## Appraisal of Parity Prices

For the first few years after the parity principle was developed, it was used only as a yardstick to measure how well off or badly off agriculture was, or as a general objective for agriculture. But in the Agricultural Adjustment Act of 1938, certain percentages of parity were written into law as the ranges within which the CCC was directed to set its loan rates on the "basic" commodities. In 1941 these ranges were replaced by a single figure, 85 per cent of parity, and the same percentage was prescribed for the price floors for nonbasic products. During the war, these percentages were increased to 90 per cent. Price ceilings that would result in prices for farm products below parity were also prohibited by law. And farm products acquired by the federal government may not be sold at less than parity prices.

Under present legislation, the prices of farm products ${ }^{1}$ are to be supported at not less than 90 per cent of parity ( 92.5 per cent in the case of cotton) for two full calendar years after the end of World War II has been formally proclaimed. Carrying this program through could easily involve losses or expenditures of a billion dollars or more.

Parity thus has become very important. It involves hundreds of millions of dollars in CCC loans, directly affects the incomes of farmers, and indirectly affects the nation as a whole. It is essential, therefore, that parity be given a careful appraisal commensurate with its importance.

This appraisal is offered below in two parts. First, an appraisal by H. R. Tolley, formerly chief of the Bureau of Agricultural Economics, well balanced but necessarily circumscribed by the circumstances of his position, is reproduced verbatim. Second, an appraisal of our own follows.

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## BAE APPRAISAL OF PARITY²

"The current parity formula does not attempt to measure cost of production in any of the usually accepted senses in which that term is used. Nor does the current parity formula endeavor to give farm and nonfarm families an equal standard of living. Instead, so far as it applies to standards of living, it is devised to give farm families an income that has the same relative purchasing power when compared with the incomes of nonfarm families as existed in the base period 1910-1914.
"There are, it might be noted, several distinct advantages that attach to the current method. To begin with, it is generally accepted among a surprising number of people-among farmers, consumers, administrative officials of the government, and legislators. This is an advantage that cannot be brushed aside or easily overlooked. After all, a method that has developed through almost two decades of controversy has proved its merit. There should be a strong case against it, before a suggestion that it be materially changed is really in order. Second, agricultural prices as a whole were at a relatively higher level as compared with nonagricultural prices during the five years preceding World War I than at any other time since the short war period, 1916 through 1918. This means that efforts to raise parity prices must either lead toward different base periods for different commodities or to a shift toward a substantially different method. And third, statistics for determining parity prices as they are now calculated are fairly easily available and, for the most part, are reasonably adequate. Some of the proposals now being discussed would either require statistics that are not now available, or would involve the use of statistics and methods that are none too logical. I am not saying this in an effort to prove that agricultural prices and farm returns were satisfactory in 1910 to 1914, but only to indicate some of the factors that must be considered if a shift is seriously proposed.
"There are, of course, any number of proposals for shifting the whole concept and method of calculation. Perhaps the best way to consider these proposals is to outline certain classes of approaches rather than to try to consider any specific proposal as such. There is always a tendency for the suggestions developed by different indi-

