

# 20

## Parity Farm Income

The preceding discussion moved step by step from price indexes, which reflect income very imperfectly, to various modifications which bring the price indexes closer and closer to measures of income. This chapter takes the last step and deals with parity income.

### PARITY INCOME

It was recognized as parity price indexes were developed that prices were only one of the things that determined income. It was recognized also that what farmers were really interested in was income, not prices. So, along with the development of parity prices went several legislative attempts to define parity income.

During the 1930's the concept of parity income developed as an extension of the parity price concept. It first appeared in legislation in 1936. A declared purpose of the Soil Conservation and Domestic Allotment Act of 1936 was the "reestablishment, at as rapid a rate as the Secretary of Agriculture determines to be practicable and in the general public interest, of the ratio between the purchasing power of the net income per person on farms and the income per person not on farms that prevailed during the 5-year period August 1909–July 1914, inclusive, as determined from statistics available in the United States Department of Agriculture and the maintenance of such ratio."

There was a good deal of criticism of this definition of parity income. In the Agricultural Adjustment Act of 1938, therefore, the definition was changed to read as follows: "Parity, as applied to

income, shall be that per capita net income of individuals on farms from farming operations that bears to the per capita net income of individuals not on farms, the same relation as prevailed during the period from August 1909–July 1914.”

The 1938 definition of parity income differed from the 1936 definition in four respects. (1) The term “net” was used; it was applied to per capita income of persons not on farms as well as to that of persons on farms. (2) The “purchasing power” provision in the 1936 definition was omitted in the 1938 definition. (3) The income of persons on farms included income from farming operations only. (4) The limitation “as determined from statistics available in the USDA” was omitted.

The 1938 definition of net income avoided the difficulty of measuring intangibles — the nonmonetary items of income on the farm and off the farm, such as the independence of the farm operator compared with the dependence of the urban worker on his job, the open air nature of farm work, the generally poorer schools in the country, etc. It did not call for direct comparisons of current net incomes on farms with current net incomes off farms. Thus if current income data showed net farm income to be only half as much as nonfarm income (or twice as much) that would still represent income parity if half (or twice) were the relation that existed in the base period.

The Agricultural Act of 1948 changed the definition of parity farm income again. Title II, Sec. 201 (2), defined parity farm income as follows: “(2) ‘Parity,’ as applied to income shall be that gross income from agriculture which will provide the farm operator and his family with a standard of living equivalent to those afforded persons dependent upon other gainful occupation.” This new definition was incorporated in the Agricultural Act of 1949 and became effective on January 1, 1950.

This definition got away from the problems involved in any formula which includes a base period. It got away, for example, from the problem of what base period to use (one period might have a much higher or lower parity income than another). It also got away from the problem of continuous obsolescence of any base period. But it got into a different problem — the problem of comparing levels of living in different occupations. The new formula involved more than a simple comparison of farm and nonfarm dollar incomes. It required in addition the determination of differences in their purchasing power, as represented by their different levels

of living. So far, this new definition, while "effective January 1, 1950," has not been computed and put into actual use.

The Agricultural Act of 1948 also defined parity gross income for individual commodities as follows: "'Parity' as applied to income from any agricultural commodity for any year, shall be that gross income which bears the same relationship to parity income from agriculture for such year as the average gross income from such commodity for the preceding ten calendar years bears to the average gross income from agriculture for such ten calendar years." This was the first time that a method of apportioning income parity among the individual commodities was prescribed by law. Inasmuch as the over-all level of parity gross income could not be determined, this additional step has not had much significance.

### ALTERNATIVE MEASURES OF FARM INCOME

What income data are available which might make it possible to measure the economic status of farmers more accurately than the existing parity prices indexes, and permit parity *income* to be computed?

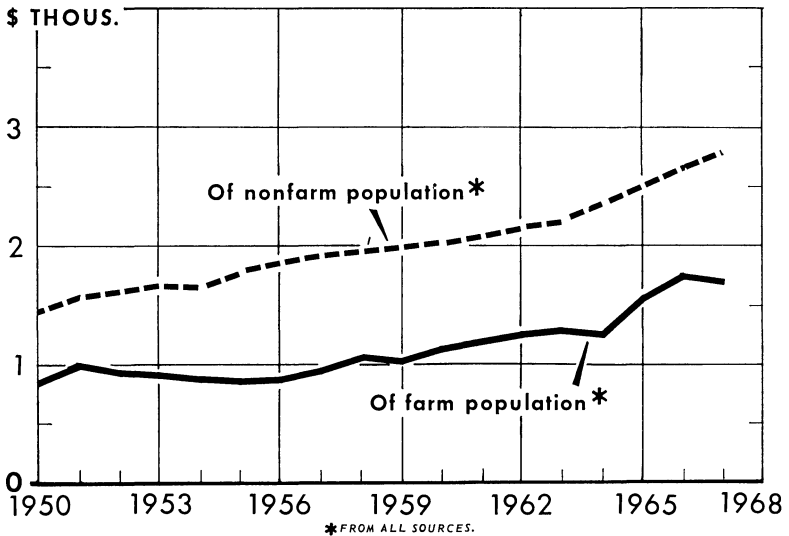
Measures of gross income (prices received times quantities sold) and of cost (prices paid times quantities purchased) are available, and they can be used to measure net income per farmer. The USDA compiles several measures of this character.

#### Farm Income Per Capita

The one that is most widely publicized is farm income per capita. It is shown in Figure 20.1 and Table 20.1. These data, in comparison with nonfarm income data, are often used as the basis for the statement that farm income is only about half as high as nonfarm income.

These figures, however, understate the average farm income per person in the usual sense of the word farm, because "farm" in this case is "farm" as defined by the Bureau of Census. This definition includes "farms" all the way down to 10 acres in size if the value of agricultural products sold is \$50 or more; it includes places of less than 10 acres if the value of sales or production of agricultural products is \$150 or more.

