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AGRICULTURAL REFORMS IN THE SOVIET UNION AND CHINA

HEARING
BEFORE THE
JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES
ONE HUNDRED FIRST CONGRESS
FIRST SESSION
—
SEPTEMBER 7, 1989
—

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CONTENTS

WITNESSES AND STATEMENTS

THURSDAY, SEPTEMBER 7, 1989

| | Page |
|--|------|
| Hamilton, Hon. Lee H., chairman of the Joint Economic Committee: Opening statement | 1 |
| Johnson, D. Gale, professor of economics, University of Chicago | 4 |
| Gray, Kenneth R., Chief, Centrally Planned Economies Branch, Economic Research Service, U.S. Department of Agriculture | 21 |
| Carter, Colin A., professor of agricultural economics, University of California at Davis | 59 |

SUBMISSIONS FOR THE RECORD

THURSDAY, SEPTEMBER 7, 1989

| | |
|---|----|
| Carter, Colin A.: Prepared statement | 61 |
| Gray, Kenneth R.: Prepared statement | 24 |
| Johnson, D. Gale: Prepared statement | 7 |
| Upton, Hon. Frederick S., member of the Joint Economic Committee: Written opening statement | 3 |

AGRICULTURAL REFORMS IN THE SOVIET UNION AND CHINA

THURSDAY, SEPTEMBER 7, 1989

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC.

The committee met, pursuant to notice, at 9:30 a.m., in room 2359, Rayburn House Office Building, Hon. Lee H. Hamilton (chairman of the committee) presiding.

Present: Representatives Hamilton, Snowe, and Upton.

Also present: Richard F Kaufman, general counsel; and David Freshwater and Chris Frenze, professional staff members.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, CHAIRMAN

Representative HAMILTON. The Joint Economic Committee will come to order.

This morning we will be exploring the implications of agricultural reform in the Soviet Union and China. These two countries are major producers and major importers of agricultural products. Agriculture plays a much larger role in their economies than it does in the United States.

Many analysts believe that agricultural reform in these countries is necessary for broader based reforms to be successful. The United States as the world's largest exporter of agricultural products has a significant interest in these reform efforts. The Soviet Union and China are the two largest importers of U.S. wheat, and the Soviet Union is a major importer of feed grains. The export market has become a vital factor in the health of American agriculture. Consequently, changes in the policies of two key trade partners could have important effects on American farmers.

Today the committee is fortunate to have three witnesses with knowledge of agricultural conditions in the Soviet Union and China. They are:

Mr. D. Gale Johnson, professor of economics at the University of Chicago. Mr. Johnson has written several books on agriculture in the Soviet Union.

Mr. Kenneth Gray is Chief of the Centrally Planned Economies Branch in the Economic Research Service of the U.S. Department of Agriculture. His branch conducts economic analysis and prepares forecasts on agricultural conditions in the Soviet Union and China. He has spent considerable time in the Soviet Union. Most

recently, in May of this year as the leader of a Department of Agriculture delegation studying farm prices.

Mr. Colin Carter is a professor of agricultural economics at the University of California at Davis. He is the author of several books and articles on Chinese agriculture. In addition to his work on agricultural conditions in China, he has also published a number of articles on grain marketing and agricultural trade.

Gentlemen, we welcome you this morning before the committee. Your prepared statements, of course, will be entered in the record in full. I think you've been advised by staff to keep your opening comments fairly brief so that we can get to questions promptly. We'll just go across the table, from my left to my right. Mr. Johnson, we'll start with you.

Before you begin, Mr. Johnson, Congressman Upton has requested that his written opening statement be inserted in the hearing record. Without objection, it will be placed in the record at this point.

[The written opening statement follows:]

WRITTEN OPENING STATEMENT OF REPRESENTATIVE UPTON

MR. CHAIRMAN, I AM LOOKING FORWARD TO HEARING THE WITNESSES. THE HEARING IS USEFUL FROM TWO PERSPECTIVES.

FIRST, THE SOVIET UNION AND CHINA ARE POPULOUS COUNTRIES AND HAVE AT TIMES BEEN IMPORTANT MARKETS FOR OUR AGRICULTURAL PRODUCTION. I MIGHT NOTE THAT MICHIGAN, THOUGH WELL KNOWN FOR ITS MANUFACTURING PROWESS, IS A MAJOR AGRICULTURAL STATE.

MY OTHER INTEREST IN THE HEARING, AND PERHAPS OF MORE IMPORTANCE, IS AGRICULTURAL SYSTEMS AS THE STARTING POINT FOR ECONOMIC DEVELOPMENT. PERIODICALLY IN THE 20TH CENTURY WE HAVE HEARD ECONOMIC THEORIES ON HOW COUNTRIES CAN LEAPFROG STAGES OF ECONOMIC DEVELOPMENT, BYPASSING SMALL SCALE, FREE MARKET AGRICULTURE, AND MOVING DIRECTLY TO LARGE SCALE MECHANIZED AGRICULTURE OR MANUFACTURING.

THESE THEORIES HAVEN'T PROVEN OUT. I WILL BE INTERESTED IN HEARING FROM THE WITNESSES HOW THESE COUNTRIES CAN MOVE FORWARD FROM PRICE CONTROLLED AGRICULTURE TO MARKET BASED AGRICULTURE. WHAT ARE THE STEPS NEEDED TO MAKE THIS TRANSITION?

THANK YOU, MR. CHAIRMAN.

Representative HAMILTON. Please proceed, Mr. Johnson.

**STATEMENT OF D. GALE JOHNSON, PROFESSOR OF ECONOMICS,
UNIVERSITY OF CHICAGO**

Mr. JOHNSON. I start out my prepared statement by stating that, at this time particularly, one can dimly see the future of agriculture in the Soviet Union and China. That was the case in the best of times. But at the present time, it seems to me, the situation is particularly unclear.

The reasons for that are largely related to the issue of what is happening in the reform area in each of these economies.

Basically, my brief comments will deal with the issue of the reforms themselves and indicate why I think that probably the best projection of what's going to happen in China and the U.S.S.R. in the next 2 years with respect to imports is more or less a continuation of the recent past.

So, first, with respect to the U.S.S.R., there actually has been, in my opinion, very little effective reform of agricultural policy up to the present and I don't see significant reforms likely to occur over the next 2 or 3 years.

A primary reason for this—and to a degree, the same problem exists in China—are what we call the macroeconomic policies of the Soviet Union are in a shambles and a high rate of potential inflation, which is due to the enormous budget deficit of the Soviet Union, makes some of the reforms, especially price reforms, particularly difficult.

In my view any real reform of agriculture, or of the economy generally in the Soviet Union, will have to await some progress in achieving price reforms because the current prices are so far out of line with reality even within the structure of the Soviet Union. There is, in my opinion, no overall plan now in existence for agricultural reform, and up to this time there have been only piecemeal reforms in the Soviet Union, and each of these, I would say, has been deemed a failure by the Soviet Government.

We start with the food program which was promulgated in 1982. It had a number of features.

Regional agricultural production organizations covering all activities related to agriculture in local areas now have been abandoned as governmental units and are now made into voluntary or cooperative units. The reform that Gorbachev put in place, the gosagroprom, to coordinate all the Moscow activities with reference to agriculture, has now been abandoned and the superagency has been abolished to be replaced by a small commission.

The contract teams which were an outgrowth of the food program in 1982 and which, according to official data, covered 70 percent of all cropland and livestock in the Soviet Union have now been given up as not having had any success.

Now, if effective retail price reform, particularly for meat and milk were carried out, that grain imports would actually decline due to much higher consumer prices and the decline in consumption that would be likely to occur. There are two reasons why Soviet grain imports might decline.

One is if they had a reform that was so successful that it significantly increased the production of grain and of other livestock products.

The other one is a reform of prices, which are no more than half of realistic prices, which reduced consumption, or bringing consumption supply and demand into equilibrium at realistic market prices. If that were to occur, the pressure on the Soviet Government to import so much grain for feed supply would be substantially reduced. I don't see such reform of prices coming about in the near future. In fact, retail price reform which was supposed to occur by the beginning of the 13th plan has now been postponed into the more or less indefinite future.

So, my guess, the best approximation of what's most likely to happen with imports of agricultural products in the first half of the nineties might be more or less where they are, which is still being a huge importer. Some 16 or 17 billion dollars' worth of agricultural products and somewhere between 25 and 35 million tons of grain.

With respect to China, I think it is evident that the next 2 or 3 years, and perhaps even longer, are going to be very difficult ones for the economy as a whole and particularly for the economy of the rural areas. Even before the tragic events of June of this year, changes in policies were underway and were having a negative effect upon the rural communities, and I speak here of their general deflationary policies.

Again, as in the case of the Soviet Union, some of the macroeconomic policies got out of control, starting some 2 to 3 years ago, and substantial budget deficits are occurring causing high rates of inflation, by Chinese standards. Inflation was at least 25 percent in this past year.

So, there has been a tightening of credit and a reduction in the growth of the money supply. The consequences of these either have been or will be a reduction in urban employment, which means sending people who have come into urban areas from the countryside back to the countryside. Apparently millions have already been forced to return to the countryside due to contraction of construction activities.

But in particular the deflationary policy will result in a reduction in the demand for food, especially for agricultural products. There will not be as much income in the rural areas coming from perhaps 20 to 30 million rural people who are now working in the cities. And in addition to that, some rural industries are in difficult condition at the present time, and it's estimated that more than a million private enterprises in rural areas have been forced to halt production and go out of business within the last year, largely due to these deflationary policies and lack of credit.

So, the purchasing power of the Chinese population, which has grown very rapidly in recent years, may now not grow at all for the next 2 or 3 years. In fact, the most recent data from the Chinese economy indicate for the first half of 1989 the income growth of both rural and urban residents was slightly negative, and so this will have an impact on the demand for food, particularly the kinds of food products like meat and poultry products that require a substantial amount of grain.

So, my concluding comment is that I don't really see, between now and the midnineties, much potential for significant growth in the import of agricultural products by the Chinese, nor do I see it all probable that there is likely to be a significant decline.

So, my crystal ball, which is very, very hazy as I indicated at the opening of my prepared statement, is that as far as trade is concerned China and the U.S.S.R. for the next 2 years are likely to go along pretty much as they have in the past, the recent past.

Thank you.

[The prepared statement of Mr. Johnson follows:]

PREPARED STATEMENT OF D. GALE JOHNSON

SOVIET AND CHINESE AGRICULTURE AND TRADE

One can dimly see the future of the agricultures of the Soviet Union and China during the best of times. But today is not the best of times in either country. In both countries there is enormous uncertainty about the prospective changes in their agricultural policies and production. In the USSR there has been no significant reform of agricultural policies and institutions. In China there have been major and largely successful reforms of the rural economy but the future is very cloudy due to the mismanagement of the Chinese economy and the shifts in power within the government that have occurred since early June. Basically the reformers have lost out. In spite of Deng Xiaoping's repeated claim that openness and reform will continue, so far as agriculture is concerned the reform will no longer be primarily market oriented.

I have visited both the USSR and China within the last four months, returning last week from China. Neither of the visits reduced my uncertainty about prospective changes in their agricultural production and thus in probable levels of trade. I shall first comment about the USSR and then about China. In each case I shall discuss the short run - say until the mid-1990s - and not the longer run.

This paper was prepared for presentation to the Joint Economic Committee of Congress on September 7, 1989.

USSR

My best guess about agricultural production over the near future is that there will be little growth. Whatever growth will be achieved will be modest, perhaps slightly more than population growth. Consequently it is likely that Soviet imports of agricultural products will exhibit no particular trend during the first half of the 1990s though there will be significant annual variation, especially in grain and feed imports, related to the grain crop of the previous year. This pattern would mean that grain imports would generally fall in the range of 25 to 40 million tons. The Soviets are likely to continue to import significant quantities of soybeans and oilseed meals. There has finally been recognition by the authorities who control the allocation of foreign exchange that the Soviet livestock rations are low in protein and that importing protein-rich feeds is economical even if the cost per ton is substantially greater than the per ton cost of grain. This wisdom spread slowly, but apparently economic rationality finally won out.

The implication of the conclusions about agricultural production and trade is derived from the assumption that there will not be significant reform of Soviet agricultural policy soon enough to have a measurable effect upon agricultural production. Several partial reforms have been attempted, starting with the Food Program announced in May 1982. But there has not as yet been a fundamental set of reforms that would operate to significantly improve the incentives facing farm workers and managers. Some of what were considered major reforms, in particular the contract team, have been tried and abandoned. The contract team concept was that a given amount of land and the required machinery were allocated to a small group of farm workers, with the income of that group of workers depending upon the

profitability of their own farming activities. Contract teams were also organized for livestock enterprises. The state or collective farms were to make the necessary inputs, such as fertilizer or feed, available to the teams. By 1987 or 1988 close to three quarters of all crop and livestock production was undertaken by the teams. If there were any noticeable output effect from this reform, it has been obscured by other developments adverse to agriculture.

The team concept has now been abandoned in favor of leasing land, including leasing to individual households. I believe that leasing will not have the desired effects upon output, either. Leasing will fail for the same reasons that the contract team reform failed. There have been no changes in the obligations that are imposed upon the chairman and directors of the state and collective farms. Both the team and lease ideas reduce their control over the variables that determine their incomes and bonuses. Leasing will be welcomed by the farms only if the criteria used to judge the managers are substantially modified so that it becomes in the interests of the managers for the leased operations to be a success. Leasing of land to individual households would be most successful if the collective and state farms were abolished and the land were rented from a different institution, such as the rayon government. But new and competitive institutions to provide machinery services, to supply farm inputs and to provide output marketing services are required as well as a supportive landlord. I doubt very much if the importance of creating competition in the provision of such services and products is even dimly understood by Messrs Gorbachev and Ligachev. Unless the farmer has a choice in the sources of supply of services and products and in market outlets for output, there is little to

be gained from eliminating the monopoly economic power now exercised by the collective and state farms.

Why I am so pessimistic that real reform of agriculture will not be undertaken in time to have any effect upon agricultural production and trade before the mid-1990s? There are several reasons. One is that there is still no recognition that major institutional reforms are required. The state and collective farms as now organized cannot solve incentive problems that are so important in explaining the failure of agriculture to be more productive. A second is that the planning mechanisms used to regulate agriculture are counter productive; the market is given relatively little role in either allocating resources or rewarding effort. The collective and state farms could be more efficient if each farm were permitted to produce whatever would maximize the incomes of its members. This would mean abolishing fixed or required procurements and paying prices that will induce farms to produce and market the amounts needed to meet demand.

A third reason is that the Soviet government does not have the political will to undertake a radical reform of the overall price system, including agricultural and food prices. There were to be reforms of retail prices, wholesale prices and farm procurement prices by the beginning of 1991 when the 13th Five Year Plan is to begin. But both the retail and wholesale price reforms have been postponed and if the farm prices are reformed, the reform will have only a minor effect. Retail food prices now require a subsidy of approximately 90 billion rubles to cover the difference between the prices paid to the farmers and the amount recovered from retail sales. There can be no significant reduction in the large governmental deficit, which is said to be 13 percent of the gross national product in the current fiscal year, without a substantial reduction in the cost of the food

price subsidies. There is fear that increasing the prices of meat and milk would create substantial unrest. The fourth reason is related to the third - until both suppressed and open inflation is brought under control, there is relatively little that can be done to increase incentives to induce farmers to make more effective use of their labor and other resources. Due to the fact that there is an inadequate supply of almost all consumer goods, additional money income provides little incentive for working harder or more effectively. If there is little to buy with the added money, then higher prices for farm products will have a limited effect upon effort or output.

As we know from our experience in this decade, it will take several years to substantially reduce the rate of inflation. To do so requires a significant reduction in the size of the budget deficit. While the United States was able to reduce inflation while making little progress on reducing the government deficit, the Soviet deficit is so large that this is not a viable alternative for them. We well know how difficult it is to make even modest progress in reducing our deficit; the process will be no easier in the case of the USSR.

A recent proposal to pay Soviet collective and state farms in foreign exchange for grain delivered to the state in excess of the amount delivered in 1981-85 is illustrative of the failure to put forward a coherent plan for reform. In 1988 Soviet grain procurements were the lowest since the poor crop of 1981 and 26 million tons or 29 percent below the planned level for the year. Apparently there was concern that it would be difficult to achieve an acceptable level of procurements in 1989. Given the time of announcement, namely early August 1989, the proposal could have little effect upon the level of grain production in 1989. It can affect little more than the amount sold to the government. The rationale for the proposal

was that by paying farms the equivalent of 40 to 60 rubles per ton of wheat in foreign exchange the savings in foreign exchange required to import wheat would be much greater. The dollar cost of the increased procurement would be about \$66 to \$99 per ton while the import cost would be some \$200, even with substantial help provided by the U.S. taxpayer in the form of export subsidies. Thus, so the argument goes, if the farms deliver an additional ton of grain the USSR will save at least \$100 in foreign exchange. This is about as crazy an idea as can be conceived. If the production of grain is not increased, selling more grain to the state will not reduce the quantity of imports required to provide a given amount of food grain to the population plus the amount of grain required to produce specified quantities of milk, meat and poultry and the industrial uses of grain. In all likelihood farms will sell the state more grain, but they will do so by selling grain that they otherwise would have retained for livestock feed.

If one looks at the economics of this, it is far more profitable for the farms to deliver the extra grain to the state than it is to feed it to livestock. The black market rate of exchange between the ruble and the dollar is now at least 8 rubles per dollar. This means that if the farm receives \$70 per ton for the extra wheat, its ruble value in the black market is 560 rubles. This is five times the regular procurement price for wheat and more than three times the average price of about 170 rubles including the bonuses for quantity and quality. According to estimates of the Economic Research Service of the USDA livestock production is barely

profitable when grain is priced at the average procurement price.¹ Such production would obviously be very unprofitable at a grain cost three to five times as great. So the state should have more grain delivered to it but the country will have little extra grain and imports cannot be reduced. Some extra grain can be saved by greater care in harvesting and by reducing losses in the marketing chain. But in the short run these gains will be small.

China

Chinese agricultural policy makers are obsessed by the national grain output. Until 1989 grain production had failed to equal the 1984 record. Even though total agricultural output grew at an annual rate of 4 percent from 1985 to 1988, the press has included many statements questioning whether the rural reforms, and especially the household responsibility system, were now appropriate. During the period of the implementation of the reforms - 1979 to 1984 - agricultural production grew at the exceptionally high annual rate of 7.7 percent. Real farm family incomes increased by about 100 percent between 1978 and 1986.

The obsession with grain production is presumably due to the fact that grain still accounts for a very high 80 percent of total human calory consumption; this is the direct intake and does not include the calories produced by the grain fed to livestock and poultry. Consequently a long term decline in grain production per capita could present the government

¹ Edward C. Cook, "USSR: Collective Farm Producer Prices by Republic," CPE Agriculture Report, Vol. III, No. 2, March/April 1989, Centrally Planned Economies Branch, Agriculture and Trade Analysis Division, Economic Research Service, USDA, p. 12. Profitability is measured as the ratio of producer prices to the prime costs of production; the prime costs of production do not include any return on land nor interest on capital. In 1986 the profitability of pork was a -3 percent, poultry 1 percent and beef was 8 percent.

with some unsatisfactory choices - increased imports, increased investment in agriculture and substantially higher prices for grain.

