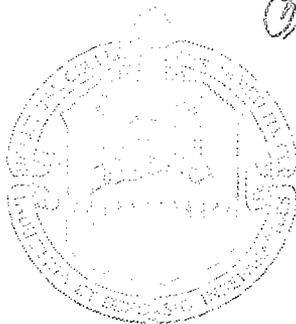


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CURRENT AGRICULTURAL ECONOMIC POLICY AND PROBLEMS

Dr. W. W. Cochrane

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Reviewed by:

Dr. Cochrane

Date:

19 Dec 63

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Current Agricultural Economic Policy and Problems

8 November 1963

CONTENTS

	<u>Page</u>
INTRODUCTION -- Major General T. R. Stoughton, USA, Deputy Commandant, School of Resident Studies, ICAF . . .	1
SPEAKER -- Dr. W. W. Cochrane, Director, Agricultural Economics and Economic Advisor to the Secretary of Agriculture	1
GENERAL DISCUSSION	19

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Reviewed by: Dr. Cochrane Date: 19 Dec 63

Reporter: Albert C. Helder

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CURRENT AGRICULTURAL ECONOMIC POLICY AND PROBLEMS

8 November 1963

GENERAL STOUGHTON: Our speaker this morning, Dr. Willard W. Cochrane, the Director of Agricultural Economics, and Economic Advisor to the Secretary of Agriculture, has had a most distinguished career in the field of agricultural economics. I am sure that his remarks this morning will be most helpful to us in our understanding of this most important field of agriculture.

His topic, "Current Agricultural Economic Policy and Problems," is a timely one.

It is a pleasure to welcome Dr. Cochrane to the Industrial College and to present him to this audience. Dr. Cochrane.

DR. COCHRANE: Thank you, General Stoughton.

I will do the best I can in 45 minutes this morning, to go over the whole policy problem of American agriculture. Whether I can succeed in that length of time remains to be seen. I thought I would begin by making some observations with regard to one of the tables which I think was passed out to you. I would like to refer to the table that is entitled, "Average Net Income of Farm Operator-Families by Major Economic Classes." I hope you can find it by that title.

This table, as you see, has some data on the number of farms, percent of farm sales, and income. I would like to point out to you that if you read down the number of farms, that in the first three economic classes - that is, farms producing sales of \$10,000 and over, we have a total of 893,000 farms. That is the addition of the first three lines.

These 893,000 farms constitute roughly 24% of all farms, and they produce, roughly, 75% of the product. That, gentlemen, is the heart of commercial agriculture - roughly 900,000 farms.

The next class of farms produced a product between \$5,000 and \$10,000, or roughly 650,000 farms. This is a class that is trying desperately to be in the commercial sector, but this is also an area where farms are going out of business quite rapidly.

The next two classes are classes five and six. That is, farmers who are trying to be commercial farmers, but are producing less than \$2,500 worth of product. We have here in these two classes nearly 900,000 farms. These I would call the "poverty sector" of agriculture. These two groups together, you see, produce only about 7% of the total product. And it's roughly 22% to 23% of all farms.

Then, you have two strange classes - looking on down below - part-time and residential farmers. We have some 950,000 part-time farmers. If you look across you will see that these people are making a pretty good transition. They are really getting out of agriculture. Their income from agriculture is practically nil, although they are still living in farming areas. But, they are getting a net income off the farm, of about \$4,000 per family per year. They are making the transition out of agriculture.

The next class is "part-time and abnormal." This includes all kinds of people - like you when you retire - who live on a farm and raise a few beans or something like that. I don't think we need worry about this group. So, for my lecture I want to wash out these two

classes immediately, since they are people who buy farms for fun and all sorts of things.

And then there is the group that is doing a pretty good job of transferring out of agriculture. So, we can almost say that these people are not a part of agriculture, and I have now dispensed with them.

Classes 5 and 6 - this poverty sector - we have nearly 900,000 farms here, and this is probably the worst area of American agriculture. These people typically have very low-production farms. They are under-capitalized and they have poor land. They also tend to be minority groups. These are Indians of Northern Wisconsin, Minnesota, Mexicans of Texas, New Mexico and Arizona, and the Negroes in the South. They are typically poorly educated. They are also typically very old; in the average family the wage-earner being up around above 50. This is the class that is a real social problem. They produce so little that if you doubled the farm prices they still wouldn't have any solution to their problem. This is really a social problem and I would suggest it will be resolved as the children of these families are better educated than their parents were; as we have a good employment service or at least some form of informational service that helps direct them into non-farm opportunities and as they move out of agriculture.

