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# UNDERINVESTMENT IN THE QUALITY OF SCHOOLING: THE RURAL FARM AREAS

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The four seasons of policy are dialogue, debate, demagoguery, and decision. The seasons of agricultural policy for years have not been conducive to good results. The dialogue has been far from searching; the debate unconvincing; the demagoguery a model of confusion; and the decisions mostly unsound. Little wonder then that agricultural policy has been frustrating and to no avail whether it be on surpluses, acreage reductions, land retirement, soil conservation, supply management, or P. L. 480 food for the poor abroad. We have exhausted ourselves on price and production policies and we have grown weary. We now turn to investment in education, which is an economic approach with strong policy implications. You may have been born to be skeptical, even with respect to schooling and education. But bear with me and you will become convinced, despite your disposition, they belong here.

I would be remiss if I did not warn you that this approach to the welfare of farm people will not boost the popularity rating of agricultural extension workers. The elite of the agricultural establishment will quietly remind them of such things as authority and competence and suggest they are becoming soft and diverting attention from basic technical subjects. Experiment station colleagues will ask them, "Where is the basic research on which your approach rests? Doesn't this approach distract attention from the hard core of scientific work?" It would be naive to expect the U. S. Department of Agriculture to applaud this approach officially (individual members of the staff will); for if it did the Department would run afoul of Congressmen who are in key positions when it comes to agricultural appropriations. Also, an unpleasant possibility is that all this may even lead to a shift of some federal funds from the USDA to other Washington empires, and even worse, to a shift in payments from commercial farmers, however rich, to lowly country school teachers. Federal funds to help country school boards attract and hold highly qualified teachers obviously are not in the best interest of agriculture! To be an innovator is all very beguiling, but innovators are not always popular. In the language of Texas, any agricultural extension worker who does this is a maverick—translated, a motherless calf.

## TERMS OF REFERENCE

I debated whether to concentrate on the demand for and the supply of skills and knowledge; on the distinction between education for consumption and for earning ability; on schooling as capital formation which contributes to economic growth; or, on it as an investment in human beings and the rate of return from this class of investment. I decided, however, not to do so because the principal new studies on these issues are readily available and some of you have not only made good use of them but have added new insights of your own in the extension materials that you have prepared.

I propose to concentrate on our rural elementary schools. So many of them are simply not good enough. While lecturing at colleges I have taken time out to visit elementary schools to which farm families send their children. In some states such schools are fair and even good. But in many others the quality of the schooling is far below par. I have seen some that are primitive. The old one-room school which I attended in one of the Dakotas fully a half century ago—with a horde of 30, ages 5 to 18 during winter when even the oldest could be spared from work, and with subject after subject in all eight grades taught by one overworked, harassed, lonely teacher—was not nearly so primitive. I have seen schools in the United States that would be unthinkable in Holland, Scotland, Denmark, and in other modern countries. I have not seen any such even in Japan. The plain fact is that we are not spending enough on this schooling. The inadequacies are predominantly in the *realm of quality*.

My agenda starts with a few pictures of this schooling and then proceeds to the following questions:

1. Why do so many farm people *underinvest* in the schooling of their children?
2. Why is the agricultural establishment so inactive with respect to this schooling?
3. What are the policy implications?

### I. A FEW SIMPLE PICTURES OF THIS SCHOOLING

Ironically our pictures of the moon are better than of schooling. Those of schooling are most fragmentary and even these are unfinished. Let us look at what is available from the point of view of the *amount* and the *quality* of schooling. By amount I mean the number of years of school completed. The statistic produced most often is the median years of school completed. By quality I mean the attributes of a year of school which influence its value. Quality so conceived is hard to observe. It eludes the computer; it is adept at

hide and seek. We know it is there and we know it is important. But all we have to go on are a few clues.

Logically, more quality can compensate for less quantity; thus a person with 8 excellent years could be as well off as another person who had completed 10 years of inferior schooling. In fact, however, in the United States the usual relation between amount and quality is the opposite; for example, farm youth not only complete fewer years but they also receive inferior schooling compared with that of urban youth. It is even more striking in the schooling of Negroes.

Real gains have been made in the number of years of school completed. Although this paper treats quality, I do not want to underrate the value of the increases in the amount. On this score, the U. S. record is better than that of other countries despite the lag in rural areas and the long standing raw deal that Negroes have received.

1. Increases in the number of years of school completed are most telling. For all persons 25 years of age and over we have:<sup>1</sup>

	Median Years of School Completed		Increase (Percent)
	1940	1962	
U. S. white	8.7	11.7	35
U. S. nonwhite	5.8	8.6	48
	1950	1960	
Urban white	10.5	11.5	9
Rural farm white	8.8	8.9	1
Urban nonwhite	7.8	8.7	12
Rural farm nonwhite	5.1	5.7	10

In this picture of progress, the rural farm white virtually stood still while the other residence and color classes advanced rapidly. Why? Observe, also, that by 1960 the urban nonwhite was nearly on a par with the rural farm white. But the schooling of the rural nonwhite was still far below in amount as well as vastly inferior in quality.

2. Since the prospective amount of schooling of a population depends on enrollment, it is noteworthy that the state of enrollment is much better presently than it was only a decade ago. Here I restrict my comment to males. In 1960, for ages 8 to 13, the difference between urban<sup>2</sup> and rural-farm enrollment is negligible. Nor is it

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<sup>1</sup>From *Current Population Reports*, Series P-20, Nos. 99 and 121, of the Bureau of the Census, U. S. Department of Commerce; and from E. J. Moore and associates, *Economic Factors Influencing Educational Attainments and Aspirations of Farm Youth*, Agricultural Economic Report No. 51, Economic Research Service, U. S. Department of Agriculture, April 1964, Table 2.

