

Prospects for World Agriculture;

Implications for U.S. Trade and Prices.

**Ron Trostle
Economic Research Service**



Ron Trostle
Branch Chief
Trade Analysis Branch
Economic Research Service
United States Department of Agriculture
November 15, 1996

Clark, it is a pleasure to be here. As an ex-Kansas wheat, grain sorghum, and hog farmer who has been living in Washington, D.C. for 15 years, it is always a pleasure to get out of Washington, D.C.—regardless of where you go.

Today we are here to talk about the future of agriculture and the uncertainty surrounding it. Since my role is to look at what is going on outside the U.S. borders, I am not going to say much about the Farm Bill. I will focus on what is likely to affect you and your operations in the next five to ten years. I believe there is a lot of uncertainty about the longer term future. I want to try to give you a perspective on what some of those things are (Slide 1). I am going to begin with the basic conclusions. Then I will talk about some of the basic assumptions, because assumptions are very important when you are talking about what you think the intermediate and long-term future is going to be. I want to cover some of the major impacts by looking at countries and regions, then look at what world commodity demand and imports are going to be facing the products the U.S. has to export. I will talk briefly about the U.S. Farm Bill and how it might affect U.S. competitiveness in the future. I want to talk about some of the future trade policy conflicts that are probably going to face us, and look at how all of this may affect U.S. prospects for trade and prices in the future. Finally, I want to talk about prospects for price variability

Slide 1.

Outline

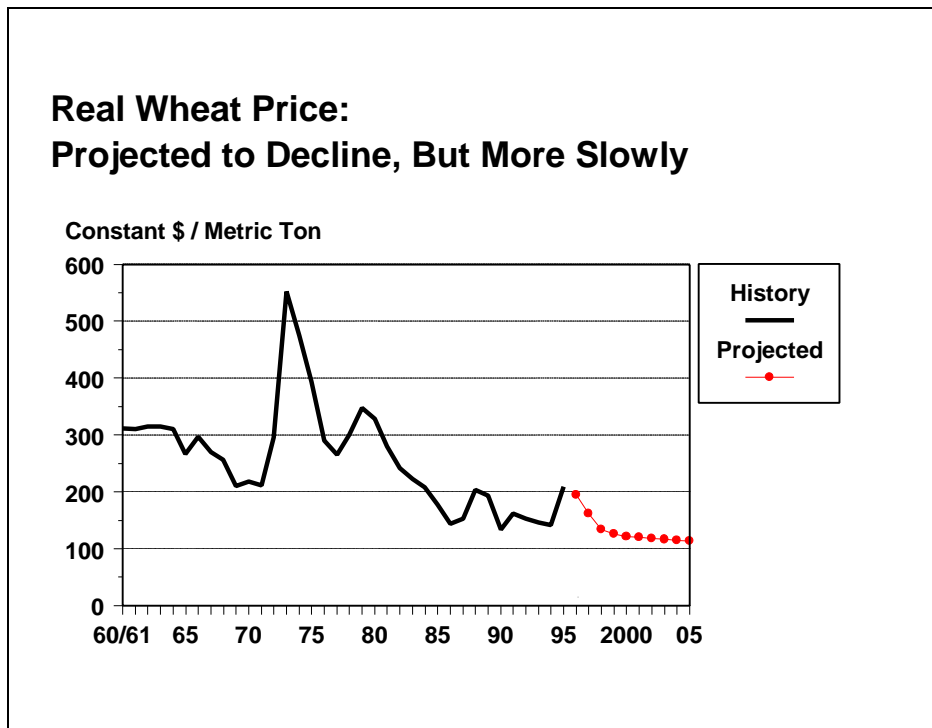
- ▶ Basic conclusions.
- ▶ Major assumptions.
- ▶ Major impacts from:
 - Countries & regions.
 - World commodity demand and imports.
 - U.S. 1996 farm legislation.
- ▶ Prospects for:
 - Trade policy conflicts.
 - U.S. trade & prices.
 - Price variability.

WORLD OVERVIEW

The next two slides summarize the history and outlook for world agriculture. This slide presents (Slide 2) the history and the projections for world wheat prices adjusted for inflation. First, you notice the huge spike in the early 1970s. The price spike also occurred in corn, soybeans, and rice. All basic commodities rose, but have declined very significantly since. During the 1980s and early 1990s, for a

15-year period, world prices for food in general (represented here by wheat) declined at a steeper, sustained rate than anytime since the 15 years after World War II. They declined primarily because we had rapidly increasing productivity in agriculture in the United States and around the world, and other exporters were aggressively competing for export markets. When we look to the future, we see real prices (prices adjusted for inflation) climbing slightly and then declining again. If I had been standing here six months ago when prices had been rising for nearly a year, and I had forecast the subsequent decline, a number of people probably would have questioned my credibility. But world prices are below where they were 14 months ago for wheat and corn and getting close to it for soybeans. The U.S. Department of Agriculture (USDA) believes that the peak of the price “spike” is behind us because world markets have responded to it.

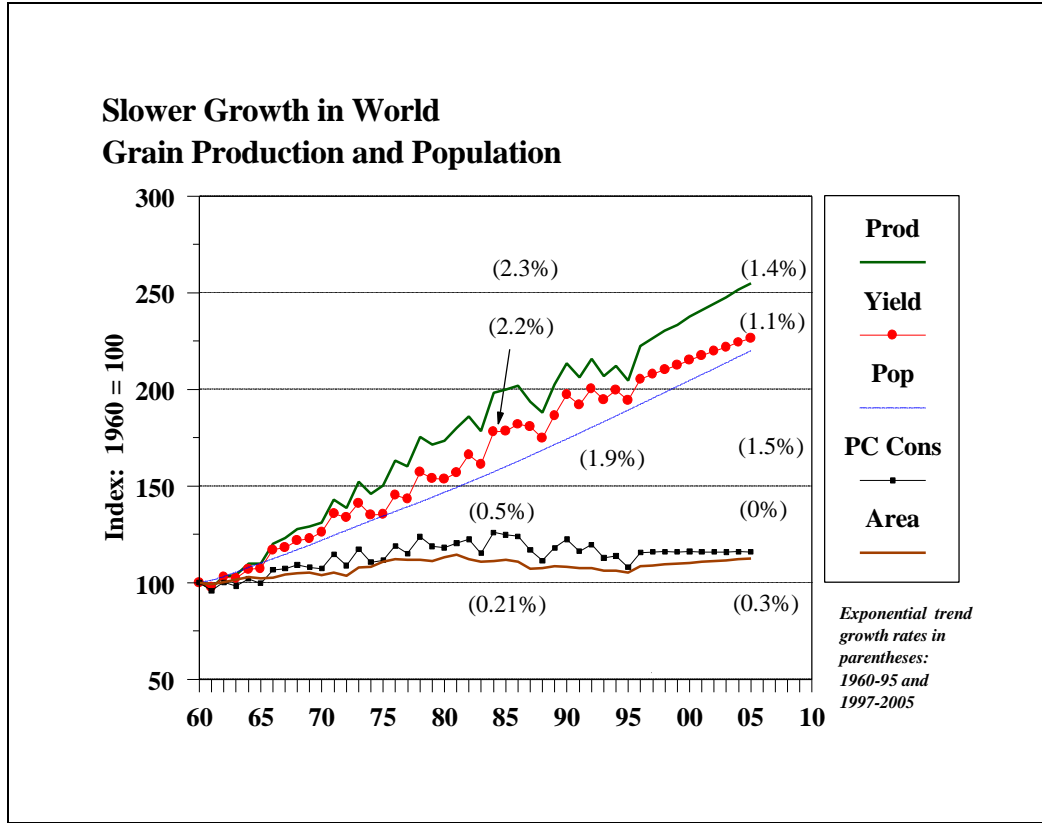
Slide 2.



This slide (Slide 3) tells you what we think is going to happen in the next five to ten years. Total grain is used as a proxy for food and agricultural production generally. The slide shows production, area, yields, population growth rate, and per capita consumption. You see that production growth rates are slowing down. After climbing at more than 2 percent during the last 30 years, we have them projected to grow at only 1.4 percent. Yields contributed most to that growth rate in production—much more than area (the bottom line) which only grew at about 0.2 percent. We have yield growth rates for grains, and incidentally also for soybeans, for other oilseeds, and for cotton, declining rather significantly in the future. There are a number of reasons for that. There is concern out there that there is not going to be enough food to feed the world. But the dashed line shows you population growth, and it is also slowing down. Population growth peaked in the 1970s, is currently about 1.7 percent, and is projected to decline to about 1.5 percent. Thus, the demand generated by additional people to feed in the world is also declining—roughly counterbalancing the decline in yield growth rates. On a per capita basis, global consumption of grain, which is the narrow line with the squares on it, is a pretty flat line. These USDA projections suggest that in the next five to ten years there is not