[^1]viduals and different groups to fall within a relatively small number of classes, even though each suggestion does have its own identifying differences and does become associated with some different group or background.
"One series of current suggestions proposes that the present parity method be replaced by a cost of production approach. As I have already indicated, this is one of the oldest suggested ways for measuring equality or fair returns for agriculture. So far, the cost of production proposals have always led to differences when the particular methods of calculating costs are discussed. That is, as an abstract proposal, the cost-of-production concept seems logical and is easily argued. But as a concrete proposal, it raises so many questions of judgment with respect to values to be placed on the labor of the farmer and his family and on farm land and equipment, and profits to be allowed, that it has generally been passed over whenever the effort was to work out a practical or administrable approach.
"A second series of suggestions proposes that the comparisons between farm and nonfarm prices be shifted to some other basis, or that some other index be substituted for the current index of prices paid. For the most part, these suggestions would take specially computed indexes for a commodity or type of farming, or some other economic index that would give a higher parity level than is provided by the index now being used. Proposals that special indexes be used for each of the important agricultural commodities, or for each of the important agricultural regions or types of farming, have considerable merit. As you all realize, it can very well be argued that a national index of prices paid, interest, and taxes is not the best index to use in comparing prices for milk with the cash costs of dairy farmers in the Northeast or the Midwest, or in the milkshed of some particular city like San Francisco or Detroit. But the statistical task of determining a whole series of regional or commodity indexes, and the arguments that would be raised along the route, make this approach difficult. And proposals simply to shift the basis for comparison away from the index of prices paid to some more favorable general index are, of course, always open to question, unless the new index better measures prices paid by farmers than does the current index.
"Another series of suggestions would require that the current parity prices for all commodities be redetermined in such a manner as to modernize the relations between prices received for each of the several commodities and yet leave the average level of parity prices
unchanged. This proposal, you understand, would say to consumers that the average parity price level for all commodities would remain unchanged, but in order to distribute more equitably the costs and benefits of the farm program, the parity prices for each of the individual commodities will be recalculated in such a way that all of them will be equally close to or equally far below the parity level. It is usually suggested that the price relations prevailing during 1934-1939 be used. Considered as an abstract suggestion, this proposal has merit. But you all will recognize that, practically, it would mean that parity prices of about one-half of the commodities would be raised above the present parity level and the parity prices for the other half would be lowered. The one-half of the farmers whose parity prices were raised would, of course, not seriously object, but the other half of the farmers would be almost certain to raise a big question, if not a big howl.
"And finally, there is a series of suggestions that assumes that farmers should obtain the same absolute income in dollars per capita or per family as nonfarmers, or at least a considerably greater relative income per capita than is provided by the definitions of agricultural prices and income carried in current farm legislation. Some of these suggestions ask that a weight of as much as 50 per cent be given to wage indexes of industrial and other nonfarm workers, while others assume that parity income should give farmers an absolute dollar income equal to one-half or two-thirds or the same total dollar income as is received per capita by the nonagricultural group. The proposal to use a wage index along with the prices-paid index has certain drawbacks. As far as prices paid by farmers are concerned, the wages of industrial labor are necessarily included in the prices paid for processed food or farm machinery or cotton clothing or whatever else is bought. As a result, this aspect of the wage situation is already measured in the prices-paid index. On the other hand, if it is argued that the wage indexes are used to measure the income that farmers should have available for family living and for savings, it would seem more appropriate to use average income per capita of the entire nonagricultural group than to use industrial wage rates or even weekly or monthly earnings of industrial workers, since the parity concept or principle should measure the differences between farmers and nonfarmers, rather than differences between farmers and some special classes or groups in the nonagricultural field. As for the proposals to give farmers some specified or
relative income, they often fall in much the same class as the cost of production proposals, as well as bring up the question of whether dollar incomes of farmers and nonfarmers can be directly compared.
"In conclusion, I should like to point out that the welfare of farm people is dependent upon many other things besides parity prices and the methods by which they are calculated. Parity income and parity prices are important, of course, but they serve only as standards against which to measure prices and incomes received from commercial sales by all farmers. There are many other ways by which farm standards of living can be improved. The whole parity price and income concept, for example, has little bearing on the incomes and standards of living of that 50 per cent of the farm population who operate very small farms or who work as farm laborers and who account for not more than 15 or 20 per cent of our total farm production. There are plenty of other problems in the farm field; and although we want to work out the best parity price and income measures that can be devised, we must never forget that these are, after all, only a part of our whole farm program."

## OUR APPRAISAL OF PARITY

Our own appraisal of parity deals with its accuracy as a yardstick for measuring the economic well-being of farmers, and as an objective for price policy.