<sup>2</sup>It should be borne in mind throughout that the urban area includes many city slums.

appreciably lower for urban nonwhite, although for rural farm nonwhite it is significantly less. But real differences by residence and color appear for ages 14-15 and ages 16-17.<sup>3</sup>

	Urban (Percent)	Rural Farm (Percent)
White		
Ages 8-13	98.0	97.7
Ages 14-15	95.6	93.5
Ages 16-17	84.3	81.5
Nonwhite		
Ages 8-13	96.6	94.7
Ages 14-15	92.4	87.3
Ages 16-17	76.8	69.6

3. Of the pupils who entered the fifth grade in 1924, only 60 percent entered high school in the fall of 1928; thirty years later the comparable figure was 92 percent, which is an impressive advance. Now only 8 percentage points remain between 92 and 100 percent on this scale. Here we are close to a ceiling, although less so for farm youth.<sup>4</sup>

4. Not quite half of those who entered high school in the fall of 1928 graduated, while 69 percent of those who started in the fall of 1958 completed high school. Here there is undoubtedly still considerable room for further gains. We are justly concerned about dropouts which I consider shortly.

5. Enrollment in college has risen even more rapidly. Of the pupils who entered the fifth grade in 1924, 12 percent entered college in 1932; three decades later 34 percent did so. The quantitative aspects of college enrollments including the large numbers who drop out are far from clear.

6. An important advance is the increase in the length of the school year and in the number of days pupils attend. Other things equal, the quality (value) of a year of schooling increases with the number of days of attendance. A useful assumption is that within the range we observe presently, the marginal value of an additional day of schooling is at least equal to its average value; thus an increase in days attended from 140 to 154 days would increase the quality by 10 percent. On this basis this particular component of quality can easily be transformed into measurable units.

<sup>3</sup>James D. Cowhig, *Age-Grade School Progress of Farm and Non-farm Youth: 1960*, U. S. Department of Agriculture, August 1963, Table 1. Comparable figures for females run in general a bit higher than for males.

<sup>4</sup>I follow closely here the analysis I presented in "Some Economic Issues in Improving the Quality of Education," in *A Financial Program for Today's Schools*, the Proceedings of the Seventh National Conference on School Finance, held April 5-7, 1964, in Chicago, National Education Association, Washington, 1964.

Looking back we observe for the United States that the number of days that enrolled elementary and secondary pupils attended school rose 60 percent from 1900 to 1956.<sup>5</sup> Yet, I am sure that this national figure still hides many significant regional differences, adverse mainly to the school population in the South. For example, even by states in 1959-60, this figure came to 171 days in Vermont and to only 149 days in Mississippi. One would like to know what it is for farm youth and especially for nonwhite in the lagging areas of the country.

Once again the adverse relation between amount and quality should be noted. Consider the number of days attended as one of the proxies of quality. It then appears that the resident and color classes that complete the fewest years of schooling also tend to attend the fewest number of days per year. The marginal cost of increasing this component of quality, where it is below par, is obviously less than average cost. There are strong reasons for believing that the rate of return on the additional investment required is exceedingly high.

7. Estimates of school dropouts show a comfortable decline from 1950 to 1960. When all persons ages 14-24 in 1960 are considered, the difference between urban and rural farm white appears small, 19.3 and 20.3 percent, respectively. But nonwhites are burdened with much higher rates, i.e., urban 33.6 and rural farm 38.5 percent.<sup>6</sup> But the dropout picture is much more adverse for rural farm relative to urban youth, applying Cowhig's concepts of actual dropouts and probable dropouts, which are shown here for males for 1960.<sup>7</sup>

TOTAL DROPOUTS RELATIVE TO ALL PERSONS OF GIVEN AGES

	Urban (Percent)	Rural Farm (Percent)	Rural Farm Index (Based on Urban White)
U. S. white			
Ages 16-17	17.8	22.0 (17.8=100)	124
Ages 18-19	25.8	33.5 (25.8=100)	130
U. S. nonwhite			
Ages 16-17	32.3	56.8 (17.8=100)	319
Ages 18-19	48.7	71.5 (25.8=100)	277

<sup>5</sup>See my "Education and Economic Growth," in *Social Forces Influencing American Education*, Nelson B. Henry, ed., University of Chicago Press, Chicago, 1961, pp. 66-69. Since 1956 it has risen very little settling at about 160 days in recent years.

<sup>6</sup>Again, the city slums are included.

<sup>7</sup>James D. Cowhig, *School Dropout Rates Among Farm and Nonfarm Youth: 1950 and 1960*, Agricultural Economic Report No. 42, Economic Research Service, U. S. Department of Agriculture, September 1963. The above paragraph is based on Table 1; the estimates for ages 16-17 and 18-19 are based on Table 3. School dropouts are defined as persons with fewer than 12 years of school completed and not enrolled in school; and probable dropouts as persons two or more years retarded in school, except those enrolled in fourth year of high school.

In addition to the number of days attended, the quality of a year of schooling also depends on the motivation and the time the student has to devote to his studies. Children from homes where the mothers are illiterate, as is true of many living in our city slums and in some rural areas, are much less motivated to succeed at schooling than those from homes where the mothers have attended high school. Retardation in school is undoubtedly a strong clue here. School facilities, size of school, specialization in instruction, and above all, the competence of teachers strongly affect quality. The performance of high school graduates at college is also a clue.

Let me now abstract from differences in innate ability, pure biological I.Q. which is ever so illusive, on the assumption that the level of this innate ability per person and that the distribution of these abilities in any large population are approximately the same. I now turn to several additional clues all of which point to low quality of schooling in rural areas.

8. Progress at school specified in terms of *age and grade* may be a crude proxy both for motivation and opportunity. Here, too, urban youth, taking the U. S. as a whole, come off better than farm youth. But a closer look reveals an apparent puzzle and leads to a striking inference. The puzzle, as shown for males below, is that rural farm youth in the North and West who are white show smaller retardation rates than their urban counterparts. The key to this puzzle probably is in the fact that the urban group includes South-urban whites (see table 12 in reference 8 below) and some city slums in which whites reside. The striking inference is that U. S. urban nonwhites perform on about a par with rural farm whites in the South. Also, in the North and West rural farm youth, whether white or not, show smaller retardation rates than their counterparts in the South. It should be possible to determine the costs of and returns from reducing these retardation rates. We very much need this type of analysis. Cowhig's 1960 estimates for males, retarded one grade or more, follow.<sup>8</sup>

	UNITED STATES*			
	Urban White (Percent)	Rural Farm White (Percent)	Urban Nonwhite (Percent)	Rural Farm Nonwhite (Percent)
Ages 8-13	7.4	9.4	14.9	36.6
Ages 14-15	13.1	16.4	27.2	56.3
Ages 16-17	14.1	15.8	32.1	58.8

<sup>8</sup>James D. Cowhig, *Age-Grade School Progress of Farm and Nonfarm Youth: 1960*, Agricultural Economic Report No. 40, Economic Research Service, U. S. Department of Agriculture: \*Table 11, \*\* Table 15.