Basically, these farm families have so few productive resources that they have no hope whatsoever of solving their problem within agriculture. It is basically an educational problem. Associated with that is a transfer problem, in almost all cases, at least, of their children

out of agriculture, and possibly an amalgamation of their land with other farms. But very often they have farms that are so isolated and so poor that their farms are more likely to go back into the public domain than they are likely to go into anybody else's farm. So, in terms of our typical farm programs we can't do anything for this group.

We do have a commercial sector here, though - certainly the first three classes here - and the fourth class is desperately trying to stay in agriculture; some of them will make it, but most of them won't. In this fourth class an awful lot of these people, if they don't make it, their farms will be amalgamated with farms in the first three classes and that will be the process by which the farms in the first three classes continue to get bigger, as many of the farmers in this fourth class drop out.

Now, what is the problem of commercial agriculture? As you can see from the net income picture, these people are not poverty-stricken. They have total cash incomes running from some \$7,000 to \$14,000. Their problem is this, I would say. The first problem is that these farms are big units involving a great deal of capital. And if you give a return to that capital, which we would, typically, of say 4% to 5%, then most of them are coming awful close to working for nothing. Or, if you want to turn it around the other way; if you give them a wage of \$6,000 to \$10,000, then they are getting an extremely low return on their investment. So, this is the nature of their problem.

But I would state the problem also another way. Although they are not poverty-stricken - they are living reasonably well by our standards

- they are living in a world in which, if there were not farm income protection such as they are now having, then farm prices would probably fall in the nature of 20% to 25%, generally, and the net incomes of this group would fall anywhere from 35% to 45%. So, although they are not poverty-stricken now, their returns to investment are rather poor. And if they did not have the income protection they now have, then this group too, I would argue, would be in desperate straits.

Now, what is the cause of the difficulties of even this commercial class being not too well off now and possibly being in desperate straits if we don't have some kind of farm programs? Here, I think, we have to go to the nature of the technological revolution in which agriculture now finds itself.

Beginning about 1860, many of you know this government began to put money into agricultural colleges, experiment stations, extension work and the like. It took this process of education, research and development a long time to get going, both in terms of payoff, in terms of the technologies, and in terms of the adoption of these technologies by farm people. But, beginning, I would say, roughly about 1920 or thereabouts the new technologies began to roll. This was the period beginning in 1920 when the gasoline engine substituted for the horse and mule. And in a period of 20 years we released some 60 million acres that used to go into feed production for horses and mules; that could be used to produce products for consumers.

In the '30s the hybrids begin to come along. In the '40s we begin to learn how to really put fertilizer together with much heavier appli-

cation of plants. And in the '50s we have a multitude of things - ways of dealing with pests; heavy fertilizer application and continued improvement of many varieties; and continued improvement in techniques. So that, we are in a veritable technological revolution in which the output of agriculture is increasing very greatly.

If you will just turn very quickly to the table I gave you, called "Changes in Farm Employment Production and Output per Worker," you will observe if you look at the first two columns, that employment in agriculture has been going down steadily, and it declined significantly between 1940 and '50. And it declined precipitously between '50 and '60. On the other hand, farm output continued to rise during this period, increasing 25% between '40 and '50, and increasing 21% between 1950 and '60. So, with the declining labor force you have increases in worker productivity that are quite dramatic; in the fourth set of columns, worker productivity increasing 39% between 1940 and '50, and increasing 68% between 1950 and '60. Or, you can say that between 1940 and 1960 the average worker had doubled his productivity in agriculture.

So that, what we have had here is a development of a very great spectrum of new technologies. And for all practical purposes they have been developed free of cost to agriculture. Basically, they have been developed by government-supported institutions, and these new developments have come at very low cost or free of cost, practically, to the farmer, the farmer being a relatively small operator. In economics we call him a price-taker. Basically he has no control over price. Whether he is in a free market, or whether he is in a government-supported

market, the price is given to him. The one thing he can't do is get his costs down. And every one of these fellows has been out here doing everything that he can, or think of, to get his costs down.

