ARE WE SOLVING OUR FARM PROBLEM?

Theodore W. Schultz, Professor of Economics
University of Chicago

Only one clean-cut word would have been needed to answer the question put to me in the title—an emphatic no. I then presumably could have stopped. That, however, would have been too short to cover the subject and not long enough to have been even interesting!

Since the title does not distinguish clearly who "we" are, and what "our" stands for, let me select my ground by substituting for it the following: Are the Federal Farm Programs Improving the Economic Opportunities of Farm People Who Earn Their Income from Farming?

In examining this question I take it to be true:

1. That the real income of farm people on the average has declined in recent years relative to the real income of comparable people in nonfarm occupations.

2. That farm programs can and should be developed to help correct this adverse situation.

My outline consists of four parts. The first takes up the question: What are the fundamentals of the U.S. farm problem now upon us? The second part reviews the economic developments affecting the demand and supply of farm products that are related to the low farm earnings. Next is a treatment of the input mix in agriculture and why it is so badly out of line with equilibrium. The fourth and last part of the outline examines implications of the preceding analysis and what kinds of farm programs are required to help solve this farm problem.

FUNDAMENTALS OF THE CURRENT FARM PROBLEM

What are the fundamentals of this U.S. farm problem as it has come to a head in the past 10 years? One way to cover this ground quickly is to state each of several propositions in the form of a question which can be answered with a categorical "no" or "yes."

1. Has the domestic demand for U.S. farm products been declining? Surely the answer is no.

2. Has the volume of exports of U.S. farm products been running below par? No. On the contrary, they have been above "normal." We have been and are dumping a part of our farm problem on other countries. As the leading country of the Western trading world, we should
not do this; it represents a kind of irresponsibility that we can ill afford in our international relations.

3. Has the accumulation of large stocks of some farm commodities depressed the earnings of farm people? No. We, however, do face a big disposal problem. As the U.S. government reduces its stocks, prices are affected adversely, but the reverse was the case when the stocks were acquired.

4. Has the U.S. economy had major elements of instability that depressed farm incomes? The answer is again no. The U.S. economy has performed well in terms of full employment, economic growth, and price stability. The over-all economic stability has been good.

5. Have the earnings of land and capital and of current physical inputs used in farming fallen below par? The relevant evidence in agriculture points to a negative answer. In the main, capital invested in farm real estate, major capital improvements, and machinery, and funds used to buy fertilizer, insecticides, and fuel have been earning about as much as have comparable investments and funds in other sectors of the economy.

6. Has the demand for farm products declined relatively to the total demand of U.S. consumers for all products and services? Yes. The agricultural sector gains less, in terms of increases in demand from rises in real per family income than does the nonfarm producing sector.

7. Has the price of capital (inputs) fallen relative to the price (wage) of hired labor in both agriculture and the rest of the economy, calling for much substitution of capital for labor? Yes. Statistics show that wage rates in agriculture have actually risen relatively more than the average rise in industry. The incentive substitute, therefore, has also been greater in agriculture.

8. Has the rise in output exceeded the increase in (traditional) inputs in both agriculture and in other major parts of the economy? Yes. The result has been most impressive and it has contributed much to the general rise in real income.

9. Has the farm labor force been declining? Yes, but not fast enough.

As a consequence of propositions 6, 7, and 8 above and because farm people have not been able to adjust to these changes fast enough, the earnings of many farmers and of members of their families who earn their income from farming have failed to keep abreast of the earnings of comparable people who earn their income in other occupations.
I now want to examine briefly the developments that explain why
the earnings of many farm people have not stayed abreast of earnings
of workers generally.

1. On the side of demand, we find that increases in income per
family add relatively little to the demand for farm products at the farm
gate in a rich economy such as ours. In the language of the economists,
the income elasticity of the demand for farm products is much less than
unity. If it were 1.0 (unity), a 10 percent increase in per family income
would increase the demand by 10 percent (provided other things re-
mained equal). Taking all farm food products together, the income
elasticity is close to zero—somewhere between .15 and .25. If we take
the midpoint, namely .2, it implies that a 10 percent increase in income
per family adds only 2 percent to the demand for farm food products.
Nonfood farm products appear to face an even lower income elasticity.