Most of the "farmers" on these small "farms" are not farmers at all in the ordinary sense of the term. Their chief source of income is a nonfarm job, not farming. About 1.3 million of these small farms are classed as noncommercial farms—part-time, residential, or subsistence farms. These are really acreages where city people



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Fig. 20.1 — Average farm income per person, farm and nonfarm, United States, annually, 1950-68.

live, rather than farms. They constitute more than a third of the total of 3.7 million farms of all kinds in the United States.<sup>1</sup> This large number of “not really farms” inflates the number of farms and farmers that is divided into the total United States net farm income, and therefore reduces the “average farm income” substantially below the average income for *commercial family* farms, with the part-time, residential, and subsistence farms taken out.<sup>2</sup>

In 1956, these part-time and residential farms, nearly one-third of all farms, made only 2 per cent of all sales of farm products.

<sup>1</sup>To include them in the farm average is about like computing the average salary of professors by including numerous graduate students receiving part-time stipends, if these stipends were very small and the graduate students lived chiefly on other sources of income.

<sup>2</sup>E. W. Grove and N. M. Koffsky made this point clear in their article, “Measuring the Incomes of Farm People,” *Journal of Farm Economics*, Vol. 31, No. 4, Part 2, Nov., 1949, p. 1, 110. So do K. L. Bachman and R. W. Jones, “Sizes of Farms in the United States,” USDA Tech. Bul. 1019, July, 1950, p. 7, where they say that this “often gives rise to serious misconceptions,” and show that excluding these noncommercial farms raises the average operator’s net income 27 per cent.

But Koffsky and Grove, in their later article, “The Current Income Position of Commercial Farmers,” Joint Committee Print, Policy for Commercial Agriculture, Nov. 22, 1957, pp. 79-90, overlook the matter, and conclude on the basis of United States average data that “the level of income per person on farms has averaged roughly one-half of the non-farm level.” By this they unwittingly give support to the “serious misconception.”

TABLE 20.1  
PER CAPITA DISPOSABLE PERSONAL INCOME OF FARM AND NONFARM POPULATION, 1940-66

Year	Income From All Sources			Per Capita Farm as Percentage of Nonfarm	Year	Income From All Sources			Per Capita Farm as Percentage of Nonfarm
	Farm popu- lation	Nonfarm popu- lation	Total popu- lation			Farm popu- lation	Nonfarm popu- lation	Total popu- lation	
	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Per cent</i>		<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Per cent</i>
1940.....	245	671	573	36.5	1955.....	854	1,772	1,666	48.2
1941.....	331	801	695	41.3	1956.....	885	1,850	1,743	47.8
1942.....	480	973	876	49.3	1957.....	927	1,902	1,801	48.7
1943.....	610	1,063	976	57.4	1958.....	1,062	1,915	1,831	55.5
1944.....	630	1,151	1,057	54.7	1959.....	1,001	1,998	1,905	50.1
1945.....	655	1,162	1,074	56.4	1960.....	1,103	2,014	1,935	55.0
1946.....	742	1,217	1,132	61.0	1961.....	1,191	2,051	1,981	58.1
1947.....	774	1,267	1,178	61.1	1962.....	1,236	2,131	2,062	58.0
1948.....	913	1,365	1,290	66.9	1963.....	1,294	2,198	2,134	58.9
1949.....	758	1,362	1,264	55.7	1964.....	1,282	2,350	2,278	54.5
1950.....	841	1,458	1,364	57.7	1965.....	1,545	2,484	2,424	62.2
1951.....	990	1,548	1,469	64.0	1966.....	1,717	2,636	2,582	65.1
1952.....	952	1,609	1,518	59.2					
1953.....	918	1,677	1,583	54.7					
1954.....	886	1,678	1,585	52.8					

Source: *Farm Income Situation*, USDA, July, 1967.

"Clearly, the welfare of the families on low-production farms is more closely linked with the expanding nonfarm sector of our economy than with agriculture as such."<sup>3</sup>

In addition, the estimates of net farm income value the farm products produced on the farm and consumed by the farm household at farm prices. There is some disagreement whether these products should be valued at farm prices or at retail prices. People in town have to buy their food at retail prices, so on the face of it, farm and nonfarm incomes would seem to be more nearly comparable if the food produced on the operator's own farm were valued at retail prices too. Against this it may be well argued that a gallon of peas in the pod just picked from the farm garden by the farm wife, for example, is not at all comparable with the package of frozen peas ready to put in the pot purchased by the city housewife. For another example, however, eggs from the henhouse are just as ready to cook as eggs in the retail store, and usually fresher.

On the average, farmers get less than half the consumer's retail food dollar. The USDA estimates that valuing the food that is included in farm income at retail prices would add a little more than \$100 to per capita farm income.<sup>4</sup>

The allowance for the value of housing provided by the farm, including taxes, insurance, interest, maintenance, and depreciation, in recent years has been about \$300 per farm. Average nonfarm rental runs about \$600. Many farm homes, of course, do not have indoor toilets or baths and other facilities that are usually found in urban homes; but most of them provide more room, quiet, and seclusion than the average urban home. Perhaps the USDA allowance is too conservative.

A part of the difference between the average farm and nonfarm income results from the fact that a large part of the farm population is concentrated in the South where incomes and prices are generally lower than in the North where industrial workers are concentrated. Income comparisons on a state or regional basis reveal about a 25 per cent smaller difference between farm and nonfarm incomes than the straight United States averages quoted above.

The USDA estimates that adjustment to take these food and housing and location matters into account would increase per capita farm income about 30 percent.<sup>5</sup>

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<sup>3</sup> *Economic Report of the President*, January, 1959, p. 99.

<sup>4</sup> S. Doc. 18.

<sup>5</sup> "Possible Methods of Improving the Parity Formula," Senate, 85th Cong., S. Doc. 18, 1957, p. 39.

### Income Per Farm Worker

Another answer concerning relative farm and nonfarm income is based on a comparison of income per farm worker<sup>6</sup> with the average annual wage per employed factory worker. These per worker income figures for 1961 were: farm, \$2,268; factory, \$4,802. Conclusion: Income per farm worker is only about half as high as income per factory worker. Income per farm *operator* was \$3,360 in 1961. This is only about 70 per cent as high as income per factory worker.

This situation appears to confirm the conclusion that is usually drawn from the per capita income figures given in the preceding section — that farm income is only about half as great as nonfarm income. But it is also misleading. The farm workers include the family workers, and the farm income includes a good deal of disguised partial unemployment, whereas the factory workers include only *employed* factory workers. The average farm worker's income data, therefore, understate the actual average income much as the per capita income data do, partly for the same reason and partly for different ones.