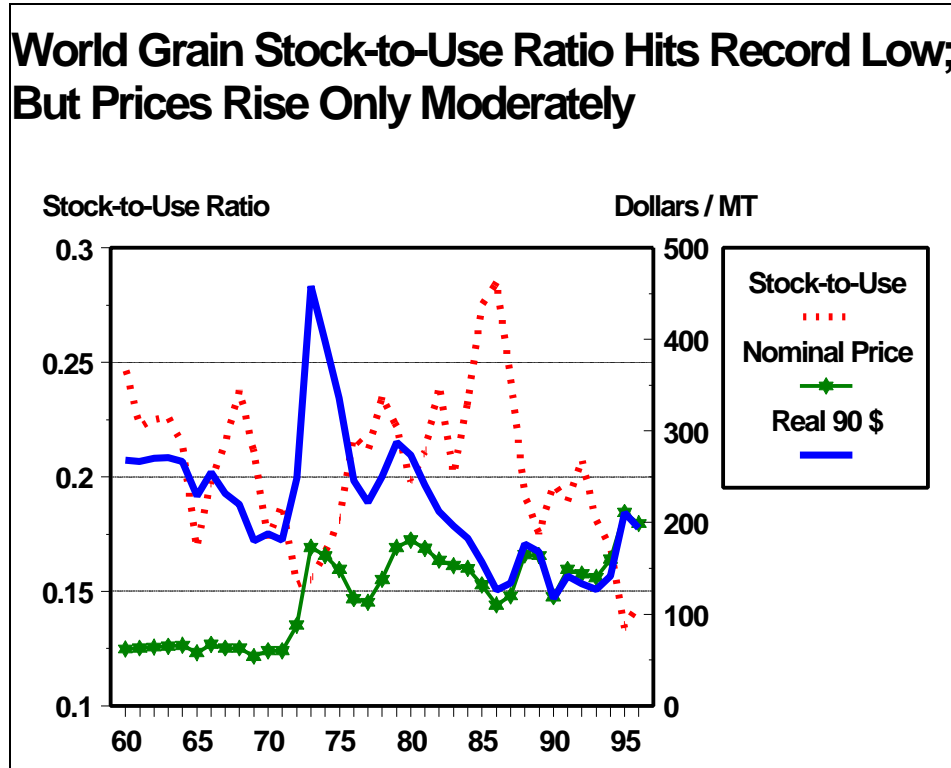
going to be a major world food crisis—but neither is productivity growth going to be sufficient to provide us with increasing per capita consumption. This graph summarizes everything else that I am going to say, and for the rest of my presentation I will progressively go into the details behind these projections.

Slide 3.



Slide 4 shows the global grain stock-to-use ratio which hit a record low last year at about 13 percent (the dotted line). The wheat price spiked higher, both in real and nominal (unadjusted for inflation) terms, reflecting the low stock-to-use ratio. In nominal terms, the price of wheat was at more than \$7.00 a bushel, Gulfport basis. Corn, soybeans, grain sorghum, and cotton all hit fairly high prices as the result of low world stocks. But next year's stocks (the stocks-to-use ratio) are projected to increase, and the prices are already beginning to come down. Such a rapid adjustment suggests that the world marketplace has changed. In the early 1970s, the world stocks-to-use ratio for grain got down to about 15 percent, the prices almost tripled, and it took 3 years for prices to adjust. This time the grains stocks-to-use ration got down to 13 percent, but the prices went up about 100 percent and have adjusted back in a one-year time period. The world has changed!

Slide 4.



ASSUMPTIONS

When we talk about the long-term outlook, we need to be clear about the assumptions (Slide 5), because if you change the assumptions, your projections can change significantly. We are projecting income growth to be at or slightly above trend lines for most countries; the world population growth to be slowing down; and international trade policies, in general, to continue. That is to say there are no new, major trade agreements, but there will be a continued trend toward trade liberalization that actually began in the early to mid 1980s before the General Agreement on Tariffs and Trade (GATT) round. It is continuing on a unilateral basis in a number of countries, even without linking it to the GATT. We assume there is not going to be any world trade accession by China, Korea, Taiwan, or some of the middle eastern European countries. We assume no enlargement of the European Economic Union-15 (EEU-15). We say all countries are going to comply with the multilateral GATT and their bilateral regional trade agreements. (Actually, there is some evidence that some countries are not complying with them, but we trust the U.S. trade representatives' office and negotiators in USDA to try to hold them accountable for that.) And finally, in our projections for the future, we are not assuming any weather shocks, any oil shocks, or macroeconomic shocks. At the end of my speech I will suggest that there are enough other things out there causing uncertainty in addition to these types of shocks.

Slide 5.

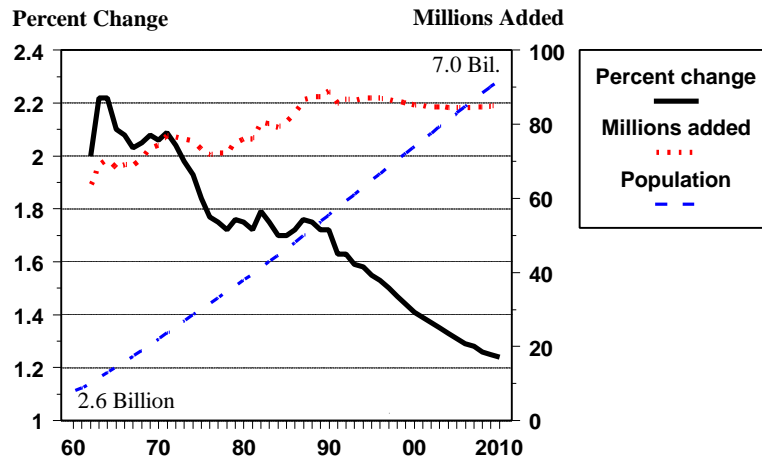
Background Assumptions

- ▶ Income growth at or slightly above trend line in most countries.
- ▶ World population growth slowing down.
- ▶ International Policy Assumptions:
 - No major new trade agreements, but continued slow trend towards trade liberalization in some countries.
 - No WTO accession.
 - No enlargement of EU-15
 - Compliance with existing multilateral, bilateral & regional agreements.
- ▶ No weather, oil, or macro-economic shocks.

I talked about the population growth in absolute terms, which is the millions of people added, that peaked in the early 1990s at about 85 million people a year (Slide 6). The percentage growth line (the solid line) peaked in the early 1960s. In many countries in the world, population growth rates are declining rather steadily and significantly, and there are some countries in world that actually have negative population growth rates, although they are very small. Population growth is one of the factors affecting demand.

Slide 6.

World Population and Population Growth Rates

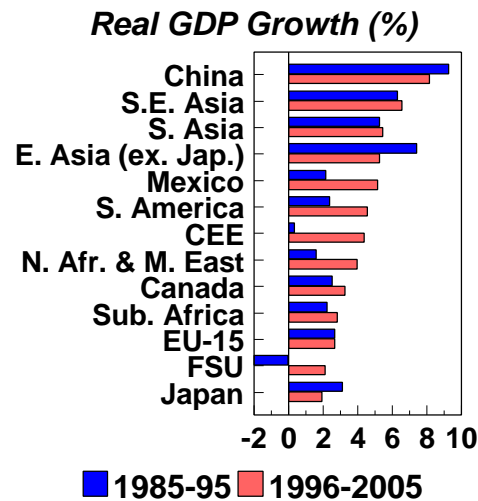


Another demand factor is our projections for foreign Gross Domestic Product (GDP) growth rates (Slide 7). In a number of those countries, as you can see, the GDP or the income growth rate for 1996 to 2000 is going to be more rapid than it was in the past (the patterned bars). This could be a real stimulus for demand, and I would argue that this is one of the major unknowns on the demand side. Will that income growth be there? There is some indication, not only in the United States, but around the world in the last couple of years, that GDP has been higher than previous projections indicated. The theory is that trade liberalization enables economies to function more efficiently, and this should stimulate income growth in the future.

Slide 7.

Foreign GDP Growth Prospects

- Asia sustains fast growth
- Faster growth in:
 - Latin America
 - CEE & FSU
 - Middle East
- Steady, relatively slow growth in developed countries

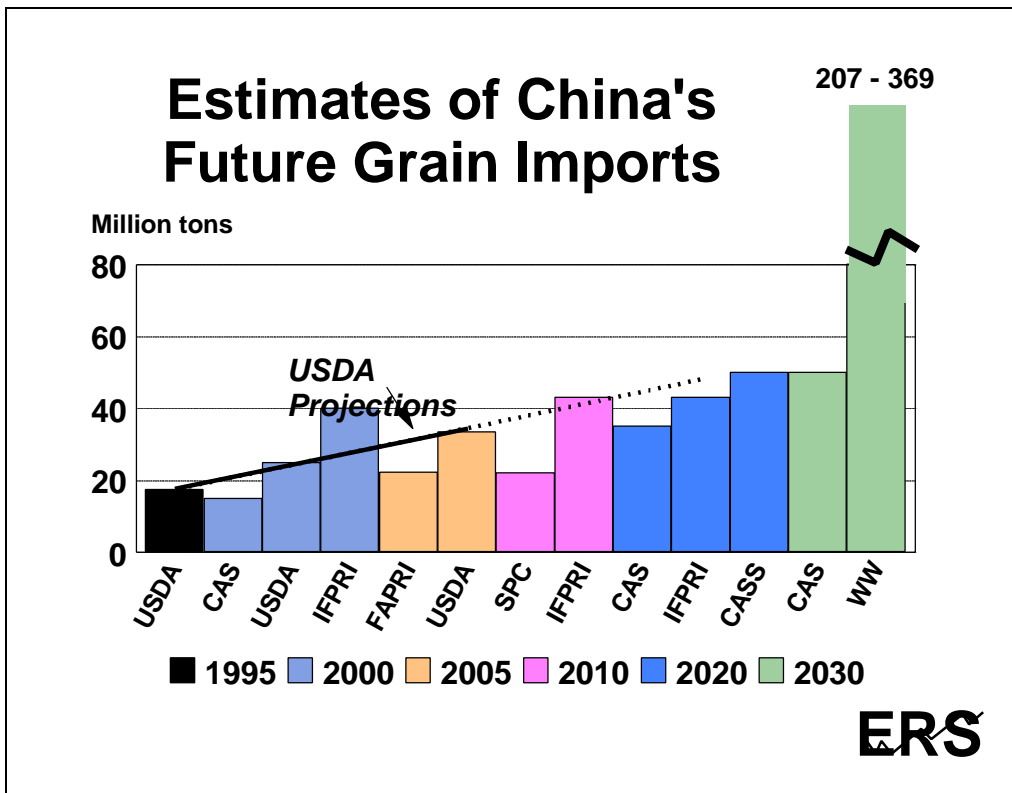


MAJOR COUNTRIES

China

The first country that we should talk about is China, not only because it is what Lester Brown talks about in his “gloom and doom and alarm,” but because it is an uncertainty that we face. The story goes that China’s population growth rate, which is growing at a moderate rate, plus its very high income growth rate is going to stimulate demand for food. They are going to swamp the world with their demand for imports. What we show on Slide 8 is a whole host of projections for China’s grain imports at different points in time. The black bar on the left is the current grain imports. When you look at the projections for 2000, you can see USDA, at 23 million tons, in the middle of a group of projections by different research organizations or institutions, including some Chinese. For 2005, the USDA projections increase to 27 million tons. Some of these others are making projections further out. Lester Brown, from the World Watch Institute (WW) projects imports of 207 million tons in 2030. I think that Lester Brown is raising some concerns about the future that we should think about, but China is not going to import 207 million metric tons of grain. They cannot do it, and if they could, the world could not supply it. Besides, there are no economic cause and effect relationships in Lester Brown’s projections, and you, who are working in the private sector in agriculture, know that prices play a major role.

