food trade whereas a financial grain bank might be used to reduce those barriers. A regime of trade in which markets for food crops are more open would also be a more integrated world.

For the past four years, since the United States sold the remaining part of its stored grain to the Russians, there has been no large world reserve of grain. Proposals for establishing a new reserve have been accumulating more rapidly than grain itself¹. Whatever the benefits may have been to the world at large from the now-exhausted American reserve in the past, it is clear that there is a widespread belief in the value of official reserves but also that those who hope to return to a reserve system will have to face up to the costs involved. Before a reserve policy has been accepted by those countries that must be the principal contributors, the alternatives available should be given reasonable consideration; a comparison should include the protection afforded, side effects reserves might have on the growth of agriculture and the differences in the costs of each.

New International Loan Facility Required

One alternative that deserves to be considered is an international loan facility which would stand ready to finance the purchase of grain in the open world market by countries that suffer transitory food deficits. But loans from such a facility should be granted on conditions likely to improve the operation of world grain markets. Under present conditions new financial resources for grain purchases in the world market would contribute to price instability as well as financial instability. Price instability because, unless purchases happen to coincide with the availability of above-normal North American surpluses, the market is thin and significant demand increases would result in large price increases. Financial instability because loans to finance food imports when there is a deficit will have a less certain counterpart of commercial exports when there is a surplus to generate the financial means to repay outstanding loans. Unexpected bumper crops are not easily fitted into the normal channels of international grain flows. As a result when a bumper

crop does occur the best available alternative is usually to store it locally in inadequate facilities, with losses from rot and rodents and at considerable cost.

If the success of an international grain "bank" depends upon improving the performance of the world grain market, the best, and perhaps the only chance, of improving the world grain market in turn depends upon setting as a condition for access to the resources of an international grain bank, an open domestic market in grain. To be sure this condition might be weakened somewhat by escape provisions that would set a reasonable limit to imports or exports when a specified price band is threatened. Such a provision of an international agreement would be useful to limit the risk to participant countries and to lower their resistance to entering the agreement. An international grain bank operating to encourage free trade in grain would go far to fulfill the conditions on which the world could safely forego official reserves.

Most transitory food deficits, deficits measured in relation to a normal trend of national production, are off-set by simultaneous surpluses in other countries. The magnitude of annual *net* world deficits or surpluses is small in relation to total world production. The absolute deficit of 1972-73 was the largest in history. Yet it was less than 4 p.c. of world output in that year. A reasonable estimate of the price adjustment that might have been required to absorb that size deficit, if there were an integrated world food market, is an increase of perhaps 10 p.c. That is, if everyone's price for grain (wheat, rice, corn, etc.) had risen by 10 p.c. over its normal level, the all-around voluntary reduction of consumption would have been sufficient to permit the deficit to have been borne without famine any place.

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¹ Sec. Henry Kissinger in a speech, "Strengthening the World Economic Structure", Bureau of Public Affairs, Department of State, May 13, 1975; Philip H. Trease, *Rebuilding Grain Reserves: Toward An International System*, Brookings, May 1976.

Obsolete Storage Mentality

In earlier times when the movement of bulky grain an appreciable distance was utterly impractical and every region or community had to rely upon its own harvest, or starve, a large reserve of food was the only way to achieve security. There are still places in the Interior of vast underdeveloped lands like, say Ethiopia, where it may be cheaper to store grain than to ship it. But for most countries of the world, with modern systems of inland transportation, it does not pay to store much grain. It is an odd perversion in the modern world to seek to re-establish a storage mentality of a more primitive past to stave off starvation. The transportation revolution has profoundly altered our lives by joining the grain markets of the world potentially into one market and in doing this reducing the risk of hunger from poor crops or even from complete local crop failure. Since the expectation of worldwide output loss from harvest failure is very small, no more than 4 p.c., there is no necessity for large official food reserves.

This conclusion depends upon there being on average a modest consumption response to a price increase. In most of the poor countries of the world where diet is largely based on the direct consumption of grain, that price increase would be enough to induce a cut in consumption perhaps mainly because of the income-reducing effect of the price increase. In richer countries where a large fraction of the diet is based upon the indirect consumption of grain in the form of meat, more of the response to price comes in the substitution of a lower-cost, more-direct, grain-based diet for the ordinary meat-rich diet. Large herds of animals raised for meat can, and to some extent do, serve as a walking food reserve. When grain is cheap again more is fed to enlarged herds and diets become rich in meat.