### ALTERNATIVE MEASURES OF PARITY FARM INCOME

The USDA, well aware of the characteristics of the United States average farm income data given above, has discussed their use in parity income computations in the following terms:<sup>7</sup>

The idea of parity income centers on the relation between incomes of farm people and incomes of nonfarm people. Generally, there are two basic approaches to the problem of determining parity income. One involves the maintenance of a historical income ratio which would provide for farmers' incomes and opportunities for a rising standard of living to grow at the same rate as others. The alternative approach would establish the standard of equal incomes or equal living standards as between farmers and others. Both approaches have appeared in the farm legislation relating to income parity. These alternatives lead to a wide range in results. Historical income ratios as between farm and nonfarm persons on which the two earlier parity income definitions were based indicate that incomes in agriculture in recent years were about at or above parity as compared with 1910-14. On the other hand, direct income comparisons tend to show that farm income falls far short of the nonfarm level, although there are considerable questions as to the meaning of measures of this kind.

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<sup>6</sup> *The Farm Income Situation*, July, 1962, p. 45. This is total United States realized net farm income from farming, including government payments, plus total farm wages, divided by the total average number of persons engaged in agriculture during the year, including farm operators and other family workers (except those doing housework only) as well as hired workers.

<sup>7</sup> S. Doc. 18, p. 39.

### Parity Income Based on Historical Income Ratios

Table 20.1 shows the available data on income per person living on farms from all sources, nonfarm as well as farm, and income per person not living on farms, from 1910 to 1958, as published regularly by the USDA. It should be noted that estimates of nonfarm income received by farm people, such as wages or salaries from nonfarm occupations, are not available prior to 1934. For purposes of indicating, at least roughly, how income ratios in recent years compared with the 1910-14 period, we have made an assumption that nonfarm income received by farm people in the 1910-14 period totaled \$1.5 billion annually. This is shown in Table 20.2. This assumption is based on the probability that poorer transportation in those days restricted nonfarm job opportunities to farm people as compared with recent years.

Figure 20.2 compares income ratios based on the 1910-14 base period, illustrating the definitions involved in the acts of 1936 and 1938 as follows:

(1) Ratios of per capita net income of the farm population from farming to per capita net income of the nonfarm population (1938 legislation). The data for 1956 indicate that the income ratio of farm people to nonfarm people was about the same as in the 1910-14 period, ranging from slightly above the pre-World War I base to slightly below, depending on whether or not income of the nonfarm population is adjusted to exclude nonfarm income received by farm people.

(2) Ratios of per capita net income of the farm population from all sources to per capita net income of the nonfarm population (1936 legislation). Assuming income from nonfarm sources averaged \$1.5 billion annually in 1910-14, this series indicates that the 1956 income ratio was

TABLE 20.2

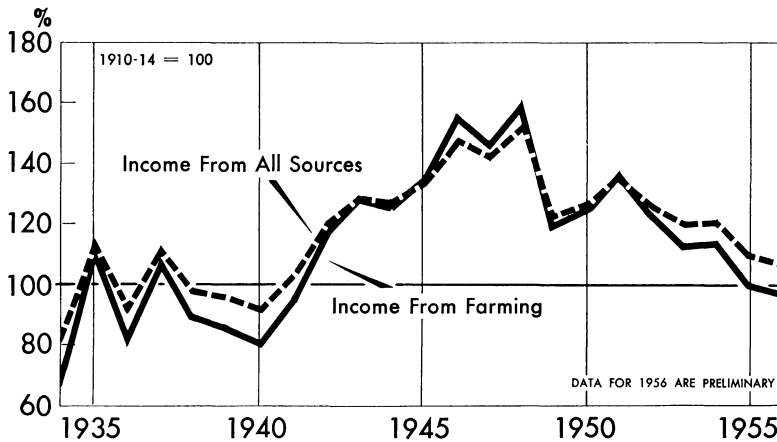
ILLUSTRATIVE PER CAPITA INCOME PARITY RATIOS OF FARM POPULATION TO NONFARM POPULATION, AS DEFINED IN AGRICULTURAL LEGISLATION OF 1936, 1938, AND 1934-56\*

Year	Ratio of Per Capita Income of Farm Population to Per Capita Income of Nonfarm Population		Year	Ratio of Per Capita Income of Farm Population to Per Capita Income of Nonfarm Population	
	Income to farm people from farming only (1938 legislation)	Income to farm people from all sources (1936 legislation)		Income to farm people from farming only (1938 legislation)	Income to farm people from all sources (1936 legislation)
1934	74	85	1946	159	149
1935	115	115	1947	150	144
1936	85	94	1948	162	153
1937	109	112	1949	122	124
1938	91	99	1950	128	128
1939	88	97	1951	139	136
1940	83	93	1952	125	127
1941	98	104	1953	116	121
1942	119	120	1954	116	121
1943	131	129	1955	102	111
1944	129	128	1956†	98	108
1945	138	134			

\* Note: Assumes nonfarm income of farm population averaged \$1,500,000,000 in the base years 1910-14. No reliable estimate of such income is available for that period. For more recent data, see Table 20.3.

† Tentative estimates; revised Mar. 5, 1957.





\* ASSUMED BASIS: NONFARM INCOME OF FARM POPULATION DEDUCTED FROM INCOME OF NONFARM POPULATION AND ASSUMED TO BE \$1.5 BILLION ANNUALLY IN 1910-14.

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Fig. 20.2 — Ratios of indexes, per capita income: farm persons and persons not on farms, 1934-56.

8 per cent higher than in the 1910-14 period. However, a considerable range is actually involved, depending on the assumption made with respect to nonfarm income of farm people in the base period. If the size of that income is assumed to total \$2 billion for the 1910-14 average, which would imply approximately the same rate of farmers' participation in nonfarm activities as in recent years, the 1956 income ratio would be 2 per cent lower than in the 1910-14 period. On the other hand, if farmers' participation in nonfarm activities was even less than first assumed, and nonfarm income was only \$1 billion for the 1910-14 average, the 1956 income ratio would be 20 per cent higher.