Slide 8.



How we come out on China can swamp where we come out on most of the other countries. Number one, China's income growth is going to be fairly rapid. They are going to want to import more food. But if China's imports increase significantly, they would be forcing up world prices, and they would be forcing up their own internal prices. If they force up world prices, then China and its leaders have to decide to use their very limited foreign exchange to buy food, whereas in the past they have been trying to use that to invest in capital goods and technology to get their economy moving. Also as the prices go up, you will see China's consumers saying, "Oops, well our income's up but we can't afford these high prices for food." You are also going to see higher prices which will boost China's own grain production. Yes, China can increase its grain production, and I think fairly significantly.

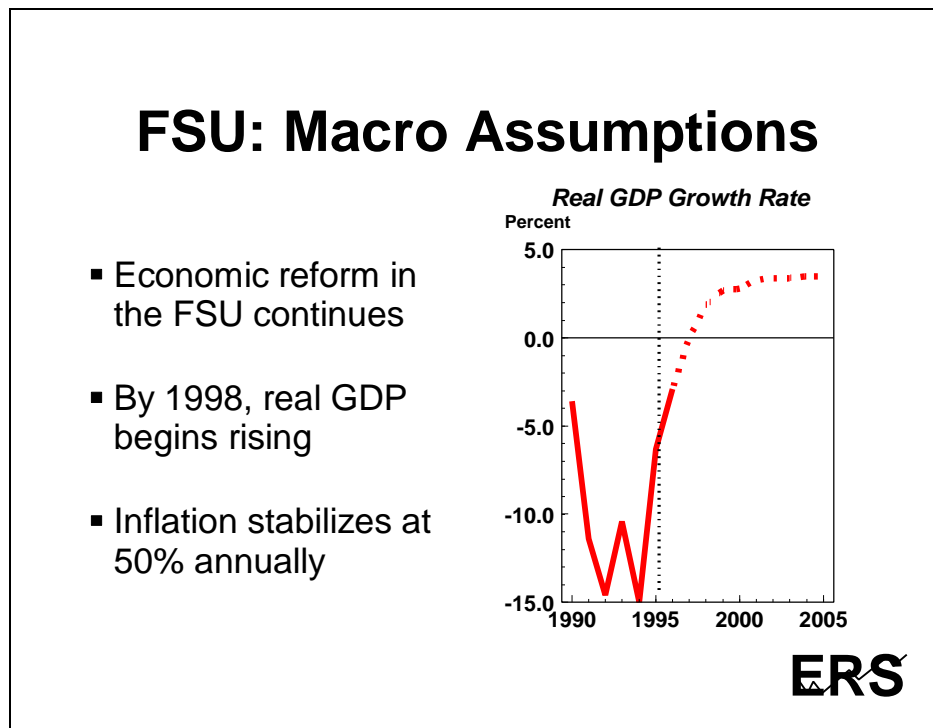
For the rest of the world, if prices go up this year, next year producers will change their production practices a little bit, and they will change their area allocation a little bit. If they believe prices are going to be significantly higher and stay there, then they make technology changes; they invest in a whole host of things they would not do if prices were lower. Thus, the rest of the world would respond significantly. I am going to talk later on about two or three countries and regions that could become significantly larger exporters.

That's the story on China. Yes, their imports will increase. Yes, it will affect world markets and prices and prices in the United States, but it is not going to be something major.

Former Soviet Union

The former USSR (FSU) was what caused most of the volatility in world trade and U.S. prices during the 1970s and 1980s. They are a much different story now (Slide 9). Their income has been depressed, and neither their economy nor their agricultural sector is working efficiently. We do believe that economic growth, which has been negative during the last half decade, will turn positive in the next few years and that will help generate more demand for imports.

Slide 9.



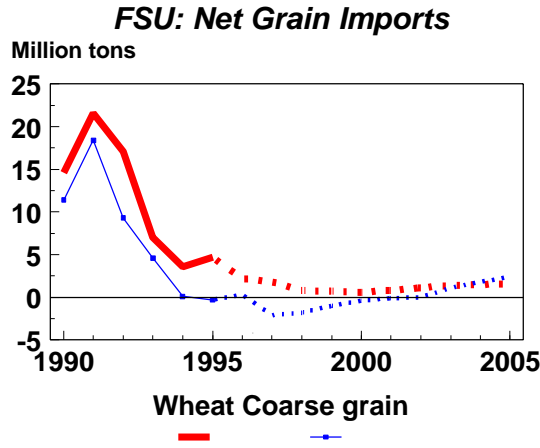
The FSU was importing 15 to 20 million tons of grains in the early 1990s. They are now down to 5 million tons or less, and in some years they are net grain exporters (Slide 10) We see them continuing to be very small importers of grain in the future. While they provided a lot of volatility in the past, we do not see them providing much uncertainty or volatility in the future.

The same story holds true for their oilseeds (Slide 11). They have a very inefficient feed sector; they need more protein meal in their feeds. They were trying to import it in the early to mid-1990s, but they do not have the foreign exchange or the price incentive system to do that any more.

Slide 10.

FSU: Projected Net Grain Imports

- Assumptions:
 - Import tariffs low or nonexistent
 - Rising incomes and higher meat consumption boost grain use

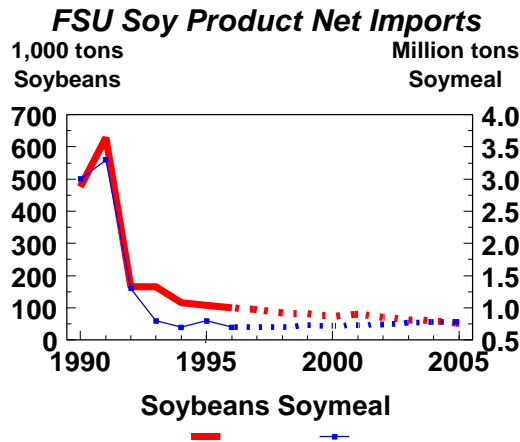


ERS

Slide 11.

FSU: Projected Oilseed Net Imports

- Assumptions:
 - Domestic production of other oilseeds increases
 - Slow recovery of livestock sector

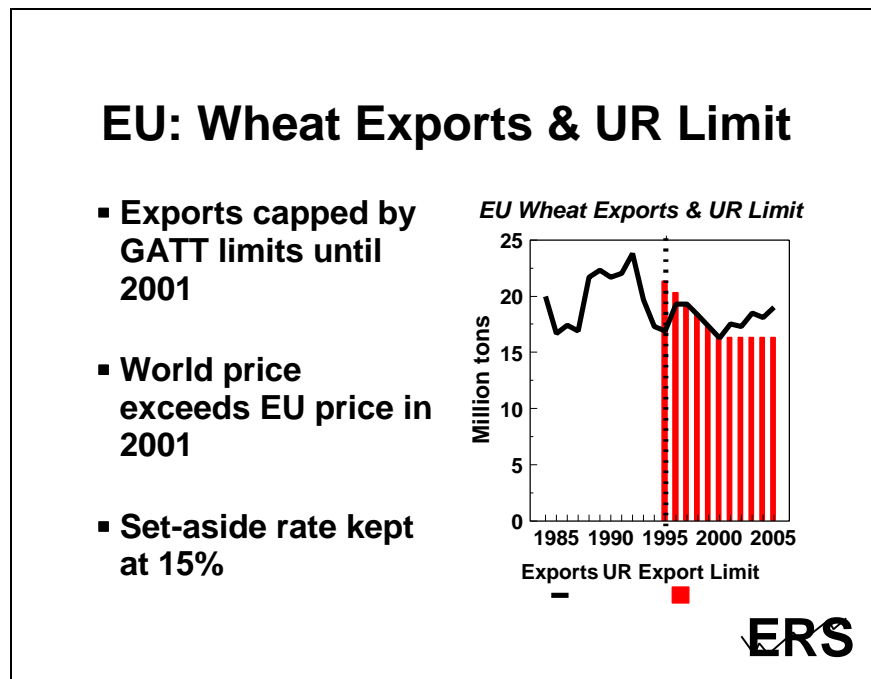


ERS

European Union

We have had a lot of trade conflicts with the European Union in the past. Slide 12 shows their wheat exports are going to be constrained by the Uruguay-Round GATT limits on subsidized exports. The bars show their commitments to limit subsidized grain exports during the next ten years. The limits decline for the first six years and then they are flat. Our projections show that their wheat exports will be restricted by their Uruguay-round commitments until about the year 2000. By that time, world prices could get high enough so that they could export without subsidies, which already happened for part of last year. However, instead of exporting without subsidies, they turned around and slapped on an export tax. We assume that by the time 2000 comes they will not use the export tax, and that sometime after the year 2000, they will be competing with U.S. and Argentinean producers exporting in the world market without subsidies.