The major implication of this very low income elasticity of farm
products is simply that in a growing economy in which relative supply
prices remain about constant, the total demand for farm products in-
creases less than does demand as a whole. Let me illustrate this for a
three-sector economy. Suppose we begin with three sectors of equal
size in terms of demand:

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Distribution of demand at the beginning period</th>
<th>Income elasticity</th>
<th>Distribution in second period after income increases 50 percent per family</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Agriculture</td>
<td>100 = 33 1/3%</td>
<td>.2</td>
<td>110 = 25%</td>
</tr>
<tr>
<td>B. Major consumer desirables and housing</td>
<td>100 = 33 1/3%</td>
<td>1.0</td>
<td>150 = 33%</td>
</tr>
<tr>
<td>C. Travel, vacation facilities, entertainment and related services</td>
<td>100 = 33 1/3%</td>
<td>1.8</td>
<td>190 = 42%</td>
</tr>
<tr>
<td>Total</td>
<td>300 = 100%</td>
<td>1.0</td>
<td>450 = 100%</td>
</tr>
</tbody>
</table>

Note that, although sector A is as large as is sector C in the first
period in this illustration, in the second period it is only a little over
one-half as large. (I am ignoring population growth.) If resources re-
mained equally efficient (in terms of inputs required to produce addi-
tional output), sector A would require only 10 percent more resources,
whereas sector C would need 90 percent more. If resources were to be-
come more productive, say 25 percent more output from the bundle of
resources, then sector A would be producing 125, or 15 more than
required by the increase in demand. Sector C, however, producing only 125, would fall short by 65 of satisfying the demand for the products and services of that sector.

2. ON THE SIDE OF SUPPLY, I want to call attention to two basic developments.

a. We have approximately constant relative supply prices of products. We observe that in agriculture when we take the long view and compare supply prices during periods of full employment, for example, for periods as far apart as 1910, 1929, and 1956, the supply prices of well established farm products have changed very little, one relative to the other. We, of course, expect this to be the case for major feed grains—corn, oats, barley, and grain sorghum. It is also true generally not only for farm products but for other products as well. Let us, however, restrict ourselves to farm products.

The implication of this supply price proposition is that in agriculture we are, in substance, producing only one commodity. This is how an economist would define a commodity in this context. Why does this happen? The explanation is that resources can be readily substituted in production. This fact is certainly well known by those who have tried to reduce production by acreage allotments and similar devices. If agricultural production, over the longer pull, does behave as if we were producing only one commodity, then it follows that the current production disequilibrium in agriculture is not restricted to the production of a specific farm product but is general to all of agriculture. Evidence strongly supports this characterization of U.S. agriculture.

b. The other basic development on the supply side is that the additional output we are achieving exceeds by a wide margin the additional inputs of conventional labor and capital which we are employing. Increases in real income are coming from two sources, i.e., (1) from the growth in the labor force and the accumulation of capital and (2) from improvements in the quality of these inputs that make them more productive. These improvements in quality of both labor and of physical inputs have been occurring widely throughout the economy. Agriculture has made big strides in this respect as has industry.

EQUILIBRIUM MALADJUSTMENT OF INPUT MIX

The relatively slow growth of the demand for farm products and the marked improvements in the quality of inputs used in farming have created a situation in agricultural production characterized by an input mix that is badly out of line in terms of equilibrium.

1. In general, the amount of physical capital and of current physical inputs is not out of line with the allocation and value of these kinds
of inputs elsewhere in the economy. The substitution effects of the rise in wages relative to the price of the services of physical (capital) inputs, to which we referred earlier, have been highly conducive to the use of more of the latter inputs.