TABLE 20.3

ILLUSTRATIVE PER CAPITA INCOME PARITY RATIOS OF FARM POPULATION, AS DEFINED IN AGRICULTURAL LEGISLATION OF 1936, 1938, AND 1934-59

Year	Ratio of Per Capita Income of Farm Population to Per Capita Income of Nonfarm Population	
	Income to farm people from farming only (1938 legislation)	Income to farm people from all sources (1936 legislation)
1953.....	114	119
1954.....	115	120
1955.....	99	109
1956.....	94	105
1957.....	97	108
1958.....	117	123
1959.....	95	106

Note: Table 20.2 has been revised from 1953 forward, and this table from B. R. Stauber, USDA, presents the later data.

The index or ratio which compares income of farm people from all sources with income of nonfarm people appears to be more appropriate as a measure of farm well-being than the ratio including only the income of farm people from farming. Nonfarm income is becoming increasingly important as a source of income to farm people and as a means of maintaining or increasing living levels.

It should be noted also that comparison of these ratios need not be limited to the 1910-14 base period. If for example, the 10 years (1947-56) were considered as the base period, the ratio involving income per person on farms from farming would be 22 per cent under the base average ratio, and the ratio involving income per person on farms from all sources some 15 per cent lower. The parity price ratio for 1956 was also 15 per cent under the 1947-56 average.

Finally, in considering the appropriateness of historical income ratios, the comparison can involve other series such as earnings in agriculture as compared with earnings in selected other occupations, which are shown in Table 20.4 from 1929 to 1956. For example, the ratio of hourly earnings in agriculture, after allowance for capital investment, to hourly earnings in manufacturing could be used in place of an income ratio.

### **Direct Comparisons, Farm and Nonfarm**

The alternatives relating to direct standard of living or income comparisons between farm and nonfarm people present unusual and difficult problems of measurement and interpretation. For example, the Agricultural Act of 1948 defined parity income, effective January 1, 1950, as 'Parity,' as applied to income, shall be that gross income from agriculture which will provide the farm operator and his family with a standard of living equivalent to those afforded persons dependent upon other gainful occupation. 'Parity,' as applied to income from any agricultural commodity for any year, shall be that gross income which bears the same relationship to parity income from agriculture for such year as the average gross income from such commodity for the preceding 10 calendar years bears to the average gross income from agriculture for such 10 calendar years."

USDA has not been in a position to bring statistical meaning to this definition. The determination of equivalent standards of living involves much more than equivalent dollar incomes. A family's well-being depends not only on income but also on other factors such as the accumulation of assets and consumer goods over the years, the availability of adequate health and educational facilities, and such intangible factors as are involved in evaluating life in the country versus life in the city. It is noteworthy that indexes developed to measure changes in levels of living of farm operator families indicate that there has been persistent improvement each year in farm operator family level of living since 1951 despite declines in farm income during most of that period.

### **Commercial Family Farm Income, by Areas**

The preceding discussion has run in terms of national average incomes, with all the shortcomings of those incomes that have been pointed out. A more appropriate measure of farm income for our purposes is the average income for *commercial family farms*.

The USDA publishes another set of figures which show this income per commercial family farm, by types of farming in different

TABLE 20.4  
AVERAGE HOURLY EARNINGS IN AGRICULTURE AND IN SELECTED INDUSTRIES, 1929-59\*  
[Dollars]

Year	Workers in Agriculture		Production Workers in Industry†					
	Realized return per hour to all farm labor and management‡	Composite hired farm wage rate per hour	Manufacturing	Bituminous coal mining	Building construction	Class I railroads	Telephone	Wholesale trade
1929.....	0.259	0.241	0.566	0.681	.....	.....	.....	.....
1930.....	.172	.226	.552	.684	.....	.....	.....	.....
1931.....	.093	.172	.515	.647	.....	.....	.....	.....
1932.....	.055	.129	.446	.520	.....	.....	.....	.....
1933.....	.106	.115	.442	.501	.....	.....	.....	.....
1934.....	.172	.129	.532	.673	0.795	.....	.....	.....
1935.....	.203	.142	.550	.745	.815	.....	.....	0.648
1936.....	.232	.152	.556	.794	.824	.....	.....	.667
1937.....	.221	.172	.624	.856	.903	.....	0.774	.698
1938.....	.187	.166	.627	.878	.908	.....	.816	.700
1939.....	.199	.166	.633	.886	.932	0.730	.822	.715
1940.....	.200	.169	.661	.883	.958	.733	.827	.739
1941.....	.315	.206	.729	.993	1.010	.743	.820	.793
1942.....	.450	.268	.853	1.059	1.148	.837	.843	.860
1943.....	.610	.353	.961	1.139	1.252	.852	.870	.933
1944.....	.618	.423	1.019	1.186	1.319	.948	.911	.985
1945.....	.684	.472	1.023	1.240	1.379	.955	.962	1.029
1946.....	.858	.515	1.086	1.401	1.478	1.087	1.124	1.150
1947.....	1.010	.547	1.237	1.636	1.681	1.186	1.197	1.268
1948.....	.945	.580	1.350	1.898	1.848	1.301	1.248	1.359
1949.....	.803	.559	1.401	1.941	1.935	1.427	1.345	1.414
1950.....	.826	.561	1.465	2.010	2.031	1.572	1.398	1.483
1951.....	.920	.625	1.59	2.21	2.19	1.73	1.49	1.58
1952.....	.879	.661	1.67	2.29	2.31	1.83	1.59	1.67
1953.....	.874	.672	1.77	2.48	2.48	1.88	1.68	1.77
1954.....	.805	.661	1.81	2.48	2.60	1.93	1.76	1.83
1955.....	.754	.675	1.88	2.56	2.66	1.96	1.82	1.90
1956.....	.839	.705	1.98	2.31	2.80	2.12	1.86	2.01
1957.....	.776	.728	2.07	3.02	2.96	2.26	1.95	2.10
1958.....	.970	.757	2.13	3.02	3.10	2.44	2.05	2.17
1959§....	.716	.798	2.22	3.25	3.22	2.54	2.18	2.24

\* Data since 1956, and revisions of some data before 1956, from Murray Thompson, USDA.

† *Economic Report of the President*, Jan., 1957, p. 149.

‡ After allowance for capital investment; derived in Table 20.1.