But world deficits have not been absorbed in this way. The 1972-73 deficit appeared to be a terrible world catastrophe with much actual famine and more threat of it. Prices rose by something closer to 400 p.c. than 10 p.c. And this happened when there was a huge stock of grain held in official US reserves under an extraordinary policy that was responsible for its unrestricted release into the world markets. Why wasn't the deficit managed better?

The reason is the utterly fractured condition of the world markets. There is no single world market, or price, and high prices associated with local deficits do not induce an inflow of grain from the markets in which there is a surplus. Indeed markets are so isolated from one another that surpluses are not readily disposed of in the open world market. The "world market" is so

thin that countries with great harvests find it more advantageous to store their surpluses than to sell them abroad, even though the costs of storage are large and impose a great strain on national budgets. It can be almost as great a catastrophe to have a surplus as it is to have a deficit. Consumption standards must be protected when there is a deficit, but farmer incomes must be protected from the effects of surplus. To do either is costly.

Not being able to dispose of surpluses profitably biases production choices. Inevitably less is planted than would be in a world with more neutral market opportunities. Even though it may be worse to be short than long and for this reason there is encouragement to plant to be long rather than short, planting is costly and therefore the poorer the prospect of selling when long, the smaller planting will be. There probably are, as a result, fewer unexpected, transitory, surpluses of grain produced than there are unexpected deficits. This is part of the reason why there are few countries with surplus grain available to be sold to a country suffering a deficit.

While in general the argument in favour of a financial grain bank, rather than a physical grain reserve, is one of efficiency, no system for the assurance of adequate provisions in the event of poor harvests can be satisfactory so long as the world is divided up into semi-isolated markets. We treat grain surpluses and deficits as though they were a communicable disease and ought to be quarantined. If we could arrange to share the total annual product of food broadly, over most of the countries of the world, there would be no further problem. The only way this can be done is by trade between deficit and surplus countries. And trade to accomplish that objective cannot be arranged *ad hoc* after the event. If regular and open patterns of trade have not been established under normal conditions, it is not likely for them to emerge under the pressures of world net deficit, or surplus. Hence one important argument against establishing official reserves is that they are more likely to stiffen the barriers to food trade that already exist whereas a financial grain bank might be used to reduce those barriers.

Biased Effects of Official Grain Reserves

The presence of a large grain reserve tends to exert a steady depressing influence upon world grain production because of its influence on the calculation of risk. The US reserve was quite biased in its effect because grain was sold when and where it was needed on favourable terms but it was replenished by purchase only from US farmers. Producers in other countries could rely upon support for consumers when harvests were poor but farmers would not get help

from the US farm program when harvests were too abundant. Would a new official reserve operate with a similar bias? That would depend upon whether it is to be an integrated reserve or a reserve built of national components. And it also depends upon how much of the motive for holding reserves is to support prices above their normal levels.

But even if the objective is purely to limit price movements symmetrically about their normal values, and not to favor the interest of farmers in higher prices, the objective of providing food where it is needed will require authorities to sell grain in automatic response to need, but not necessarily to buy grain automatically whenever and from whomever has a "need" to sell it. The administrator of official grain reserve is likely, instead, to follow a grain-purchase policy that would minimize the cost of acquiring grain. An individual country may have a surplus when world market prices are high and it may not be able to rely upon an official reserve purchase at such attractive prices. This bias in market prospects with an official reserve reduces production just as thin markets do. A basic problem is left unsolved. The natural tendency for trade to stabilize consumption in the face of local production irregularity is not encouraged. Sharing has been made most unprofitable.

This is not the only biased effect of an official grain reserve. Under given conditions it is profitable for private speculative holders to own a grain stock of a particular size. Of course speculators will buy at prices they believe will prove to be low and sell at prices they believe will turn out to have been high. But they will not buy or sell unlimited quantities even at good prices, for stocks are costly to hold and the size of stocks being held in aggregate influences future price expectations, along with other factors. In general, the larger the stock of speculatively held grain the less profitable it is to purchase more grain for speculation. If speculators hold as large a stock of grain as they regard as profitable, an increase in the size of an official reserve stock will reduce the profitability and the amount of private speculative holdings. For a ton of officially held grain limits the height of future prices as surely as a ton of grain held privately. In order for an official reserve to benefit the operation of grain markets and increase the assurance of adequate food for people deprived by poor harvests, the accumulation of official reserves must be at least as great as the aggregate of the private stock it displaces. Up to that size it will simply alter the distribution of the burden of operating costs and the burden of speculative error from private individuals to public budgets.