Slide 12.



Slide 13 shows the gap between the world price and the EEU-15 price narrowing in 1995. There was a short period of time when the EEU did export without subsidies; they are back to using export subsidies again as the prices have come down.

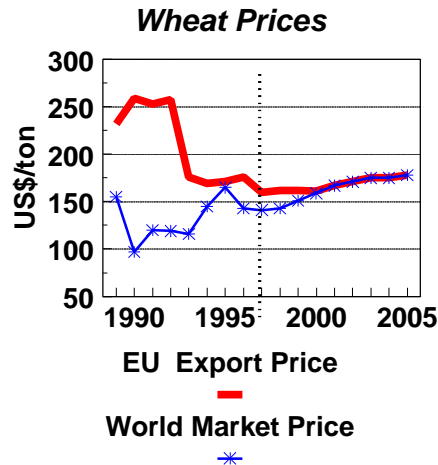
Mexico

Mexico has been an important trading partner in the past and will become even more important in the future (Slide 14). It is expected to be a growing market for a number of both bulk and high value products. It is going to have sustained economic growth, although I would not discount the possibility of another peso devaluation in the future. Having gone through it once, they know what kind of adjustments and policies need to be considered. They are going to have an election pretty soon. They probably should devalue now, but politically, they will probably wait and do it after the election.

Slide 13.

EU and World Wheat Prices

- EU export price is internal market price plus transport charges
- World price exceeds EU price in 2001, EU exports without subsidies



ERS

Slide 14.

Mexico: Summary

- Mexico is expected to be a growing market
 - Sustained economic growth
 - Rising incomes = rising food demand
 - Free trade under NAFTA by 2008
- Important to a wide range of U.S. exporters
 - Grains & feeds
 - Meat & dairy
 - Fruits & processed foods

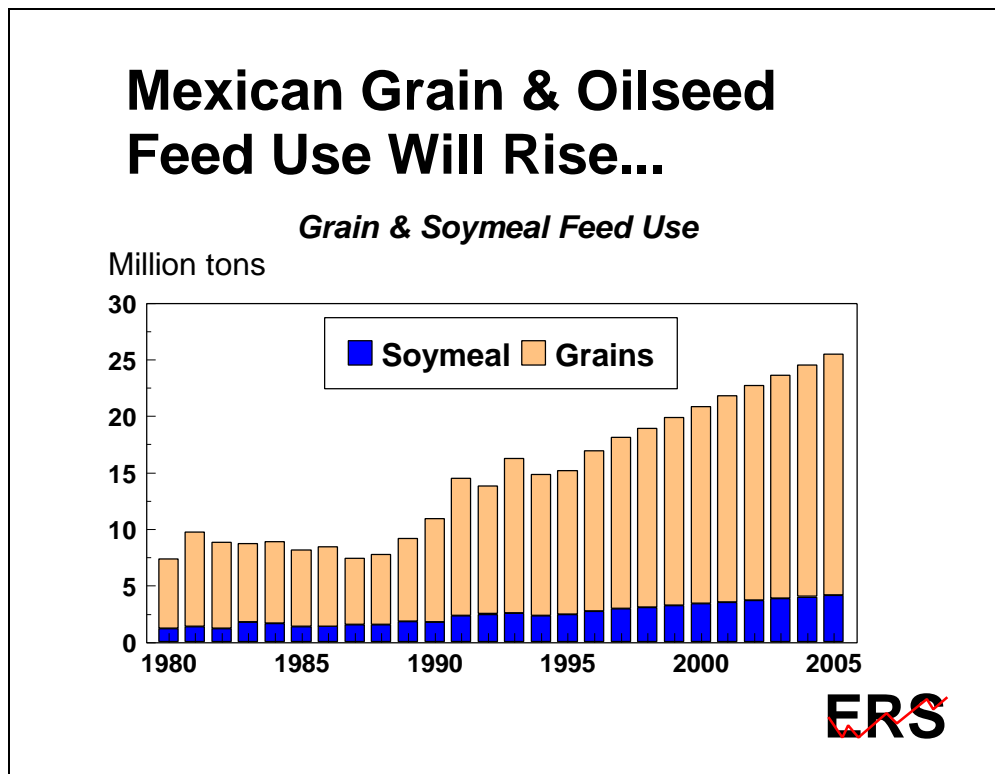
ERS

We have free trade under NAFTA after 2008. Until 2008 is a transition period during which there is an increasing amount of trade between the United States and Mexico and Mexico and Canada. I am

surprised when I look at the trade statistics, at how much trade in an ever-expanding variety of products is occurring in the North American market. It will affect grains, feeds, meat, dairy products, fruits, and processed products. We even made exports of pet food to Mexico! That has to say something about how the world is changing.

Slide 15 depicts Mexico's grains and soybean meal imports increasing. The United States is in a very good position to capture a lot of this, but Canada will probably also capture some of it.

Slide 15.



Mexico's policies are not solidly fixed in concrete (Slide 16). They could backtrack a little bit on their economic and agricultural structural reforms, and that could result in a less rapid growth in their imports. There is some uncertainty there, I think. They also have some land constraints. They have more land, but it tends to be marginal quality land with limited water available. They have a large subsistence sector which will not respond well to trade liberalization. And they have a very low level of productivity and technology growth. But, as we see, the government intervention, their structural reform, their economic reform, and their agricultural sector reforms should put it on a growth track that should result in an increase in their imports. There will be a fair amount of competition for those imports, I think, from Canada as time goes on and, perhaps, from other Latin American countries as well.

Slide 16.

Gains in Mexico's Farm Output Will Be Limited...

- Structural Limitations
 - Area constraints
 - Large subsistence sector
 - Low level of technology
- Declining Government Intervention
 - Limited producer price support
 - 15 year phase-out for payments
- Import Competition

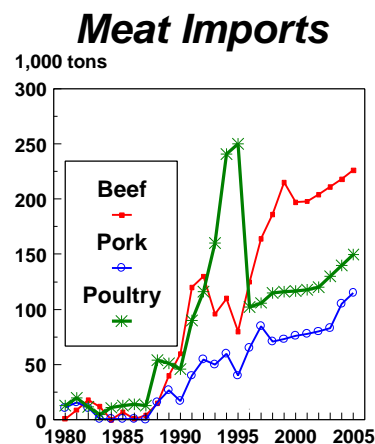
ERS

Slide 17 shows their meat imports. I wanted to put it up to show you how rapidly their imports have been increasing. Poultry (starred line) sky-rocketed for two or three years. But when Mexico slapped on a tariff rate quota, imports dropped significantly. If they were to reduce the restrictions on that tariff rate quota, it could jump again very quickly.

Slide 17.

Mexico's Meat Imports Will Rise...

- A rising share of beef & pork consumption will be supplied by imports
- Enforcement of TRQ for poultry could limit imports & reduce its share from current 19%



ERS

Eastern Europe

In some respects eastern Europe is one of the most interesting parts of the world for me because there are so many things happening (Slide 18). You could ask, "Why don't you say the same thing about the former Soviet Union?" I think one of the reasons is that the former Soviet Union does not seem to have a propensity to want to change its policies, to really take reform seriously; whereas many of the countries in eastern Europe are very aggressively saying, "Yes, the future of our economy and the level of living in our society depend upon our giving up the old centrally planned system and making the transition, tough and painful though it may be, to a more market-oriented economy."

The countries that have already made this transition, particularly Poland and the Czech Republic, have seen dynamic changes in their economic recovery. Meat consumption, which nose-dived after they stepped back from the communist system and did not know how markets would be, is projected to rebound significantly. Some countries are already making dramatic improvements in feed efficiency, and we think others will be doing the same thing. They will be able to increase their own meat production and at the same time become grain exporters. In the past, the prices were all out of whack. Grain has been so cheap that they just fed it directly to livestock—very inefficient. Now they are beginning to incorporate it in compound feeds with protein meals, and feed efficiency goes up a lot. They actually have a reduced demand for grain for feed and could have a grain surplus.

Slide 18.

Eastern Europe Undergoing Changes

- Rapid economic recovery due to trade liberalization and economic reforms.
- Meat consumption rebounds.
- Improved feed efficiency enables EE to:
 - Increase meat production, AND
 - Become a grain exporter.
- Soybeans and meal imports rise.
- Beef & poultry imports rise.
- If world prices rise, E.E. will be an even larger grain exporter.

An anecdote from time I spent some time in Eastern Europe illustrates the misallocation of resources. Observing that in the past grain was so cheap that they fed bread to pigs I asked, "Who suffers from the transition to a market economy?" The answer was, "Well, it is the pigeons who suffer most." "The pigeons? Why is that?" "It used to be that people just threw bread to the pigeons but now, because wheat prices are higher, and bread prices are higher, we do not throw bread to the pigeons anymore."

There is a significant restructuring going on in Eastern Europe. And yes, they may well become a net grain exporter. If China were to significantly increase its imports, Eastern Europe would be one of the places in the world that could have a significant production response to those higher prices. They have good quality land; it is just a matter of getting their agricultural production system to be more efficient. However, their own rebound in meat consumption is going to absorb some of the production increase. But they will increase beef and poultry imports. The United States will have to compete with subsidized European Union exports to get into those markets.

Latin America (Slide 19)

Slide 19.

- **Argentina**
 - World's lowest cost grains and oilseeds producer.
 - Larger exporter if world prices rise.
- **Brazil**
 - Policies favor increasing wheat imports.
 - Reduced food demand for corn offsets increased feed use.
 - Increases in beef imports mostly from Argentina.
- **MERCOSUR**
 - Potentially large trade impacts for the U.S.