§ Preliminary.

areas. These figures are compiled differently from those given above. They do not show income per farm for the United States as a whole; they show income per commercial family farm for each of the 32 chief types of farming, separately for each of the relatively homogeneous areas shown in Figure 20.3.

The average net income per farm for the past few years is computed separately for each area, and published annually in tabular form.<sup>8</sup> The most recent data are given in Table 20.5. The unweighted average of these incomes was \$12,098 in 1966.<sup>9</sup> This on the face of it looks like a pretty good income. It is about 107 per cent higher than the average annual wage per employed factory worker in 1966, \$5,842.

But before we conclude from this that average net farm income for commercial family farms really was substantially higher than nonfarm income, we need to recognize that these net farm income figures include what is called the "charge for capital."<sup>10</sup> Deducting this charge for capital from the net income leaves the return to the operator and his family for their labor and management only. This is done for 1966 in the right-hand column of Table 20.5.

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<sup>8</sup> *Farm Costs and Returns; Commercial Family-Operated Farms by Type, Size, and Location*, USDA, Agr. Info. Bul. 230, Oct., 1967.

These farm cost and income data are not obtained by a survey of actual farms. They are synthetic figures, calculated by applying estimated changes in prices, yields, inputs, etc., to model type farms. They are estimates of the average costs and returns, not of all commercial family farms in each area, but of the type of farming specified in each area.

<sup>9</sup> This unweighted average is not as accurate an average as if the data were weighted by the numbers of farms in the different types. These numbers are not available at present. I believe that this lack of accuracy is small compared with that of the other averages discussed in the preceding sections. In any case, national averages do not mean much because of the great diversity behind the averages, as shown in Table 20.5. I use them here only because they are used so much in national policy discussion. My chief point is made later with the diverse area data.

<sup>10</sup> "This charge is the current value of land and buildings times the current interest rate on farm mortgages on this kind of property in the area plus estimated current value of working assets (machinery and equipment, livestock, and crops on hand January 1) times the interest rate on intermediate and short-term farm loans," From: ARS, USDA, "Costs and Returns, Commercial Family-Operated Farms by Type and Size, 1930-1951," Stat. Bul. No. 197, Nov., 1956, p. 7.

"There are slight differences in our net farm income as presented in the various statistics on commercial farms and the net farm income released by AMS and given in figure 2, page 5, of AIB No. 176. Our farm series are based on owner-operated farms. Our net farm income therefore is the return to operator and family for their labor and management and for return on all capital or investment regardless of ownership. The net farm income used in figure 2 includes as expenditure interest on farm mortgage debt and net rent to nonfarm landlords," (Letter from Wylie Goodsell, Assistant Chief of Costs, Income, and Efficiency Research Branch, USDA, Dec. 17, 1959).

The charge for land and buildings in the charge for capital was computed differently before 1954, so the returns to operator and family labor before that date are not comparable with the returns for the years after 1954.



Fig. 20.3 — Locations of types of farms studied for income comparisons.

The labor and management returns are also more clearly comparable with the earnings of employed factory workers than the net farm income figures given above; they both show the returns to labor, not including a charge for capital in either case.<sup>11</sup>

The factory workers' earnings are not perfect for comparison with the labor and management returns to the farm operator. The factory workers' earnings do not include returns to management as the farm returns series does. Also, factory workers are not strictly comparable with farm operators in some other respects. Ordinarily, they do not exercise much management; that is the prerogative of "the management." Furthermore, any income from other members of the family is not included in the factory workers' earnings, whereas they are included in the farm series if the other members of the family worked on the operator's farm, as they do in most cases. But the author does not know of any other authoritative series which is more nearly comparable with farmers' returns for labor and management than the earnings of factory workers.

TABLE 20.5

NET FARM INCOME, SPECIFIED TYPES OF COMMERCIAL FARMS, 1966 WITH COMPARISONS\*

Type of Farm and Location	Average 1960-64	1965	1966†	Return to Operator and Family Labor‡
	(Dollars)	(Dollars)	(Dollars)	(Dollars)
Dairy farms:				
Central Northeast . . . . .	4,118	4,378	6,531	3,616
Eastern Wisconsin:				
Grade A . . . . .	6,429	6,104	9,650	5,147
Grade B . . . . .	3,284	2,948	4,927	1,906
Western Wisconsin, Grade B . .	4,109	4,454	6,707	4,428
Dairy-hog farms, Southeastern Minnesota . . . . .	4,334	5,274	8,004	4,464
Egg-producing farms, New Jersey	3,416	4,535	8,336	5,549
Broiler farms:				
Maine . . . . .	3,275	2,751	3,210	1,044
Delmarva:				
Broilers . . . . .	2,049	2,738	2,864	1,453
Broiler-crop . . . . .	5,978	9,026	6,589	2,776
Georgia . . . . .	819	1,547	2,246	972
Corn Belt farms:				
Hog-dairy . . . . .	6,975	10,216	13,589	8,738
Hog fattening—beef raising . .	3,805	7,853	8,631	3,990
Hog-beef fattening . . . . .	8,998	15,708	14,522	5,632
Cash grain . . . . .	11,708	14,964	16,110	4,717
Cotton farms:				
Southern Piedmont . . . . .	2,656	2,558	2,511	—90
Mississippi Delta:				
Small . . . . .	2,207	2,367	2,407	1,180
Large-scale . . . . .	32,506	30,631	38,248	16,841
Texas:				
Black Prairie . . . . .	3,985	4,661	6,875	2,594
High Plains (nonirrigated) . .	8,901	9,678	13,629	8,240
High Plains (irrigated) . . . .	16,414	16,950	17,914	9,048
San Joaquin Valley, Calif. (irrigated):				
Cotton-specialty crop . . . . .	35,111	82,750	21,087	445
Cotton-general crop (medium-sized) . . . . .	28,946	26,282	25,540	5,447
Cotton-general crop (large) .	87,030	73,740	66,794	—1,944
Peanut-cotton farms, Southern Coastal Plains . . . . .	4,563	6,772	6,214	4,194
Tobacco farms:				
North Carolina Coastal Plain:				
Tobacco . . . . .	6,350	5,303	6,163	3,307
Tobacco-cotton . . . . .	6,400	4,975	6,045	2,921
Kentucky Bluegrass:				
Tobacco-livestock, Inner area . . . . .	7,827	7,929	9,367	2,589
Tobacco-dairy, Inter- mediate area . . . . .	2,863	3,056	3,642	2,132
Tobacco-dairy, Outer area . .	5,370	5,866	6,543	3,395
Pennyroyal area, Kentucky- Tennessee:				
Tobacco-beef . . . . .	5,273	6,410	6,810	629
Tobacco-dairy . . . . .	5,467	6,870	7,617	3,070