And how does he get his costs down? He gets his costs down by increasing output. So, you have a situation where agriculture is no longer a traditional enterprise as it was once conceived of, where a son learns his techniques from his father; quite the contrary. If you look at any farm machine design or consider the activities of feed companies, seed companies and machine companies, all of them have service people and every farmer expects every year to change his mode of operation. Every year he is adopting a new variety of wheat or a new variety of corn. Every year he is adding more plants per acre as he puts them closer together and adds fertilizer to compensate for the nutrients that aren't there.

So, we're moving close to - not right to - but close to factory production. I would say that one of the biggest payoffs is still to come, and we're beginning to get touches of it, and that is to get better control of water. Because, as you control water, then you can really put on the fertilizer. In many places farmers are putting on all the fertilizer they can now with whatever water is involved. But if you can add greater amounts of water you can step up production very greatly. This is going on all through the Mid-West where once there was no thought of irrigation. All through the Mid-West you have wells now, and increasing irrigation and that sort of thing.

What we've had, therefore, is a terrifically rapid expansion in

output. And it has been running ahead of population growth. If you will refer to this last table again you will observe that farm output increased 25% between 1940 and '50. If you look over in the last column you will observe that population increased 15% during that period. But we also fought a war and made good on a lot of international commitments during that period. So, the fact that supplies were outrunning population growth in the United States during that period was not too significant.

But if you will look at the next period - 1950 to 1960 - farm output increased 21% while population growth increased 17%. So, during the '50s, supplies were outrunning the population. Now, you might say, "Well, why do you pick population as a significant factor here?" Well, it's a fact that you live in a very opulent country, in which, for all practical purposes, the market for agricultural commodities domestically is increasing as fast as the population and no faster. The index of per capita food consumption has not increased a bit since 1950. Each one of you, I am sure, in the economics classes that you come from, have, if anything, probably decreased your pounds of food consumption over the years, rather than increased them. But that is not what is really significant.

The index of per capita food consumption, which is a price-weighted index, which weighs a beefsteak into the index at, say, five times the value of a pound of flour, takes account of the fact that some commodities are of higher value than others, and this index of consumption is held constant. What has happened over the last 20 years is, you have

decreased your consumption of flour, of potatoes, of fats, and also dairy products strangely enough, and you have increased your consumption of poultry, meat, fruits and vegetables. And these have been balanced, so that, the diet of the average American consumer is held about constant.

So, the market for agricultural food products is just about the size of the population and it grows just about as rapidly as the population grows. And whenever output is moving ahead of population in the United States we are in for trouble. And we are in for serious trouble for an additional further point that I would make; that the demand for food is highly inelastic. Not only does your personal consumption remain about constant and the total market widen about as population grows, but each one of you consumes about three meals a day, no more no less. And if the price of food goes up you still want three. And if the price of food goes down you still want three.

We say that the price elasticity for all food is equal to about point one. What do I mean by this? I mean that to move 1% more food into the average consumer's stomach in the United States, retail prices have to fall about 10%. Or, stated differently, if retail prices increase 10% the average consumer decreases his food consumption about 1%.

Because of rather fixed margins between the farmer and the urban area, this turns out to be a situation where to move an additional 1% of food into the average consumer's stomach, farm prices have to fall anywhere between 15% and 20%. This is a highly inelastic demand for

farm food products. So, when you have just a little bit too much, if you will pardon me, gentlemen, you have too damned much in agriculture. Or, conversely, when you have just a little bit too little you have too little. And this is the reason, I would submit to you, that any time in wartime, like in any place in Europe the first thing that responsible countries or governments do, is to ration food. Because, if you don't, you have people queuing up for it. Just a little is too little and just a little bit too much is too much.

What we have had in this country, roughly since 1920, outside of wartime, is too much. What we have had all during the '50s, is too much. And I would say to you, gentlemen, that every bit of evidence we have, suggests that during the 1960s, and as far as we can see, in the 1970s, the output of our total agricultural plant is going to be out-racing our domestic market. So that, we have had, outside of wartime, a constant downward pressure on farm prices - really since 1920 outside of wartime - a constant downward pressure on prices, where just a little bit too much gives you a very great downward pressure on prices.