The latter - higher real or inflation adjusted prices for grain - is undesirable in the perception of policy makers because of the large food subsidies that are now incurred due to the commitment to supply the rationed quantity of grain at low prices. A higher price paid to farmers increases that subsidy and the drain on the government budget; the Chinese government like those of the USSR and the US, has a substantial budgetary deficit.

If grain production is lower than optimal in China, the primary responsibility is that of the government and not that of the household responsibility system and other rural reforms nor the fault of the farm people. The government bears responsibility because it has neglected agricultural investment, especially investment in irrigation and flood control, rural roads and agricultural education and research. In 1987, before the rural reforms, agriculture's share of centralized investment was 11 percent; in recent years the share has been 4 percent or less. It bears responsibility because it has, at least for the time, removed price controls from pork, fruits and vegetables, while keeping a fixed price for most grain procurement. The grain price has lagged behind prices of other important farm products in recent years. As a result the government has resorted to more and more administrative pressure to maintain grain production. But it has not always played fair with the farmers. In 1988 in many areas the governmental budgets had been so mishandled that farmers were paid for their grain with IOUs, not rmb. It has been said that in 1988 the People's Liberation Army was used to collect grain in many rural areas due to the unwillingness of farmers to deliver at what they considered to be low prices in any case but especially when they were receiving money for only part of

what they delivered. It is rumored that in some areas IOUs were being given in 1989 for the winter crop, which is much smaller than the summer crop. In addition, in some areas in 1988 the grain markets were closed until the area met its grain procurement price. Apparently the same tactic will be employed for the summer crop in 1989. Such a step, now apparently endorsed at the national level, does not bode well for the continuation of reform.

The government has failed in a number of other policy areas. When the communes were abolished, several important governmental functions that had been the responsibility of the communes were not systematically transferred to local governmental units. This failure was particularly important with respect to irrigation projects, especially where canal irrigation was involved. In many cases irrigation projects include geographic areas larger than the largest local governmental area; no formal arrangements were made for maintaining such facilities. Presumably by now most of these problems have been resolved but it took several years to accomplish what could have been done by appropriate legislation at the time the communes were abolished.

But perhaps even more important has been the failure to specify carefully the conditions under which the rights to use land have been assigned. The assignment of the rights to use land is the fundamental feature of the household responsibility system. National legislation calls for such rights to be assigned for 15 years yet in most areas local governments reassign the land every 3 years and in some cases the use rights are assigned on an annual basis. Thus a family cannot know that the land it is farming now will be assigned to it in the future. Consequently any investment that improves the productivity of the land and has an output

effect for more than a year or two tends not to be made or made at a smaller than optimal level.

In addition, in a number of counties there have been scale experiments that have amounted to the recollectivization of agriculture. The average farm size in China is very small - the crop area is about 1.25 acres. There is a view, in spite of the very poor performance of the communes, that bigger must be better. And as economic growth occurs, the average size of farms must increase as more and more of the labor transfers to nonfarm jobs. In addition, mechanization is difficult to carry out on farms of such small size. Consequently, under the guise of experiments, in a number of counties farmers have been forced to give up their land use rights so that the cropland can be collectively plowed, seeded, cultivated, fertilized and harvested. Whether the increase in scale of operations is economically efficient is not really important at this time; what is important is that farmers perceive that their land use rights are limited and subject to arbitrary and capricious seizure. Such knowledge has a chilling effect in their willingness to invest in land improvements and over time has an adverse effect upon grain and other crop yields. Thus some part of the "grain problem" may be due to the failure of the government to enforce in an appropriate way the land use rights that have been given to farmers.

The contract or procurement price for grain has been increased in nominal terms over the past few years. But the increases have not always kept up with either the increases in the prices of purchased inputs or the general rate of inflation. The 1989 grain procurement price was increased by 18 percent over the 1988 price, but it is generally agreed that the inflation rate from 1988 to 1989 was 25 percent at a minimum. Thus grain farmers didn't gain; they lost.

I believe that there is a major anomaly in the agricultural production data in China. According to the official figures, grain production has not increased since 1984. Average annual grain production from 1985 through 1988 has been nearly 4 percent below the record crop of 407 million tons in 1984. Yet the production of pork, beef and mutton increased from 17.6 million tons to 21.9 million tons in 1988. This was an increase of 24 percent; milk and poultry production increased somewhat more. It is projected that meat production in 1989 - produced largely from the 1988 grain crop - will be 23 million tons or 31 percent more than in 1985. Where did the feed come from? If it did not come from unreported grain, it had to have come from other feed sources that had competed for land with grain production. If the meat production data are accurate - and their general trend is clearly confirmed by the large scale annual surveys of urban and rural households - why is there so much concern about static grain production? As real incomes have increased, urban per capita grain production appears to be declining not because of a lack of supply but because of a change in preferences. Grain imports have increased compared to 1984 but only by 7 million tons or 2 percent of the total supply.

The near future is particularly cloudy with respect to agricultural production and trade. China is going through a deflationary period. Credit is in short supply and farmers and rural enterprises are even now being discriminated against in favor of the large industrial enterprises and the investment projects of the national, provincial and city governments. Many rural enterprises are being closed down, either by fiat or by not being able to obtain sufficient credit, raw materials and energy to maintain operations. The press is full of the necessity in this period of

readjustment to close down the rural industries that compete with the large state enterprises for energy and raw materials.

Several million - perhaps as many as 20 million - temporary urban residents who have come from the countryside either as contract workers or as private workers are to be sent back from whence they came. Such a measure, if carried out, will have a serious effect upon income in rural areas, especially if rural industrial employment declines as it may over the next two or three years. It might be argued that the additional workers can be used to produce more grain, but adding more labor for this purpose will have little effect upon production. What is needed are improved seeds and more fertilizer at prices consistent with the grain price not more labor.

My former colleague, George Shultz, is reported to have responded to a Chinese governmental official who asked him why Chinese reforms had been so successful: "Because the Chinese government quit doing a lot of stupid things." The Chinese government is once again doing - or planning to do - a lot of stupid things. This is why the future is so uncertain. The immediate past becomes a poor predictor of the future in these circumstances.

My best guess is that there will be a modest increase in China's grain imports over the next few years. The increase will not be large because of restraints on foreign exchange that will result from the way the deflationary policies are implemented. The lingering consequences for foreign exchange availability due to the international reactions to the tragic events of June 1989 will be of some importance for at least two or three years.

If China had a small grain crop - less than 380 million tons - in any year, grain imports would be increased by diversion of foreign exchange

earnings from other imports. The total value of imports of \$40 to \$50 billion is more than adequate to make this possible. But before we count on even modest increases in grain exports we should consider the possibility that the recent plateau in grain production may have been a natural phenomenon - a halt in a period of rapid growth in production but not a reversal of the trend. We have had periods of four or five years in which grain yields have been static only to break out to a new and higher level. One period of static grain yields was from 1952 to 1955; another from 1961 to 1964 and again from 1972 to 1977; each period was followed by several years of significantly higher yields. It cannot be ruled out that in spite of the adverse policy changes now occurring in China that a similar development might occur - the recent static yields could be followed by a significant increase in yields. Basically, all I am saying is that four years does not a trend make. Neither we nor the Chinese officials should base our expectations upon the continuation of the plateau in grain production.

Summary

Very briefly, the USSR has not yet achieved a significant reform of any aspect of its agricultural policy. This is true of all aspects of the institutional arrangements - the state and collective farms and massive intervention of planning officials in the daily operation of those farms - nor in the structure of incentives that face the individual farm workers, the managers of farms or of those who work in or direct enterprises that supply farmers with inputs or market farm products. Nor have agricultural and food prices been reformed in any significant way. Consequently for the time being agricultural output will not respond positively to a reform,

because no effective reform has been introduced. The most likely case is that agricultural output will show only moderate growth of one or two percent a year. Until there is a price reform of retail food prices, the demand for food will grow at a much more rapid rate. There will be great pressure to at least maintain the recent level of food imports of the general order of \$15 billion to \$17 billion annually. There may be enough political pressure to force an increase in food imports to reduce the excess demand for meat and milk and most other high quality food. However, it seems likely that the pressure will be to expend scarce foreign exchange upon a wide range of other consumer goods, such as women's stockings, electrical appliances and many other ordinary consumer items. Store shelves are bare of many - perhaps most - consumer goods, not just food.

Barring a poor grain crop I do not anticipate much change in Chinese imports of agricultural products over the next few years. However, it needs to be recognized that there is a great deal of uncertainty about policy developments in China, both those directly affecting agriculture and general policies affecting the economy overall. The recent rapid growth in demand for food has been due in considerable degree to inflation. If the deflationary policy is continued until inflation is brought to near zero, per capita demand for food will grow slowly if at all for the next two to four years. Consequently even if the agricultural policy changes that now seem probable are carried out and the growth of farm production is slowed significantly, there may be no increase in agricultural imports. Domestic supply will grow slowly but so will domestic demand.

Representative HAMILTON. Thank you very much, Mr. Johnson. Mr. Gray, please proceed.

STATEMENT OF KENNETH R. GRAY, CHIEF, CENTRALLY PLANNED ECONOMIES BRANCH, ECONOMIC RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE

Mr. GRAY. Thank you for inviting me here to discuss changes in agriculture in China and the Soviet Union. It's been 2 years since I left academia and 3 years that I've spent in the USDA's Economic Research Service. They have been fruitful ones for me. This is the Federal Government's principal research unit for the study of agriculture in China, Eastern Europe, and the U.S.S.R.

The prepared statement, which is based on my own perspective as a Soviet specialist, also has some comments on China.

I'm afraid that Professor Johnson and I should have coordinated a bit because I'm going to repeat some of what he said. In fact, we gathered our notes together as we traveled together in the Soviet Union last May.

I think we really need to emphasize the need to understand the present severe crisis of Soviet retail food shortages as one due more to a growth of demand and inefficient distribution than to the collapse of production. This is evident in the fact that Soviet average meat consumption hasn't fallen but remains at a level about that of Sweden or the United Kingdom, and in the revelations that glasnost has given us about the Soviet food distribution system and the state's budget deficit.

Excess demand and inefficient distribution have several ramifications. The first is this. Even sizable increases in domestic production or food imports may not in themselves alleviate the growing conflict and frustration of Soviet consumers which threatens the Soviet leadership.

I think Americans can understand the situation in the Soviet Union today when there are so many items not on the shelves, not just food items, but all items, by reflecting on the situation in this country 10 years ago with respect to gasoline sales. Then Americans rose early to buy gasoline, which might be sold out by mid-morning. With a good deal of frustration people topped-off tanks and kept gasoline in their closets and so forth.

But the actual fact is that in this situation of price controls in this country—a volume of gasoline only a few percent less was available in those summer months of 1979 than had been available the previous year. That's the situation in large part in the Soviet Union for many items. Controls and macroeconomic imbalance create the lines.

The Soviet leadership is considering giving further resources to agriculture, and anyone in the West who might contemplate food assistance must confront the very real possibility that such assistance would not resolve the problem without other changes occurring first.

Second, this realization focuses attention upon the burden that a highly inefficient Soviet agriculture, unlike Chinese agriculture, has long placed upon the Soviet consumers. This is because of the great amount of domestic resources and foreign exchange that have

been allocated to the food problem. These are resources that have been diverted from other needs, like medicine, housing, and other consumer goods, which are also in short supply.

Third, we're driven to inquire about the reasons that Soviet agriculture is so inefficient and we're driven to the realization of how much the success of Western agriculture depends upon flexible markets linking it to the rest of the economy.

Fourth, recognition of the overall macroeconomic imbalance focuses attention upon the threat it poses to the goals of economic attention upon the threat it poses to the goals of economic decentralization in all parts of the Soviet economy, agricultural and non-agriculture alike. Excessive money growth poses the same threat to China.

Inflation, the great monetary expansion that's currently taking place in both countries, plays, though, an ambiguous role. Shortage, even if it's induced by growth of demand, focuses useful attention on alternative methods of increasing supply that might otherwise be impossible to consider. The U.S.S.R., for instance, is changing defense resources over to the production of food processing equipment and allowing leasing and possible sale of farmland to families or small groups of farm workers to reduce budget subsidies.

But, right now, as Professor Johnson said, inflationary pressures are delaying price reform and causing prices to be recontrolled in instances where they have been uncontrolled.

Perhaps China's past reforms were successful, first, because the subsistence level and labor intensive nature of China's farming made it need markets less. Second, because China did develop input and commodity markets sufficient for the time. Lately, however, China's agriculture has been described as waiting on reform in the rest of the economy. Just now, some of the farm input and commodity markets that China did develop have been closed down or are in the process of being closed down, in order to protect the economy's command sector from inflation's current onslaught.

Soviet agriculture is more complex than China's agriculture. The newly proposed lease agreements in the U.S.S.R. must have adequate market linkages to the rest of the economy. If they don't, the situation will look more like Poland has looked for the past many years—with the rest of the economy planned and with agriculture, private, but not successful—than like China's experience of the past decade.

Just briefly, regarding trade. In the very short run—the period that we are looking for our next farm bill—the current adjustments, economic adjustments and the stop-and-go nature of reform politics will make forecasting agricultural trade difficult. However, the eventually successful development of market-oriented agriculture in China and the Soviet Union would seem to require general conditions—better macroeconomic balance and much less price control—that are needed to facilitate improved productivity in all branches of the economy.

This must be taken into account when one tries to predict future import levels, and it does not seem to call for a prediction of lesser levels of imports, since developed economies are usually considered better customers than underdeveloped ones.

However, economic development occurs with interesting changes in both comparative advantage, and patterns of demand. Economic development of the previously nonmarket economies would seem to require that the structure of agricultural imports change, and perhaps also for imports to stabilize, as the result of more flexible internal market responses to the varying harvests.

Perhaps agricultural policies of our country should also be flexible and we should continue to gather information of all kinds to see what lies ahead.

Thank you for this opportunity.

[The prepared statement of Mr. Gray follows.]

PREPARED STATEMENT OF
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Agriculture in The USSR and China: The Need for Markets and the
Possible Effects of Successful Reform on Import Behavior

7 September 1989

A Paper Prepared for Submission to Hearings of the Joint Economics Committee on
Agricultural Reforms in China and the USSR and their Effects on Economic Growth
and Demand for Imports from the United States.

TABLE OF CONTENTS

| | |
|---|----|
| Introduction | 1 |
| Excess Demand and Poor Distribution | 4 |
| The Burdens of Agriculture | 7 |
| The Need for Markets for Farm Products and Inputs | 10 |
| The Prevalence of Soviet Farm Price Differentiation By Cost and the Absence of Differentiation By Usefulness | 11 |
| Reasons for the Variability of Imports by Centrally Planned Economies | 13 |
| Lack of Interregional Markets | 14 |
| Regional Autonomy | 17 |
| Hard Currency Payments to Soviet Farmers. | 18 |
| Soviet Farm Leasing and the Chinese Responsibility System | 19 |
| The Effect On Imports | 23 |
| Levels | 23 |
| Structure | 24 |
| Import Variability | 26 |
| Endnotes | 27 |
| Tables and Figures | 28 |

INTRODUCTION

This paper deals mostly with the case of agricultural reform in the Soviet Union about which the author is personally more expert. But occasional references and comparisons with China are made, as well.

The present severe crisis of Soviet retail food shortages is due more to growth of demand, rigid prices and inefficient distribution than to a collapse of production. This is evident in the fact that average Soviet meat consumption has not fallen, but in fact remains at about the level of Sweden's, and in glasnost's revelations about the Soviet food distribution system and state budget deficit. Excess demand and inefficient distribution have several ramifications.

First, although the Soviet leadership, threatened by the frustration of Soviet consumers, is considering giving further resources to agriculture, even sizeable increases in domestic production may not in themselves alleviate shortages. The same is true of increased food imports, so that anyone in the West who might contemplate food assistance must confront the likelihood that such assistance would not by itself resolve the problem.

Second, the burden that highly inefficient Soviet agriculture has placed upon Soviet consumers results not so much from low supply, but from the great amounts of domestic resources and foreign exchange that have been allotted to agriculture and the food problem. These resources have been diverted from other needs, like medicine, housing, transportation, the deteriorating environment, and other consumer goods which are also in short supply.

Third, Soviet agriculture is inefficient to a great extent because of the lack of flexible markets linking agriculture to the rest of the economy. Flexible market linkages, to the degree that China had them, facilitated China's decade of agricultural reform success.

Fourth, macroeconomic imbalance threatens the meaningful price reforms which are crucial for the creation of Soviet markets for agricultural inputs and products. Excessive money growth has created the same threat in China, and caused reversals in the formation of markets there.

The great monetary expansion, typified by inflation, that is currently taking place in both countries, plays an ambiguous role. The shortages, caused by too much money chasing too few goods, cause a short run tendency to continue to fix prices, or to re-fix them where they have been loosened. However, if the supply of money continues to grow, its value is destroyed more by prices being fixed than by their being freed. Complete barter is impractical, and consequently there are calls both to reduce monetary expansion and allow some price decontrol, which is a start on the road to markets.

In the meantime, shortage (even if induced by growth in demand) focuses useful attention on alternative methods of increasing supply, that might otherwise be impossible to consider -- for instance by converting Soviet defense resources to food processing equipment and allowing the leasing, or possibly sale, of farm land and farm assets to families or other small groups of farm workers.

Unlike China, the Soviet Union has for some time been burdened by a high-cost,

inefficient agriculture which has experienced low growth, despite state priority for both domestic resources and foreign exchange.

Perhaps China's past reforms were successful, first, because the labor-intensive nature and subsistence level of China's farming made it less dependent on markets, and, second, because China did develop input and commodity markets sufficient for the time. Lately, however, China's agriculture has been described as "waiting on the reform of the rest of the economy," and just now some of the farm input and commodity markets that China did have are being closed down to protect the economy's command sector from inflation's onslaught.

Soviet agriculture has already developed along more complex lines than China's. To be responsive to the rest of the economy, the newly proposed lease arrangements in the USSR must have adequate market linkages. If they do not, the situation will be more like Poland has looked for many years -- private agriculture operating unsuccessfully within a mostly planned economy -- than like the China of the past decade.

In the very short run, the economic adjustments and stop and go nature of reform politics will make forecasting agricultural trade difficult. However, the eventual successful development of market-oriented agriculture in China and the Soviet Union would seem to require general conditions (better macroeconomic balance, less price control) that are needed to facilitate improved productivity in all branches of the economy. That must be taken into account when one tries to predict future import levels, and it does not seem to call for a prediction of lesser levels of agricultural imports, since developed economies are usually

considered to be better customers than less developed ones.

However, when economic development occurs, changes can be expected, both in comparative advantage and in patterns of domestic demand. The economic development of previously non-market economies would seem to require that the structure of agricultural imports change, and perhaps also for imports to stabilize as a result of more flexible internal market responses to varying harvests.

Perhaps the agricultural policies of our country should be also be flexible in return. Certainly we should continue to gather information of all kinds to see our way ahead.

Excess Demand and Poor Distribution

The present severe crisis of Soviet retail food shortages is due more to excess demand, rigid prices and inefficient distribution than to a collapse of production. This means that even sizeable increases in domestic production and/or food imports may not bring to an end the growing frustration of Soviet consumers which threatens present Soviet leadership. Achievement of that goal requires restricting growth of the ruble money supply first, and eventually freeing the many prices now controlled, as a precondition for development of markets for the efficient distribution of food.