U. S. RURAL FARM\*\*

	North and West White (Percent)	North and West Nonwhite (Percent)	South White (Percent)	South Nonwhite (Percent)
Ages 8-13	6.0	26.0	15.5	37.2
Ages 14-15	10.6	41.3	25.8	57.3
Ages 16-17	11.2	36.7	23.6	52.7

9. The quality of learning suffers where youngsters from farm homes are doing too much farm work while attending school. A strong curriculum competently taught requires that the student devote essentially all of his time to his studies. It is not a part-time venture. Observe, however, that during the fall of 1961, of the farm youngsters, ages 14 to 17, who were enrolled in school, nearly half were working, and they worked an average of 27 hours a week. A third of them were actually working 35 hours or more a week while attending school.<sup>9</sup> Others things equal, this amount of work must reduce substantially the quality of the school performance of farm youngsters. The cost of this component of quality is simply the value of farm work of the student. The value of it should be fairly easy to estimate. The return associated with the better performance in schooling from having this additional time to study would be more difficult to determine, but surely with some ingenuity it can be done.

10. I continue with high school students for reasons of data. Folkman's Iowa State study shows that upon entrance in the fall of 1955 rural students had twice as many deficiencies as urban students, 19.1 and 9.8 percent respectively. The proportion who graduate with special honors also differs markedly, 3.3 compared to 6 percent.<sup>10</sup> Here, too, we observe a difference in quality which has a cost and a return.

11. Some rural farm areas are woefully underrepresented among the applicants and winners of our National Merit Scholarships. Why so relatively few applicants? The reason could be lack of information. Judging by the poor chances of winning scholarships by those who apply from these areas, it probably is a lack of quality of the schooling. Teachers and superintendents may well know that there is not much point in having even the best of their students compete.

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<sup>9</sup>Of the nonfarm youngsters of the same age only about 15 percent were working and were averaging a mere 10 hours of work per week. Only 3 percent were working 35 hours or more a week. See Special Labor Force Report No. 22, *The Employment of Students, October 1961*, U. S. Department of Labor, 1962. Based on Table F, showing estimate for a survey week.

<sup>10</sup>William S. Folkman, *Progress of Rural and Urban Students Entering Iowa State University, Fall 1955*. Agricultural Economic Report No. 12, Economic Research Service, U. S. Department of Agriculture, July 1962. Note also that the average size of the high school graduation class of entering students was 196 for urban compared to 33 for rural students. Conant contends that a high school graduating class of at least 100 is necessary to provide adequate instruction.

12. The proportion of high school graduates who enroll in college points in the same direction. In 1960, 48 percent of the urban high school graduates enrolled in college compared to only 32 percent of those classified as rural farm.<sup>11</sup> Is this difference due to differences in motivation or in opportunity?

13. For any population that is large enough so one can abstract from the level of innate ability per student, and leaving home-produced motivations of students aside, my hypothesis would be that most of the differences in the quality of schooling correspond closely with the differences in school expenditures. This hypothesis implies that we get over the years about what we pay for. Nor do I find it plausible that a dollar buys more of these quality components in rural than, say, in the suburban areas. Materials, construction, and the costs of maintenance are probably less in rural areas, but these are a relatively small part of total costs. For teachers there are many signs which indicate that the costs of living differences are more than offset by nonpecuniary differences. Competent teachers generally prefer a suburban position to one in a rural community. They are college graduates who have learned to value highly the urban amenities of living, the greater freedom in their personal conduct, and the better cultural facilities available to them in the city. Enough of them appear to have these preferences to affect the supply of competent teachers available to rural communities.

Although data by states hide more than they reveal, even these show that in terms of current expenditures per pupil, the highest three states in 1962-63 spent two and two-fifth times as much as the lowest three states, \$576 and \$241 per pupil, respectively. Even if these figures were adjusted on the assumption that a dollar buys 20 percent more in the low than in the high states, the difference would still be two to one.<sup>12</sup> Accordingly by this test, other things equal, pupils in these top states obtain twice as much schooling as do those in the bottom states.

Lastly with respect to these pictures of schooling, the amount spent for teachers differs. My data here are of two parts, a comparison based on state figures of the top and bottom rungs of this ladder as of 1962-63; and then, a more discriminating comparison based on state and county data for 1955-56.

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<sup>11</sup>Charles B. Nam and James D. Cowhig, *Farm Population*, "Factors Related to College Attendance . . . 1960," Census-ERS Series P-27, No. 32, U. S. Departments of Commerce and Agriculture, June 1962, Table 11.

<sup>12</sup>Based on *Digest of Educational Statistics*, Bulletin No. 43, 1963 edition, U. S. Department of Health, Education, and Welfare, Table 38. The three highest states are New York, New Jersey, and Illinois; the three lowest, Mississippi, South Carolina, and Alabama.

Public elementary classroom teachers, in 1962-63, in the top three states, were paid 86 percent more than those in the bottom three states. If one wishes to adjust the salary of the three lowest states by 20 percent, the presumed difference in costs of living, the top three would still be 55 percent higher.<sup>13</sup>

For 1955-56, salary estimates of the instructional staff in public elementary and secondary schools are at hand by states and counties. The 101 "most rural counties" are identified. They are distributed among 24 states. The first line represents the lowest 10 counties in these 101 counties. The top three states in terms of salaries are also shown.