So, since 1930, roughly, or since 1929, really, beginning with the Farm Board, this government has taken various kinds of action to support fair prices and incomes. These actions have become more or less formalized in the basic commodities, into what most of you call "price support operations." This is an activity where the government guarantees to support the price of a commodity to farmers. If he can't get the price that is guaranteed to him in the marketplace he turns his commodity in to the government and receives a loan on it at the guaranteed price.

If, at the time he has to pay this loan off the price in the marketplace is still below the guaranteed price, he gives the government his commodity and he doesn't have to pay off the loan. This is a non-recourse loan whereby prices are supported to farmers in the marketplace. We have this kind of price support on a very large number of commodities - cotton, wheat, feed-grains, peanuts - all the more important crops. But, as most of you can immediately recognize, if this price is supported to farmers above what would be an equilibrium price, then surpluses emerge and the government becomes the agency which accumulates these surpluses and builds up stocks.

Now, in commodities where farmers have also accepted very tight production controls we have not had any surplus problem. The classic case where we have had tight controls has been tobacco. And I can say that there are problems with tobacco - very difficult problems - but through the acceptance and use of controls the government hasn't really lost a dime on tobacco from the inception of the program. Basically, we controlled the production of tobacco to that quantity which would move through the marketplace at the supported price.

The opposite extreme is feed-grains. In the main, farmers would not accept controls in the feed-grains. There is a whole combination of reasons why. But, we have supported the price of feed-grains, and the government has very commonly had to take over very large quantities of feed-grains in supporting the prices of feed-grains to farmers. So, what we have done is, we have, over the years, developed price-supporting operations in agriculture to hold up prices to farmers. In some commodities we have developed tight production controls to go along with that price

support. And in some other commodities we have typically had no controls to go along with those price supports.

Now, what this has meant is that over the years the government, outside of wartime, has taken over a lot of commodities. Its stocks have accumulated. The costs of carrying these stocks have been very great, and also we have, in more recent years, in the last six to eight years, as we have taken over stocks, we have given away vast quantities of food and fiber around the world. "Given away" is not quite correct; we sell these commodities to the underdeveloped countries for their own currencies which are not convertible. So, if you are cynical, we are giving it away. And if you are trying to put a good face on it, we're selling it to them, but we sell it to them for a non-convertible currency. These PL-480 programs have been running at an annual rate of about \$1½ billion. So, this has been the way we have solved the farm problem

And, although the urban sector - and I would venture to guess 95% of you folks in this room would not consider it an adequate solution, it has been the solution and it's a solution which typically pleases Congressmen very much, whether you like it, or whether I like it, whether economists like it, or whether urban people like it, it has been a form of a solution; a quite costly solution with a lot of irritating aspects to it. But it has held up farm prices and incomes, and it has done a lot of other things.

Now, if you don't want to keep worrying ahead with what we have had up to, namely, price supports and all combinations of price controls from tight in a few commodities to none in others, then I think, basically, policy-wise there are only two ways to move from what I call the "Com-

promise Congressional Solution" which I've been describing to you, and it's the solution that has developed over the years. There are only one or two ways you can move. One way is to lower prices enough so that farmers will be in a financial situation that will be tightened and they do not have the ability to apply as much fertilizer, to buy as much machinery and to buy as much new machinery, to buy new kinds of hybrid corn etc., each year, and in this way reduce the rate of output expansion. This was basically the solution of the last Secretary of Agriculture - Secretary Benson. He wanted to get prices down to where this would choke off the surplus-producing capacity of American agriculture.

There is no question in my mind that you can solve the surplus problem in this way, because basically we produce agriculture with inputs of capital now and if farm income is reduced and the financial position of farmers is straightened, they will be unable to apply as much capital as they have been in the past and this will reduce their capacity to expand output and you will slow down the rate of output expansion.

Where I think Secretary Benson was wrong was, he thought you could do this with a modest decrease in price. Let me point out that the last Administration did get farm prices down about 15% on the average in the period of the 1950s, about 15%. Let me refer you back to the sheet that I showed you - the second sheet. While they were getting farm prices down 15%, total output increased 25%. So, all I can say to you is that farm prices had to go a lot lower than the last Administration was able to

get them, to choke this thing off.

So, although this is a policy which can be followed, I think Secretary Benson never really appreciated how low farm prices had to go; how long they had to stay there; and how unhappy this was going to make a large sector of our population. And it doesn't make just farmers unhappy; it makes all the people who sell things to farmers unhappy; namely, fertilizer suppliers, feed manufacturers, machinery manufacturers, and the like.