The present situation of routine food shortages in the Soviet Union has its history in government policy. Retail food prices in State stores, which are located primarily in large cities, have remained unchanged since the 1950's for such staples as sugar, bread, and cooking oil. Prices for livestock products have not changed substantially since 1962. Purchases from two other principal

outlets of retail trade are more important than state stores for rural and small town dwellers. These are the cooperative trade network, and the collective farm markets. Prices of food products sold in these outlets are unsubsidized and higher. Prices on collective farm markets are supposedly determined by supply and demand, but there is evidence of pervasive price ceilings even here.

The present problem with food shortages seems to belie the progress in consumption that has been made since the mid-1960's. According to official Soviet data, in 1988 the average citizen consumed half again as much meat and fish, over twice as many eggs (slightly more than the average American), and more milk than in 1965 (table 1). It appears that the average Soviet is eating better today than 20 years ago.

Soviet consumers often express doubt that they are eating better and that their red meat and poultry consumption is on par with that of Sweden or Britain (table 2).

But food shortages in the USSR are occurring at fairly respectable levels of consumption. The problem is rising incomes combined with controlled retail prices. This situation produces excess demand that an inadequate distribution system cannot service.

Americans can understand the shortages in the Soviet Union of food and many other items by reflecting upon the situation concerning the retail sales of gasoline in the summer months of 1979, when price controls were in effect in the United States. Although the amount of gasoline actually sold was only a few percent

less than in the same months of the previous year and excess demand was small, spot shortages created their own dynamic, and the feeling was that there was "no gas". People arose early to buy, topped off their tanks, etc. There were lines and "No Gas" signs were posted at mid-day. There was considerable frustration and conflict among consumers.

The Soviet government has been increasingly unable to balance its budget and control its money supply. Despite glasnost, there are still no data for the Soviet money supply, but currency in circulation reportedly grew 4 times faster in the first part of this year than the first part of last year. The budget deficit--whose existence was first admitted last October--is estimated this year at 120 billion rubles (approximately \$197 billion U.S. dollars at the official exchange rate) or higher, an astounding 11 or 12 percent of Soviet gross national product.

The resulting inflationary pressures have been a mixed blessing for reform advocates. On one hand, they have caused a temporary halt to reforms which would have freed up retail, farm, and industrial wholesale prices to guide the decentralization of economic decision making envisaged in the 1987 Law of the Enterprise and the 1988 Law on Cooperatives. On the other hand, the search for ways to reduce the budget deficit has led to such measures as the reduction of defense expenditures and the conversion of defense resources to consumer goods production. The desire to reduce the subsidy required to guarantee wage payments on otherwise unprofitable farms is also a great motivating factor behind the policy of extending leases of farm land and other assets to farm families or small groups.

The growing acuteness of shortages has also focused attention on what many take to be the inequity of the state's system for allocating food across cities, regions, and occupations. Because food is allocated to state stores, which are concentrated in cities, or often sold in shops located inside prestigious institutes and important factories, relatively well paid workers have benefited under the present system. On the other hand, a year ago, the Soviet economist Cherniak reported that for the nation's poorest (43 million people with less than 75 rubles monthly), per capita consumption of meat and dairy products had declined by 30-35 percent since 1970. Data on the distribution of limited food resources, which are newly available to the Soviet people, are being used in vocal criticism of the patterns of distribution.

China's inflationary situation is also creating constraints on its economic reforms, similar to what is happening in the USSR. China's currency circulation increased 47 percent last year.

The Burdens of Agriculture

Soviet consumers are also burdened by the high cost of agriculture, which causes both domestic resources and foreign exchange to be diverted from other areas important to them, such as housing, medical care, transportation, the environment, as well as other consumer goods which are in scarce supply. In the Soviet Union, state subsidies to agriculture are rising. In China, state investment and input subsidies are shrinking. Retail price subsidies are burdensome, but are possibly shrinking, or are at least not growing as rapidly as in the USSR. China has also enjoyed a positive agricultural trade balance during most of the 1980's.

In March 1965, the party and then new Brezhnev government decided to greatly expand investment in agriculture. The share of investment devoted to

agricultural production grew from about 13 percent in the previous ten years, to well over a quarter of total investment by the tenth five year plan (1976-80). This has diminished only a little in the past few years. Agriculture and related food branches together now receive one-third of the economy's total investment. Farms have received direct budgetary subsidies for investment, and prices of certain inputs have been subsidized as well. Given fixed state retail prices, each increase in farm prices has occasioned larger state subsidies, to make up the difference between what farms receive and the lower prices which food processing and trade enterprises pay for raw farm commodities.

After the elimination and consolidation of various input subsidies in 1988 and 1989, this "retail food price subsidy" has become the principal state subsidy to agriculture. It is expected to reach 88.7 billion rubles in 1989, a figure about three fourths as large as the state budgetary deficit itself. The majority of this subsidy is for livestock products. The state subsidy is now 1-1/2 to 2 times the retail price of beef, lamb, and butter; it equals the retail price of pork and milk. These subsidies are large enough to produce much distortion in the food economy.

Agriculture has also absorbed large amounts of foreign exchange. The value of Soviet agricultural imports (for both hard and soft currency) has declined from a high of nearly \$21 billion in 1981. The figure, however, was still over \$15.8 billion in 1987 and \$17 billion in 1988. Soviet agricultural exports are only \$2 - \$3 billion dollars annually. The value of agricultural imports as a share of total Soviet imports, which reached a high of 28.6 percent in 1981, was seldom less than 20 percent before 1984, but dropped to 15 percent in 1988. The share

of grain in the total value of Soviet agricultural imports was 35 percent in 1980-85, 17 percent in 1987, and an estimated 24 percent in 1988. It could approach 30 percent in 1989. Grain is purchased for the most part with scarce convertible currency. Many of the USSR's tropical imports and vegetables, fruits and meats from Eastern Europe, are acquired through barter arrangements ("soft currency").¹

China has had less government support for agriculture than has the USSR, and its level is dropping. State expenditures on agriculture (aside from subsidies) dropped from 13.6 percent of the budget in 1978, to 8.3 percent in 1985, and only 5 percent in 1988. Private investment in agriculture (for which no exact data are available) has been extensive, especially in orchards and livestock, but not so much in farmland. Investment in farmland is discouraged because of unsettled tenure rights and the difficulties (impossibilities) of consolidating large tracts of land.

For the last 7 years, China's state budgetary subsidies for agriculture averaged about 25 billion yuan (dollar value) and were declining. Most of this subsidy has been used to lower the retail prices for grain and vegetable oil sold in urban markets. As in the Soviet case, a state subsidy covers the difference between the cost of imported goods and retail prices.

In recent years, the share of China's agricultural imports in total imports has shrunk from 28 percent in 1981 and 29 percent in 1982, to 9 percent in 1987 and 10 percent in 1988. Unlike the USSR, China's agricultural exports are varied and large, and provided a net positive agricultural trade balance during most

of the 1980's.²

The Need for Markets for Farm Products and Inputs

In both China and the USSR, agriculture now awaits reform of industry and the overall economy. Freer markets for both inputs and outputs are needed to stimulate low cost farm production, processing and distribution. The present farm price systems distort interregional marketing and specialization in both countries. Planned investment in Soviet food processing industries, a priority of the present food program, was already extensive in the 1970's, but much of it was wasted for lack of guidance from proper prices. The lack of markets also impedes the creation of an extensive farm lease system in the USSR, and is become a growing constraint on its development in China.

Based on the growth of China's agricultural production (figure 1) following the introduction of reforms (especially the household responsibility system) in 1978, there is speculation that similar increases will occur in the Soviet Union as a result of farm leasing.

A better analogy might well be Poland, where collectivization was halted in the 1950's and small private farms have long dominated agriculture, with 77 percent of agricultural lands. But they have done poorly because they lacked good markets for both inputs and products.

Because China's agriculture is to such an extent subsistence, labor-intensive agriculture which is relatively independent of off-farm inputs, it probably could have developed substantially under the responsibility system, even without extensive market relations. But agricultural reform in China after 1978 produced a great degree of market availability of inputs, and market outlets for products. These markets complemented the Chinese farmer's labor with opportunities for

ingenuity in a wide range of entrepreneurial decisions. More recently, the further development of China's decollectivized agriculture has been limited by the insufficient development of marketized links with industry. For some time, China analysts in the Economic Research Service have been saying that China's agriculture awaits further economic reform in the rest of China's economy.

The Prevalence of Soviet Farm Price Differentiation By Cost and the Absence of Differentiation By Usefulness.³

Cost-plus pricing as a basis for Soviet farm prices became increasingly prevalent in the past decade. Differentiation of prices paid by the state for the same product, produced in different zones or even by non-contiguous groups of farms, is now much criticized within the Soviet Union, and it is currently given much of the blame for low agricultural productivity and high farm costs.

Soviet farm prices have become differentiated so greatly for several reasons. One reason is the tendency in Soviet economics to think of prices as instruments that stimulate the fulfillment of procurement plans. ("Make them interested in what they are doing.") This means that whatever commodity is planned for a farm should be profitable for that farm. Barriers to interregional trade tend to cause procurement of a product to be planned even on farms which are not suited for it. The alternative would be for farms to make their own decisions about what to sell based on uniform prices. ("Let them do what they are interested in.") Prices have also become highly differentiated because planners have sought to limit the increase in the retail price subsidy which results from price increases by tailoring increase to farms where production of that good is

currently unprofitable.

The resultant greatly differentiated farm prices have given farms particularly poor incentive to control costs. Repeatedly, each increase has been followed by increased costs, and the rapid reappearance of losses or unacceptable levels of profit by farms, and then yet another price increase which does not elicit much new supply. The whole process has exacerbated the subsidy cost.

Soviet farm prices reflect efforts by planners to calculate differences in costs of production among regions and farms. This procedure is so laborious that planners have few resources left to refine prices to reflect the characteristics of farm products which matter to consumers. In any case, planned prices cannot be changed frequently enough to reflect changes in supply and demand.

While Soviet farm prices are differentiated somewhat by quality grades, the differentiation is often arbitrary, crude, and inflexible. Thus, milk is graded solely on butterfat, not protein content, and prices do not reflect proximity to processing facilities, which could help coordinate the utilization of milk. Premiums for wheat gluten exist, but do not vary with the availability of quality wheats, as do premiums for protein in the U.S. At the retail level, all cuts of meat sell in state stores for virtually the same price, irrespectively of consumer preference or the location of the store in relation to the source of supply. The list goes on

Except for vegetables, where state prices change according to fairly rigid calendar schedules, neither state farm nor state retail prices vary seasonally.

This removes the incentive and much of the information that exists in market economies to induce and guide the efficient storage, processing and transportation of agricultural commodities. It accounts for much of the seasonal nonavailability of food in state stores in the Soviet Union.

Although past investment in food processing may have been too low, fixed capacity in food processing did approximately double in the 1970's. Today, much of that capacity is acknowledged to have been built in the wrong places and on the wrong scale, and to have consisted generally of poor quality equipment. A large amount of additional investment which is now being undertaken is being guided by price information that is little better, if at all.

Reasons for the Variability of Imports by Centrally Planned Economies

A number of rigidities in the pricing of grain in both the Soviet Union and China cause the grain economies of these countries to be non-resilient to local and general domestic production shocks. These rigidities help explain the observed variability of China's and especially, the USSR's grain import demand. (1) The price of state-produced feed does not change when supply does. (2) The state retail prices of livestock products also do not change with year-to-year changes in the supply of feed; thus, consumers are not guided by higher prices to make substitutions in consumption which could help absorb the shock of feed shortfalls. (3) Investment in storage lacks incentive, because prices do not change within the year or between years, based on supply and demand. Instead, the existing system for farms actually provides higher average prices for sales in good years than in bad, and discourages farm storage and strains infrastructure downstream from the farm. This is because premiums are offered

for sales above the level of past sales, or above plan. There is, of course, no futures market to provide information to guide storage decisions. (4) There is insufficient transportation from one region to another to compensate for imbalances in supply and demand caused by regional harvest shortfalls. This is because prices do not vary and private middleman trading is discouraged or illegal. Regional imbalances may be made up by foreign trade.

Lack of Interregional Markets

In the Soviet Union, correct specialization has been hampered by farm prices which do not vary with interregional imbalances in supply and demand, but which are instead differentiated by average costs of production in each region. This in effect discourages production in low cost regions, and encourages it in high cost ones. Some embryonic "middleman" trade between regions by cooperatives was prompted by the 1988 Law on Cooperatives, but has since become illegal. A state planning mechanism, the All-Union Fund, redistributes food among regions. Planners designate the amount of each product each Republic is obligated to contribute to the All-Union Fund. In turn, the Fund allocates deliveries to other Republics. Until recently, very little was known about the operation of this fund, but data on allocations made from the fund which have recently been published have led to criticism of what is perceived as past arbitrary favoritism in the Fund's operations.

In March 1986 a special Party Central Committee Plenum on agriculture announced a policy meant to reduce the amounts redistributed by the All-Union Fund. The wording of this policy emphasized that Republics and large regions within Republics (oblasts), recipients from the fund, were to fend more for themselves.

Many have interpreted this measure as one of regional food autarky. Instead, reform economists say that their support for the measure is progressive: it is meant to force the development of commercial market relations for food trade among regions.

The June 1988 Law on Cooperatives enunciated various policies which would promote the development of commercial interregional markets for agricultural goods by eliminating plan obligations, freeing some prices, rationalizing others, and extending cooperative activity to increase competition in a number of areas. Specifically, the Law would: (1) Make state procurement quotas no longer obligatory for collective farms (the Law of the Enterprise and a regulation supposedly do this for state farms), (2) Reduce the number of price zones for agricultural products, (3) Base product prices on the costs of production in regions with the worst conditions of production (marginal cost of production), (4) Allow free contract pricing in some cases, and (5) Establish explicit rental payments for farm units based upon the quality of land, (6) Allow cooperative enterprise in any activity not expressly prohibited by law.

The farm price revisions worked out on the basis of Law will not be adopted by January 1990, as planned. In any case the basic farm prices would have been fixed, not flexible with changes in supply and demand. There would, however, have been flexibility for amounts sold to the procurement agencies, "above plans" which would not quite be abandoned.

Beginning in 1990, fruits, vegetables and potatoes are supposed to be sold totally through contract prices, which, however, are subject to price controls

which can be imposed at the oblast level.

Gorbachev's various attempts to foster free contractual relationships among farms and trade organizations and consumers, and among industrial firms, have not been successful. Elements of the old planned quota assignment system, now "State orders," have been retained in industry, where industrial firms find themselves still producing largely for plan, and they in fact continue to dominate agriculture. The 1986 attempt to very greatly expand wholesale trade in vegetables and fruits has not proven successful. Although farms are urged by Moscow to experiment and devise new marketing channels, they are apparently still wedded to traditional procurement agents.

The limited interest of farms in new marketing opportunities is explained in various ways. One of the most important explanations lies in how farms get their inputs. Some farms themselves prefer being contractually obligated to the state procurement authorities at fixed basic prices, because of the reciprocal promise of delivery of off-farm inputs, which are for the most part in great excess demand. [One of the reasons given in March of this year for the announced dissolution of the local RAPOs (raion agroindustrial associations) and the weakening of central administrative functions in the new State Committee for Food and Procurement (which is now slated to replace Gosagroprom on November 1, 1989) was to eliminate the leverage which officials of the unpopular RAPO had over farms by virtue of also allocating inputs.]

The offer of in-kind payment in farm inputs or consumer goods to farms is one of the ways in which a procurement official (or any other party or regional

authority who feels a responsibility for food supply and has resources to allocate) has to reinforce monetary stimuli. The practice is also common in China. Monetary incentives are weakened by the rationed nature of many of the things farms would want to buy.

Regional Autonomy

The phenomenon of growing political and economic autonomy among the various 15 Soviet Republics offers an interesting challenge to the traditional planning mechanism of the All-Union Fund. Republics are increasingly unwilling to contribute food to the Fund (and other commodities -- the Siberians are talking about "their" oil) for mere ruble money, especially at low controlled prices. The Lithuanians, for instance, talk of being willing to export livestock products, but only if they can get products like automobiles. Inter-republic economic relations now are being described as moving rapidly toward a barter system.

In a Soviet Union that is becoming increasingly Balkanized, the various Republics (now given increased foreign trade autonomy) are seeking foreign hard currency outlets for their products, including agricultural products. Many of these sales probably make little sense from the point of view of national welfare.

China also has problems with the interprovincial marketing of agricultural products. A mechanism similar to the Soviet All-Union Fund redistributes food among provinces, determining specialization patterns which are not efficient, and tending to promote autarky. ERS's China analysts hypothesize that this planned relative autarky (accompanied by the same kind of price inflexibility

as in the USSR) is the major economic explanation behind the lack of more storage and transportation infrastructure in China.

Other restrictions are imposed by local jurisdictions. For instance, stories are told of guards being posted at the perimeters of wealthy Guangdong Province by the authorities of neighboring provinces, to keep out Guangdong merchants who would buy grain, thus reducing supplies for their own populace. Similarly, in the USSR, oblast authorities interfere in the export of products. In one case reported in the early 1980's, a factory wanted to use its truck to supply its own workers with potatoes purchased privately in another oblast. The factory was stopped from transporting potatoes across the other oblast's boundary by its highway patrol, on the pretext of quarantine. One might have expected the importing region to have objected to a sanitary risk, but the exporting oblast actually was trying to maintain supplies for its own populace.

It is an interesting reflection that in most of the agricultural world, states seek to keep farm imports out. However, within socialist states today, where suppressed inflation of food prices and the deterioration of the value of money are the rule, jurisdictions increasingly attempt to keep food in!

Hard Currency Payments to Soviet Farmers⁴

One manifestation of the low incentive value of the ruble (lack of input markets) in the USSR was the August 10, 1989 announcement that hard currency rubles (usable for foreign purchases of both consumers goods and farm equipment and supplies) would be paid to Soviet farmers under certain conditions. Such payment is available for durum and top grade hard wheats and oilseeds crops (which

otherwise might be imported) in excess of previous amounts sold to the state. Their total grain production must also surpass the 1981-1985, average. The latter provision, like provisions which give a percentage bonus in rubles for quantities sold to the state above past achievements, is re-centralizing in its effect of reimposing quantities and preserving old specialization patterns. This scheme has also caused great jealousy among the producers of commodities other than wheat and oilseeds, who demand the same privilege. This innovation may likely be a prelude to general monetary reform, to create a general monetary unit that has incentive value. Then the problem will be to protect the value of this new unit, by restricting its growth.

Soviet Farm Leasing and the Chinese Responsibility System

Between 1978, when the Chinese agricultural reforms began, and 1984, China's agricultural production grew at an impressive 6.6 percent a year. In addition, rural labor and savings were released to fuel a phenomenal growth in rural industry. Could the same happen for the USSR as a result of the leasing system announced and experimented with in the past two years?

Exact data on the progress of farm leasing is limited. There is the danger that data presented on leases are reported merely to fulfill another centrally conceived "campaign" of Moscow. Such was the case with the contract brigade system, approved by Gorbachev among others in 1982, extended to most agricultural workers by 1987 in name only. It has since been acknowledged that very little about farm autonomy and work remuneration had actually changed. Now, when we see general data on the number of lease contracts we tend to be skeptical. When we see numbers on family lease contracts, however, we tend to believe there has

really been a change.