	Average Annual Salary of Instructional Staff	Index (10 Lowest=100)
10 lowest counties <sup>14</sup>	\$1,826	100
101 most rural counties <sup>14</sup>	2,933	161
24 states <sup>14</sup>	3,719	204
3 highest states in U. S. <sup>15</sup>	5,092	279

These data, above all else, provide a clue to how much state-wide averages conceal. The difference in the average salary of the instructional staff in the 24 states shown and in the 10 counties within these states that paid the lowest salary—is two to one. Surely it is not rash to infer that counties paying in the neighborhood of only \$1,800 in states that are paying \$3,700 on the average cannot attract and hold as many highly competent teachers as the better paying counties in these states. Similarly, as these states compete for such teachers with other states which pay much higher salaries, they too come off second best.

## II. WHY THE UNDERINVESTMENT?

First, we need a test to determine the *underinvestment* and *overinvestment* in schooling. The fact that farm children in Denmark receive more and better schooling than many of our farm children is not an adequate test. Such schooling may simply cost less relative to its value as an investment in Denmark than here. The fact that children from our urban homes do much better on this score than

<sup>13</sup>From *Ibid.*, Table 19. The top three states, omitting Alaska, are California, New York, and Michigan with an average salary of \$6,631; the bottom three are Mississippi, Alabama, and South Dakota, which show an average salary of \$3,570.

<sup>14</sup>From *Statistics of Public School Systems in 101 of the Most Rural Counties, 1955-56*, Cir. No. 529, U. S. Department of Health, Education, and Welfare, 1958, Table 3.

<sup>15</sup>From *Statistical Summary of Education, 1955-56*, Biennial Survey of Education in the United States, OE-10003, U. S. Department of Health, Education, and Welfare, 1959, Chapter 1, Table 24. The three states are New York, California, and Illinois.

those from farm homes, is also not a satisfactory test for the same reason. Once we decide to treat schooling as an investment the test that matters is the rate of return from this investment in schooling. Let me simply assert at this point that there is a growing body of evidence which indicates that there is serious underinvestment not only in the amount but especially so in the quality of schooling that our farm children obtain.

Second, even a little thought given to this matter suggests a number of plausible reasons for the underinvestment in this schooling. Among the reasons that readily come to mind are the following: (1) farm people do not have adequate political control of the public schools which their children attend; (2) they are up against discrimination; (3) such schooling is mainly consumption, like a car for teenagers—expensive, time consuming, keeps them from doing useful work—and must be held in check; (4) farm people simply cannot afford the amount and quality of schooling that is here assumed to be warranted—they lack the means, for they are subject to capital rationing; and (5) they lack the necessary information to make optimum decisions with respect to the amount and quality of schooling that is called for. A comment on the validity of each of these reasons is now in order.

1. With respect to political control, there are many complex cross currents. People with nonfarm jobs who live on a farm or on a plot located in a rural school district, obviously dilute the political control of farm people over these schools. Difficulties abound on the fringes of cities when it comes to tax revenues to support these schools where property taxes are still the main source of such revenue. There is also the other side when you listen to absentee landlords and to city people who have summer homes in the country but have no vote when it comes to determining the taxes placed on their property. School consolidations, despite their many advantages, are often an irritating nettle for farm people. But for all that, the plain fact of the matter is that farm people have long been overrepresented in the legislative branches of government. A basic reallocation of political power in this respect is now under way as the Supreme Court decisions take effect. Farm people did not use the overrepresentation which they enjoyed in the past to acquire first-class schools for their children. Henceforth they will have to depend upon nonfarm voters to achieve this objective. As I have noted elsewhere,<sup>16</sup> this

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<sup>16</sup>"Agriculture's Bad Press: Distinction Between the Apparent and Real Difficulties Affecting Farm-City Relations," paper presented at Farm-City Committee Seminar, Chicago, August 6, 1964, Agricultural Economics Research Paper No. 6421, University of Chicago, mimeo.

shift to a new political order will not be easy for farm and town people to accept. Much needs to be done among urban people in thinking through and in creating informed public opinion for an orderly and responsible transfer to this new political order. The stakes are large. The power to tax and provide funds for schools that will close the *quality gap* between the schooling of farm and city children is a key issue in making this transfer.

But let us not be blind to the fact that in general the quality of this schooling is inversely correlated with the extent to which farm people have had political control of such schooling. The lack of political representation of rural Negroes is obviously another matter.

2. How important is discrimination? The motivation of children attending school may be affected adversely. Costs of providing schools may be increased. The value of whatever schooling is acquired may be reduced in terms of jobs and earnings by discrimination. Unfortunately, we know all too little about these issues. I venture, however, that school consolidation has not in general impaired the motivation of the farm children who attend. Quite the contrary, so I suspect, because they come to feel that they are much more in the main stream of modern developments. But public and private costs of schooling are undoubtedly increased by maintaining two sets of schools in biracial communities. The economic value of schooling is obviously sensitive to discrimination in employment. Negroes, American Indians, Spanish Americans and also others face this form of discrimination.<sup>17</sup> How much does it reduce the value of schooling? Although Zeman's study<sup>18</sup> attributed most of the difference between the earnings of white and nonwhite males to differences in the amount of schooling, there appeared to be considerable discrimination adverse to nonwhites as the amount of their schooling increased. An alternative hypothesis to explain this later divergency is that the schooling the nonwhites had received was vastly inferior to that of whites; thus some and perhaps much of what appeared to be job discrimination is a consequence of differences in the quality of schooling.

3. How valid is the view that this schooling is primarily consumption? It is of course true that most of the people in countries with relatively high incomes and a modern economy look upon universal elementary schooling as an integral part of their standard of living. Thus their preferences are such that it gives them consumer satisfac-

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<sup>17</sup>Gary S. Becker, *The Economics of Discrimination*, University of Chicago Press, Chicago, 1957.

<sup>18</sup>Morton Zeman, *A Quantitative Analysis of White-Nonwhite Income Differentials in the United States*, Unpublished Ph.D. dissertation, University of Chicago, 1955.

tions. But this fact does not mean that elementary schooling has no value in terms of increasing future earnings. For the United States, Hansen's estimates of the rate of return to total public and private costs, treated as an investment in schools, for males, 1949, show that the marginal rate of return rose sharply from about 9 percent on completion of the first 2 years to about 29 percent on completion of the 7th and 8th years of schooling.<sup>19</sup> My own earlier estimates appear to support such a high rate of return for the 5th through 8th grades of elementary schooling.<sup>20</sup> Gisser's study<sup>21</sup> of the returns to schooling in agriculture based on the total costs of schooling and farm wage rates and adding a year of schooling to the median years completed by males as of 1958, show the following rates of returns by regions:

Region	Rate of Return (Percent)
West and Southwest	20
North Atlantic	21
East and West Central and Plains	23
Southeast	28

The rate of return to improvements in the quality of this schooling is in all probability even higher than it is for the amount of schooling shown above.