So, my conclusion with respect to the Benson solution is that he never realized how low prices had to go. I think prices had to go at least twice as low as he was able to get them, to do the job, and he never realized that. I think, furthermore, Congress would never give him what he really wanted. He fought the battle with Congress and Congress finally whipped him and stopped him from lowering prices. And they ended up with sort of a stalemate, with prices down about 15% and a weaker set of controls than what he came in with.

So, when we came into office we had price supports on corn at \$1.05 - at the minimum - and no controls. And let me tell you this, gentlemen, farmers can produce a hell of a lot of corn at a guaranteed price of \$1.05 and no controls, and we were really getting it. Let me just tell you what has happened to the yield of corn. Between 1940 and 1950 the corn yield went up 32%. Between 1950 and 1960 the corn yield increased another 45%. But between 1950 and 1962, the corn yield increased 70%. We are just learning how to produce crops.

I'm serious about this; we are just learning how to produce crops, and you don't produce them the way your grandfather did. Now, this Ad-

ministration came in with the opposite viewpoint to that of Secretary Benson; not that we didn't agree that you could solve the surplus problem by lowering prices. We argued that no democratic country would solve the problem that way, and furthermore, we didn't believe this was a desirable way, socially, to try to solve the problem. We came in with the opposite point of view; that the way to deal with the farm problem was to control production- let prices go up some, and have a system of tight production controls farm by farm.

We carried this program to Congress and we developed a system of tight controls for wheat and feed grains. We were never able to get our program of tight controls out of committee in Congress, and so we never got it on the Floor. We did get a system of tight controls for wheat out of the Congress and it was voted down by the farmers in the referendum which you may have heard about last May.

So, we said to farmers, "We can protect your income if you will agree to control production. And we can protect and solve the income problem and at the same time solve the surplus problem if you will agree to tight production controls on your individual farms." In the main, farmers have rejected this position; not completely, but in the main. I think it's fair to say that farmers have rejected a course of action in the direction of tight controls with higher prices.

So, my story, gentlemen, as nears as I can figure it out, is that the solution in the direction of lower prices - the last Administration was whipped on the solution and direction of lower prices; and I don't say we are whipped yet, but we are badly beaten with regard to trying

to solve the problem in the opposite direction through tight controls. What farmers really want, and their Congressmen, I think, correctly represent them - I didn't say the position was correct, but I did say the Congressmen correctly represent the farmers - is back, roughly, to the first way, what I call the "Congressional Solution," or, the "Compromise Solution." It's something involving price supports, possibly some payments to divert acres out of production into non-productive use. This is what we are doing in feed-grains at the moment. While we did not get a strict control program through in feed-grains, we did pass an emergency feed-grain program when we first came into office, which has, in a certain sense, been effective.

We have removed consistently, from 25 to 30 million acres of feed-grains from production each year since we came into office. What we literally do is rent acres from farmers and hold those acres out of production. And we have been doing this at a rate of about 25 to 30 million acres. It's strictly a voluntary program where we rent acres from farmers and hold them idle. And by this process we have reduced the carry-over from 84 million tons of feed-grains down to about 60 million tons. And we think a reasonable goal would be about 45 million tons. This would be a reasonable carry-over. This is a voluntary-type program involving price supports and involving payments to farmers to hold their acres idle.

There is nothing wrong with this program if the nation is willing to pick up the check. The check is an expensive one. The check is about \$1 billion a year. That is about what it costs to take 25 to 30

million acres out of production. This is the kind of program that farmers want, and this is the kind of program that their representatives are desirous of giving them. Basically it's a program involving price supports - voluntary control measures where each farmer has the choice to put his land in the program or leave it out. And when I say put it in the program I am referring to turning his acres over to the government for a payment and their being held out of production.

There is nothing, as I say, wrong with this kind of program if the non-farm sector can and will pick up the check. The two kinds of solutions that deal with the problem of excess productivity, capacity through lower prices, ^{or through} ~~or through~~ controls, have been mandatory controls; that is, where the program is binding on every farmer, and when the program is in operation he has to retire so many acres.

It looks like, at least in the near future - of the next three, four, five or six years - that neither of these "solutions" will be acceptable. And we are back, roughly where I said we came in.