In China, the responsibility system apparently sprang up from grass roots and was finally approved in Beijing. In the USSR, where the idea is centrally conceived, Soviet leaders are apparently surprised that there are so few takers.

For some farm people, there is often no payoff to being involved in farming as farmer, rather than farm hand. The socialist farm offers security to its workers and, after decades of state largess, often impressive amenities on the more successful farms. The socialist farm workers are characterized as saying, "Why work, they'll pay you anyway."

In any number of individual cases, hardworking lease holders do utilize their labor, the land, and often salvaged machinery to produce cheaper and more plentiful farm products -- and they earn more. But the state does not guarantee the wages of leaseholders, and there are several kinds of risks.

Many chairmen of collective farms and directors of state farms also oppose leasing, or are willing to allow only very restricted leasing arrangements. Still feeling bound to fulfill plans, they are reluctant to give the best workers the opportunity, land, and equipment to work outside the farm. When the lease holder performs successfully, the payment specified in his lease is often not honored. The easy violability of his contract is the first risk facing the leaseholder.

Another risk attendant to receiving one's reward dependent upon one's farming

achievements, lies in the significant input supply requirements of what a by now relatively capital-intensive agriculture. This is the risk that Soviet producers have traditionally suffered from the capricious material technical supply system; it has increased with shortages induced by the growing monetary imbalance. A lease holder may trust one's own efforts, but may not be able to trust the economy to deliver necessary seed, fertilizer, or spare parts. A recent photo in the newspaper, Izvestiya, shows a lease holder standing beside the tractor he owns, next to an empty gas pump. (The story accompanying the photo asks why the USSR is exporting petroleum to buy grain, when, if given to this farmer, he could produce grain himself.)

A third risk for the successful leaseholder, lies in the jealousy of less rich neighbors, and in a public attitude which easily confuses hard work with speculative profit. Three years ago, the popular anecdote was about local authorities who bulldozed the plastic hotframes of subsidiary plot farmers who raised remunerative early season vegetables for sale on the collective farm market. They were called "speculators." Recently, the point about jealousy has been made by newspaper photos showing the slashed tires of leaseholders' tractors.

Emigre writer, Alexander Yanov, in his analysis of the "autonomous link" (a policy similar to the present leasing arrangements) cited the jealousy of non-productive rural people and ideology for the "Failed Reform of the 1960s."⁵ Today, the accumulated frustration of economic failure in the twenty years since the events Yanov described presents different prospects. A new situation also exists because of the political reform and the budding association of leaseholders into political and legal support groups.

Farm organizations are forming to lobby the new Supreme Soviet for better laws to protect the lease contract from violation. They also want to make the leaseholder independent of the socialist farm, by having him rent (or buy) land directly from the state (or the local Soviet), and making him independent of state marketing plans. Voluntary cooperatives of lease farmers are being formed to provide services and supplies.

In the Soviet Union, favoritism in the allocation of farm inputs to preferred workers has created jealousy which would be lessened were inputs available in wholesale trade to anyone ready to pay a market-clearing price. In China, such input markets have been relatively more available, not creating fair access to inputs, but helping.

However, in 1989 the Chinese Government forbade all market sales of chemical fertilizers, pesticides, and plastic sheeting, instead reserving those for sale through government managed sales outlets. Cotton purchases were returned to the sole purview of the state cotton monopsony. Previously, cotton farmers had sold to private cotton textile firms. Because of their superior efficiency, more market-oriented private purchasers are said to be able to pay higher prices. Market prices also began to greatly exceed the fixed prices present in planned channels of distribution, because of growing monetary pressure in China.

The Effect on Imports

In the longer run, the successful development of market-oriented agriculture in China and the Soviet Union does not necessarily mean lower agricultural imports. More developed internal markets within these countries should make their grain imports less variable, and also change the structure of imports.

We cannot afford to take past exports to China and the USSR for granted. Subject to success in keeping monetary growth in check in both countries, and China's ability to extend, and the Soviet Union's ability to initiate, markets, we can expect eventually to see greater production and significantly improved distribution and utilization of farm products. What will this mean for the agricultural trade of these countries, especially with the United States?

That question can only be answered tentatively at this time. It will help to discuss the demand for U.S. products in terms of (1) levels, (2) commodity structure, and (3) variability of imports.

Levels. The question of the effect of agricultural development on a nation's agricultural trade is also asked in the case of developing market countries in general. The answer is that, because of complex interrelationships, agricultural development does not necessarily mean reduced agricultural imports. What reformers believe is most needed for agriculture to succeed is exactly what is needed for the growth of all sectors, including industry: stable money and freer markets. In general, trade accompanies development, and the United States exports considerable amounts of farm goods to many developed countries.

Economic reform may allow the USSR to produce more farm products at less cost. Reforms may continue to bring about more decentralized international trade, and

eventually, better domestic prices by which the country's own comparative advantage may be discovered. In this respect, William Liefert of the Economic Research Service has used international trade methodology to calculate that, between agricultural commodities and machinery (the USSR's two largest import categories), the USSR probably has a current comparative advantage, and thus should import more agricultural commodities. Even were economic reform to improve the productivity of agriculture and machine building "equally," (or even agriculture somewhat more) farm and trade reforms taken together would cause the USSR to import more food, according to its comparative advantage, than at present.⁶

Structure. The structure of Soviet and Chinese agriculture would probably change, as economic growth changes both the cost and demand for different commodities differently. For instance, very tentative calculations by Liefert, Edward Cook, and Robert Koopman give an idea of how structure might change.⁷ Using measures of subsidies for individual commodities, an estimated shadow exchange rate for the ruble, and assumed response rates for demand and supply in the USSR, the results of a model developed by the Economic Research Service to study world trade liberalization indicate that a reformed, more market-oriented Soviet economy would tend to import less of some products the U.S. sells, like wheat, but more of others, like soybeans, soymeal and meat.

The model predictions for the Soviet Union tend to be supported by the debate that is going on there now. Many Soviets wonder why the USSR produces so much wheat (approximately twice as much as it needs for food purposes), yet imports so much. Recent discussions indicate that perhaps up to 13 million tons of good

quality wheat (about 65 percent of average annual imports in the 1980's) is not sold to the state, but rather kept by farms to feed livestock. The reason given is that there is an internal price distortion, by which mixed feed, priced uniformly throughout the country, is two to three times the price the state pays for wheat in the low cost regions where it is produced most profitably. Given high livestock prices, the low protein content of mixed feed purchased from the state, and its high cost, farms prefer to keep the wheat and feed it, with local authorities, who are primarily concerned about local meat supplies, concurring.

Similar tentative calculations by Shwu-Eng Webb indicate that wheat exports to China could be increased were the Chinese economy and trade system more market oriented.⁸ In any case, China has relatively little capacity to expand domestically produced supplies to the 200 million or so urban consumers whose demand for wheat products is known to grow positively with population growth, economic development, and personal income.

China's wheat imports from the United States this year are expected to be at the highest level since 1981. In the next trading year, in the aftermath of events in Tiananmen Square, it is not clear that they will be any different. On the one hand, because of reduced revenues from tourism, the Chinese government will have less foreign exchange to purchase wheat; on the other hand, it will be reluctant to see a disruption in urban grain supplies which might lead to urban unrest and further disruptions.

Import variability. Another study done by Liefert shows that the Central Planned Economies, while accounting for 47 percent of total world wheat import growth in the period 1975-87, also accounted for around 80 percent of the variation in world import demand about trend.⁹ One could predict, based on the discussion of markets above that greater price flexibility in China and the Soviet Union would make their demand for agricultural imports more stable. This itself would be good for the world, including the United States.

Lastly, the United States can itself influence the nature and the pace of economic reform in both China and the USSR. In the area of agricultural economics, the Department of Agriculture has exchanges with both China and the USSR. Last year, for instance, in cooperation with the United Nations Development Program and Winrock International, the USDA hosted half a dozen Chinese agricultural economists who spent up to six months with in the Economic Research Service to see how economic analysis is applied to study various problems of the American rural economy. These Chinese economists know the fundamental tools of the trade, more so than do their current Soviet counterparts, who are wrestling with tremendous conceptual as well as practical problems in trying to establish a market economy for agriculture. There are advantages in continuing to be involved in training economists from both countries: one is to help; another is to be well placed in order to know better the evolving character of the agricultural trade of these countries.

Endnotes

1. *USSR Agriculture and Trade Report*. Agricultural and Trade Analysis Division, Economic Research Service, U.S. Department of Agriculture, May 1989, RS-89-1, p. 39.
2. *China Agriculture and Trade Report*. Agriculture and Trade Analysis Division, Economic Research Service, U.S. Department of Agriculture, December 1989, RS-89-5.
3. Much of this and the next three sections utilize information gained by the author as a participant in a U.S. Department of Agriculture delegation on USSR farm prices, in May 1989.
4. Details of this program are contained in Christian J. Foster, "Implications of the Soviets' Convertible Currency Payment Program," *CPE Agriculture Report*, Volume 2, Number 5 (September-October 1989), pp. 7 - 13.
5. Alexander Yanov, *The Drama of the Soviet 1960s: A Lost Reform* (Berkeley, CA: Institute of International Studies, Research Series No. 56, 1984).
6. William M. Liefert, "Economic Reform and Soviet Grain Imports, in *USSR Agriculture and Trade Report*, op. cit., pp. 51 - 53.
7. William M. Liefert, Edward C. Cook, and Robert Koopman, "World Agricultural Trade Liberalization and the USSR," American Association for the Advancement of Slavic Studies annual meetings, Chicago, IL, November 3, 1989.
8. Shwu-Eng Webb, "Agricultural Commodity Policies in China: Estimates of PSE's and CSE's, 1982-87," *China Agriculture and Trade Report*, op. cit.
9. William M. Liefert, "The Contribution of the CPE's to the Growth and Fluctuation of World Import Demand for Grain, *CPE Agriculture Report*, Vol. 1, Number 4 (July/August 1988), pp. 9 - 13.

Table 1. The Diet of the Average Soviet Citizen Has Improved Since 1965

| Item | Per capita food consumption | | | | | | | |
|---------------------------|-----------------------------|------|------|------|------|------|------|------|
| | 1965 | 1970 | 1975 | 1980 | 1985 | 1986 | 1987 | 1988 |
| | Pounds | | | | | | | |
| Meat and meat products 1/ | 91 | 106 | 126 | 128 | 137 | 137 | 141 | 143 |
| Fish and fish products | 29 | 3329 | 38 | 40 | 40 | 42 | 40 | 40 |
| Milk and milk products 2/ | 554 | 678 | 698 | 693 | 717 | 735 | 753 | 775 |
| Vegetable oil | 15 | 15 | 18 | 20 | 22 | 22 | 22 | 22 |
| Vegetables and melons | 159 | 181 | 196 | 214 | 225 | 225 | 221 | 221 |
| Fruits 3/ | 62 | 77 | 86 | 84 | 106 | 124 | 121 | 115 |
| Potatoes | 313 | 287 | 265 | 241 | 230 | 236 | 232 | 216 |
| Sugar | 75 | 86 | 91 | 97 | 93 | 97 | 104 | 102 |
| Bread products | 344 | 329 | 311 | 305 | 294 | 291 | 291 | 289 |
| | Number | | | | | | | |
| Eggs | 124 | 159 | 216 | 239 | 260 | 268 | 272 | 273 |

1/ Includes fat and byproducts. Meat products expressed in meat equivalents.
 2/ Milk products expressed in milk fat equivalents. 3/ Excludes fruit used in wine.

Source: USSR State Statistics Committee.

Table 2. In 1985-86, Soviet Red Meat and Poultry Consumption Was About Equal to That of Sweden

| Country | Pounds per capita 1/ | Index 2/ |
|----------------|-------------------------|----------|
| United States | 270.4 | 100 |
| East Germany | 217.2 | 87 |
| Belgium | 209.1 | 84 |
| West Germany | 209.1 | 84 |
| France | 198.7 | 80 |
| Ireland | 186.8 | 75 |
| Czechoslovakia | 186.1 | 75 |
| Austria | 182.3 | 73 |
| Switzerland | 181.0 | 73 |
| Denmark | 180.4 | 73 |
| Hungary | 173.5 | 70 |
| Italy | 167.1 | 67 |
| Netherlands | 162.9 | 66 |
| Greece | 152.8 | 61 |
| Bulgaria | 150.6 | 61 |
| Spain | 147.5 | 59 |
| United Kingdom | 141.9 | 57 |
| Iceland | 138.0 | 56 |
| Finland | 135.8 | 55 |
| Poland | 135.3 | 54 |
| USSR | 132.5 | 53 |
| Romania | 125.6 | 51 |
| Sweden | 120.3 | 48 |
| Norway | 105.5 | 42 |
| Yugoslavia | 101.8 | 41 |
| Portugal | 101.5 | 41 |

1/ Slaughter weight. 2/ Consumption as a percent of U.S. consumption. 3/ The UN ECE discounts Soviet meat consumption data for slaughter fat. Cherniak (Pravada, 8/1/88) suggests additional discounts which would make Soviet consumption about like that of Sweden in this table.

Source: The United Nations Economic Commission for Europe and USDA.

Table 3. USSR: Grain Production and Imports 1/

| Year beginning July 1 | Production 2/ | Total Imports | Imports from the United States |
|-------------------------|---------------|---------------|--------------------------------|
| Million metric tons | | | |
| Total grains 3/ | | | |
| 1974/75 | 195.7 | 5.7 | 2.1 |
| 1975/76 | 140.1 | 26.1 | 13.2 |
| 1976/77 | 223.8 | 11.0 | 7.2 |
| 1977/78 | 195.7 | 18.9 | 12.0 |
| 1978/79 | 237.4 | 15.6 | 10.1 |
| 1979/80 | 179.2 | 31.0 | 14.0 |
| 1980/81 | 189.1 | 34.8 | 7.3 |
| 1981/82 | 158.2 | 47.3 | 14.7 |
| 1982/83 | 186.8 | 34.3 | 6.1 |
| 1983/84 | 192.2 | 32.5 | 10.3 |
| 1984/85 | 172.6 | 55.5 | 20.9 |
| 1985/86 | 191.7 | 29.9 | 6.6 |
| 1986/87 | 210.1 | 27.5 | 4.8 |
| 1987/88 | 211.4 | 32.0 | 16.3 |
| 1988/89 | 195.1 | 39.5 | 21.6 |
| Wheat | | | |
| 1974/75 | 83.9 | 2.5 | 1.0 |
| 1975/76 | 66.2 | 10.1 | 4.0 |
| 1976/77 | 96.9 | 4.6 | 2.9 |
| 1977/78 | 92.2 | 6.6 | 3.3 |
| 1978/79 | 120.8 | 5.1 | 2.9 |
| 1979/80 | 90.2 | 12.0 | 3.9 |
| 1980/81 | 98.1 | 16.0 | 2.9 |
| 1981/82 | 81.1 | 20.3 | 6.7 |
| 1982/83 | 84.3 | 20.8 | 3.0 |
| 1983/84 | 77.5 | 20.5 | 4.3 |
| 1984/85 | 68.6 | 28.1 | 6.1 |
| 1985/86 | 78.1 | 15.7 | .2 |
| 1986/87 | 92.3 | 16.0 | .8 |
| 1987/88 | 83.2 | 21.5 | 12.1 |
| 1988/89 | 84.4 | 15.5 | 4.4 |
| Coarse grains 4/ | | | |
| 1974/75 | 99.7 | 2.7 | 1.2 |
| 1975/76 | 65.8 | 15.6 | 9.2 |
| 1976/77 | 115.0 | 5.7 | 4.3 |
| 1977/78 | 92.6 | 11.7 | 8.7 |
| 1978/79 | 105.0 | 10.0 | 7.2 |
| 1979/80 | 81.2 | 18.4 | 10.1 |
| 1980/81 | 80.5 | 18.0 | 4.4 |
| 1981/82 | 69.3 | 26.0 | 8.0 |
| 1982/83 | 91.8 | 12.5 | 3.1 |
| 1983/84 | 101.9 | 11.5 | 5.9 |
| 1984/85 | 90.5 | 26.9 | 14.8 |
| 1985/86 | 100.0 | 13.7 | 6.5 |
| 1986/87 | 105.9 | 11.0 | 4.0 |
| 1987/88 | 113.7 | 10.0 | 4.2 |
| 1988/89 | 97.5 | 23.5 | 17.1 |

1/ All are USDA estimates and forecasts except production 1981-88. Totals may not add because of rounding.
 2/ Calendar year basis. 3/ Includes wheat, coarse grains, buckwheat, rice, pulses, and miscellaneous grains.
 4/ Includes rye, barley, oats, corn, millet and sorghum.

Table 4. China: Grain Production and Trade 1/

| Year | Trade | | | |
|----------------------------|------------|---------------|-------------------|---------------|
| | Production | Total Imports | Imports from U.S. | Total Exports |
| Million metric tons | | | | |
| Total grains | | | | |
| 1974/75 | 275.3 | 6.3 | 1.5 | 2.0 |
| 1975/76 | 284.5 | 2.3 | .0 | 1.2 |
| 1976/77 | 286.3 | 3.2 | .0 | 1.3 |
| 1977/78 | 282.7 | 8.7 | .3 | 1.6 |
| 1978/79 | 304.8 | 11.2 | 5.4 | 1.2 |
| 1979/80 | 332.1 | 10.8 | 3.9 | 1.2 |
| 1980/81 | 320.6 | 14.7 | 9.3 | .8 |
| 1981/82 | 325.0 | 14.9 | 9.4 | .7 |
| 1982/83 | 354.5 | 15.6 | 6.4 | .7 |
| 1983/84 | 387.3 | 9.9 | 3.1 | 1.5 |
| 1984/85 | 407.3 | 7.6 | 2.4 | 6.8 |
| 1985/86 | 379.1 | 7.6 | .5 | 8.1 |
| 1986/87 | 391.5 | 11.1 | .3 | 5.2 |
| 1987/88 | 402.0 | 16.0 | 4.8 | 4.8 |
| 1988/89 | 394.1 | 17.7 | 7.4 | 5.3 |
| Wheat (July/June) | | | | |
| 1974/75 | 40.9 | 5.7 | 1.5 | 2/ -- |
| 1975/76 | 45.3 | 2.2 | .0 | .0 |
| 1976/77 | 50.4 | 3.2 | .0 | .0 |
| 1977/78 | 41.1 | 8.6 | .3 | .0 |
| 1978/79 | 53.8 | 8.0 | 2.6 | .0 |
| 1979/80 | 62.7 | 8.9 | 2.1 | .0 |
| 1980/81 | 55.2 | 13.8 | 8.7 | .0 |
| 1981/82 | 59.6 | 13.2 | 8.2 | .0 |
| 1982/83 | 68.5 | 13.0 | 4.2 | .0 |
| 1983/84 | 81.4 | 9.6 | 3.1 | .0 |
| 1984/85 | 87.8 | 7.4 | 2.4 | .0 |
| 1985/86 | 85.8 | 6.6 | .5 | .0 |
| 1986/87 | 90.0 | 8.5 | .3 | .0 |
| 1987/88 | 85.8 | 15.0 | 4.4 | .0 |
| 1988/89 | 86.4 | 16.0 | 3/ 7.3 | .0 |
| Corn (Oct/Sept) | | | | |
| 1974/75 | 42.9 | .5 | -- | .2 |
| 1975/76 | 47.2 | .0 | .0 | .2 |
| 1976/77 | 48.2 | .0 | .0 | .1 |
| 1977/78 | 49.4 | .1 | .0 | .1 |
| 1978/79 | 55.9 | 3.0 | 2.8 | .1 |
| 1979/80 | 60.0 | 1.9 | 1.8 | .1 |
| 1980/81 | 62.6 | .8 | .7 | .1 |
| 1981/82 | 59.2 | 1.2 | 1.1 | .1 |
| 1982/83 | 60.6 | 2.4 | 2.2 | .1 |
| 1983/84 | 68.2 | .1 | .0 | .3 |
| 1984/85 | 73.4 | .1 | 0.2 | 5.2 |
| 1985/86 | 63.8 | .4 | 0.2 | 6.4 |
| 1986/87 | 70.9 | 1.6 | .0 | 3.8 |
| 1987/88 | 79.2 | 2.8 | .2 | 4.1 |
| 1988/89 | 77.4 | .1 | 4/ .2 | 4.0 |
| Rice (Cal years) 5/ | | | | |
| 1974/75 | 123.9 | -- | .0 | 1.6 |
| 1975/76 | 125.6 | .1 | .0 | .9 |
| 1976/77 | 125.8 | .0 | .0 | 1.0 |
| 1977/78 | 128.6 | .0 | .0 | 1.4 |
| 1978/79 | 136.9 | .1 | .0 | 1.1 |
| 1979/80 | 143.8 | -- | .0 | 1.1 |
| 1980/81 | 139.9 | .1 | .0 | .6 |
| 1981/82 | 144.0 | .3 | .0 | .5 |
| 1982/83 | 161.6 | .1 | .0 | .6 |
| 1983/84 | 168.9 | .1 | .0 | 1.2 |
| 1984/85 | 178.3 | .1 | .0 | 1.0 |
| 1985/86 | 168.6 | .3 | .0 | 1.0 |
| 1986/87 | 172.2 | .6 | .0 | 1.0 |
| 1987/88 | 173.9 | .4 | .0 | .7 |
| 1988/89 | 169.1 | 1.2 | .0 | .3 |

1/ All are USDA estimates and forecasts except production 1974-88. 2/ Smaller than 0.1 million tons. 3/ Estimate as of Aug. 1989. 4/ Actual contracted. 5/ Trade of rice is in milled weight.