Whether it is worth while for official grain-reserve administrators to hold a stock larger than would have been held by speculators may be questioned. The answer depends upon other market conditions. In a market that operates to permit efficient exchange between current surplus and deficit countries, large reserves would be socially unnecessary as well as unprofitable. Without such efficient markets, of course, larger reserves are indeed useful but, because international speculative transactions are also restricted by fractured markets and poor international credit facilities, private speculative stocks would be smaller than socially useful. But insofar as large official reserves provide the cushion for the inefficiency of a fractured world grain market, it is an institution that warrants itself. Alternatively if an official reserve is not now recreated and we do without larger official reserves, we can expect that alternate institutions will emerge, including the growth of large private speculative stocks, increasingly open markets, and specialized financial institutions. The warrant for official reserves may then disappear with the institution.

Agricultural and Transportation Revolutions

The fact that such favorable conditions are not now present in the world may be more the effect of history than opportunity. We would have to look

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back to the period before World War I, more than half a century ago, to a period when conditions might have permitted the emergence of the required market institutions. In the intervening half century there has been both an agricultural as well as a transportation revolution. During the time agriculture was being rapidly transformed in the industrial parts of the world there was a persistent farm surplus and a surplus of farmers who were able to demand protection. They caused great barriers to be raised to the expansion of agricultural trade and world food integration. And even if they hadn't, until more recent years the cost of carrying significant quantities of grain would have limited the opportunity for integration. In some ways the world then had not advanced beyond the kind of conditions of marketing and transport that frequently impedes internal food trade in less advanced countries for the lack of which governments so often fail to prevent devastating famines.

Now the world is no longer burdened with regions of chronic surplus. There may be regions of chronic deficit, such as the Sahel as it goes through a permanent weather shift and the Soviet Union where diet aspirations and farming are at odds. The first must be dealt with by international charity, quite different from a transitory deficit. The Russian example, also probably permanent, can be accommodated by establishing a regular trading relationship, perhaps with the United States. And the cost of shipping grain is now so low that for the first time in history the world could be regarded as a single market if trade barriers were removed. To note that there has not been a market integration before this implies nothing about the feasibility of integration.

The Advantages of a "Grain Bank"

It is useful to preserve a distinct separation between the problem of countries that are chronically incapable of feeding themselves and the problem that arises because of unexpected divergence from an average level of food production. The first of these problems calls for the long-term improvement of farming, or development of trade in goods and services that can be more advantageously produced than food, in exchange for food. And in a few cases of desperately poor and disorganized countries to provide relief for whatever period may be necessary. In contrast to these solutions the problem of *unexpectedly* good, or poor, production can be dealt with by capitalizing precisely on the natural symmetry of problem harvests. Divergencies from an *average* logically imply that the surpluses equal the deficits. This is the feature of the problem that so clearly suggests the solution.

An international grain-trade financing institution especially established to facilitate the purchase and sale of grain in relation to abnormal harvests, can anticipate loans made to cover deficits to be repaid out of the proceeds from sales made out of surpluses. Loans from this institution would have to be based on a government applicant being able to demonstrate that the loan, and the grain import it is to finance, are transitory. For a country that normally imports grain, that would mean a showing that the import requirement in a particular period exceeds normal levels and a loan is sought from the grain bank only for the extraordinary part of those imports.

As it is as likely that subsequent periods bring surpluses, defined in relation to average (or trend) production, the bank can expect borrowing countries to be able to sell transitory surpluses out of which loan repayments will be made. The bank's interest is thus associated with establishment of grain-trading conditions that convert the *potential* symmetry of above- and below-average production into economic actuality. The instrument most readily available to such a bank is the conditional availability of the bank's resources themselves. The *quid* for the right to borrow in time of need is the reduction of those ubiquitous barriers to trade in agricultural commodities erected to provide protection for home farmers against the predatory sales of surplus countries. But if surplus countries had a wider world into which sales could be made, they would not be so harmful to the farmers of any one country.

A regime of trade in which markets for food crops are more open would also be a more integrated world. We would have a unification of national and world grain prices and a more natural concentration of production among more efficient producers. But this is an additional benefit and certainly not an objection. Benefit though it may be, however, we must not expect that even a well-financed bank with favors to bestow will transform world trade in grain in a year. Nevertheless the loan-repayment system could work because its operation would not require the immediate or complete alteration of presently restrictive conditions. If this loan program can bring an improvement in market integration, it will, to whatever extent it has succeeded, improve the conditions for the sale of surplus grain and thus improve the opportunity for deficit countries to repay their loans. And hence to borrow in the first place when they are afflicted with crop failure. If countries are willing to deal with this problem by trade because they are able to do so reliably, they will not feel compelled to put their resources into a more wasteful system for the storage of large amounts of grain over long periods of time.