TABLE 20.5 (continued)

NET FARM INCOME, SPECIFIED TYPES OF COMMERCIAL FARMS, 1966 WITH COMPARISONS\*

Type of Farm and Location	Average 1960-64	1965	1966 †	Return to Operator and Family Labor ‡
	(Dollars)	(Dollars)	(Dollars)	(Dollars)
Spring wheat farms:				
Northern Plains:				
Wheat-small grain-livestock . . . . .	6,672	9,716	10,500	6,470
Wheat-corn-livestock . . . . .	7,540	10,774	11,708	7,524
Wheat-fallow . . . . .	6,688	10,017	12,782	8,378
Winter wheat farms:				
Southern Plains:				
Wheat . . . . .	10,421	11,014	11,546	3,875
Wheat-grain sorghum . . . . .	10,199	11,789	12,731	4,345
Pacific Northwest:				
Wheat-pea . . . . .	14,414	18,874	23,455	10,449
Wheat-fallow . . . . .	13,807	14,171	22,057	10,841
Cattle ranches:				
Northern Plains . . . . .	6,387	7,599	7,549	2,036
Intermountain Region . . . . .	9,521	8,811	9,982	4,440
Southwest . . . . .	5,996	6,146	7,293	-4,008
Sheep ranches:				
Northern Plains . . . . .	10,067	14,695	13,217	6,405
Utah-Nevada . . . . .	12,966	18,158	17,872	7,807
Southwest . . . . .	7,477	9,312	11,778	-2,253

\* Source: *Farm Costs and Returns, Commercial Farms by Type, Size, and Location*, USDA Agr. Info. Bul. 230, Oct., 1967.

† Preliminary.

‡ Based on current interest rates.

Note: Information presented in the first three columns is on an owned-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.

#### SIGNIFICANCE OF THE RETURN TO OPERATOR AND FAMILY LABOR DATA

The simple United States average of the net farm incomes for commercial family farms in 1966 was \$12,098. The United States average "return to operator and family labor" after the charge for capital is deducted from the net farm income, derived from the right-hand column in Table 20.5, was \$4,199.

This \$4,199 is lower than the United States average "farm" income from farming of \$4,955 for 1966. Neither series is perfect for showing average farm income, but the data given in the table show more nearly what most people have in mind when they talk about farm income.

Two things need to be pointed out here. First, practically all the discussion about farm income is based on the United States average

“farm” data which include all census “farms” and provide the average farm income figure for 1966 of \$4,955 just quoted. Not one man in a thousand who quotes these figures ever quotes these other more meaningful figures for commercial family farms (\$4,199 for 1966), perhaps because in most cases he does not know that they even exist.

It is illuminating to compare average farm income with the incomes of similar small business entrepreneurs in other sectors of the economy. Discussions of farm income policy, which usually means commercial family farm policy, will not be very accurate until they are based on commercial family farm income data.

One such study was made by Kaldor *et al* which compared farm incomes on 16 well-organized Iowa farms in 1954–55 with the adjusted labor incomes of (1) managers of Iowa farm supply companies, (2) managers of Iowa cooperative elevator companies, and (3) production line foremen in two large Iowa manufacturing firms. The authors found that the farm incomes compared favorably with the other incomes, except under assumed market-clearing prices for farm products (at 65 per cent of parity).<sup>12</sup>

The second point is of a different nature. It concerns the dispersion behind the United States average farm income data. Table 20.5 shows that there are wide differences among the average returns to operator and family labor in the different areas. In 1966, the average returns to operator and family labor ranged from — \$4,008 for Southwest cattle ranches to \$16,841 for the large-scale cotton farms in the Mississippi Delta. The average net farm incomes in 1966 ranged from \$2,246 for the small broiler farms in Georgia to \$66,794 for the large cotton-general farms in the San Joaquin Valley in California.

Furthermore, most of these differences persist over long periods of time, even in contiguous areas. There is great variation from year to year due to weather and other such causes, but usually the incomes in most of the different areas stay in about the same relation to each other year after year. The high areas remain high and the low areas remain low.

Figure 20.4 shows these two essentials in graphic form. It shows the returns for two types of farming — hog-beef raising and hog-beef fattening — in two contiguous areas. The figure shows the net

<sup>12</sup> Don Kaldor, Raymond Beneke, and Russell Bryant, “Comparison of Resource Returns of Well-Organized Iowa Farms with Selected Nonfarm Opportunities,” Agr. and Home Econ. Exp. Sta., Res. Bul. 491, Iowa State University, Ames, Iowa, March, 1961.



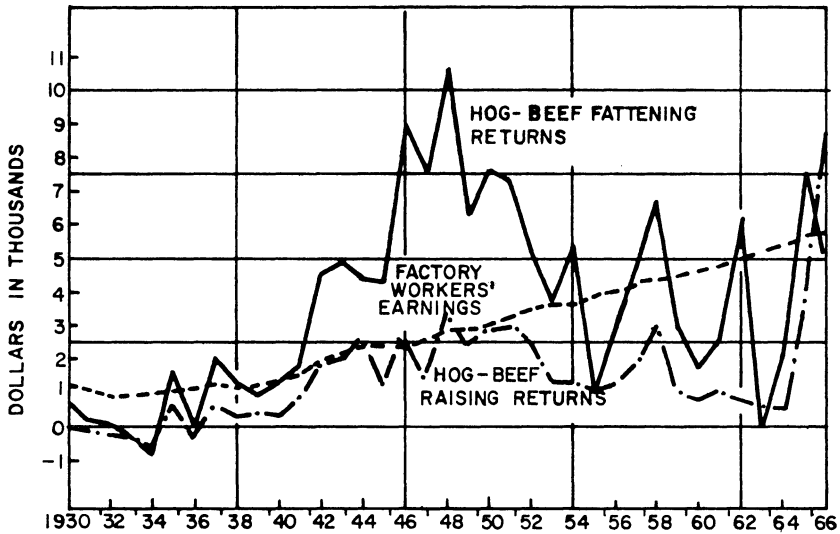


Fig. 20.4 — Comparison, factory workers' earnings with returns for hog-beef raising and fattening, 1930–66.

returns data for the two areas carried back to 1930, along with the earnings of factory workers.