FIG. 1
Agricultural Production Indices, FAO
(1974 = 100)

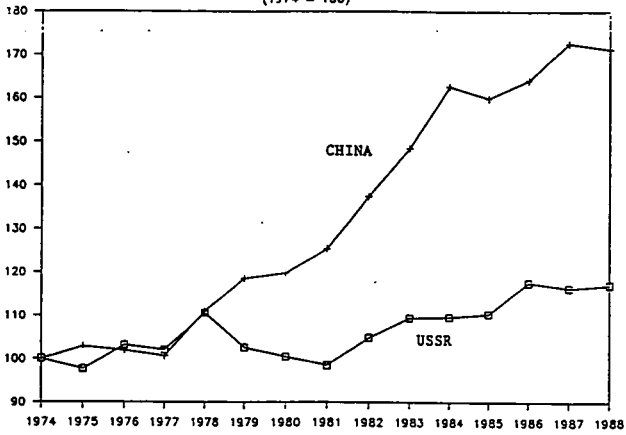


FIG. 2
USSR Agricultural Indices

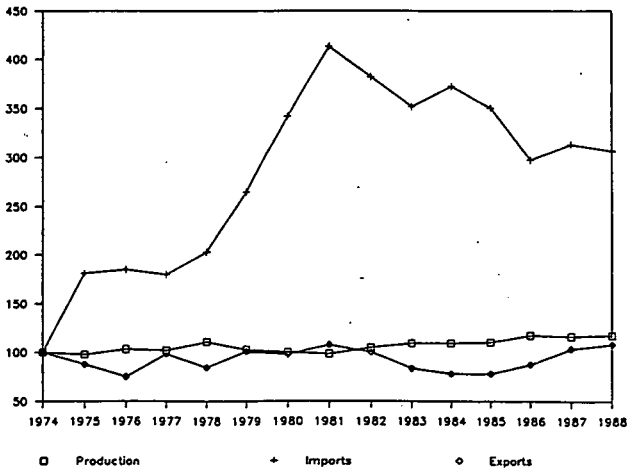
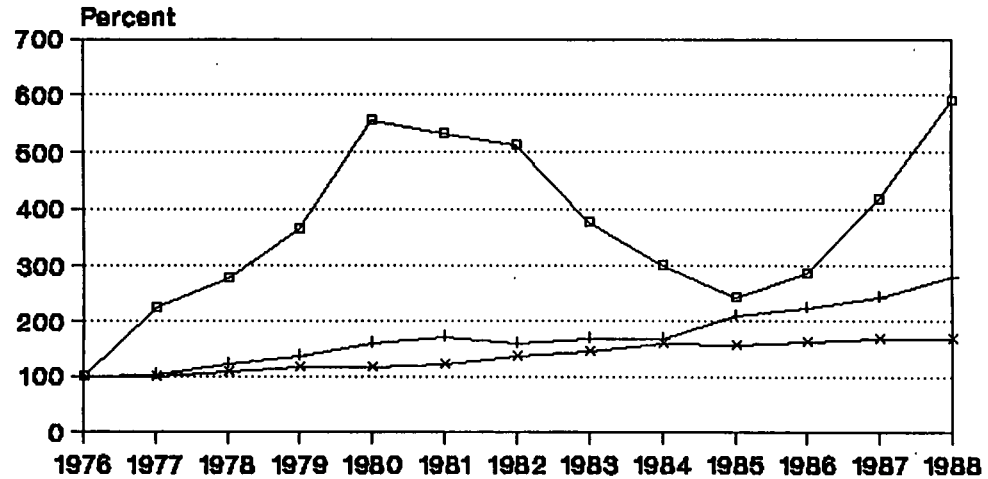


FIG. 3

Agricultural Production and Trade CHINA, (1976 = 100)



—+— Ag. Exports —□— Ag. Imports —x— Ag. production

Source: ERS

33

58

Representative HAMILTON. Thank you, Mr. Gray.
Mr. Carter, please proceed.

STATEMENT OF COLIN A. CARTER, PROFESSOR OF AGRICULTURAL ECONOMICS, UNIVERSITY OF CALIFORNIA AT DAVIS

Mr. CARTER. Thank you, Mr. Chairman.

I have visited China five times in the last 4 years and I keep in close touch with several economists in China. My report will focus on Chinese agriculture, although I do have some brief comments on the Soviet grain embargo.

Chinese agriculture is really quite remarkable. China is able to feed itself, even though it has 20 percent of the world's population and only 7 percent of the arable land. It has one of the highest wheat yields in the world and it is also the largest wheat producer. It produces more than the United States or the Soviet Union.

The 1978 economic reforms in China are often referred to as the second revolution. I think this is an accurate description. I have provided some data in my prepared statement to back this up.

The reforms had two major elements. First, they gave farmers more freedom to produce what they wanted. Second, prices were increased sharply. The farmers responded to these incentives and production in the early 1980's grew much faster than most economists predicted at that time.

However, at the present time, there is some concern, both inside and outside China, that the impact of the reforms may have leveled off, or with the recent hard line stands by Deng Xiaoping that possibly agriculture will start sliding backward.

Does this mean that grain imports will increase? In my view, if the political situation stabilizes, I believe China does have the ability to keep a narrow gap between its supply and demand for food. Increased production would come from such factors as regional specialization, further price reforms, additional inputs, and better seed quality, which means that inputs would not increase dramatically. Increased production must come from higher yields. It simply cannot come from additional acreage.

Unfortunately, the Chinese Government policies toward grain consumption have not changed very much since the mid-1950's. The Government remains committed to supplying rationed quantities of staple foods to urban consumers at low, subsidized prices. In fact, subsidies account for roughly 20 percent of the national budget. This includes subsidies from imports, as well as domestic purchases which are resold at lower prices.

Given the events in June, I doubt that those currently in power will raise urban food prices. China has a serious inflation problem at the present time, and increasing urban food prices would only make it worse.

Let me turn to the grain trade.

China began importing grain, mostly wheat, in the early 1960's. The United States began selling wheat in the early 1970's to China and its market share has averaged roughly 25 percent of that market since 1972. Historically, the United States is the third largest supplier of wheat to China, behind Canada and Australia.

Interestingly, imports to China actually increased after these 1978 reforms, even though production records were also being set at the same time. I believe this increased trade was a component of China's so-called open door policy. China's import demand is very complex and highly variable from year to year.

I have also provided some data on this in my prepared statement. Imports are primarily a function of domestic shortfalls, foreign exchange availability, world prices, and political factors. Foreign exchange availability is quite important because China has been spending about 5 percent of its import bill on wheat imports, or roughly 15 percent of its foreign exchange reserves on wheat imports.

Turning to the export enhancement program and grain subsidies, China and the Soviet Union are the largest beneficiaries from the export enhancement program. Almost all of China's imports from the United States in the past 3 years have involved export subsidies. These range anywhere from 20 to 30 percent of the price. They have served to lower world prices and they have saved China valuable foreign exchange.

But in my view, they've had a very minimal impact on the total level of Chinese imports. Basically, this program has been an income transfer from the exporting to the importing countries.

In my prepared statement I have plotted Chinese and Russian wheat imports against world prices, and looking at Chinese imports, we see if anything that when prices increase they buy more and when prices fall they buy less. So, it's really hard to believe that import demand has the response to price that we would find in an economics textbook. Therefore, I don't believe the export enhancement program has resulted in a jump in Chinese imports.

Briefly, a few words on the 1980 embargo to the Soviet Union.

I believe that the Soviets changed their buying strategy after the embargo and this shows up in the timing of their purchases. The Soviets punished the United States after the embargo by giving it very little market share. This eventually led to export subsidies or contributed to export subsidies, at least, and also contributed to the grain trade war of the 1980's.

To summarize, I think two factors will affect China's imports of wheat in the next 3 to 5 years. No. 1 is the shortage of foreign exchange. No. 2 is the desire on the part of the current leaders to move back to the so-called self-reliance approach to development. Li Pang has publicly announced this desire.

Therefore, imports of grain may actually fall due to these two factors in the next 3 to 5 years.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Carter follows:]

PREPARED STATEMENT OF COLIN A. CARTER

**CURRENT AND PROSPECTIVE AGRICULTURAL SITUATION
IN THE USSR AND CHINA**

This hearing is on the current and prospective agricultural situation in both the USSR and China. My report will focus on the domestic situation in China and the role of China in international agricultural trade¹. I will not be making in-depth comments on the likely impact of domestic policy developments in the USSR.

Recent Developments in China's Agriculture

The agricultural sector in China has long been confronted with the pressures created by a large and growing population, a fixed land area, and a relatively small amount of cultivable land per capita. It is remarkable that a country with 20% of the world's population is self-sufficient in food production, with only 7% of the global arable land. Table 1 provides some comparative statistics for China, India, the USSR and the US. From these data we can see that China is a poor country, it is a large wheat producer and enjoys relatively high wheat yields.

China's economy continues to depend on the agricultural sector to generate a significant portion of the gross value of economic output. Agriculture contributed about 21% of the gross value of economic output in 1987, compared to about 2% in the U.S.. Crop farming is the largest agricultural activity, contributing approximately 60% of the value of gross agricultural output. The

¹ This report draws heavily from two documents: 1. **China's Past and Future Role in the Grain Trade** by Colin A. Carter and Fu-Ning Zhong (working paper, Dept. of Agric. Econ., Univ. of California at Davis, 1989), and 2. **China's Grain Economy** by Colin A. Carter and Simei Wen, in The North-South Grain Trade D. Blandford (ed) Cornell Univ. Press (forthcoming 1990).

most important grains produced in China are rice and wheat.

All sectors of the Chinese economy grew rapidly following the introduction of a package of economic reforms in late 1978. Over the 1978 to 1987 period, national income grew at a rate of 9% per year. Agricultural output grew at a rate of 6% and the industrial sector expanded at 10% per year.

Recent political events in China have made the "foreseeable" future even more uncertain than it previously was. Inflationary pressures and a growing trade deficit will affect economic performance and also China's food balance sheet. Inflationary fears will most likely stall progress on the badly needed price reforms, for at least a few years. Immediate concern over the trade balance and a foreign exchange shortage will put a lid on grain imports.

Reforms and Grain Production

The 1978 reforms had two major policy impacts for agriculture: higher prices and greater farmer freedom to make production decisions. The government procurement price for grain is now about double the level in 1978. Relative prices have favored wheat, corn and soybeans - over rice and potatoes. In the post reform period, China's grain production has increased at a faster rate than before (at about 2.6% per year from 1978-88) and this growth in production was greater than most economists predicted it would be (see Figure 1 for data on production). According to the latest figures, total

grain output in China was about 394 mmt in 1988².

The area sown to major grain crops declined during the 1978-86 period. Therefore, as in the recent past, future improvements in grain output will depend largely upon higher yields. Grain production in China will have to grow by about 2.2% to keep pace with demand to the year 2000³. There is some concern both inside and outside China that the impacts of the reforms may have levelled off (or even reverted) and that supply will lag far behind demand. However, I am optimistic that the political situation will stabilize, the gap between supply and demand will not widen very much, and that China will be able to increase grain production at a rate of close to 2.0% per year (to the year 2000). This production will come from more regional specialization, higher domestic prices, a higher growth rate of input usage, better seed quality etc.

Reforms and Grain Consumption

Grain consumption patterns have also been changing dramatically since the 1978 economic reforms. The reforms resulted in a rapid rise in consumer incomes, which led to growth in per

² Of the grain produced, about 68% was consumed on farms, 21% was sold to the state, and 11% was sold on open markets. This data on marketings was reported in the **Far Eastern Economic Review** Nov 3, 1988.

³ The formal assumptions behind this projection, and many others in this report, are contained in a University of California at Davis working paper by Colin A. Carter and Fu-Ning Zhong entitled **China's Past and Future Role in the Grain Trade**.

capita consumption of preferred cereals (wheat and rice), meat, and edible oils. For example, in rural areas, per capita consumption of wheat and rice increased by 70% during the 1978-85 period. Meat consumption almost doubled in rural areas and increased by about 50% in urban areas. It is likely in the future that China will gradually consume more grain indirectly through animal products.

Government policies toward grain consumption continue almost unchanged since the mid-1950s. The government is committed to supplying rationed quantities of staple foods to urban consumers at low subsidized prices. Since the mid-1950s, the rationed retail prices of foodgrains remain virtually unchanged, while state budget allocations for food price subsidies soared from 1.9 billion yuan in 1961 to over 20 billion yuan in 1985 (20 billion yuan is approximately \$5.4 billion \$US at the official exchange rate). By 1985, urban consumer grain subsidies accounted for over 10% of the national budget. If data were available that allowed the added cost of subsidized imports to be included, consumer subsidies might exceed 20% of the budget. This growing urban food subsidy is a serious problem in China and its solution lies in a further price reforms.

China's Participation in the International Grain Trade

Because of its size, population etc., China has had a considerable impact on world grain trade. It was a net exporter of grain in the 1950s, while in the 1960s it began importing wheat to

make up for the shortfalls experienced during the "Great Leap Forward" (see Figure 2). China exports mainly rice, maize and soybeans and imports primarily wheat. During the 1970s and early 1980s, China was one of the world's largest grain importers. In the early 1980s it was the second largest importer of wheat, ranking behind the USSR. From 1978 to 1983, China consistently accounted for over 10% of world wheat imports.

Several factors contributed to the large increase in China's grain imports in the early 1980s. Reasons for imports included: a) the resale of foodgrains to rural areas increased in order to allow farmers to adjust to the economic reforms, b) a rising demand for grains to produce meat and liquor, c) transportation bottlenecks in China, and d) the government's desire to rebuild stocks to a level approximately equal to an eight-month supply.

Wheat accounts for about 85% of all grains imported into China. China imports wheat from several different countries and regions of the world, including Argentina, Australia, Canada, the EC and the US. Canada and the U.S. have traditionally been the largest suppliers. However, China is a much more stable market for Canada than it is for the U.S. (see Tables 2 and 3 and Figure 3). For example, in 1986, China was the 50th largest buyer of US wheat, by 1987 they were number two, and in 1989 they were again the largest. The Soviets are presently the second largest wheat market for the U.S..

Following the 1980 Russian grain embargo, the US shifted wheat sales from the Soviet Union to China. Then in the mid 1980s US

exports to China fell for two main reasons: a) total Chinese imports fell sharply, and b) China diverted wheat imports away from the U.S., partly in response to the U.S. imposed import quotas on cotton and textiles. Traditionally, China imports one major class of wheat -soft red winter (SRW) from the U.S.. With regard to wheat imports, China has displayed an increasing degree of diversification in the recent past. China's grain imports are primarily a function of a) domestic shortfalls, b) foreign exchange availability, c) world prices, and d) political factors. Recent political unrest has resulted in a declining trade balance, less tourism, and a fall in foreign investment. These factors, plus foreign debt obligations, will lead to a shortage of foreign exchange. This will have a large negative impact on wheat imports because the country has been spending about 15% of its foreign exchange reserves on wheat imports. Foreign exchange is also used for fertilizer imports.

Although it is difficult to predict China's future import needs, in my opinion (if the political situation stabilizes and the price reforms are reenacted) China will import about 30 mmt of grain annually throughout the 1990s, rising to close to 50 mmt by the year 2000⁴. Feedgrain imports may gradually replace wheat for human consumption. USDA economists⁵ predict that about 500 mmt of

⁴ See footnote 3 above for a reference to this forecast.

⁵ see the article by F.W. Crook, "China's Grain Production to the Year 2000," China: Agriculture and Trade Report (U.S. Department of Agriculture, June 1988).

grains will be produced in China by the year 2000. This estimate is similar to that generated by the Chinese State Council and it is an attainable target. However, even with a level of production of 500 mmt, imports of close to 30mmt would still be required to meet demand.

In view of its recent political unrest, China's policy towards freer international trade may change and this will affect imports. In fact, Premier Li Peng has publicly stated the desire to move back towards the so-called "self reliance" goal as part of the development process.

The Export Enhancement Program

The USSR and China are the two largest recipients of the U.S. EEP program, which lowers the world price of grain. About 50% of US wheat exports have involved EEP bonuses since the program began in 1985 and almost 50% of all EEP wheat sales have been directed to the USSR and China.

The effectiveness of the EEP program remains debateable. A recent USDA report suggests the program increased U.S. 1986/87 wheat sales by anywhere from 10 to 31% and increased U.S. wheat export revenue between 18 to 61%⁶. This USDA report contains a number of questionable assumptions and its conclusions are highly doubtful, especially the estimate that EEP led to higher export

⁶ See Stephen L. Haley *Evaluation of Export Enhancement, Dollar Depreciation, and Loan Rate Reductions for Wheat* USDA/ERS. Staff Report No. AGES 89-6 (April 1988).

revenues. It is revealing to look at the actual trade statistics for the year in question. For fiscal 1987 (October 1986 to September 1987) the total value of U.S. wheat shipments was below the 1985/1986 level by about \$383 million, even though export volume was up by about 2.7 mmt⁷. Lowering the world price through EEP may have expanded the volume of sales, but it clearly resulted in lower total export revenues. It is quite possible that the U.S. did not have to lower prices in order to expand sales in 1986/87.