Now, I think we have a question period coming up later, in which there are an infinite number of mechanics to every one of these commodities and programs that you can chase around. I can give you some of the mechanics. I understand the wheat and the feed-grain programs very well. The cotton program I understand less well, etc. But, there are an infinite number of mechanics of each one of these programs that you might be interested in.

I would like to remind you that we have been using a large part of our excess capacity in PL-480 programs which I mentioned to you before.

QUESTION: Some of us are interested in your reaction to required reading of the day, the adaptive program for agriculture that was published.

DR. COCHRANE: I don't remember, precisely, the details of that. But as I remember it they would let prices go to the free market immediately. And then they would expect to move some two million people out of agriculture, in five years or something of that sort.

Well, let me say this; that I think the great weakness of that report is that we can't move two million people out of agriculture in that period, mostly because the economy is not running at a rate which will absorb them. So, I think the great weakness of that report is that we just can't move people out that fast. Also, I do not agree with their indication where prices would go in a free market. I believe they had a corn price of 90¢ to \$1 or something like that.

I know who wrote that report - T. W. Schultz of Chicago. All I can say to you is that I disagree with their conclusions of where the free market prices would go. And I think most agricultural economists would agree with me. I think even Schultz would agree that most economists would agree with me, but he would still maintain that he is right. So, I think the problem in that report is one; that there is very little chance that you can move that many people out that fast; and two, I believe the price income deflation that would occur in agriculture is much greater than is suggested would occur in that report, greater than would be good for our economy as a whole, and much greater than Congress would permit to occur.

QUESTION: Doctor, what percentage of consumer food price eventually returns to the farmer, and what is the trend of this percent?

DR. COCHRANE: Well, I can state this two ways. The average consumer spends about 19% of his income for food, in the United States, which is the lowest of any country in the world. England and France, I think, are around 25% to 30% of the average consumer's income. And then, you get some underdeveloped countries like India, where it probably runs as high as 50% or 60% of their income goes for food. That is one way to state it.

The other way is to state what has happened to the consumer's food dollar. About 47¢ out of the consumer's food dollar goes to agriculture. And the rest, which I guess is 63¢, goes to all the processing and handling, and the movement of the food to the consumer. Now, let me say that in the long-run any society must expect the percentage that goes to the farmer to decline, because the meaning of the term "product" as it is understood in the Western World, is more eating out, more processing, etc.

So, as our society moves forward I think we can expect that percentage to decline. That is not necessarily bad. You can have a commodity in which the income to farmers is very good, and the percent of the consumer's food dollar that he gets might be as low as 10%. I am trying to think of, typically, some certain processed fruits that might fit into this category; that the income to the farmer might have been very good in that commodity and yet he get no more than 10% of the consumer's dollar.

On the other hand you might have a commodity like eggs where there

is very little processing and the farmer's share may be 70% of the consumer's dollar, and still his income is very low. So, I think this share figure is only really significant as a long-running indicator of the extent to which your urban consumer is putting more processing, handling food out of season, eating out, etc. into his diet.

QUESTION: Doctor, with respect to your comments about increasing irrigation, greater application of fertilizers and greater production, do you foresee that in the reasonably near future, that a very large percentage of our farm output might come from the area of pure hydroponics?

DR. COCHRANE: Define hydroponics for me so I'll know we are talking about the same thing.

QUESTION: The growth of largely truck produce by water and chemicals only without actual acreage etc.

DR. COCHRANE: Well, I strongly suspect that in the distant future of 20 to 40 years there will be a very great deal of that both in the production of fruits and vegetables. Also, I think, for example, Japan currently does a very good job of producing feed supplies in lakes or ponds. They fertilize the ponds and grow algae, and they get their proteins from the fish that feed on this algae. So, there are many wrinkles to this. But I don't think that in the short-run of 10 or 15 years you will see very much of that. But I think in the short-run of the next 10 to 15 years you will see a great increase in supplemental irrigation where farmers have deep wells, where they have a highly portable pipe. And you don't need so much water; you just need it when you need it.