Argentina

Argentina is the world's lowest cost producer of grains and oilseeds. They have good land, good climate, and purchased inputs are minimal. They do not use much fertilizer or pesticides. They harvest what grows, and they export it fairly quickly. We do not see much change in that. Our baseline projections suggest that they are going to continue to be the world's fourth or fifth largest grain exporter and one of the largest soybean exporters, but they are not going to increase production significantly in the future. Argentina's a country that could respond with significantly increased production if the world prices go up. I will go back to the China story. If you believe that China will increase its imports, here is one of the countries that could step in and supply a large increase. It wouldn't happen instantaneously because Argentinians are going to have to invest in marketing and transportation infrastructure and in more inputs and more intensive production technology that would require better management practices. However, over a three- or four-year period, they could significantly increase production in response to higher world prices.

Brazil

Brazil's policies have favored wheat imports. Until about 1990, they tried to be self-sufficient in wheat and practically were, but then they said they realized that was not very efficient. Once again through trade liberalization and economic reform, they decided to get their agricultural sector to be more efficient. Now they are importing about 5 million metric tons of wheat a year. We do not see that increasing significantly or rapidly, but there will be a continued growth there. The question is, "Who is going to be able to supply that demand?"

In the coarse grain sector, Brazilians are eating less and less corn as food. Brazil is representative of a number of countries in the world. If you look at the world's total use of corn and coarse grains in general, they are increasing a little bit, but not a lot. What that represents is a trade-off between using less corn for human consumption, but feeding an ever-increasing percentage to livestock and poultry. That is happening in Brazil and they roughly off-set each other, so there is not much of a potential to export coarse grain to Brazil.

The one bright spot is the possibility of beef imports. I would guess that Argentina would get most of those, which leads me to MERCOSUR, the South American Common Market which it is going to have an effect on world trade. MERCOSUR is made up of Brazil, Argentina, Paraguay, and Chile right now. They have developed this common market that is increasing the trade among these countries and shutting out imports from the outside. We used to export beef to Brazil, but now because of MERCOSUR, Argentina is supplying it. We used to export more wheat to Brazil, but now Argentina is supplying it. It is happening with a number of commodities.

MERCOSUR is something we need to think about when we start talking about trade policy and about the expansion of NAFTA. Both Western Hemisphere and Asian-Pacific Economic Cooperation (APEC) economic integration have the potential to affect U.S. exports. After taking a strong leadership roll in GATT, the U.S. has backed off becoming strenuously involved in any more bilateral or multilateral negotiations on trade liberalization. MERCOSUR is very aggressively promoting its own expansion. It is having discussions with several other Latin American countries, and it is having discussions with the European Community. There is a danger that the United States might be cut out of some markets because of the expansion of MERCOSUR. This is one of the agricultural trade policy questions that I think the United States needs to be concerned about in the future.

Other Countries (Slide 20)

East Asia

I will talk briefly about some other countries and regions where we see some changes taking place. East Asia (Taiwan, Japan, Korea, Hong Kong) have rapidly growing economies that have provided the major growth in world trade in the past. But these countries may be starting to move to a different stage in evaluating their agricultural policies.

Environmental concerns are of increasing concern to them, particularly in livestock production. I will use Taiwan pork as an illustration of what is happening. Taiwan exports pork to Japan. It does that by importing feedgrain and soybean meal from the United States. Thus, when you export feedstuffs to Taiwan, you are indirectly exporting pork to Japan. Because of the environmental concerns with the waste management, Taiwan is backing away from this. They are increasing their pork production

much more slowly, and they may back out of the export market. They will continue to increase feedstuffs (corn and soybean meal), but at a much slower rate than they would have otherwise. Japan will be looking somewhere else for its pork imports. The east Asian markets have been a major market for the high value product trade, and the United States has done quite well in capturing more than its proportional share of those markets. And I might add, we have done that without the benefit of export subsidies.

Slide 20

Other Country / Regional Factors

- East Asia
 - Environmental concerns affect livestock production and feed and meat trade.
 - Major source of HVP trade growth
- South East Asia
 - Rapidly growing economies. Major market for Australia.
- Canada & Australia
 - Stable ag sectors with little change projected.

South East Asia

Southeast Asia (Indonesia, the Philippines, Malaysia) also has rapidly growing economies with rising imports. Because of its proximity, Australia is in a good position to capture a lot of that increase, but the United States has also done fairly well, especially in a number of niche markets for particular qualities of wheat or kinds of fruit or cuts of meat. That is something we ought to keep our eyes on, but because of transportation costs, we are at a little bit of a disadvantage with Australia who tends to be a low cost producer as well.

Canada and Australia

There is not a lot of story with Canada and Australia. They have stable agricultural sectors with little change projected for the future.

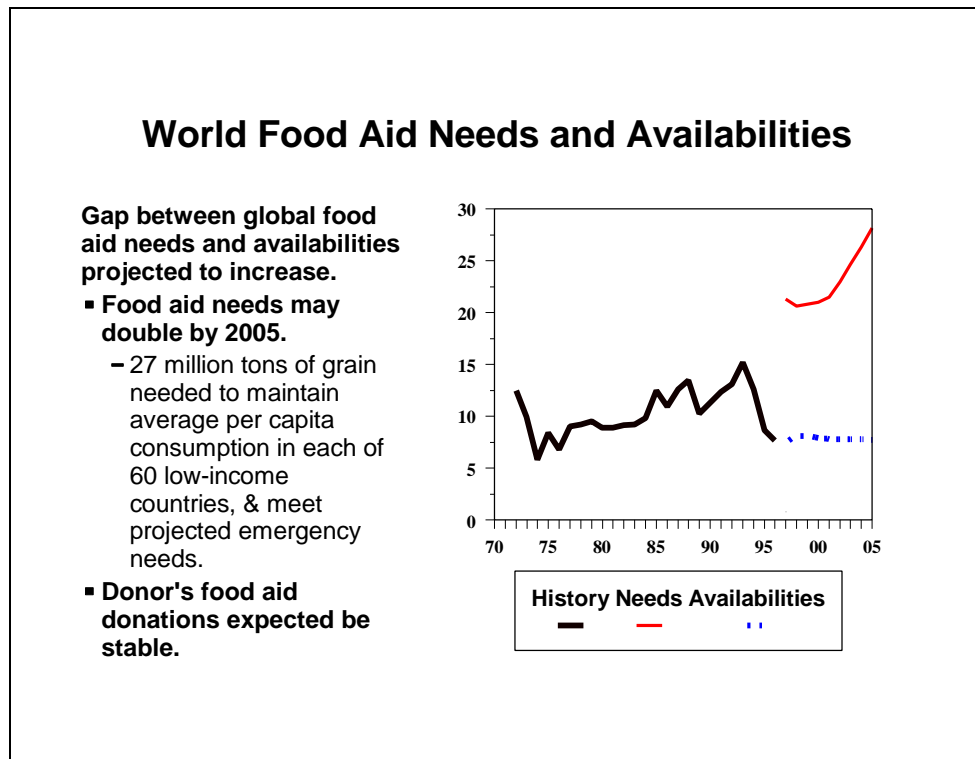
FOOD AID

In another part of the world are the traditional food aid countries. They are low income, food importing countries. The heavy line on Slide 21 shows a history of world food aid donations of grain and grain products. As we look to the future, food aid donations made available by donor countries are not likely to increase significantly because the United States, like Canada and Australia, has significant budget constraints. With the cessation of cold war activities and the confrontation with the Soviet

Union, there is less of a political mood to provide food aid to some of these countries. The increasing cost of food has also reduced food aid, since a food aid budget does not buy as much food if prices are high. In the meantime, populations in these countries are growing more rapidly than in any other places in the world, but their economies are not growing.

The USDA looks at 60 traditional food aid countries and a few other emergency food aid needs like Bosnia. Of those 60 countries, there are 30 to 35 where we expect to see significant per capita food consumption declines in the next 10 years. There are also 10 or 15 of those countries which have graduated and no longer rely on food aid at all. In fact, a couple of them are now competing in export markets for food. Food aid issues will probably continue to be in the public eye in the next half decade as we continue to see localized food shortage problems arise. Most of those are going to be in SubSaraa Africa.

Slide 21.

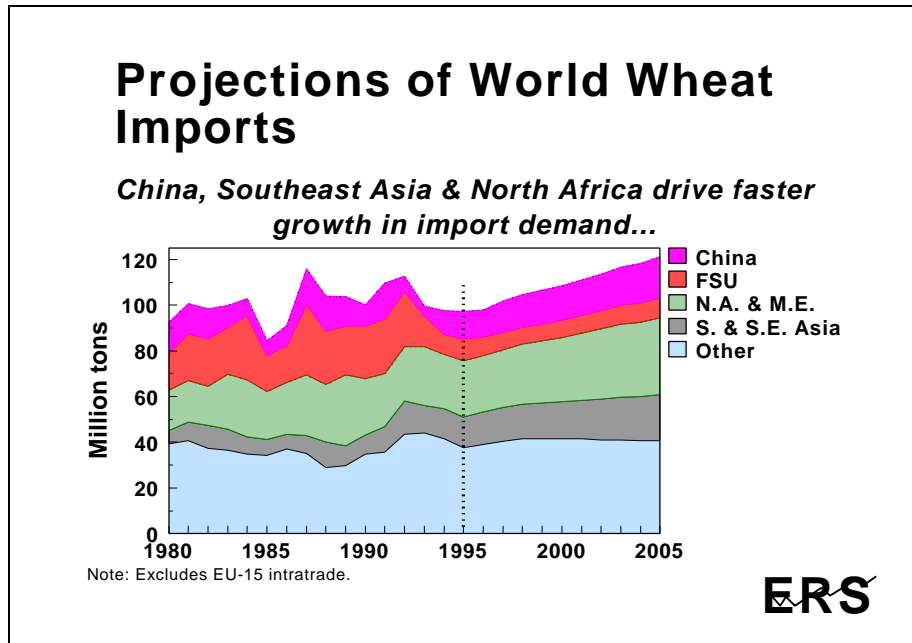


IMPORTS

I want to quickly go through a summary of where we see world imports coming from. This slide for wheat (Slide 22) shows projections to 2005. We have already talked about China. This does show some increase in China. The big increase is North Africa and the Middle East (N.A. & M.E.). Some of these are food aid recipient countries, and some of this is refocusing by the international donor community of its food aid to those countries that really need it. But it also represents the North Africa

and Middle East countries that have significant foreign exchange reserves, can afford to buy food, and have fairly rapidly growing populations. South and Southeast Asia are projected to increase slightly.