Import demand in both China and the USSR is unresponsive to world prices (i.e. the import demand elasticity is low). Figure 4 plots imports against prices. If demand is inelastic in China and the USSR, then lowering the price (through EEP) only serves to lower total revenue received by the U.S.. The major beneficiaries from EEP have been the importing countries and grain handling companies.

The 1980 Grain Embargo

Prior to 1980 the U.S. had a large market share in the Soviet Union. The Soviets believed the U.S. was the only exporter capable of consistently exporting large volumes of grain. Then, the U.S. imposed the embargo.

After the embargo was lifted the Soviets changed their buying strategy in the international grain market. The embargo provided

⁷ See USDA, *Agricultural Outlook*, August 1989 (Table 30).

the impetus for this change in buying behavior. The Soviets "punished" the U.S. by giving it very little market share. Other suppliers were actively sought by the Soviet Union. Before the embargo (1975-1980) the Soviets purchased the bulk of their wheat during the third and fourth quarters of the calendar year, corresponding to the U.S. harvest. After the embargo (1981-1986), the USSR tended to purchase wheat in the first and second quarters of the year. These purchases were made from the southern hemisphere exporters. This change in the timing of Soviet purchases contributed to lower U.S. prices.

The U.S. then attempted to regain market share in the USSR by subsidizing exports and other exporters followed suit. It is plausible that the Soviets started the grain trade war of the 1980s by initially refusing to buy much grain from the U.S. in the post-embargo period. Through EEP the U.S. has regained market share in the Soviet Union but it has come at a high economic cost.

Summary

- * China's population will increase by about 12 million per year and grain consumption will grow by approximately 10 mmt annually.
- * Grain production will not quite keep pace with grain consumption. Grain imports will increase to about 47 mmt by the year 2000 but there may be shift away from wheat and towards feedgrain imports. This projection assumes the political situation stabilizes.
- * Recent political turmoil in China has cut foreign exchange availability and this will put a ceiling on China's wheat imports in the near term (3-5 years).
- * The lack of an efficient marketing infrastructure is one of the major constraints to the development of China's grain economy.
- * Urban food subsidies account for up to 20% of the national budget in China and their elimination would improve China's chance of maintaining food self-sufficiency.
- * The 1980 Russian grain embargo contributed to the grain trade price war of the 1980s.
- * The U.S. Export Enhancement Program had a minimal impact on total wheat imports by China.

Table 1. Comparative Economic and Agricultural Statistics

| | China | India | USSR | USA |
|---|---------|-------|-------|----------|
| 1 Population, 1987 (million) | 1,086.0 | 788.3 | 282.7 | 242.6 |
| 2 Per capita income, 1986 (US\$) | 300.0 | 290.0 | ... | 17,480.0 |
| 3 Per capita cereal production, 1985-87 (kg/year) | 328.0 | 205.0 | 697.0 | 1,304.0 |
| 4 Wheat yield, 1985-87 (t/ha) | 3.0 | 2.0 | 1.7 | 2.5 |
| 5 Wheat production, 1985-87 (million tonnes per year) | 87.9 | 45.5 | 84.6 | 60.1 |
| 6 Growth rate of wheat yield, 1975-85 (%/year) | 6.3 | 3.6 | 2.3 | 1.7 |
| 7 Per capita wheat utilization, 84-86 (kg/year) | 90.0 | 59.0 | 345.0 | 117.0 |
| 8 Percent of wheat area irrigated mid 80's | 31.0 | 72.0 | ... | 6.0 |
| 9 Fertilizer applied to wheat, 1981-85 (kg nutrients/ha) | 138.0 | 78.0 | 90.0 | 68.0 |
| 10 Farm price of wheat 1986/87 (US\$/t) | 156.0 | 129.0 | ... | 79.0 |

Source: 1987-88 CIMMYT World Wheat Facts and Trends. *The Wheat Revolution Revisited: Recent Trends and Future Challenges*.

Table 2. China's Wheat Imports by Volume (1,000 mt)

| Crop Year | USA | Canada | Australia | Argentina | EEC |
|-----------|------|--------|-----------|-----------|------|
| 65/66 | 0 | 2.01 | 2.02 | 2.25 | 0 |
| 66/67 | 0 | 2.46 | 2.27 | 0.32 | 0 |
| 67/68 | 0 | 1.42 | 2.42 | 0.01 | 0 |
| 68/69 | 0 | 2.23 | 1.18 | 0 | 0 |
| 69/70 | 0 | 1.77 | 2.52 | 0 | 0 |
| 70/71 | 0 | 2.40 | 1.31 | 0 | 0 |
| 71/72 | 0 | 3.04 | 0.14 | 0 | 0 |
| 72/73 | 0.62 | 4.17 | 0.32 | 0 | 0 |
| 73/74 | 3.21 | 1.46 | 1.16 | 0 | 0 |
| 74/75 | 1.49 | 2.24 | 1.42 | 0.21 | 0 |
| 75/76 | 0 | 1.21 | 1.15 | 0 | 0 |
| 76/77 | 0 | 2.07 | 0.80 | 0.48 | 0 |
| 77/78 | 0 | 3.47 | 4.69 | 0.36 | 0 |
| 78/79 | 2.58 | 3.10 | 1.44 | 0.89 | 0 |
| 79/80 | 1.64 | 2.52 | 3.57 | 0.47 | 0.08 |
| 80/81 | 8.40 | 2.88 | 1.42 | 0.20 | 0.61 |
| 81/82 | 7.66 | 3.10 | 1.38 | 0.20 | 0.12 |
| 82/83 | 5.16 | 4.42 | 1.22 | 1.93 | 1.45 |
| 83/84 | 2.84 | 3.43 | 1.49 | 0.10 | 0.16 |
| 84/85 | 2.70 | 2.78 | 1.60 | 0.68 | 0.08 |
| 85/86 | 0.58 | 2.56 | 2.92 | 0.57 | 0.30 |
| 86/87 | 0.06 | 4.07 | 3.72 | 0.84 | 0.81 |
| 87/88 | 3.93 | 7.59 | 1.01 | 0 | 0 |
| Average | 1.78 | 2.89 | 1.79 | 0.41 | 0.16 |
| s.d. | 2.49 | 1.34 | 1.10 | 0.60 | 0.35 |
| c.v. | 1.40 | 0.46 | 0.61 | 1.45 | 2.24 |

s.d.: Standard deviation

c.v.: Coefficient of variation (s.d./average)

Source: Data obtained from W. Wilson et al. "Importer Loyalty in International Wheat Markets" Department of Agricultural Economics, North Dakota State University, working paper, 1989.

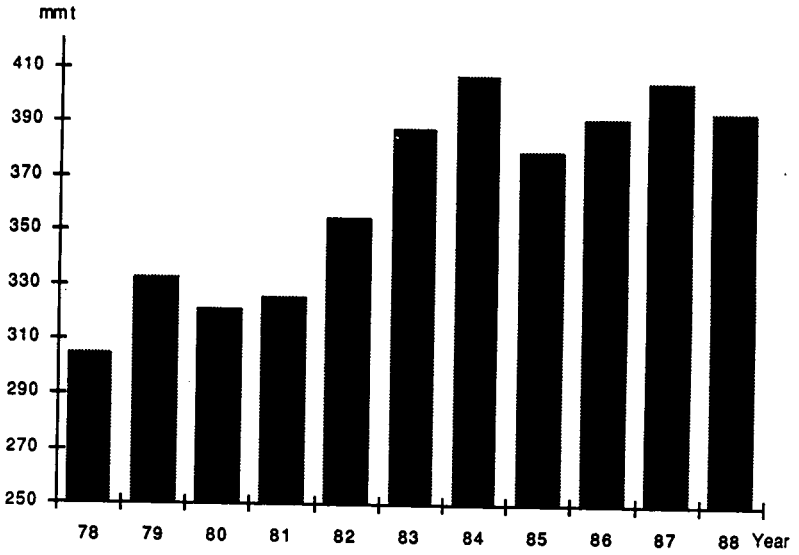
Table 3. Market share in China's wheat imports.

| Crop Year | USA | Canada | Australia | Argentina | EEC |
|-----------|-------|--------|-----------|-----------|------|
| 65/66 | 0 | 32 | 32 | 36 | 0 |
| 66/67 | 0 | 49 | 45 | 6 | 0 |
| 67/68 | 0 | 37 | 63 | 0 | 0 |
| 68/69 | 0 | 65 | 35 | 0 | 0 |
| 69/70 | 0 | 41 | 59 | 0 | 0 |
| 70/71 | 0 | 65 | 35 | 0 | 0 |
| 71/72 | 0 | 96 | 4 | 0 | 0 |
| 72/73 | 12 | 82 | 6 | 0 | 0 |
| 73/74 | 55 | 25 | 20 | 0 | 0 |
| 74/75 | 28 | 42 | 27 | 4 | 0 |
| 75/76 | 0 | 51 | 49 | 0 | 0 |
| 76/77 | 0 | 62 | 24 | 14 | 0 |
| 77/78 | 0 | 41 | 55 | 4 | 0 |
| 78/79 | 32 | 39 | 18 | 11 | 0 |
| 79/80 | 20 | 30 | 43 | 6 | 1 |
| 80/81 | 62 | 21 | 11 | 1 | 4 |
| 81/82 | 61 | 25 | 11 | 2 | 1 |
| 82/83 | 36 | 31 | 9 | 14 | 10 |
| 83/84 | 35 | 43 | 19 | 1 | 2 |
| 84/85 | 34 | 35 | 20 | 9 | 1 |
| 85/86 | 8 | 37 | 42 | 8 | 4 |
| 86/87 | 1 | 43 | 39 | 9 | 9 |
| 87/88 | 31 | 61 | 8 | 0 | 0 |
| Average | 18.14 | 45.74 | 29.26 | 5.44 | 1.41 |
| s.d. | 21.61 | 18.47 | 17.78 | 8.10 | 2.83 |
| c.v. | 1.19 | 0.40 | 0.61 | 1.49 | 2.01 |

s.d.: Standard deviation

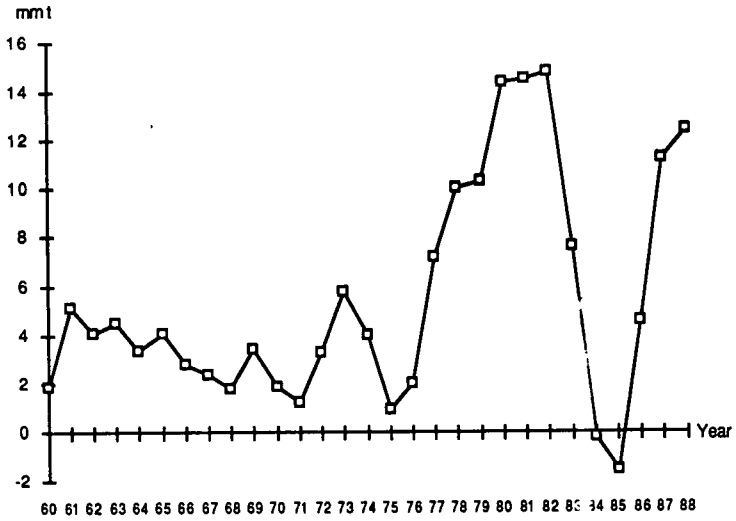
c.v.: Coefficient of variation (s.d./average)

Source: Data obtained from W. Wilson et al. "Importer Loyalty in International Wheat Markets"
 Department of Agricultural Economics, North Dakota State University, working paper, 1989.

Figure 1. Grain Production In China. (1978-88)

Source: State Statistical Bureau of China.

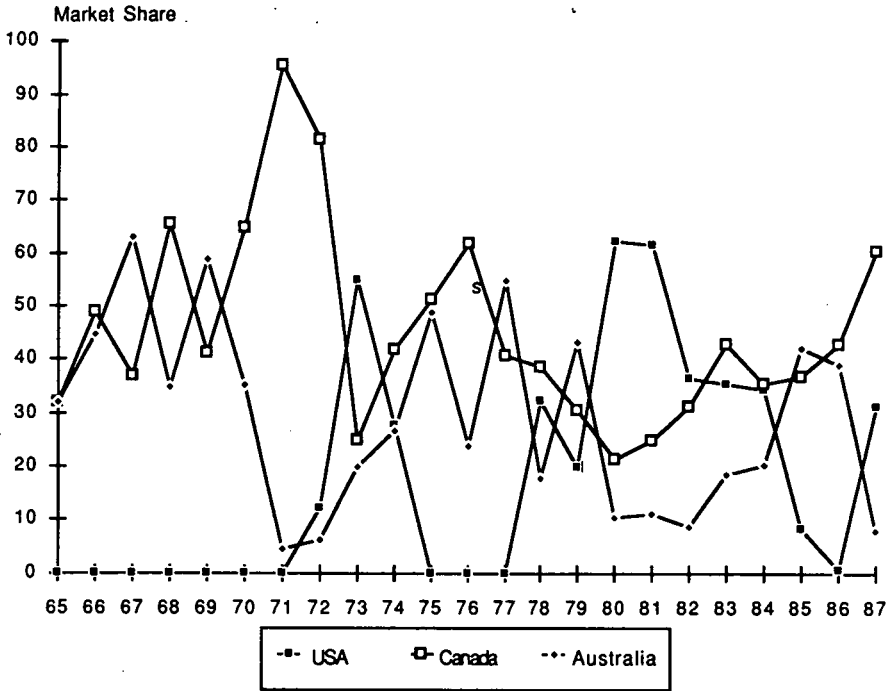
Figure 2. Net Grain Imports for China (1960-1988)



Note: Trade data is for crop years (e.g., 1988 is for crop year 1988/89). Negative numbers for 1984 and 1985 indicate China was a net grain exporter.

Source: USDA China Agriculture and Trade Report (June 1988).

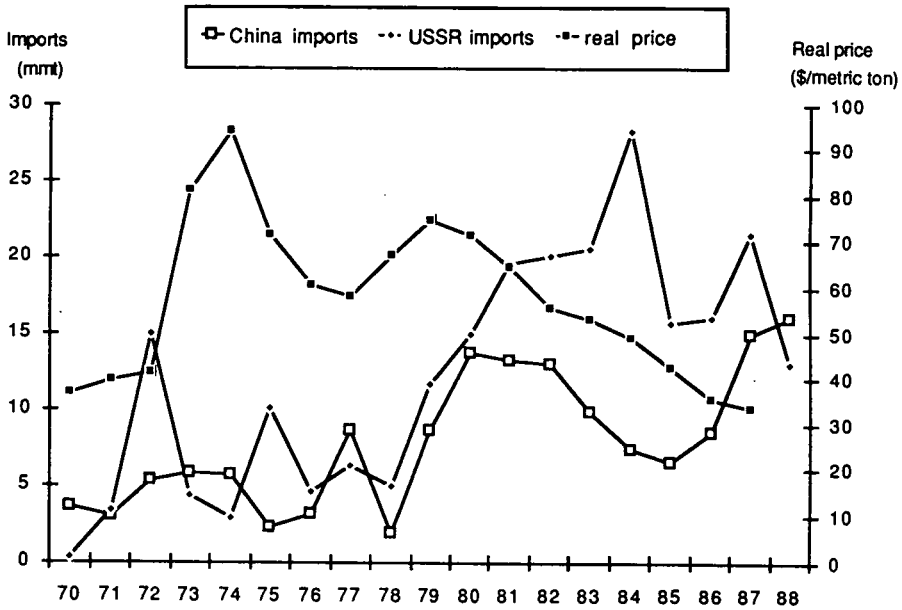
Figure 3. Market Share of Selected Countries In China's Wheat Import Market



Note: These data are for crop years (July-June). For example, 1987 is for July 1987 to June 1988.

Source: Data obtained from W.Wilson et al. "Importer Loyalty in International Wheat Markets" Department of Agricultural Economics, North Dakota State University, working paper, 1989.

Figure 4. Imports in China and in USSR versus real world price.



Note: Trade data is for crop years (e.g., 1988 is for crop year 1988/89).

Source: Wheat Situation and Outlook Report (Various issues)

Representative HAMILTON. OK, gentlemen. Thank you very much for your statements.

Now, if I understand you correctly, Mr. Johnson and Mr. Gray are saying with regard to U.S. exports to China and to the Soviet Union that the next few years will bring us basically more of the same. That is, you do not anticipate much change?

Mr. JOHNSON. Correct.

Representative HAMILTON. Mr. Carter, it seems to me that you're more optimistic than that, and you have indicated in your statement that there will be growth in Chinese imports. I presume that means also U.S. exports?

Mr. CARTER. That's correct.

Representative HAMILTON. What's the difference between you, and Mr. Gray and Mr. Johnson, in your analyses of the situation? How come you're coming out more optimistically?

Mr. CARTER. That projection is based on the assumption that the political situation will stabilize in China and it is really a situation that would have prevailed prior to the events in June.

I think I'd like to add the caveat that the next 3 to 5 years imports may actually fall because of the shortage of foreign exchange and the recent announcement that the policy of self-reliance is desirable.

But, the projection is to the year 2000. I guess I'm optimistic that the will of the people will prevail in China and that events will shake out such that the reforms will be reinstated.

Representative HAMILTON. So, you see a drop in imports in the immediate future and not a rise; is that correct?

Mr. CARTER. Yes.

Representative HAMILTON. Of course that's different, too, from what Mr. Gray and Mr. Johnson have said, right? Now, what's the difference? How do you reach different conclusions? I'm not sure I understand.

Mr. CARTER. My projections are based on an economic model that I have of growth and consumption and production in China, and I guess I don't feel that yields can increase rapidly enough to service the demand in China. Therefore, they will gradually be increasing their grain imports, particularly for feed purchases as well.

Representative HAMILTON. How do you react to that?

Mr. JOHNSON. I think the real issue comes down to what's going to happen to people's income after you adjust for inflation. That's the whole difference between them.

In the longer run, projections that Professor Carter has made, these are based on an assumption about growth in real income which, at the time they were made, I think were realistic, and any differences between what we are saying about the next 3, 4, or 5 years is a judgment on our part about what's going to happen to productivity in China as a consequence of the changes in policies that now seem underway.

Changes in policy that are reducing the role of markets, plus the very major deflationary policies they are now following. And as I indicated—

Representative HAMILTON. Do you think that the market reforms in Chinese agriculture have come to a dead end?

Mr. JOHNSON. They haven't come to a dead end, but they're going to be under substantial restraint over the next few years. For example—this actually happened in 1988 in many parts of China—they closed down the grain market until the state had acquired the amount of grain it wanted to procure.

Representative HAMILTON. So they are retrogressing?

Mr. JOHNSON. Yes, they are going backward.

Now, how far they will go and how long they will go obviously no one in this room knows. Things could change around the other way. They could go one way as fast as they're changing the other way.

Representative HAMILTON. Do you think their reforms are retrogressing also, Mr. Carter?

Mr. CARTER. Yes, in the short term.

An additional point. Apparently farmers are still being paid with IOU's. So, there is an example of the disincentives currently in operation.

Representative HAMILTON. And the basic reform they need to get to is more incentive in the system. Is that correct?

Mr. JOHNSON. Well, more incentives, more and better market signals.

Representative HAMILTON. Prices?

Mr. JOHNSON. Prices.

Representative HAMILTON. If they don't do that, will they have any chance of continuing to improve their agricultural production?

Mr. JOHNSON. I think growth will slow down substantially, and I think the effects of the policies that are now being implemented will be adverse to agricultural production but in addition they are also limiting the growth of demand.