Through supplemental irrigation you may see very great increases in production, quite generally, in the Mid-West where it was never conceived of 20 years ago. But, in the long-run I'm quite a Buck Rogers with regard to agricultural production. I would even go so far as to say that in 50 years we may be producing feed supplies through artificial photosynthesis. It can be done in the laboratory now. It's a million miles from producing feed supplies in the laboratory on a commercial basis - maybe a trillion miles - but if you spend the amount of money that we do to concentrate on fundamental research, I fully expect that within 50 years, or something of that sort, that we will be producing feed supplies through artificial photosynthesis. We would then completely revolutionize agriculture. It would make land a fairly useless commodity.

QUESTION: Has the decline in the number of farms in recent years had an adverse effect on the manufacturing of farm equipment and machinery?

DR. COCHRANE: No sir. The decline in the number of farms has had a very adverse effect on the very small town, on school districts and on local governments. But on machinery and all the capital inputs of agriculture they go up and up and up. This is quite the contrary. Machines substitute for men, and that is what is happening. The way I think the process occurs is something like this; I have lots of relatives who still farm. A new tractor comes out, a tractor which will go, say 50% faster than their past tractor. Also, instead of being able to pull a two-bottom plow, maybe they can pull a four-bottom plow.

All right. Now, my cousin has a tractor which will pull a four-

bottom plow and which will go 50% faster than what he had, and so immediately what he starts looking for is more land to go with what he has. And so, you have a continuous process here of farms getting bigger as machinery is substituted for labor.

QUESTION: I note from your figures that something like 3% of the largest farms produce about 1/3 of all the farm produce or output. What possible justification can there be for government pricing or checks? Some of the checks have occurred in the neighborhood of hundreds of thousands of dollars.

DR. COCHRANE: Well, I am not going to try to justify it, but I'll try to explain what is involved and then you can either like it or dislike it, and do whatever you think you should do.

I think that it's correct that in most parts of commercial agriculture - that is, farms that gross \$10,000 and up - and that includes the enterprises you're referring to - that in the main, the return on their investment is lower than you typically find outside of agriculture. Certainly, in the part of agriculture that I know best - that is, the very good commercial agriculture from the Twin Cities to Des Moines, Iowa, where the typical farm is anywhere from two to five hundred acres; where the typical farmer has anywhere from \$100,000 to \$500,000 invested and where he is earning a net income of somewhere between \$8,000 and \$12,000 a year - he is getting a very low return on his investment, if you give him anything for his labor and management.

So, my statement to you is, whether you think this merits some correction, is up to you. But I think it's a correct statement that if you

take into account his investment, returns to investment are very low in commercial agriculture, and I would go on to make the statement I made earlier, that if you try to solve this by going to the free market, returns would be terribly low in those sectors. And this would also involve some of the larger farms. Now, further than that I have my own personal views about how to deal with these problems. But I will say further that any time any Administration has ever tried to deal with the problem of agriculture by isolating these big farmers and making payments to smaller farmers there has been nothing short of hell to pay.

~~Brandon~~^{Brandon}, if you can go back to Brandon, he came up with a proposal which involved payments to farmers up to - he had some particular cut-off point - it would probably be payments to farmers up to those maybe grossing \$20,000 - something of that sort - and then no payments above. I don't know if you can recall all the problems that poor Mr. Brandon got into. But he was branded everything from a communist to everything else. Nobody who comes up with such a suggestion is going to get off easy, I can tell you that.

QUESTION: Doctor, before we all retire to Arizona, Texas and Florida, would you please comment on the financial status of the trend of the citrus truck-growing sectors of the agriculture compared to your overall picture?

DR. COCHRANE: Citrus was getting into very grave difficulties before the fortunate freeze in Florida here about a year ago, very grave difficulties not only in the United States, but there are very

heavy plantings of citrus in the Mediterranean area. It looked like citrus was going to have a miserable ten years ahead of it. I say ten years because that is about as far as a man can look. But the very great freeze in Florida changed that situation. And now it looks like that for at least four or five years the citrus industry will be in quite good shape financially. I wouldn't want to go beyond four or five years in saying it looks like it's in good shape.

Truck crops are a world onto themselves. Truck farming is as near factory farming as we do. It's done with very specialized machinery; very specialized production practices. And in the main it's managed by huge operators who are able to some degree to manage their supplies coming onto the market, particularly in California. You have various kinds of commodity marketing orders and agreements. And these are useful devices whereby the producers get together, and through grading practices and the like, exercise a high degree of control over the supply of their commodities coming onto the market. And for this reason; one, because it's a highly specialized thing that other farmers don't get into easily and go out of, and because it's run on almost a factory-like basis, where people plan their production very carefully and where in many cases they have marketing orders and agreements whereby they can, within limits, manage supplies that come onto the market.