Slide 22.

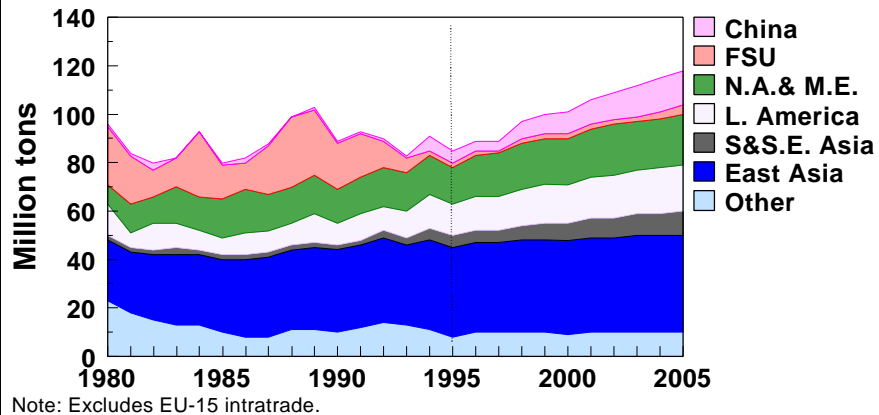


This is coarse grains—corn, sorghum, and barley (Slide 23). China is increasing imports, as was discussed earlier. Some of this increase in coarse grain by China is malting barley. As incomes increase, the Chinese like to drink more beer. They do not tend to produce malting barley, so they are looking to import it. Canada will probably capture a large share of this market for malting barley, but the United States could capture some of it as well.

Slide 23.

Projections of World Coarse Grain Imports

Developing country feed demand & shifts from barley & feed wheat strengthen corn demand...



Latin America is another significantly increasing importer of coarse grains. Part of it goes to Brazil, part of that is spread over a number of countries—Venezuela and Columbia are large and increasing importers. Venezuela imports feed for its livestock sector and for its shrimp and fish production in coastal waters. Columbia’s imports have been increasing significantly! This may be a result of foreign exchange earnings from the trade.

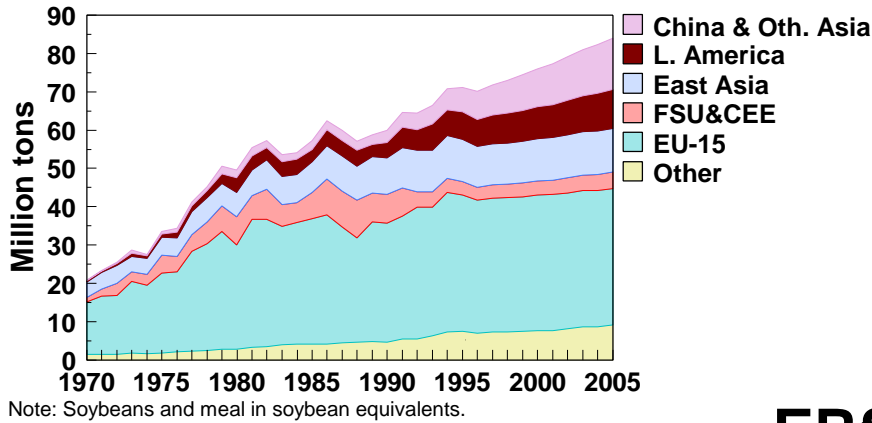
South and Southeast Asia (the cross-hatched little wedge) contains growing markets in places like Indonesia and Malaysia where consumers want more livestock products to enhance the nutritional value of their diets. They are relying on imports of feed rather than meat because they want to provide the jobs in their own economy to produce their own livestock products unlike, for example, the Taiwans and the Koreas which are evaluating that and concluding, “No, we’ll import the meat directly. We’ll give up the jobs in livestock production because of the environmental concerns.”

Take a quick look at soybean meal (Slide 24). The European Union (gray area next to the bottom) is our major market for soybeans and soybean meal. China and Southeast Asia are projected to be the fastest growing markets again. We see as a bit of an increase in those markets (light gray area at the top). Latin America may grow a little bit, but how MERCOSUR plays out will decide if we are cut out of some of the other countries. Our baseline projections do not show it because we do not assume that MERCOSUR takes place. That is one place that would be of concern.

Slide 24.

Projections of World Soybean & Meal Imports

Developing countries, including China & Mexico, drive future growth...



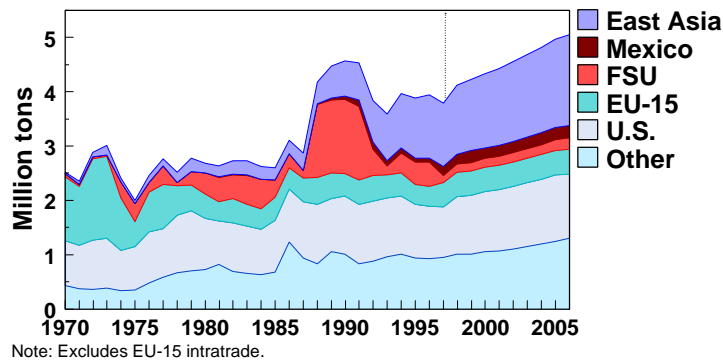
ERS

Finally, I want to talk about beef (Slide 25). East Asia shows a big increase. U.S. exports to the category of “other” countries have sputtered in recent years (bottom area).

Slide 25.

World Beef Imports

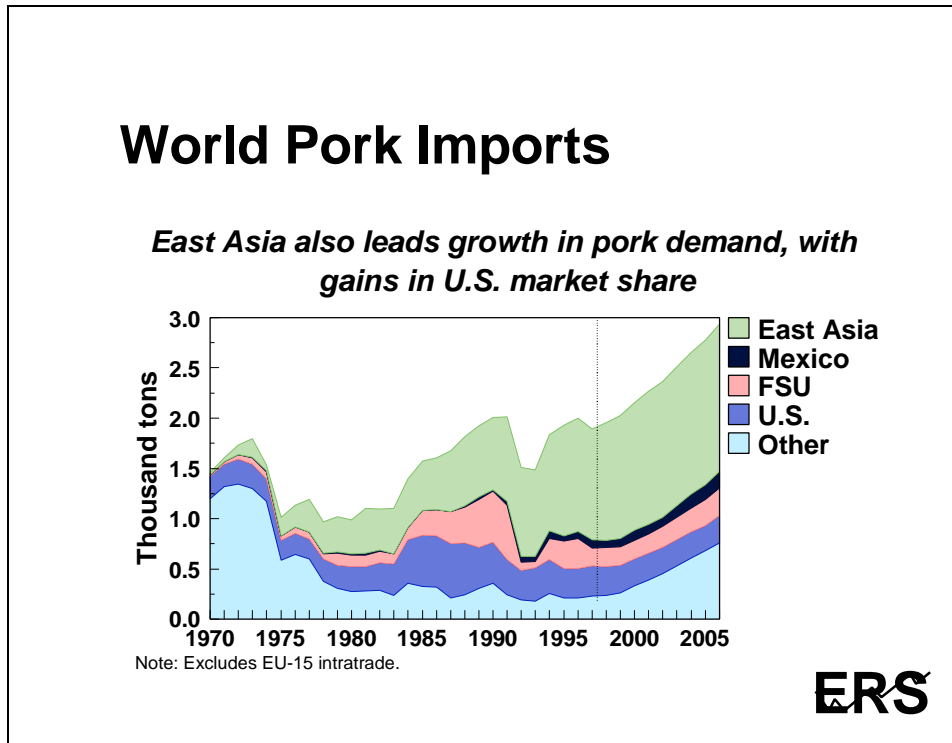
East Asia leads strong growth in demand & U.S. market share continues to rise...



ERS

Pork imports have increased (Slide 26). And once again, east Asia is the big story. It leads other countries in its demand for pork.

Slide 26.



FARM BILL

Now I want to turn attention to the Farm Bill (Slide 27). USDA concludes that of the Farm Bill issues that will affect our role in world trade, conservation Reserve Program (CRP) is the most important. Now you say, CRP is a domestic program and it has nothing to do with world trade. Indeed, it is the marginal land that can come into production or not come into production, and how it is allocated, to what crops, that will affect our ability to respond to changes in the world market. You are probably going to hear later on today about planting flexibility, dairy, sugar, and peanut programs by people who know a lot more about that than I do, so I will not cover them. How U.S. export programs were affected by the 1996 Farm Bill is that most of these are declining in importance: in the authority we have to use them, the magnitude we can use, and in the willingness of policy makers these days to go back and rely on these programs in general. DEEP is the Dairy Export Enhancement Program, that will continue to function. SOAP and COAP—Soybean Oil and Cotton Seed Oil Assistance Programs—are folded into the Export Enhancement Program (EEP). I have already talked about food aid.