I do not want to imply that parents should not value highly the consumer satisfactions they derive from their children's schooling and the satisfactions their children derive from it throughout their lives. My contention, however, is that this schooling is even more valuable than this because in addition it is a high pay-off investment in producer abilities. Yet I also know that some parents in agriculture as well as in other occupations still undervalue schooling and justify their erroneous view by calling it consumption beyond their means. Parents who are so disposed, I feel sure, are a small minority, yet it would be a mistake not to come to grips with this view in any comprehensive program to improve the schooling of farm children.

4. I now turn to still another of the reasons often cited for the underinvestment in schooling, i.e., that farm people cannot afford it. Here it will be necessary to distinguish between the problem of choosing among investment opportunities including schooling and the problem of redressing the inequality in the personal distribution of wealth and income.

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<sup>19</sup>W. Lee Hansen, "Total and Private Rates of Return to Investment in Schooling," *Journal of Political Economy*, LXXI (April 1963).

<sup>20</sup>See my "Education and Economic Growth," *Social Forces Influencing American Education*, Nelson B. Henry, ed., University of Chicago Press, Chicago, 1961.

<sup>21</sup>Micha Gisser, *Schooling and the Agricultural Labor Force*, Unpublished Ph.D. dissertation, University of Chicago, 1962. Also from unpublished research since then.

Consider an investment as the formation of capital whether in the form of material things or in human capabilities. Capital is therefore required. But where can farm people obtain the capital? Suppose they would have to borrow some of it. The possibilities are substantial despite the backwardness of the capital market when it comes to loans which are made explicitly to finance schooling. There is first the fact that farm people are presently much less subject to capital rationing than they were some decades ago. Secondly, and closely related, is the further fact that their credit worthiness has been much improved. I need only remind you that in terms of wealth the average net asset position of farmers who are actually farming is impressively large, approximately \$35,800 per farmer in 1963.<sup>22</sup> While there are \$125 billion of net assets back of this average per farmer wealth figure, I know that it hides a vast amount of inequality in the personal distribution of wealth among farm families. Nevertheless, since I have not included in this estimate of farm wealth that which is owned by nonfarm people, farm families indeed have a lot of wealth on which they could draw to invest in the schooling of their children.

Nor do the alternative investment opportunities in farming come even close in terms of pay-off to that already indicated for schooling. Investment in land is large although the rate of return is in the neighborhood of 5 percent, compared to the 30 percent or larger rate of return to be had from the schooling under consideration. Tractors, modern farm machinery, high producing livestock, and fertilizer may earn in many situations a higher rate of return than land and land improvements, but surely not nearly as high a rate of return as schooling. Certainly by this test, many farm families are not choosing wisely among the investment opportunities open to them. Many of them could improve the long-run wealth and income positions of their families by committing somewhat less of what they invest annually to material capital forms used in farming, thus leaving somewhat more for the schooling of their children. The inference is that on rational economic grounds they cannot afford to do otherwise.

With respect to taxes on farm land to support schools, there are two aspects that are generally overlooked. In mentioning these, I do not want to disassociate myself from the sound view that property taxes are not an adequate basis for financing public schools. It is well known that throughout much of the South funds for schooling are more niggardly than in most of the rest of the country, although a

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<sup>22</sup>See my "Our Welfare State and the Welfare of Farm People," *Social Service Review*, Vol. 38, No. 2 (June 1964). See also, David H. Boyne, *Changes in the Real Wealth Position of Farm Operators, 1940-1960*, Michigan Agricultural Experiment Station Tech. Bul. 294, 1964.

larger proportion of the personal income of the South appears to be allocated to schooling than elsewhere. In view of this, I confess that the result of Spitze's study<sup>23</sup> came as a surprise. He found, among other things, that property taxes on farm land in the South are taking a much smaller bite relative to the value of such property than in the rest of the United States.

The other aspect pertains to the unearned increases in farm land values which are a consequence of federal farm programs and payments to farmers tied to land. One need not subscribe to the single tax nor need he embrace the economic philosophy of Henry George to see real merit in siphoning off for our schools this unearned income going to the owners of farm land.

What farm families can afford, also, raises the problem of inequality in the personal distribution of wealth and income among farm families. It is a serious problem which we have conveniently neglected all too long. Our society has relied heavily upon progressive income taxation to redress somewhat these inequalities. I suspect, however, that this form of taxation is less effective in redressing such inequalities within agriculture than it is in most of the rest of the economy. To make matters worse, our federal farm programs are regressive in their effects on the personal distribution of income among farm families. The poorest fourth are virtually excluded while most of the benefits go to the richest fourth. Surely by this test, our farm programs are contrary to the general welfare and most certainly to the welfare of farm people. But we go blithely on appropriating billions to featherbed the vested interest of the most well to do in agriculture. Federal funds to improve the quality of our rural schools until they are on a par with the best would accomplish much over a generation to redress the inequality under consideration. It should be the keystone in the policy arch designed to reduce poverty, especially so in agriculture.

5. Lastly, then, of the plausible reasons for this underinvestment is the lack of information. If it is important, as I believe it to be, it is indeed grist for your mill. Perhaps the underlying issues in the case of a college education will be easier to see than in elementary schooling. Most youngsters even though they have done well in high school do not know their real capabilities that are relevant in succeeding at college. Then, too, most farm families know precious little with regard to what they are buying in selecting a college. Selecting a refrigerator or hi-fi set which can be examined and tried before deciding

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<sup>23</sup>R. G. F. Spitze and W. H. Heneberry, "Burden of Property Taxes on Illinois Agriculture." See Table 3 of Appendix.

is hard enough. If you go wrong, it has a relatively short life and the mistake can be remedied, whereas with college education the student is stuck for life. But by what standards can a farm family, especially so where neither parent has been to college, determine the relative merits of the educational product? Even Consumers Research is of no help. The advice of the vocational agriculture teacher can be very misleading. There is also the basic question of the future demand for the particular high skills and knowledge in which a student can invest. Where are the shortages in such skills? Will too many seek to enter such fields? What are the prospective rates of return for the array of fields in which a student might specialize while in college? The paucity of information available to farm families in these important matters cannot be denied.