2. But many farmers and members of farm families are providing entrepreneurship and labor under conditions where the value productivity of their effort is far below what comparable human effort earns in other occupations. Three principal developments explain why this has happened: (a) The substitution effects discussed above have run adverse to human effort. Much physical capital has been and is being substituted for labor at numerous points in farming. (b) The quality effects of the marked improvements in the competence and ability of farm people as productive agents in farming also has run adverse in that it has added to the effective supply of human effort committed to farming. (c) The changes represented by (a) and (b) above have been occurring very rapidly, so fast in fact that even the extraordinarily large out movement of farm people from farming has not been sufficient to correct the maladjustments in the input mix.

3. Another way of saying all this is that: the factor market of human effort serving U.S. agriculture is badly clogged. This clogging is less evident for hired farm workers and for part-time farmers than it is for farm entrepreneurs and members of their families who earn all or virtually all of their income at farming.

4. The degree to which this factor market has failed to "clear the supply" differs considerably depending upon how near or how distant the farm labor (farm people) are from major industrial-urban areas. The greater the effective distance of farming areas from such industrial-urban growth points, the more acute the maladjustments are.

5. The farm "labor" market is also under greater stress in farming areas that have a large natural increase in births over deaths.

IMPLICATIONS FOR FARM PROGRAMS

I shall now consider some of the major implications of the preceding analysis for farm programs. First, let me touch on some negative implications.

1. Farm programs to reduce the supply of this or that crop are of no avail. The maladjustment in the input mix is widespread throughout agriculture; it is not restricted to a few particular crops. We need only recall that we are producing only one commodity in agriculture in the longer run.

2. Farm programs to reduce cropland are also of no avail. Substitution is again an important factor. Such programs have three addi-
tional strikes against them (and should be declared out!): (a) Farm
land has become one of the less important inputs used in farming. It
represents only between 15 and 20 percent of all inputs. (b) If such
programs were effective, they would in the long run increase the re-
turns to the owners of farm land. Moreover, as I have argued, the
earnings of farm land, in the main, are not below par. (c) If these
programs were effective, they would further reduce the value produc-
tivity of human effort used in farming (assuming they would not reduce
the supply of farm products, but would make land per unit more
valuable).

3. Farm programs to transfer public funds to farm families to
supplement their income from farming, under existing political realities,
would go mainly to the less poor farm people. Then, too, such income
transfers by themselves would not help correct the maladjustments in
the input mix. A case, however, can be made for selective income trans-
fers as transitional measures in view of the very rapid changes that are
occurring.

Second, let me close with some positive policy and program sug-
gestions that are implied by this examination of the present U.S. farm
problem.

1. A great deal could be accomplished if farm product prices were
allowed to clear their respective markets, and if no more than one-fifth,
or about one billion dollars a year of the present federal appropriation
for agriculture, were used to help farm people who want to leave farm-
ing to transfer as rapidly as possible to other lines of productive work.

2. Part of this amount could be wisely used in providing free train-
ing to prepare mainly middle-aged farm people for specific occupations
outside agriculture.

3. Part of it could be used effectively in finding the best possible
nonfarm jobs for such farm people. As things now stand, the federal
employment services are severely restricted by existing legislation in
providing such assistance to farm people who are seeking nonfarm jobs.
A drastic overhauling of this legislation is long overdue.

4. A large part of this billion dollars could be employed in sub-
sidizing the actual transfer of full-fledged farmers and their families to
industrial-urban communities along lines of my proposal of two years
ago which I called Homesteads in Reverse.

5. Part of this fund could be used to induce such farm families to
stay at their industrial-urban jobs and locations long enough to be-
come sufficiently accustomed to the community and to the new way of
life to be willing to remain.

83
6. Then, too, part of the fund could be put to good use by helping farmers who decide to leave farming to dispose of their assets that are specific to farming and in the process assist the farmers who remain in farming to take them over and use them effectively.