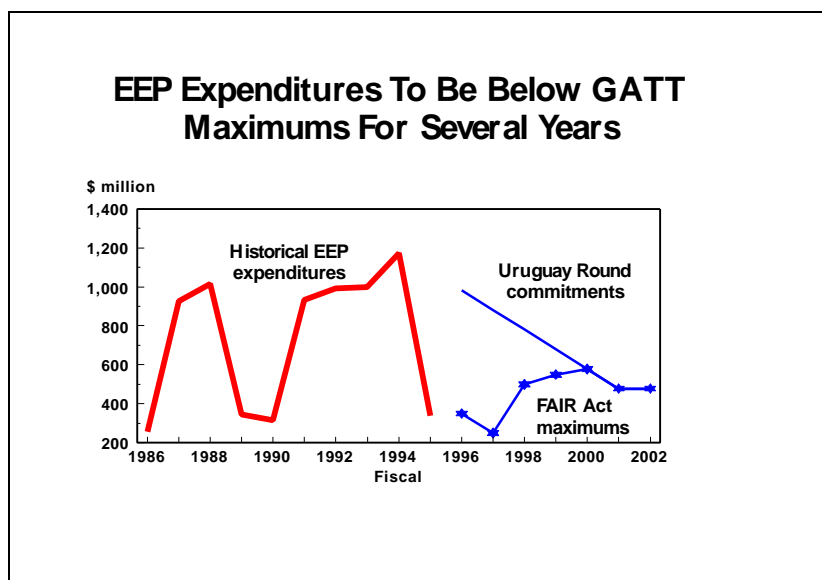
Slide 27.

Impacts from U.S. Farm Bill

- ▶ CRP
- ▶ Planting flexibility and income support
- ▶ Dairy, sugar, and peanuts
- ▶ Export programs
 - ▶ EEP
 - ▶ DEIP
 - ▶ SOAP and COAP
 - ▶ Foreign Food Aid
 - ▶ Foreign Market Development

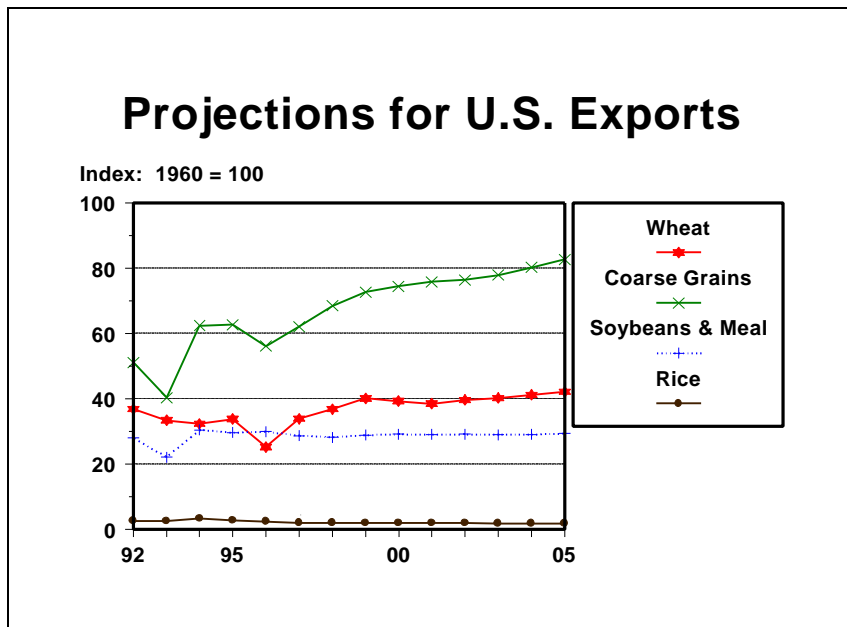
The heavy line indicates our expenditures on the EEP in the past (Slide 28). The top declining straight line, shows our export limitations imposed by GATT. You can see in our projections to the year 2000 that our use of the EEP is assumed to be significantly below what we are allowed to use by the GATT agreements. By about 2000, we think we will continue to use the EEP, although in a limited amount. That, by the way, is a very political question—whether we use the EEP—not an economic one, although economic research suggests that, in general, the EEP has not been very efficient in increasing U.S. agricultural exports.

Slide 28.



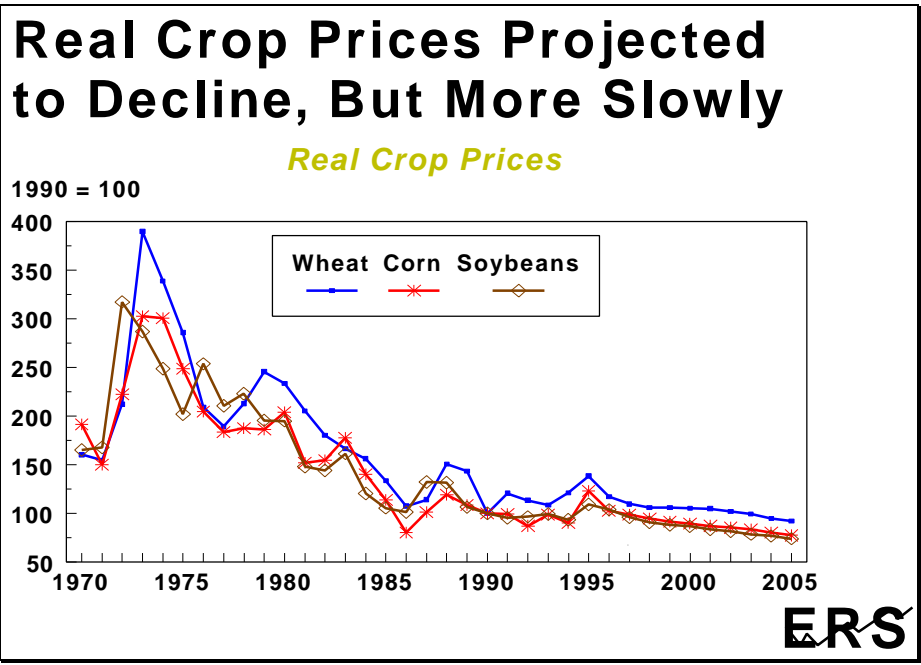
What does all this mean for U.S. exports of the basic bulk commodities (Slide 29)? We have talked about major countries, we have talked about their policies, and we have talked about what the U.S. farm program is. In conclusion, coarse grain exports (top line) will increase somewhat significantly. The heavy starred line for wheat shows our exports increasing for the next two or three years. We are capturing markets that are vacated by the European Union as they are required to reduce their subsidized exports. This forecast is fairly mathematical and fairly certain. If prices are high, then it could change significantly. Soybeans and soybean meal (dotted line with cross hatches) are fairly flat. Rice is also flat.

Slide 29.

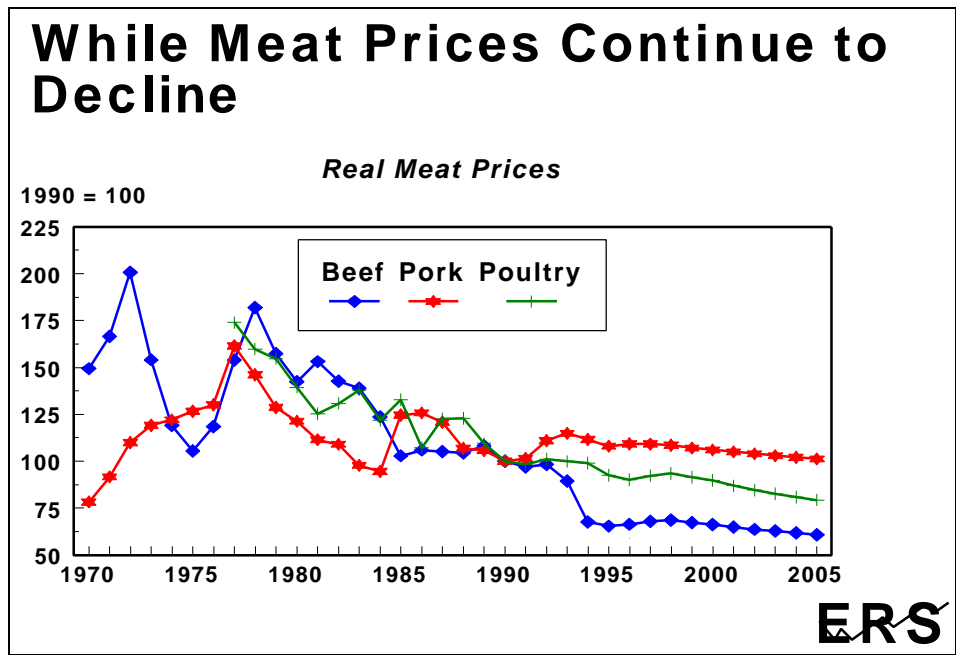


What do the policies, the foreign country changes, and the U.S. changes mean for prices (Slide 30)? USDA's projection says that in real terms, prices are going to continue to decline. In nominal terms though, we see them going up a little bit. Will the wheat price you are going to receive ever get back up to where it was a year ago? We doubt that. Of course, there are going to be year to year fluctuations in weather and other things, but probably not sustained shocks. All of the crops we see, in nominal dollar terms, increasing slightly but not a great deal. The same thing applies to meat prices: they are expected to decline slightly in real dollars over time (Slide 31).

Slide 30.



Slide 31.