But is it nearly so bad in the case of elementary schooling? My guess is that here, too, valid information is very scarce. Where can farm families turn in determining the standards of high quality schooling? What are good teachers worth? Do these schools get little or much depending on what they pay? As salaries now go, can rural schools attract and hold highly competent teachers while paying them less than \$6,000 a year? I doubt it, yet most of them pay much less than this. Farm families also require information on the effects of the size of schools, of teachers specializing by grades, and of time spent by pupils at farm work while attending school upon the quality of the schooling and on what the pupil learns.

In summary, then, the underinvestment in elementary schools which our farm children attend is not primarily a consequence of inadequate political control of these public schools by farm people. Racial discrimination, however, is a factor. That this schooling is only consumption having no important producer value is a mistaken view. Although many farm families can afford much better schooling than they provide for their children, many are also too poor to do so. Lack of information is the most important factor! If blame we must, the fault lies in the failure of the agricultural establishment to produce this information. This then becomes my next topic.

### **III. WHY IS THE AGRICULTURAL ESTABLISHMENT SO INACTIVE IN THIS FIELD?**

The answer resides unnoticed in early ideas and history supported in old age by vested interests. These early ideas were pathbreaking. They gave us organized research and organized extension as a part of the agricultural college and of the USDA. They gambled on science and technology which paid off handsomely. The agricultural college won support and a dominant position within the land-grant enterprise.

But this part of the establishment, which now has a strong vested interest in these early ideas, is not efficient in promoting the welfare of farm people. It promotes agriculture. It remains true to its banner, which has inscribed on it, AGRICULTURE. How different this history and institutionalization might have been had the banner proclaimed FARM PEOPLE instead.

While at Ames I soon discovered that colleagues in home economics were more directly concerned about the welfare of farm people than those in agriculture. They were more interested in nutrition for people than for animals, 4-H projects for better living rather than for clean, well fed, beautiful calves. When distinguished visitors came, we gave them a taste of our new fancy cheese, took them to see our show animals, experiment station plots, and a couple of selected farms for observation of modern dairy facilities, farm machinery and crop rotations. But we never showed them any outstanding farm homes; nor did it occur to anyone that they should see a rural school. I have often wondered since then why these blinders had become so firmly fastened. In sharp contrast when abroad, for instance while in Japan, I soon discovered in interviewing farmers that the proper thing was to spend the first half hour discussing the schooling of their children—and of themselves.

By the agricultural establishment I mean the professional personnel of the agricultural colleges and the USDA and the policy oriented leaders of both. Perhaps I should also include here the members of the agricultural committees of Congress and of the farm organizations.

I propose to concentrate, however, on the agricultural colleges. What is the ruling conception of agriculture? It is based predominantly on a technological and scientific view of agriculture, where the function of agriculture is to produce farm products. It is a model based on plants, animals, and soils. A naive member of the cabinet once said, "What is good for General Motors is good for the nation." So it is here, what is good for plants, animals, and soils is good for farm people! Once again, how different this development would have been had our model been based on the welfare of farm people.

But you will say that the concept of agriculture is being extended. True, but not toward farm people. While the Purnell Act was such a step, the Research and Marketing Act has drawn us away from farm people into the processing and distribution of farm products. We now also offer and advertise agribusiness to recruit more students. But the problems associated with the schooling of farm children are not a part of the concept. We can still count on our fingers the experiment station bulletins devoted to aspects of this problem.

If we consider next the things that professional personnel of the USDA are doing, we find the same bias. A direct and unambiguous approach to the welfare of farm people is not the order of the day. A tiny handful, inadequately supported and unappreciated, is doing yeomanly work. The big tent is for others.

All this is primarily a consequence of a long-standing bias that characterizes the colleges of agriculture and the USDA. It is a *materialistic bias* because of its strong ties to plants, animals, and land and its weak connections with history, values, and the social behavior of man. This bias is a product of an intellectual climate that is not renowned for its humanistic values and its ideas of welfare.<sup>24</sup>

As agricultural economists, we tend to reinforce this bias by closing our eyes to policies that *overvalue* land and that *undervalue* the human agent. We neglect the functioning of factor markets, especially the human factor. With respect to investment, we restrict ourselves to material things, i.e., to structures and improvements of land, equipment, fertilizers, and the like. But investment in farm people draws a blank in what we do. The welfare implications of public programs that provide survivor and retirement benefits, that improve the health facilities available for farm people, and most importantly, that raise the amount and quality of schooling that farm children receive—are seldom part of the game. Thus agriculture has long been seriously short-changed by the strong materialistic bias of the agricultural establishment.

Even if we were to do no more than to identify our values and make them explicit it would be a big help. To believe that social analysis has arrived at the stage where economists can circumvent making value judgments is altogether naive. The belief that in analyzing and discussing economic policy all that needs to be done is to list all the alternatives and thereby avoid any value judgments, is a myth. I do not want to disparage the study of “values and beliefs” but all too frequently it is sheer sophistry. My plea here is that the least we ought to do is to use a direct declaratory approach and simply state our value judgments. Judging from what we do, most of our value declarations would read as follows: The welfare of hired farm workers and of Negroes in agriculture is unimportant; the poverty that would remain in agriculture once farm prices and production are under proper control is not significant; federal subsidies which are tied to

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<sup>24</sup>Here I draw directly on my “Changing Relevance of Agricultural Economics,” paper presented at the American Farm Economic Association meetings, Purdue University, August 17, 1964, Paper No. 6420, Department of Economics, University of Chicago, mimeo.

land and which increase the value of farm land really do not matter even in the long run; and federal expenditures to improve the schooling of farm children simply divert attention and funds from commercial farmers. Be these value judgments as they may, let us at least be explicit about them.