Representative HAMILTON. Now, we're going to be jumping back and forth between China and the Soviet Union this morning, so it will be a little bit confusing.

Mr. JOHNSON said, with respect to the Soviet Union, that there has been very little agricultural reform.

Mr. JOHNSON. Very little successful.

Representative HAMILTON. Do you agree with that, Mr. Gray?

Mr. GRAY. No, I have to disagree. I would probably agree if he weren't here in the room.

I think there is so much political flux in the Soviet Union now that a lot of things are possible. In particular, given regional differences, and developments in regional autonomy and political autonomy in the Republics, lots of things could happen.

The price reforms are crucial.

Representative HAMILTON. Are they making any progress on price reform?

Mr. GRAY. They are making some intellectual progress.

Representative HAMILTON. But you don't see it in the farm sector yet?

Mr. GRAY. You see in the farm sector some price flexibility. You see a tremendous distortion of everything by the state subsidy that is now about 100 billion rubles or \$160 billion. The budget cost of this subsidy is causing a lot of attention to be focused on suggested changes to reduce that deficit.

I mentioned a few that affect trade. One is the idea that when they import grain they have to pay a subsidy out of that state budget for it. If they import some other consumer good that's in short supply, they likely have a tariff revenue.

Representative HAMILTON. I want to get a feel of where you think those reforms actually are as a result of this ferment that you describe. Would you expect Soviet agricultural production to spurt ahead in the next few years?

Mr. GRAY. No, I really don't, not in the next few years.

Representative HAMILTON. So they really are not coming to grips with their fundamental agricultural production problem?

Mr. GRAY. Well, there is more than a fundamental production problem. There is also a problem in how that production relates to procurements and marketing and international trade. There, important things are happening.

Representative HAMILTON. Let me go back just a minute. If you describe the problems of U.S. agriculture over the past 50 years you usually say that it is surplus production; right? That's our big problem. In the Soviet Union it's the opposite of that; isn't it? Not enough production. Is that right, in very general terms?

Mr. GRAY. That's about right. Especially given the price policies that both our governments have adopted.

Representative HAMILTON. Now, you see that same basic fundamental problem continuing, right, not enough production?

Mr. GRAY. Let me get into a specific that's in the prepared statement to show you that things are not exactly staying the same, although framed in the way you put them, maybe they are staying the same.

In the Soviet Union today there is a growing mood—it's a political mood and the policies are affected by political moods—about imports. That mood is very negative about imports. It has led to a castigation really of the Exportkhleb people, the Soviet monopsony that imports grain, and it has led to taking away some of their foreign currency and using it to buy grain from domestic buyers. It can affect our trade patterns.

Representative HAMILTON. I want to get back to that in a little bit.

What's your estimate for grain production in the U.S.S.R. in 1989?

Mr. GRAY. The current estimate is about 200 million metric tons, which is the same as the average of the last few years. A bit above.

Representative HAMILTON. You can't give us any preview about what you're going to say next week?

Mr. GRAY. I'm not supposed to. [Laughter.] I'd also point out that our group is not the only group involved in this.

Representative HAMILTON. Can you give us a hint?

Mr. GRAY. I can tell you that things in the eastern part of the Soviet Union don't look good. There is a drought there. Things in the European part of the Soviet Union look very good. There are some record yields, and returns from that area look very good based upon our monitoring of production.

Also, perhaps, procurement is up based on some of the new incentives.

Representative HAMILTON. What about your estimates for Soviet imports in 1989?

Mr. GRAY. Those are currently about 36 million metric tons, which is down a bit from last year.

Representative HAMILTON. Will that also be announced in the new figure on Tuesday?

Mr. GRAY. The new figure will be announced next Tuesday.

Mr. JOHNSON. Mr. Chairman, I'd just like to clear up a point on whether there is a real difference between Mr. Gray and me on the success, or the degree of agricultural reforms up to the present time. And I don't think there is on that.

I think he happens to be more optimistic about what's underway at the moment. But does he really believe that any of those reforms that he's hoping for are actually in place or are just anticipated because of the greater freedom in the Republics, and so on, over the next 2 or 3 years?

Mr. GRAY. No, I think there has been a creeping up of retail prices a bit, by selling more food items through higher priced channels. They are reluctant to move away from controlling the retail prices. But there are some things moving around the edges.

Representative HAMILTON. That's an interesting phrase, moving around the edges.

I see your point, Mr. Johnson. I had the same impression. That is, your assessment is very much the same with respect to the status of agriculture right now.

Your response to my question indicated there seems to be some ferment, some change around the edges, as you put it, occurring that may have an impact in the future but is not yet having a major impact, or significant impact on production. Is that correct?

Mr. GRAY. That's correct.

Representative HAMILTON. OK.

Congresswoman Snowe.

Representative SNOWE. Thank you, Mr. Chairman.

Mr. Johnson, you mentioned in your testimony that the reformers have lost out in the Chinese leadership. Do you believe that any change can come about without a change in leadership concerning agricultural reform?

Mr. JOHNSON. I think it's more likely to come with a change in leadership. But, it's very difficult, at least for me, to project even what the current leadership is likely to do.

The reason I say that is that I never anticipated that they would do what they are now doing. So, it's always possible, since I think they are very pragmatic, particularly Deng Xiaoping, that if things start going from bad to worse there may be a move back toward more market orientation and so on.

Deng Xiaoping still says he's for openness and for reform. The moves they've made in the last few months seem to me to have been inconsistent with that. But, it's not impossible that we would see some more market oriented, more incentive oriented programs for agriculture, though I suspect that the earliest that can happen would be a year or two.

The most likely prospect for a return to the reform path will be a change in leadership.

I wouldn't say it's absolutely impossible.

Representative SNOWE. I gather you just returned from a visit to China?

Mr. JOHNSON. Yes.

Representative SNOWE. Did you see the direct impact that has resulted from the political instability? What happened last spring?

Mr. JOHNSON. As an outsider, it's hard to know whether one can judge the mood. Certainly one mood.

My daughter was with me—and she does speak Chinese. One thing that she observed was the very great difference in the friendliness of people you see in the street compared to what was true in the past or the extent to which—not that anyone was unfriendly—they just were tentative where normally many people would talk to her, for example, when they found out she could speak Chinese.

This time, in 8 days, only two people spoke to her independently, and one of those was trying to sell her a pedicab ride. So really, only one individual—and he wasn't from Beijing—entered into a conversation with her, which is very different than at any time in the past.

Representative SNOWE. You also mentioned in your testimony that the prediction was there would be very little growth in Soviet agricultural production. On what basis do you make your prediction?

Mr. JOHNSON. There have not as yet been any reforms that have been successful, and based on the recent review that Mr. Gray and I and two others have made of the price reforms that are underway, I do not see them as being effective in the near term.

I'm talking about the next 4 or 5 years. I'm not talking about the longer run. And overall, I don't think that President Gorbachev or his advisers have a real conception of what would be required to improve the circumstances of agriculture.

And so more or less, it's going to go along the way it has been, which is very slow growth. Not no growth, but very slow growth. One percent a year, or something like that.

Representative SNOWE. Do you think their greatest fear is a significant price increase?

Mr. JOHNSON. Yes.

Again, on the visits Mr. Gray and I made we were told by one reasonably well-placed person that if they adjusted the retail prices of meat to the market level this government would't last 1 week.

Clearly, there has been a fear of Soviet's top officials ever since 1980, with the riots in Poland, about changing retail prices.

Representative SNOWE. So, the developments in Eastern Europe probably have had an impact as well, even with the recent price increases in Poland 2 years ago?

Mr. JOHNSON. Yes.

Actually, Mr. Gorbachev, the Secretary, was for reforming retail prices, up to about a year ago and it was apparently only after a number of speeches or visits to cities around the Soviet Union in which the reaction to his comments on this were so adverse that he finally promised that there would not be any reform for a while.

Representative SNOWE. I know it was mentioned in your testimony. The Soviet grain embargo, do you all agree that it was a failure?

Mr. JOHNSON. I certainly wouldn't call it a resounding success by any criterion. [Laughter.] One has to take what was given to us, which was to try to impose some cost on the Soviet Union. It did not impose as much cost on the Soviet Union as the people who supported it at first expected it to, but did impose some costs in that sense. But, in terms of the effect on U.S. farmers, I'd agree with what was said. It was adverse over a period of time. Not a great deal, but somewhat.

Representative SNOWE. What about the export enhancement program. Can you comment on that? I gather that it hasn't been as effective as it should be. What could we do to restructure the program, if it's at all possible?

Mr. CARTER. I think it's been totally ineffective. A very costly program. I think it's a poor way to try and assist farmers. That money could be spent a lot more effectively. So, my opinion would be to scrap it.

The United States would have sold almost as much grain this year without the program at a higher price.

Representative SNOWE. Would you all agree with that?

Mr. Gray.

Mr. GRAY. The Department Research Service has done some fairly sophisticated studies that indicate the additional sales and revenue gained were less than one might calculate using crude methods. We have to be competitive in our sales, and of course that's very much tied up with our entire trade negotiation strategy in the Uruguay Round of the GATT.

And I think it's a complex question.

Mr. JOHNSON. I would generally agree with Mr. Carter's position. I understand Mr. Gray's.

It has not been very effective. I find it rather odd. One of our objectives must have been to help out the Soviet Union in buying grain cheaply, and they well understand that. We have, in fact, transmitted a rather substantial sum of money to them.

Representative HAMILTON. If the gentlewoman would yield.

How much has it cost us? What is the cost to the American taxpayer of the export enhancement program?

Mr. CARTER. The annual cost? I think it's approximately \$2 billion a year.

Representative HAMILTON. \$2 billion?

Mr. CARTER. Approximately. I don't have the exact figures.

Representative HAMILTON. Excuse me.

Representative SNOWE. But is there any way to make it effective, I guess is the question?

Mr. CARTER. I don't believe export subsidies can be an effective policy tool.

Representative SNOWE. You don't believe in subsidies?

Mr. CARTER. Not export subsidies. Not in the grain market.

Mr. GRAY. Congresswoman Snowe, as prices have risen, this has become more a moot issue, less important under present market conditions.

Mr. CARTER. It's still being used, however.

Representative SNOWE. Getting back to the Soviet grain embargo.

What's the likelihood that we could recover our market share that we lost as a result of the grain embargo?

Mr. CARTER. It has been recovered, but at a very high cost, because of other factors in different parts of the world.

Representative SNOWE. And it's because of that that we were able to increase market share, because of other countries?

Mr. CARTER. Other factors.

Mr. GRAY. Let me comment on that.

The Economic Research Service published a major congressional-mandated study in 1986. In it we examined the effect of the 1974 embargo. The conclusion of that really was that the effect on American agriculture—the decline in American agricultural exports—was not due to the embargo, but due to other effects, particularly the decline of the dollar and other countries' subsidies.

Also, it was due to the 1981 farm bill, which gave us very high loan rates and caused us to store grain, rather than sell it. It wasn't a matter so much of having to store grain because we weren't selling it—but a matter of our not selling it because we were storing it because of high loan rates and the high dollar.

Representative SNOWE. One final question.

Do any of you know if the World Bank or other multilateral lending institutions are extending credit to China at this point?

Mr. JOHNSON. It's my understanding that all of the loans, even those that were under discussion and negotiation, have been halted, and have not yet been put in place.

Mr. CARTER. If I could just add to that.

Private investment, of course, is also way down. Tourism is way down. And these are all important sources of foreign exchange.

Representative SNOWE. Thank you. Thank you, Mr. Chairman.

Representative HAMILTON. Let me go back to this export enhancement a bit. The Department of Agriculture study concludes that the EEP has increased agricultural exports between 10 percent and 30 percent. Now, you reject that, Mr. Carter?

Mr. CARTER. Yes, I do.

Representative HAMILTON. Why do you reject it? You are familiar with the study.

Mr. CARTER. Yes, the one by Mr. Haley? There is more than one study. But, I am familiar with two studies.

Representative HAMILTON. From the Department?

Mr. CARTER. Right.

I think the assumptions are unrealistic. For example, there is a study by Mr. Haley and he has a demand elasticity—this is just an example for China—of almost three, which means if you decrease the price by 1 percent imports will increase by 3 percent. A factor of three.

The EEP lowered the price by 25 to 30 percent, which would imply, given his elasticity, an increase level of imports of 60 or 70 percent, which I think is very unrealistic.

I could go on and on, but I'm not very confident in the results of that study because I'm very uncomfortable with the assumptions that go into it.

Representative HAMILTON. I have a chart here from the Kansas State University Department of Agricultural Economics which says

that in 1988-89 the average subsidy on wheat per bushel under the EEP was 60 cents. Is that right?

Mr. CARTER. That sounds right.

Representative HAMILTON. I didn't understand your comment, Mr. Gray, a moment ago about the current market prices. You didn't think the EEP—

Mr. GRAY. It's not as important as previously.

Representative HAMILTON. Would you disagree with this 60-cent figure? That's still a large subsidy, 60 cents per bushel.

Mr. GRAY. For what year is that?

Representative HAMILTON. The 1988-89 crop year.

Mr. CARTER. It's still 15 percent, roughly.

Representative HAMILTON. I want to make sure I understand. Does that mean every bushel of wheat we send to the Soviet Union the American taxpayer is paying 60 cents for?

Mr. CARTER. Plus any additional subsidies. That's not including additional payments.

Representative HAMILTON. And every bushel of wheat we send to China the American taxpayer is paying 60 cents?

Mr. CARTER. Through the EEP.

Representative HAMILTON. Do I understand that correctly? Is that right?

Mr. CARTER. That's correct.

Representative HAMILTON. Has it helped us maintain market share?

Mr. CARTER. I don't think it has.

Representative HAMILTON. Why not?

Mr. CARTER. Because markets are not very responsive to prices internationally in grains and other countries have matched the EEP subsidy by lowering their price. In other words, the Canadian Wheat Board sells a lot of wheat to China, as well, and they are forced to match the U.S. price. So, it simply results in a lower price.

If you look at sales by the Canadian Wheat Board into China, they are also very large. Last year they were down because there was a drought in that country. But this year they are maintaining the pace.

Mr. JOHNSON. I might just add to that, which is consistent with what Mr. Gray has said. If you're talking about the last 3 or 4 months, the EEP has fallen off substantially. In fact, the last significant wheat sale to China was not made with any EEP in it at all. Some was offered to them, but at a very small amount, and they decided to buy it on their own. This was immediately after June 4.

Representative HAMILTON. They decided to buy it from us?

Mr. JOHNSON. From us, without any EEP.

Representative HAMILTON. Why would they do that?

Mr. JOHNSON. We don't know, obviously. But, one consideration may have been that if they asked for it, the EEP might be refused under the circumstances and they apparently wanted the wheat badly enough. But I think the EEP was only about 10 cents a bushel, or something of that sort.

Representative HAMILTON. All right. With respect to U.S. exports, I gather, say, that in the next 5 years you would expect the

Soviet and the Chinese market to be at least as good as it is now for U.S. exports. Is that a fair summation? You don't expect to see a situation where neither the Soviet Union nor the Chinese are buying from the United States. Just a sharp drop in U.S. exports.

Mr. CARTER. It's possible in China there could be a sharp decline.

Representative HAMILTON. In the next year or two?

Mr. CARTER. The next year or two.

Representative HAMILTON. Are you predicting it?

Mr. CARTER. Well, it's very speculative, but I would predict a decline in U.S. wheat sales to China next year.

Representative HAMILTON. I guess what I'm trying to drive at, I'm trying to figure out what's good for American policy in view of the uncertainties in these very, very large markets. That's my concern here. Should we try to enter into long-term agreements with these countries, for example? Is that a good policy for America?

Mr. CARTER. They haven't been very effective in the past.

Representative HAMILTON. Why?

Mr. CARTER. The Soviets have basically ignored them and the Chinese are not interested in long-term agreements.

Representative HAMILTON. And they're not interested, I presume, because they could get what they wanted on the market at the time. Is that it?

Mr. CARTER. That's correct.

Mr. JOHNSON. At the present time it might be very difficult for the Chinese to enter into such an agreement with the U.S. Government, given the tensions that exist on certain other points.

I might only add on that—and I make the point in my prepared statement—that grain production can be quite variable in either of these countries from year to year, and while Chinese grain production has been more or less static since 1984—we have had similar experiences in our own country in which grain yields have increased and then for 4 or 5 years have remained unchanged.

So, I think it would be wrong to assume that something like that might not happen in China. That they could over 3 or 4 years move to a rather new plateau.

I'm not saying it will happen, but I think we should not ignore the possibility that it could happen.

The same thing could happen in the Soviet Union. It has been at one level of grain production now, actually, for 8 or 10 years. But, it's always possible that there could be a run of 2 or 3 years of very excellent weather that would push grain production to a higher level and then their imports would be responsive to that because they relate their imports to the domestic supply situation and when domestic supplies are good, they import less. When they are bad, they import more.

Representative HAMILTON. I want to get on the record what you think is wrong with Soviet and Chinese agriculture. I know you mentioned this.

How would you characterize the problems of agriculture in each country? Here I am talking about what is the fundamental problem they confront in their agriculture: inadequate resources, inadequate inputs, inadequate physical infrastructure, inadequate incentives.

How would you describe, in each country now?

Mr. JOHNSON. Let me start on that.

With respect to the Soviet Union, I would put the emphasis upon three or four important points, and most of these—first of all, the incentive structure within the farms of the Soviet Union is not conducive to getting people to work hard or work well. There is very little relationship currently between how hard a person works and how well a person works and how much they get paid. Their pay is much more dependent on the overall productivity of their farm. If that's good, they're well paid, and if it's bad, they are poorly paid. That's one thing.

A second is that central planning still interferes significantly with the operation of Soviet farms. I've said many times that the Soviet Government acts as if they do not trust the farmers. In other words, they give them very little freedom of action.

And I think the Soviet farms would perform much better if each farm were permitted to do what it felt was in the interest of its members. But that's not the case.

A third factor is that the rest of the economy serves agriculture very, very poorly, and this is true on the input side in terms of timeliness, fertilizer delivery, the quality of the farm machinery, and the mix of farm machinery they receive.

But it's also true on the marketing side.

Mr. Gorbachev and other Soviets have complained continuously about the waste in the marketing structure and the 20 percent of total output they say is wasted. Whether it's that or something a little more or something a little less, we don't know, but it's very, very large.

Again, this seems to be an incentive problem as to why when organizations accept these or take these farm products they don't handle them with greater care. Part of it is they don't have the refrigeration and so on, the transportation, but much of it I think is an incentive problem.

These, I think, are very, very important elements. But the last one is also related to incentives. That is, that money has come to have very little value in the Soviet Union. Working hard to get more money doesn't get you very far because there is so little to buy with what you do get.

This is especially a problem in the rural areas. And this, of course, is evidenced by this recent measure of the Soviet Union to pay farmers on the farms for additional grain deliveries in hard currency. They are essentially saying the ruble isn't worth much, and they are absolutely right. It's not worth much.

Representative HAMILTON. What do you think the impact of that will be on Soviet production?

Mr. JOHNSON. I think the impact on Soviet production will be nil.

As I understand it, this is for additional deliveries of grain to the state over and above what they deliver.

Representative HAMILTON. Above the quota?

Mr. JOHNSON. Above actual deliveries in 1981-85. Where are the additional deliveries going to come from? I think they'll come from grain they otherwise would have kept on the farm to feed the livestock.