POLICY ISSUES

We want to look at some of the policy issues the U.S. and world agricultural trade community are going to face in the future (Slide 32). They are going to be significantly different from what we have been talking about for the last decade since the Uruguay-Round negotiations were initiated. There we talked about export subsidies, we talked about market access, and we talked about internal support. In the future, technical barriers to trade are going to become more sensitive. Some technical barriers to trade and sanitary and phytosanitary measures are legitimate; some of them are not. Technical barriers to trade are cropping up all over the world. In the past if a country did not want somebody's imports,

it just raised its tariff level. They can no longer do that because of the GATT agreement. What countries are doing instead is coming up with technical barriers to trade. One example is the beef hormone case in western Europe where they will not let in our beef because we use hormones in the feed. Is that scientifically justified? The U.S. believes it is not, in fact most Europeans do not believe it is because there is a black market for hormones to be used in feed in western Europe. Those Italians who said they never wanted to eat any meat with hormones in it are feeding hormones to their own livestock as we speak.

Slide 32.

Policy Issues Affecting Trade

- **Technical barriers to trade (TBTs).**
 - Sanitary and phytosanitary measures lacking scientific justification.
 - Barriers based on environmental justifications.
- **Legitimate environmental concerns.**
- **State trading enterprises.**
- **High tariffs bound under Uruguay Round.**

Do not misunderstand, there are some legitimate technical barriers and I would expect them to increase as the world's consumers become more conscious of health, quality, and environmental concerns.

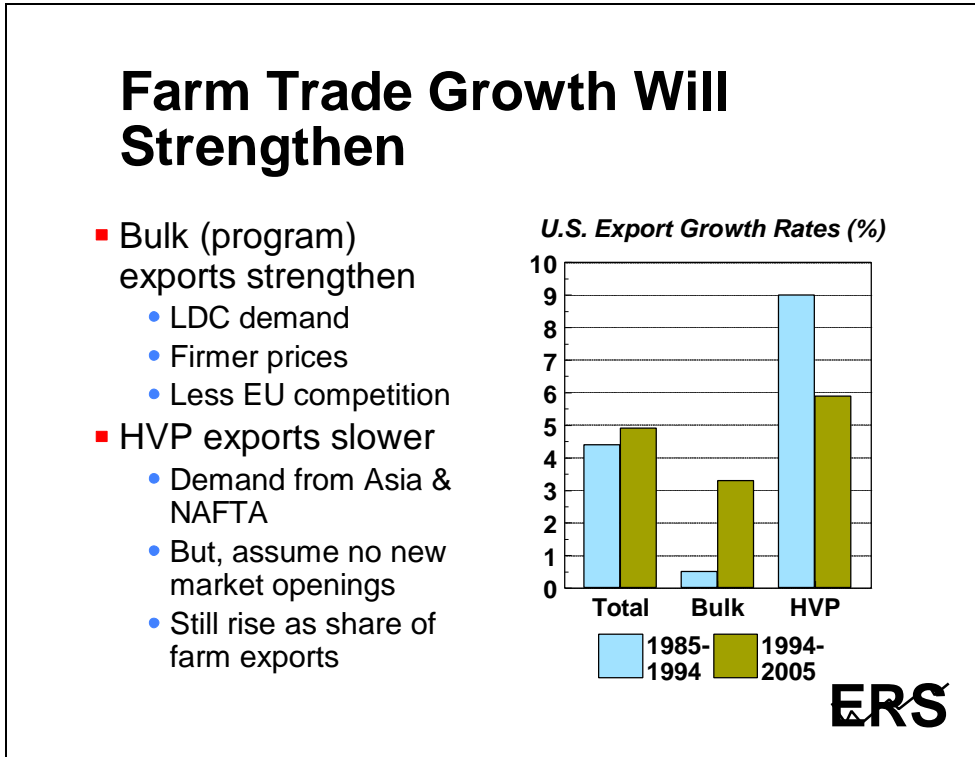
A third area is state-trading enterprises. State traders (or single desk exporters or importers) may distort trade. For example, decisions to import are made by some governmental agency or are regulated by government rules and regulations. On the export side, a state trading enterprise is like the Canadian wheat board which can use discriminatory pricing practices. These state trading enterprises are juxtaposed against the private sector which operates in a more transparent manner. The United States believes some state traders distort trade—although the U.S. may benefit in some cases.

Finally, even though we had the Uruguay-Round, there remain very high tariffs facing U.S. agricultural exports. We still have to negotiate some of those down.

Farm trade growth will continue to strengthen, both in the bulk and high value products (Slide 33). High value products, you see on the right, really spurted in the last decade. They are going to slow down in the next decade, but still rise rather rapidly. What this means, by our projections, is that U.S. agriculture will be increasingly more dependent on U.S. agricultural trade. In the United States we

have fairly high levels of consumption already, we do not see those increasing very much. As the agricultural sector becomes more efficient, more productive, we will have to seek export markets to dispose of that production.

Slide 33.



WORLD PRICES

There are many factors likely to affect world price variability (Slides 34 and 35). Because the United States has fairly a market-oriented agricultural sector, these foreign factors will affect U.S. prices. We talked about low world stock-to-use ratios and they are important. Some people would allege that the U.S. stockholding policy and stockholding policies by other countries have been more destabilizing than they have been stabilizing.

Slide 34.

Factors likely to affect WORLD price variability		
Factors	Increase variability	Decrease variability
Supply Side:		
▪ Total global grain stocks will remain low	++	
▪ Less government stockholding:		
• Less stocks held for price stabilization.	+	
• Ineffective use of gov't held stocks.		-
▪ Private stocks:		
• Private stockholding increases due to lower costs		-
• Private stocks more accessible for stabilization.		-
▪ Importing countries withdraw stockholding subsidies.	+	
▪ More market orientation increases internal variability, but reduce global variability.		--
▪ Global warming increases year-to-year weather shocks.	?	
▪ Increased potential for production shortfalls & problems. (more intensive, high tech production practices; pests & diseases, resource constraints).	+	

Slide 35.

Factors likely to affect WORLD price variability (cont.)		
Factors	Increase variability	Decrease variability
Demand Side:		
▪ FSU is a smaller, less destabilizing grain trader.		--
▪ China grain trade likely to be more variable.	++	
▪ Feed use:		
• Larger % of total grain fed to livestock.		-
• Increased vertical integration.	+	
Other Factors:		
▪ More producers, consumers, and governments respond more quickly to price spikes (and to low prices).		--
▪ Market information more up-to-date and accessible.		-
▪ World markets more efficient (transportation and handling infrastructure, contracting, financial markets more integrated).		--
▪ Speculators can shift larger amounts of financial assets into cash and futures markets.	+	

We talked about the former Soviet Union being less of a destabilizing factor. China could become more of a destabilizing factor because from year to year it may continue to switch from being an

exporter to being an importer of some commodities. Globally, feed use is becoming a larger percentage of the production of coarse grains and protein meals. That change would imply that as prices increase, coarse grains would move from animal feed use to human consumption and help stabilize world markets. But as we have more vertical integration in the livestock industry and as production becomes more fixed from year to year, the livestock industry might have to absorb the changes in feed costs.

There are a number of issues which we really do not know much about. There is some evidence that global warming may affect year to year weather patterns and variability. That variability could affect production and may be more important to you than is the long-term trend in global warming. If you look at a few countries in the world, there does seem to be some indication of increasing variability in weather. This variability could have direct implications for agricultural production and prices.

The trend towards more trade liberalization both globally and in specific countries is likely to affect price variability (Slide 36). As more producers and consumers become more market oriented in the world, we should see more stability in the world prices. But because we have lower stocks, we have a higher probability of year to year spikes. As producers and consumers respond to high (or low) prices in the future, the adjustment path back to equilibrium will be more rapid. The response to the price spike that occurred during the past year may be an indication of the types of adjustments that will be made in the future.

Slide 36.

Prospects for World Price Variability

- Year-to-year price variability "may" increase in the future.
- But supply and demand are likely to respond more quickly to market imbalances (high or low prices).
- Prices should return more quickly to normal levels than in the past.

- The 1996 may be a glimpse of the future.

Total World Grains

Stock-to-Use Real 90 \$

SUMMARY

Yield growth rates are slowing down, and total productivity growth in crops and livestock is slowing down. There are considerable technological improvements already existing that could boost production significantly if prices were to make them more profitable. (Slide 37). There is strong world demand for bulk commodities; even a stronger demand for high value products including the meats. We talked about the regional issues and the trade conflicts and issues. The bottom line is: *the U.S. will remain competitive*. We have a very efficient agricultural sector and we can be competitive in world markets, but there is the likelihood that some of the risk will increase.

Slide 37.

SUMMARY

- World yield growth rates are slowing down.
- Strong world demand for bulk commodities.
- Stronger demand for HVP (including meats).
- Key regional issues shape the trade outlook:
 - China market grows, but at moderate pace.
 - EU exports curbed by Uruguay Round limits.
 - Limited FSU imports and export competition.
 - East Asian demand concentrated in HVP's.
 - Strong growth in Mexican demand.
 - Argentina & E.Europe potential large exporters.
- New kinds of trade conflicts and issues.
- U.S. remains competitive, but risks increase.

ERS

QUESTIONS

U.S. population has gone up by a sizable amount in the last 40 years. Projections suggest that it will increase by that amount again. What is your comment and reaction to that?

Forty years!!! His question is, "Is it possible that the U.S. population will go up significantly in the next 40 years?" I have a hard time looking out 3 or 4 years, 5 to 10 I am willing to venture on, but 40 years is sort of tough. Yes, U.S. population will grow and certainly not everybody in the United States is consuming at high per capita income levels. Actually we have a fair number of low income, low consuming families, households, and individuals in this country. When you look at the growth in the demand potential in the United States, I just do not see it, a little bit, but certainly not any great magnitude. Our population growth is now 0.7 percent a year; large parts of Africa are 2.2 percent a year. Some of Latin America is 2 percent a year. That is where the big population growth is going to be.