This figure illustrates the essence of the real farm problem in a nutshell. It shows that the problem is twofold.

*First, income instability.* The urban income series rises fairly steadily over most of the period. But the farm returns series jumps all over the place — in the case of the hog-beef fattening series, from roughly 3 times as high as the urban series in 1948 to only half as high in 1955. The instability of the farm returns series stands out in marked contrast to the stability of the urban income series.

*Second, income level.* The chart shows also that the two farm series differ greatly from each other. Year after year, the returns to operator and family labor are about twice as high in hog-beef fattening as they are in hog-beef raising.

This chart illustrates why a price program is an inappropriate way to deal with farm income problems. A price program to help hog-beef raisers just after World War II would have helped hog-beef fatteners too, at a time when their incomes were already several times as great as factory workers' earnings. Or to put it the other way around — hog-beef fatteners did not need a program in 1947 and 1954, for example, but hog-beef raisers did; their returns in those years were less than half as high as factory workers' incomes.

What is needed is not price programs, which necessarily raise prices to all producers of the product alike, but income programs, by areas, for those types of farmers who need it.

And by income programs I do not mean direct income payments. Programs of that sort are like price programs in that they treat only the symptoms, and leave the basic disease, the maladjustment, untreated and in some cases aggravated.

In dealing with problems like these we could make much more use of the cost and income data that are already available — the original detailed data on which Table 20.5 is based. These data are published annually by the USDA.<sup>13</sup> They show, area by area, what the details of the costs and incomes for the different types of farming are, item by item. They show which costs have been increasing or decreasing, and give some indication why; which of the different sources of income have been increasing or decreasing; and so forth.

These are the kinds of data that a manufacturer would study if he had plants located in different parts of the country. He would study these data to find out which plants were unprofitable, and why, and what changes would be needed to make them profitable — conversion to other lines of production, expansion or contraction of scale, and so on.

Price policy alone would not solve this kind of problem; it might in fact make the disparity worse.

The inappropriateness of price programs as a solution for farm problems is shown also by a comparison of the returns to two kinds of farms in the Mississippi Delta — small and large-scale. The return for the small farms in 1960 was \$901; for the large-scale farms it was \$10,435 — more than 11 times greater. Even doubling the price support level for cotton would have brought the returns to the small farms only part way up to the level attained by the large farms.

Furthermore, even production-control programs that succeeded in raising prices by reducing acreage or changing the market structure probably would not increase net farm income in the long run if nothing were done to change the quantity or quality of the human factor, the farmer himself. Much of the gain probably would go to land, as it probably has over the past decade under the impact of new technology and the price-support programs. The average value of farm land and buildings per acre rose 131 per cent from 1950 to 1966, but the average per capita farm income rose only 104 per

<sup>13</sup> "Farm Costs and Returns: Commercial Family-Operated Farms by Type and Location," USDA, Agr. Info. Bu. 176, Oct., 1967.

cent (from \$841 to \$1,717) over the same period.<sup>14</sup> There is every reason to expect that the same thing would happen in the future if most of the attention continues to be focussed on programs for farm product prices and very little on programs for farm incomes.

The coal miners under John L. Lewis did not concentrate on programs to raise the price of coal in the hope that this would benefit coal miners; they concentrated on reducing the supply of miners and getting their incomes up. Farmers might well ponder that this has implications for their programs.

The compilation of parity income ratios by areas would show the economic status of farmers, not only for the United States as a whole but area by area. This would facilitate accurate identification of the problem areas within agriculture.

### A MEASURE OF PARITY INCOME

The preceding discussion of parity farm income leads to the following comment: The economic status of farmers can be more accurately measured by income per farmer than by prices alone. Several measures of farm income are compiled by the USDA. The one that reports the income of commercial family farms by type of farm in the chief producing areas could be compared with the incomes for comparable ability in other occupations. The ratios between the two, area by area and for the United States as a whole, could be used as income parity ratios.

Many problems would be involved in a shift from measures of parity prices to measures of parity incomes.<sup>15</sup>

### RECOMMENDATIONS

The parity-price ratio, and the parity prices for individual farm products, are evidently inappropriate for the purposes for which they are being used. One reason for this is that they were developed on the basis of what has turned out to be an incorrect diagnosis of the agricultural problem in the first place.

It is incorrect to diagnose the agricultural problem as a price problem, ignoring quantities and costs. In reality, the agricultural problem is an income problem; and it is not a *total gross* agricultural income problem, but a *net per farmer* income problem. This net per

<sup>14</sup> "Handbook of Agricultural Charts, 1967," Ag. Handbook 348, Oct., 1967, pp. 14, 27.

Both income from farming only and income per acre rose less than farm income from all sources.

<sup>15</sup> Some of these problems are discussed in "An Alternative Parity Formula for Agriculture," Iowa State Univ. Res. Bul. 476, Feb., 1960.

farmer income problem requires quite different programs from those that might solve a price problem.

What is needed is to develop and use new and more appropriate measures to deal with the farm problem. Using more recent price bases would, at least, bring the existing price indexes more up to date. Replacing them by per farmer net income indexes or actual dollar figures would be better, although it would take more time to work out the problems involved. Some of these problems are outlined below.

### **1. Weights Derived From Commercial Farms**

The quantity weights used in the existing parity price indexes could be based upon commercial farms (classes I through VI) rather than upon all farms as defined in the census. It would not include the part-time and residential and subsistence farms, which numbered 1,682,000 in 1954, roughly one-third of the total number of all farms, 4,782,000. Even with class VI included, these farms account for only about 3.5 per cent of the value of total farm products sold, but for 35 per cent of the expenditures by farm operators for living. They thus give an unrepresentatively large weight to family living in the parity index which is chiefly relevant to commercial farmers.

### **2. Separate Parity Indexes**

Consideration might well be given to computing separate parity indexes for some of the major farm products, in order to compare them with the single parity index now used for all farm products, measure their differences, and determine how great these differences are in relation to the costs of computing the separate indexes.