The truck industry has done quite well, but it is, I think, not one that you will retire to. Because, typically, where a man may own a few citrus trees and have them harvested by a co-op, this just doesn't happen in truck farming. It's a really big business, typically, where

it is operated. And you don't retire to truck farming - on your Navy retirement pay, that is. Maybe you have other money.

QUESTION: To what degree has the method of the ^{Commodity} Molly Credit Corporation Program of Barter helped the situation?

DR. COCHRANE: That is a very difficult one for me to handle. I would begin by saying that I don't think that our barter operations have expanded our total exports of farm commodities very much. It may be that in certain cases we have gotten more for our dollar by barter operations than we did through, maybe, PL-480. In other words, in certain cases we have gotten commodities back that are highly useful to us, but in certain cases I think we have taken back a lot of commodities which were almost as useless to us as those we bartered away.

I am not, as you see, a great believer in barter. I believe that it complicates badly the multilateral international trade. I think it makes us more enemies among our trading partners than we can stand, and I don't believe that it has significantly - I believe it might, some - but I don't believe that it significantly has expanded our exports over that which they would have been otherwise.

QUESTION: Doctor, how far are Public Law 480 Programs held overseas? How far are they used?

DR. COCHRANE: They are used in a very great number of ways. And in some countries they are used very effectively. There are about 14 different ways they can be used. I can't remember all of them, but the high priority uses are to pay for your embassy and various mission costs. Another priority is in military installations. For example, in

Spain - I believe I'm correct - our PL-480 earnings have been used almost completely to fund our embassy, mission and various military installations. Lower priority uses involve the grants of funds to United States' trade associations, to try to develop new products. And, I think in some areas this has been used effectively. I think that in Japan, and other countries that I can't detail now, we have used PL-480 funds to underwrite the cost of the development of markets - for wheat particularly and some more specialized commodities that I think have been useful.

A lower priority use - and which a lot of it is used for - is to loan to the country involved, for the country to use those funds in its development program.

And finally, in a country like India it just piles up and doesn't get used at all. I mean that is the last use - non-use. Because, the volume is so great that there is just not effective use, and a large part of it just piles up and doesn't get used at all. You can look it up. I believe it has 14 specific uses, and I have just hit some of the main ones from one end to the other.

QUESTION: Dr. Cochrane, my question relates to the tobacco farmer in particular and the tobacco industry in general. We are expecting a report from the government which will tell us officially that there is a direct relationship between cigarette-smoking and lung cancer. This report could have an undesirable impact from the standpoint of the tobacco industry. What action has the government taken for basic reforms?

DR. COCHRANE: Well, all I know about the report is probably about

as much as you do; that a report is in the works; that we can expect it to be similar to that in England; that it will indicate that there is a direct relationship between cancer and tobacco. And it may have a significant effect on the decline in the demand for tobacco.

My first answer to you is that the government is issuing the report, and so a part of what the government is doing is issuing the report. Now, what Agriculture is going to do I don't know. We're a part of the government and we're not going to repudiate the report. I suspect that we'll do various things. We'll maybe work harder, whatever that means, to try to export more, which isn't easy. And, of course, the industry itself has the mechanics that it has always used to reduce production still further through acreage controls, which it may very well have to do. I think that is as good an answer as I can give you.

QUESTION: Dr. Cochrane, in this Committee for Economic Development Report that you mentioned earlier, one of their key remedies was the retiring to grass-land of all the dryer Western areas now in wheat, etc. Does the Department have any plans along this line, on it?

DR. COCHRANE: A favorite remedy for people who are neither elected nor responsible to Congress, is to retire somebody else's land. Iowa and Minnesota agricultural economists - and Schultz is an Iowa agricultural economist - have for years been suggesting that broad reaches of Western Kansas and even Colorado, Northern Texas and Western Oklahoma be turned back to grass.

No government agency that I have ever heard of has made any significant progress in that direction, and I predict that none will in the

near future.

DR. SANDERS: I would just like to let you know that Dr. Cochrane has absented himself from a very important meeting with Secretary Freeman in order to be with us today.

. Thank you very much, Dr. Cochrane, for a very illuminating lecture.