True, this will not remove the blinders which belong to the day of the one-horse shay. Hopefully obsolescence may shame the agricultural establishment into removing them.

#### IV. WHAT ARE THE POLICY IMPLICATIONS?

Our aim is to clarify policy as we turn to the dialogue. Here we must begin once again with ideas. A catalogue of statistics is not conducive to this task. For want of viable ideas the dialogue dies. Ideas are required to replace those that are now obsolete, new ideas that will reharness the talents and energies of the agricultural establishment so that it can unambiguously promote the welfare of farm people in ways consistent with the general welfare. I now turn to three, namely: a reform of agricultural institutions, an unconventional schooling program for adults who have had little formal schooling of value, and a program to increase sharply our investment in the schooling of farm youth with special emphasis on quality.

1. *A modest proposal.* This is not a Swiftian proposal, although its purpose is reform. It requires the long view. It is based on alternative models to replace the traditional agricultural college, to be considered shortly. But before turning to these, let me allay your apprehensions. I know that any basic reform comes slowly. What I want to stress here is that the times are auspicious. The agricultural establishment has become keenly sensitive to the lash of the bad press that agriculture is receiving nationally.<sup>25</sup> The agricultural colleges can no longer afford to be complacent with respect to their enrollments, funds, and declining position within our land-grant institutions. There is much restlessness within these colleges. Some of the professional personnel have unfortunately gone on the defensive. The U. S. Department of Agriculture is also increasingly frustrated by its obsolete institutional structure, its mandates from Congress, and most importantly, by the fact that it is not capable of coming to grips with the heart of the farm problem. During the last fiscal year it spent \$7 billion to no avail in improving the welfare of farm people. That is the rub. Thus, clearly changes are in the air. Even the maverick may find a welcome home in the establishment!

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<sup>25</sup>I attempted to examine this issue in a recent paper, "Agriculture's Bad Press: Distinction Between the Apparent and Real Difficulties Affecting Farm-City Relations," Agricultural Economics Research Paper No. 6421, University of Chicago, July 1964.

Thus, the times are ripe for reform. Let us accordingly think through alternative models to try out in place of what is now the agricultural college. Even a change in the name, a practice which has become fashionable among land-grant institutions, may have some significance. A college of *Agriculture and Biological Science* is being tried. Why not also try a model based on *Agriculture and Rural Welfare*? In the Appalachian region, where the traditional agricultural college seems least appropriate, why not develop a model appropriate to *Rural Community Welfare*? It would require some parts of the traditional agricultural college but its basic objective would include much more. The intellectual core of such a model would, I presume, be based on the social sciences.

Within the agricultural college, the extension service is much less bound by the dead hand of tradition than its counterparts in organized research and in on-campus teaching. The extension approach being developed in Missouri is especially noteworthy. I feel sure others can learn much from this and similar innovations in extension.

With respect to on-campus activities, let me turn aside briefly and argue for *built-in research* devoted solely to the improvement of undergraduate and graduate instruction in our agricultural colleges. It is odd that all manner of research approaches are devised to improve the production of farmers and never a thought to research designed to find ways to improve the product and the production process of the college. Is there perhaps apprehension that what would be found would require adjustments that are all too painful to contemplate? What is good enough for farmers is not good enough for agricultural colleges! As a starter, the goal should be to earmark at least 5 percent of the total teaching budget for this area of organized research. There is a crying need to make social anthropology, sociology, political science, and history a part of the main stream in the instruction of our agricultural colleges. It is ever so necessary in order to produce a new generation who will be neither indoctrinated, nor committed to the materialistic bias that has long prevailed.

The hardest sledding for this modest proposal will be organized research. The prestigious, hard scientists will be most reluctant to make room for it. Agricultural economists also have a vested interest in other research problems. The analysis of investment in farm people is for them an unexplored frontier. No doubt the Purnell funds could appropriately be used for this research. Other funds could also be used. The National Science Foundation and importantly the research agencies of the Department of Health, Education, and Welfare are sources of new finance. The U. S. Office of Education has recently granted \$2,500,000 for these purposes to the University of Oregon.

There are new federal legislative authorizations for education which specify that 10 percent of the appropriations is to be reserved for planning and research. These acts will provide much needed funds for organized research in areas which have heretofore been starved for want of public resources.

2. *Schooling for adults outside of the formal school system.* The ideas for our dialogue here I leave to others who have given the matter more thought than I have so far. I can see no reasonable basis for doubt that new programs serving this objective are essential. Millions of adults, young and old, are by any meaningful standard well nigh illiterate. Poor schools, racial discrimination, lack of motivation, and inadequate resources are to blame. These adults are victims of political and cultural circumstances. Something can and must be done on their behalf. There are some who believe that somehow the regular schools can take on this task. But this is, I feel sure, a mistaken view of how best to provide schooling for these adults. What is needed instead are special crash programs designed to serve effectively this generation of adults. I know of no analysis undertaken to determine the costs and returns of such programs to society. We obviously need such studies. I venture the hypothesis that the rate of return will be much higher than on most conventional investments in material capital. In addition these programs will bring large consumer satisfactions, and most important of all, the development of a healthier body politic.

3. *Policy to improve the quality of schooling in rural farm areas.* Much of what should be done in this respect is implied in what I have already said. I have stressed repeatedly *motivation* and *opportunity* to attend and to excel. Even a state as advanced as Indiana still has very large county differences in motivation and opportunity, as is evident in the differences in the proportion of high school graduates enrolling in college. In one tenth of the counties, 55 percent of the graduates enrolled as college freshmen in 1960 while in the least favorable one-tenth of the counties only 20 percent enrolled.<sup>26</sup>

The array of deficiencies in quality that burden our rural schools is not in general a consequence of urban political control of these schools. Furthermore, many farm people can afford to invest much more than they do in the schooling of their children. Some of them fail to do so because they are enmeshed in a cultural lag. This lag can be reduced by extension work. More important in this failure to invest sufficiently in this schooling is the lack of information on how to do it, what it costs, and what the rewards are in terms of

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<sup>26</sup>From data sent to me by J. C. Bottum for counties ranked by percent of 1960 high school graduates enrolled as freshmen in Indiana and outside of the state.

future earnings. Here there is much work that needs to be done—*research* to produce valid information that is useful, and *extension* to make it available to farm people. All this we can do once we put our house in order in line with the modest proposal for reform already presented.