And particularly, the timing of the announcement was such that it couldn't influence much about this year's production. It might

make people a little more careful in harvesting the grain and so on, but that is all.

But, mainly it will just reallocate existing supplies between those that would otherwise have been kept on the farm and sold to the state.

Representative HAMILTON. I want to have the other witnesses pick up on the same point in the Soviet Union and then we'll come back and discuss China.

Mr. GRAY. I agree with what Professor Johnson has said.

Let me pick up on the last point about not increasing production, but increasing what they would sell. That could be very important in how it works out.

Again, I agree much with the very idea that money doesn't buy very much. You have more money chasing meat than there is meat, at the price that's established. Tremendous retail shortages. They have the same situation with farm inputs, which are in short supply. People can't get fuel to run the tractor, fertilizer, and so forth.

Money itself is now not so important. In both China and the Soviet Union, the state is procuring things and having things delivered by offering in-kind deliveries of fuel and so forth. In 1948, the Soviets had about the same problem, and they reformed the monetary system, for the whole economy.

That was a great element in the spurt after the war in farm production. I see the hard currency payment for domestic sales—of not all products; it's mostly quality wheat, which they import from us, and oil seeds—as a precursor, really, to a general monetary reform to come sometime. I don't know when it's going to come. But nothing else will happen before that happens.

But, how do I see the problems? I'll sketch it just briefly. Incentives problems of tying people's work to what they receive. The solution to that, the Soviets think, is this leasing project. Some of the problems there I have incorporated in my prepared statement. Many have to do with the freedom that the farmer has to buy the inputs that he needs. There is a picture in the Soviet newspaper, *Izvestia*, of a farmer who has a tractor but can't get fuel for it.

That's one of the reasons a lot of people just aren't interested in those leases. The leadership has been surprised that there aren't a lot of people lined up to take them up on the offer.

Representative HAMILTON. We hear a lot about the private plots in Soviet agriculture. They are much more productive than the state collective farms. Why is that the case, if it is the case? Why isn't that lesson apparent to the Soviet leadership?

Mr. GRAY. It is the case, although with some qualifications.

Private plots are particularly important with regard to fruits and vegetables and livestock products. It has been recognized by the Soviets. There's a cycle of interest in official abetting of private plots, and basically, I think since about 1974 there has been an upswing in privatization of the Soviet economy.

That's been true throughout Eastern Europe and even China.

Representative HAMILTON. What does the word "privatization" mean in the context you are using?

Mr. GRAY. It means some relaxation of the area that can be farmed privately.

Representative HAMILTON. Does it mean ownership of property?

Mr. GRAY. Ownership is a complex thing. But it does mean more right to residual income. For instance, it means they are talking away quotas that they used to have even on the private plots. It means an expansion of the ability to buy and own assets and land. All those things.

Representative HAMILTON. Does it mean the ability to take the produce from the land and go into the city and sell it?

Mr. GRAY. That's always been the case.

Representative HAMILTON. At the price you set, as the farmer?

Mr. GRAY. Yes, it does mean that. It hasn't meant that throughout the history of the Soviet Union, however. There have been some major constrictions on that.

Representative HAMILTON. OK. We're still talking about the Soviet Union. We're talking about the problems.

Mr. Carter.

Mr. CARTER. Mr. Chairman, I don't feel confident in commenting.

Representative HAMILTON. Let's go to China, then. We'll let you start on China.

Mr. CARTER. I think one important point is that unlike the United States where farmers are subsidized, in China they are heavily taxed by the urban people and by industry and other sectors of the economy. So, this is a fundamental problem.

They receive a price which is much less than the international price, especially for rice. Presently they are being paid with IOU's for the grain that's being sold to the Government. They are being forced to deliver grain to the Government and they are unable to receive cash for this.

So, until the country is able to break out of this mold of taxing agriculture, it's going to keep that sector down. One reflection of this is investment in agriculture, as well, has been declining in real terms. They simply don't receive their fair share of national investment in the infrastructure, irrigation roads, et cetera.

Representative HAMILTON. Is it the announced policy of the Chinese Government to tax the farmer, or rural people, more heavily than the urban population?

Mr. CARTER. It's a subtle ongoing policy.

Representative HAMILTON. It's not the announced policy, but it is the policy. Is that right?

Mr. CARTER. As far as I know, it hasn't been announced, but it is the policy implicitly.

So, that problem is overhanging agriculture. So in addition to that, I guess more specifically, further reforms are required in terms of marketing and an upgraded infrastructure. But this will require more investment and a willingness on the part of the national government to put more resources into agriculture.

Representative HAMILTON. Do you have any other comments with respect to Chinese agriculture now? The problems?

Mr. GRAY. Yes. I think one of the recognized problems in China is the land tenure system. That does not promote investment in cropland itself, although there is a good deal of private investment in orchards, fish ponds, and the rest.

But the access to markets has, I think, contributed to their success is being partly closed down now, and I think, as with the Soviet situation, that's the main thing that impedes progress.

Mr. JOHNSON. I would like to make a further comment on the issue Mr. Gray raised about the land tenure system.

I agree that's been quite important. Even though it has been about 10 years since the reforms started, there has been no clear agreement from the Chinese Government about the ownership of land. First of all, there is an argument. Who owns the land? Whether it is the state, the village, or the production team. That's one issue.

But more important than that, the definition of the right to use land has not been clarified, and while the national policy is that these rights were to be assigned for up to 15 years to an individual so that they could have the same piece of land for 15 years, in the local communities, by and large, the land rights are assigned for only 2 or 3 years.

At the end of that time, the land itself may be physically reassigned to take account of population growth because much of the land in most villages is assigned on a per capita basis. If you have five people in the family you have so much more land than if you have four people.

So, it's difficult to invest in improving the land, through leveling or carrying out the rocks or whatever, if you believe there is a possibility 2 years from now that you will be given another piece of land rather than the one in which you have made the improvement.

This uncertainty I think has meant that out of their much higher incomes—and the real incomes of peasants or farm people in China have risen and probably doubled since 1978. They have invested almost none of it in agriculture. They invested in housing and they invested in nonagricultural activities, and one of the reasons is the uncertainty of agriculture of their land rights.

But in addition to that, of course, as Mr. Carter pointed out, agriculture is being discriminated against. So returns on investment in setting up a little factory to make popsicles or a tractor to use in transportation have been far greater than what could be earned in agriculture.

So, the two things work together—the lowering of return on investment in agriculture and the uncertainty of those returns has inhibited private investment by farmers in agriculture.

Representative HAMILTON. I want to get a sense of how important the Soviet and the Chinese markets are to the American farmer. How would you describe these markets to the American farmer?

Mr. JOHNSON. For the grain market they are very, very important.

Representative HAMILTON. Are they the most important market?

Mr. JOHNSON. Putting the two of them together, yes.

Representative HAMILTON. So, China and the Soviet Union taken together are the most important agricultural market to the American farmer. Is that a correct statement?

Mr. JOHNSON. I don't know if we want to go to all agriculture. But certainly grain. They're not important in cotton, for example.

Representative HAMILTON. Wheat?

Mr. JOHNSON. I mean by grain wheat, corn.

Representative HAMILTON. Feed grains?

Mr. GRAY. To put it in a little bit of context, to consider all of American agricultural exports, the Soviet Union last year accounted for only about 6 percent, but it's about 12 percent of grains and feed. Grain is much more important.

Representative HAMILTON. Psychologically it's very important to the American farmer, isn't it, because they keep an eye on these Soviet grain purchases and what happens there seems to have an unusually important spin to it, so far as the Midwest farmer is concerned?

Mr. GRAY. Mr. Chairman, if I could say something about that.

The Soviet Union and Japan are the world's largest importers of coarse grains, and the Soviet Union and China are the world's largest importers of wheat. Particularly regarding wheat, they are so large and their imports tend to be so variable that we notice them much more because of that variability.

From 1975 to 1987, about 80 percent of the year-to-year changes in world wheat imports are due to the changes in the imports in these two countries.

Representative HAMILTON. How much?

Mr. GRAY. Eighty percent.

Representative HAMILTON. Now, if you have, as a given, the importance of these markets to the United States and also the uncertainties that exist in each country which you've described and the status of the reforms, what does that tell you with regard to American policy? What should we be doing to deal with this situation? Very important markets, on the one hand; very uncertain agriculture on the other. What does that tell us about the 1990 farm bill?

Mr. CARTER. I can make one comment.

I think there is too much focus on volume of exports, market share and this type of thing, and too little attention being paid to the value of exports.

A lot of people claim the 1985 farm bill was successful because the volume of exports increased and market share was increased. But if you look at the value of exports in some of these markets you get a much different story.

So, I guess, in my opinion, we shouldn't be so concerned with large volumes of production and large volumes of exports necessarily. We should pay attention to the stable markets. Japan is a very stable market. And certainly the Soviets, I assume, will continue buying grain, and Chinese, there is more uncertainty.

But, let's not get too hung up on volume.

Representative HAMILTON. Any other comments?

You said something about flexibility, didn't you, Mr. Gray, in your statement? I'm just looking for it.

Do you have anything further Congresswoman Snowe?

Representative SNOWE. Just a couple of questions on the export enhancement program, getting back to that.

A recent USDA study concludes that the export enhancement program had increased agricultural exports between 10 and 30 percent. Would you agree with that conclusion?

Mr. CARTER. I guess it's certainly possible that the volume of exports went up. But, that same report—I believe it's the same report—argued that the value of exports may have increased as much as 60 percent. I checked in my prepared statement. I referred to this. I checked the actual trade statistics for that particular year, which was 1986—1987. Interestingly enough, the value went down.

Representative SNOWE. The value of exports went down?

Mr. CARTER. The value of the exports went down. So if you follow me, the report predicted that EEP would increase the volume and increase the value. It's true that volume did go up, but there are a lot of other factors as well. But the report stated that the value could have increased by 60 percent. In actual fact, it fell.

So there is more than one way to interpret that, I suppose, if the report is correct. Then, without EEP, the value would have been much lower, 60 percent lower. So I find it a bit inconsistent.

Representative SNOWE. It's interesting because there seems to be sort of conflicting arguments concerning the value of the program. Just reading this article that was in the Congressional Quarterly in June, it's just interesting to read the various arguments concerning the value and effectiveness of this program.

Is it more than a foreign policy tool than it is an agricultural tool?

Mr. CARTER. I don't think it's helped farmers very much. I think it's helped the importing countries and the grain companies.

Representative SNOWE. Some would say that obviously it was to counter the European Community's subsidies and to displace those subsidies into particular countries. Do you agree that has been a goal of the program?

Mr. CARTER. That was an initial objective. But, when you look at some of these markets, the large markets—for example, in China—the EEC sells very little grain to China. So, they won't try to displace EEC in that market.

Representative SNOWE. So it hasn't worked in that market. Has it worked in other markets?

Mr. CARTER. It hasn't knocked the EEC out of the grain exporting business. No, it hasn't worked.

Representative SNOWE. But it hasn't even had an impact, I guess is what I'm asking?

Mr. CARTER. I guess, in my opinion, it may have had a small volume impact at most. But you have to look at the cost of it. It has been very costly. It's possible to increase exports by 10 percent.

Representative SNOWE. Apparently, according to this article, it has cost us quite a bit. For—I think I can find it here—according to OMB, for every dollar of the EEP subsidies it costs the Federal Government roughly 50 cents.

Well, what about the pressuring of the European Community to negotiate. Has it had value there?

Mr. JOHNSON. That was one of its important early objectives, and I assume it has had some effect. But, this has been, in part, offset by the rise in international market prices that resulted from our poor crop in 1988. If somehow we had had a bumper crop in 1988 then the EEP would have put substantial pressure upon the EEC.

But with the very poor grain crop we had, particularly feed grains, this has greatly reduced the pressure on the EEC and they are no longer up against a budget limit in supporting their common agricultural policy in 1988-89 because of the strength in world market prices.

Earlier, I think probably in mid-1986 and 1987, it did put some pressure on the EEC. But, as Mr. Carter mentioned, where we are in competition, like in North Africa, the EEC responded, and in competition with them in the Soviet Union, the EEC has responded by cutting their prices.

But, of course, this was at least one of the intents, mainly to impose higher costs on the EEC. But then the markets turned against us—"went the wrong way"—to make that an effective longer run tactic.

Representative SNOWE. Further on in this article some grain exporters feel that it has cost us some sales.

Mr. CARTER. Competing exporters?

Representative SNOWE. Yes, that's right.

There have been times in which countries want to buy grain and have been told to put it off until another time during the year because of their concern about prices increasing. So, that fact that the program has had a way of controlling the sale of exports.

Mr. JOHNSON. There are always problems in administering a program of that kind. Dealing in international grain markets is a very complex situation. And I can understand why a grain exporter who thought they had a deal going if they got in EEP and then they didn't get in EEP, they'd be unhappy.

But, basically we are substituting the decision of a particular governmental official for what the market would otherwise be doing.

Representative SNOWE. I guess the question is would the sale have occurred anyway, with or without the program?

Mr. JOHNSON. Yes. I don't think you can tell in the abstract. You'd have to look at each case.

Representative SNOWE. Thank you.

Representative HAMILTON. I'd like you to just comment on the environmental aspects in both the Soviet Union and China. What's happening with respect to the environment—soil erosion, water pollution, pesticides, and so forth? We hear more and more about the environmental aspects of American agriculture. How are they doing in the Soviet Union on this issue? Mr. Carter, you can talk about China, right?

Mr. CARTER. I'm not really an expert on this topic. But you mentioned loss of soil and so on and so forth.

The biggest problem I think in China is the loss of arable land due to urban encroachment. The building of roads, houses, et cetera. Their land base is approximately 100 million hectares. They've used half a million per year, which is a half of 1 percent per year which is pretty substantial.

So there is a problem in China. They've been farming much of the soil in China for 2,000 and 3,000 years. I believe they have the soil erosion contained, but that's just an educated guess.

I'm not an expert on that topic.

Representative HAMILTON. Mr. Gray, do you have any comment about the Soviet Union?

Mr. GRAY. Yes, I do.

I understand the situation in China is as you described it.

Three years ago I went to the Soviet Union on a agrochemical team with an agronomist. We also had a chemist and myself, an economist. It sounds like the basis for a good Aggie joke. [Laughter.] And we saw some of this.

The Soviet Union's use of chemicals has skyrocketed in recent years, and it's been a situation of a misuse of chemicals. And that's very much in the Soviet press where many scary things have been recently revealed. It's a serious, serious problem, the Soviet misuse of pesticides and other agrochemicals.

There is a regional aspect.

Representative HAMILTON. Has the increased use of pesticides helped production?

Mr. GRAY. It hasn't as much as you would expect. That's in part due to some of these fundamental systems problems in the Soviet Union that we've been talking about: The need for markets for instance. There is a tremendous priority by the edict of the Government, for chemicals and so forth. But not a balanced kind of result.

Too much nitrogen and not enough of the other chemical elements that are needed in fertilizer. Too many of certain kinds of pesticides and not the appropriate mix, and very few kinds of pesticides, many of which have been outlawed in this country a long time ago.

The regional aspect of this environmental question is involved with this regional autonomy and nationalities problem that you hear about. Particularly in Central Asia, cotton has come to be a hated thing by the populace. It's viewed as something that's produced almost as a monoculture on orders from Moscow and not for the benefit of the local citizens.

And there are problems of chemicals associated with cotton, and also the problems of water use, and the lack of availability of water and drying up of lakes there and so forth. It may seriously affect future Soviet cotton production. Plans for production are down.

There is very much of a change going on there.

Representative HAMILTON. Mr. Johnson, I was struck by something you said a moment ago with regard to General Secretary Gorbachev.

He had begun recognizing the necessity of dealing with the price problem. Then you said he went out and talked to people and backed off of it because they didn't agree with him on the need for changing prices.

The thing that puzzles me is that he recognized the problem. All of our experts recognized the problem. Why is it that the Soviet farmer or the Soviet citizen doesn't recognize it?

Mr. JOHNSON. It's not the Soviet farmer.

Representative HAMILTON. The Soviet bureaucracy?

Mr. JOHNSON. The ordinary working person in the city, they—

Representative HAMILTON. They don't want those prices to change?

Mr. JOHNSON. They do not want them increased. There are a number of reasons for it. One of them is that there is a view that

there's been kind of a social contract between the Communist Party and the people—that prices would not change for the ordinary items of consumption.

So what you have is the price of housing has not changed since 1925, the price of bread has not changed since the mid-1950's and the price of meat, at least officially, has not changed since 1964. Everyone assumes, I think, that while the Government will say we will protect your income, they don't believe it.

They believe they will raise the prices of meat, which might be doubled, to bring about an equilibrium in the market, and they won't increase their incomes that much. So they will lose real income, real purchasing power, and so it's a lack of confidence in what they believe the Government will do.

But in the same situation, in energy, the price of household energy hasn't changed in 40 years, nor urban transport. The Moscow subway costs the same today as when it opened, 5 kopeks.

Mr. GRAY. But the trolley buses went from 3 kopeks to 5.

Mr. JOHNSON. But this is not a problem peculiar to the Soviet Union. Certainly the history of Poland is replete with the efforts of the Polish Government in 1970, 1976, and 1980 to increase prices of meat and milk and bread. They had riots. In each of the three cases they rescinded the price increases.

It wasn't until they imposed martial law in 1981 or 1982 that they were able to raise those prices.

The Government—the Communist Party in China—feels the same way about their grain products. They do not believe they have the capacity to increase the grain prices, although the subsidy required to keep the grain price where it is is a major source of the Government deficit, which they recognize is a significant problem. But that's not the solution they are looking for.

And when we think how hard we had to try to get rid of price ceilings on natural gas or to get rid of the price ceilings on gasoline that we had in the seventies, it's perhaps understandable why the Soviet people and the Chinese people will resist this change.

Representative HAMILTON. Or how difficult it is to get rid of an export subsidy.

Mr. JOHNSON. Yes, that's right.

Representative HAMILTON. OK.

Mr. GRAY. Mr. Chairman, could I just add a bit on this question of retail prices.

In the political flux and the influence of glasnost for change, the fact that a lot of people in the Soviet Union don't get that subsidy is becoming important. The subsidy is for sales in state stores, which are mostly located in urban regions, and in large part it doesn't go to people in small cities or rural areas. Livestock products are often sold in a restricted manner through selected factories and institutes to people who are quite wealthy.

Glasnost has revealed something about the distribution of that Brezhnev-era subsidy. It's quite skewed. The Parliament this past summer raised the pensions for poor people, and people like Yeltsin are complaining and pointing out from data that's recently available the unfairness of the distribution of the current subsidy.

I think it is the kind of a situation that can change.

Mr. CARTER. Mr. Chairman, can I add one point. It's in relation to my comment.

It's possible Chinese wheat imports could fall in the next few years. I've also estimated stocks of grain in China. For the record, I just wanted to tell you that I think stocks are probably of the order of 80 to 100 million tons, which is about the same amount of grain as the Government sells every year, or even more.

Representative HAMILTON. Current stocks?

Mr. CARTER. Current stocks are quite adequate in China.

Representative HAMILTON. Thank you very much, gentlemen, for a good hearing. Your prepared statements were excellent. They, of course, are part of the record. We've appreciated the opportunity to have this dialog with you on these important questions for us.

Thank you for your appearance.

The committee stands adjourned.

[Whereupon, at 10:55 a.m., the committee adjourned, subject to the call of the Chair.]

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