### **3. More Recent Bases**

The ancient 1910-14 bases now used in computing the parity price indexes could be replaced by bases that more closely represent "the kind of agriculture that is likely to prevail for some years ahead." New legislation would be required for this purpose.

To this end, the moving average of the most recent 10 years, already being used for the relations among the prices of individual farm products, could be applied to the indexes for all farm products as a group. Alternative bases might be 1950-59 or 1955-59. This base then would apply both to the indexes of prices paid and to the indexes of prices received.

Parity prices on this base would be more useful as well as more

representative of current conditions than parity prices on the present 1910-14 base. Most farmers are more interested in a measure of their economic status now, compared with their average status over the past 10 years, than they are their status in the horse-and-buggy 1910-14 period before most of them were born.

In principle, the weight bases could be the same as the price bases. But some features of this possible arrangement need to be considered.

a. If a moving average base, say for the past 10 years, were used both for prices and for weights, the index would not be an unequivocal price index. It would reflect changes in quantities as well as in prices.

Let us take the index of prices received as an illustration. Suppose that a drought or other disaster struck the country one year, and agricultural production declined 3 per cent, as it did in 1947, and prices rose 17 per cent, as they did then (although the drought was not the only reason why prices rose to that extent). The next year, the inclusion of 1947, when crop production was low, in the new 10-year average weights, would change the composition of the weights. The price index for 1948 therefore would reflect the change in the composition of the weights as well as the change in prices. Conceivably, prices from 1947 to 1948 might not change at all, but the price index would change because of the change in the composition of the weights for the different items in the price index.

This effect would be small, because the change in the composition of the weights for the 10-year moving average base would be only one-tenth as large as the change in the one year, 1947. It might be considered preferable to have this small change each year rather than have the large one that takes place when the weight base is moved from one fixed period to the next (such as the 3-point decline that took place in January 1959 when the weight base for the index of prices paid was moved up from 1937-41 to 1955).

b. The weight base for the index of prices paid could not well be a recent moving average, for a very practical reason of cost. The quantities of the different goods and services purchased by farmers are determined by a survey, and surveys are expensive. A period of 18 years elapsed between 1937-41 and 1959, when weight data from the survey in 1955 permitted the most recent revision to be made. The cost of making a fresh survey every year, to include in a moving average base, would be prohibitive. B. R. Stauber of the USDA suggests that regular 5-year intervals between weight-base years would be a reasonable compromise between cost and

obsolescence.<sup>16</sup> He further suggests that the revisions of the several major government indexes be based on the same weight-base and price-base periods.<sup>17</sup> We endorse these suggestions,<sup>18</sup> with the proviso that the price-base periods for the agricultural indexes include 5 or 10 years, so as to average out most of the effects of the irregular variations in production and prices which result from irregular year-to-year variations in weather.

#### 4. Measures of Parity Farm Income

The fundamental difficulty with the existing price support programs is that they use indexes of price instead of indexes measuring value received minus cost incurred, which provides net income. Parity-price indexes are inaccurate measures of economic status, because they are only price indexes, not value-received and cost-incurred indexes, showing net income. Neither do they permit a breakdown by type of farming or economic producing areas to show the economic status of farmers in those areas separately.

One possibility would be to include efficiency modifiers for farm products as a group and for individual farm products in the parity formula. Separate parity indexes for individual farm products could also be included. These have been computed experimentally for cotton, as shown earlier in this report.

This would be a step toward the measurement of income. There is something to be said on psychological grounds for making progress a step at a time. But this step would result in only an approximation, and would involve difficult problems of how the gains from technology should be divided between producer and consumer. It might seem better to go to measures of income directly.

Indexes of gross and net income, by type of farming in different economic areas, would provide relatively accurate and detailed measures of farmers' economic status. The basic data for measures of this sort have been compiled for years by the ARS, USDA; they are published annually in bulletin form, but are not widely used. These measures could be refined and extended and used to replace the existing parity-price indexes. These measures of net farm income, or measures of net returns to farm labor and management, area by area, could then be compared with the wages of industrial workers, or other nonfarm groups, with due allowance for differ-

<sup>16</sup> B. R. Stauber, "The 1959 USDA Index Revisions and Some Related Policy Questions," *Journal of Farm Economics, Proceedings*, Vol. 41, No. 5, Dec., 1959, p. 1286.

<sup>17</sup> *Ibid.*, p. 1288.

<sup>18</sup> *Ibid.*, p. 1302, discussion by Geoffrey Shepherd.

ences in purchasing power and other intangibles, to provide measures of parity income with incomes in other occupations.

### 5. Moving Average Price Bases for Loan Rates

Many farmers are alarmed at the thought of using more recent bases, because that would reduce parity prices, which have been used as the bases for loan rates. These farmers fear that the loan rates would be lowered along with the parity prices. But experience with storage programs in recent years has demonstrated that parity prices are anachronisms, unsuited as bases for loan rates used with price stabilization programs.

More suitable bases would be recent moving averages of market prices, such as have been adopted for corn. These averages integrate the forces of demand and supply objectively into a single price figure, which is well-suited to use as the basis for loan rates to attain the objective of smoothing out prices about their long-run market equilibrium level, without trying to raise that level.

This smoothing out of prices about their long-run market level is all that storage programs can do over the long run, and recent moving averages of market prices approximate this long-run equilibrium level closely enough to serve well as the bases for loan rates for this purpose.

Setting the loan rates about 10 per cent below the moving average price would provide a high degree of stabilization yet still permit the storage programs to recoup some of their costs from the sale of their stored products at (ideally) 20 per cent above their cost of acquisition, in years of short crops.

The moving average would have one shortcoming, in that it would always be a few years behind the times. This could be overcome by developing an index of demand, projected into the future and used to adjust the moving average price up or down as needed.

If the level of loan rates thus determined would provide incomes too low to be deemed acceptable, the causes of those low incomes would need to be determined and rectified by means appropriate for those causes.

The replacement of percentages of parity prices by moving averages of open market prices as bases for loan rates, would reduce the natural objection which farmers now feel toward the use of recent bases which would reduce the level of parity prices. For that reduction then would not reduce the level of loan rates.