But these steps, which we can readily take, will not suffice because many farm people presently cannot pay the price that high quality schooling entails. They are the farm people who are trapped in poverty, complicated greatly in the South by its biracial tradition. Here new sources of revenue are absolutely essential. The appropriation of large amounts of federal funds for this purpose is long overdue.

I have no doubt that the agricultural colleges, the USDA, and the farm organizations thought through and provided the economic rationale for federal funds for rural elementary and secondary schools, the problem of this part of the necessary financing of these schools could have been resolved long ago. While there is little point in bemoaning this lost opportunity of many years' standing, we can ill afford to continue the gross neglect of this important issue.

## APPENDIX

TABLE 1. PERCENT OF REVENUE FROM COUNTY AND LOCAL SOURCES AND  
CURRENT EXPENDITURES PER PUPIL, 24 STATES HAVING THE  
101 "MOST RURAL COUNTIES," 1955-56<sup>1</sup>

State	Revenue from	Current Expenditures per Pupil	
	County and Local Sources (Percent of Total)	State	Selected Counties
Alabama	20	\$183	\$181
Georgia	22	197	193
North Carolina	25	190	165
Louisiana	31	289	273
Tennessee	34	189	138
West Virginia	36	197	185
Mississippi	38	151	129
Florida	42	259	259
Texas	42	267	298
Arkansas	47	160	128
Oklahoma	49	245	266
Michigan	50	347	285
Virginia	51	215	172
Kentucky	56	168	129
Minnesota	56	319	316
Missouri	59	261	205
Indiana	64	291	251
Kansas	67	267	386
North Dakota	67	294	289
Montana	69	349	418
Ohio	73	283	223
Colorado	75	310	408
South Dakota	81	309	358
Nebraska	87	278	473
24 States	50	250	
101 Counties	36		211

<sup>1</sup>Observe the following: (1) County and local revenue is in general a relatively small part of the total in the South, e.g., in Alabama, Georgia, and North Carolina, 25 percent or less, while in the Plains and Midwest it is a relatively large part, e.g., in Colorado, South Dakota, and Nebraska, 75 percent or more. *Hypothesis*: The economic effect of state aid to schools in the South in substantial part reduces the tax burden on farm real estate relative to that in other regions which is then capitalized in farm land prices. (2) Within the core of the South, Florida and Louisiana show relatively large current expenditure per pupil as do Texas and Oklahoma of the Southwest. *Hypothesis*: The quality of schooling in these states is definitely higher than in the rest of the South. (3) Current expenditure per pupil in the "most rural counties" within the Plains States is in general higher than that for all pupils in the state. *Hypothesis*: The quality of schooling in these "most rural counties" is nevertheless below that of the state as a whole (mainly for reasons of greater geographical dispersion). (4) In nine of the states concentrated in the South, current expenditures per pupil in the "most rural counties" range from \$128 to \$193, while in six states in the Midwest and Plains States these expenditures run from \$316 to \$473 for this class of counties. *Hypothesis*: The quality of this schooling in the nine is in the neighborhood of one-half of that in the six.

SOURCE: *Statistics of Public School Systems in 101 of the Most Rural Counties, 1955-56*, Cir. No. 529, U. S. Department of Health, Education, and Welfare, 1958, Table 3. Based on 101 selected "most rural counties," distributed among the 24 states shown here.

TABLE 2. ANNUAL SALARY OF INSTRUCTIONAL STAFF IN PUBLIC ELEMENTARY AND SECONDARY SCHOOLS, 1955-56 AND 1962-63, INCLUDING ADJUSTMENTS FOR QUALITY OF SCHOOLING

Group	Annual Salary of Instructional Staff		
	1955-56* (Actual)	1962-63** (Actual)	1962-63 (Idealized)
Lowest 10 counties among the "most rural"	\$1,826	\$2,600 <sup>1</sup>	\$6,000 <sup>2</sup> to \$7,500
101 "most rural counties"	2,933	4,200 <sup>1</sup>	\$6,000 <sup>2</sup> to \$7,500
24 states with the 101 United States	3,720	5,300 <sup>1</sup>	
3 highest states	4,156	5,940	
Highest tenth of schools in quality <sup>3</sup>	5,092	7,233	
	5,250	7,500	\$7,500

<sup>1</sup>1955-56 estimates increased by 43 percent in line with the actual increase shown for columns 4 and 5 in reports cited below.

<sup>2</sup>The \$7,500 estimates adjusted down by 20 percent as if a cost of living difference were of this proportion.

<sup>3</sup>Estimates shown are plausible guesses of the relevant salary for this group. *Hypothesis*: Rural counties paying average annual salaries between \$6,000 and \$7,500 for instructional staff can attract and hold the level of instructional competence required to attain a level of quality presently achieved by the highest one-tenth of schools in the United States.

SOURCES: \**Statistics of Public School Systems in 101 of the Most Rural Counties, 1955-56*, Cir. No. 529, U. S. Department of Health, Education, and Welfare, 1958, Table 3; and *Statistical Summary of Education, 1955-56*, Chapter 1 of Biennial Survey of Education in the United States, U. S. Department of Health, Education, and Welfare, 1959, Table 24. \*\**Digest of Educational Statistics*, 1963 edition, U. S. Department of Health, Education, and Welfare, Table 19.

TABLE 3. TAXES LEVIED ON FARM REAL ESTATE, 1960

Area	Per \$100 Value	Per \$1,000 Net Farm Income
Northeast	\$1.54	\$135
Lake States	1.48	120
Northern Plains	1.29	109
Corn Belt	1.07	113
Pacific	.96	105
Mountain	.79	88
Southern Plains	.54	64
Appalachian	.49	37
Delta States	.46	35
Southeast	.38	34
48 States	.99	89

SOURCE: R. G. F. Spitze and W. H. Heneberry, "Burden of Property Taxes on Illinois Agriculture," *Report of the Commission on Revenue of the State of Illinois*, Springfield, 1963, Table 7.