The call for parity is basically a call for the same prices for farm products that existed in 1909-14. But the prices of the goods and services that farmers buy have risen since that time, so the 1909-14 prices are multiplied by the current index of the prices of the goods and services that farmers buy. That is all that parity means-1909-14 prices, raised or lowered to the same extent that the prices of the goods and services that farmers buy have risen or fallen since then. The concept of parity, therefore, is essentially simple. How well does it stack up as a yardstick of agricultural well-being?

1. One of the good features of the parity concept is that it does not call for absolute prices- $\$ 1$ per bushel for wheat, for examplebut for prices that change with changes in the cost of things that farmers buy. The prices of these things change sluggishly, somewhat later than the prices of farm products, and they change less than farm prices; but at least, they usually change in the same direction. Thus the law calling for loan rates at certain fixed percentages of parity is more realistic than a law that would call for loan rates at
certain fixed figures in dollars and cents. Except for the lag, parity prices could represent a reasonable compromise between the fixed prices that some farmers would like to have and the extremely flexible prices that they have had in the past.
2. One of the obvious shortcomings of parity is the fact that it does not include the most important item of cost-farm labor. In 1933, the cost of hired labor amounted to 10 per cent of the total production expenses of farm operators; in 1945, it amounted to 20 per cent. Labor is the biggest single item of expense in the farm budget. It is four or five times as large as item as taxes. ${ }^{3}$. But taxes are included in the computation of parity, while the cost of labor is not.

During the first part of 1943, legislative attempts were made to get the cost of farm labor included in the parity formula. The reason for these attempts was the fact that farm labor costs had risen. Including them in the formula would have raised parity prices by several points. During depressions, the inclusion of labor costs would decrease parity prices. The attempt, therefore, was made to have labor costs included only for the duration of the war-that is, only while it would raise parity. The propriety of this attempt was open to some question, and the attempt itself proved unsuccessful. It seems obvious that the accuracy of the parity formula would be increased if it included farm labor costs, in peace time as well as in war.
3. In order to measure the economic status of farmers accurately, an index of parity would need to be an index of parity incomes, not prices. It would have to take into account the quantities produced per farm or per person on farms, as well as the prices per unit of the goods sold. In other words, it would have to be an index of gross income.

But of course even an index of gross income would not measure economic status. Gross income may increase, but if costs rise more, net income will be less, not more, than before. Accordingly, what is needed is not only an index of gross income (prices $\times$ quantity produced) but also an index of the costs of producing the commodity, to be subtracted from the gross income to give the net income.

Agricultural production in the United States for sale and for consumption in the farm home increased from an index of 82 during

[^2]1910-14 (the base being $1935-39=100$ ) to 128 in 1943,136 in 1944,4 and 135 in 1945. This is an average increase of 62 per cent over the $1910-14$ base period. The number of people on farms decreased 20 per cent over the same period, ${ }^{5}$ so agricultural production per person on farms more than doubled ( 80 goes into 162 more than twice). If parity prices had been attained in 1943-45, gross incomes per person on farms would have been more than twice parity; for the volume of sales per person on farms would have doubled.

These are gross income figures. The net income per person on farms is more difficult to estimate, but the BAE puts the 1943-45 net income at 412 per cent of the 1909-14 average. ${ }^{6}$ The data by years since 1910 are given in Table 26.

With the passage of time since 1909-14, then, parity prices now understate per capita agricultural gross income about 50 per cent, and net about 75 per cent. They do not bring parity income. They bring double or quadruple parity income. The actual economic status of agriculture exceeds the status indicated by the parity yardstick by the percentages just given. No engineer could get along with a yardstick that measured a space of one foot as two or three feet. Economists have similar difficulties with parity.
4. The index of prices paid by farmers is inaccurate for the same reason that the index of prices received is inaccurate. It shows only the prices of the things that farmers buy, not the quantities. It therefore does not show the total amount of money paid out by farmers, any more than the index of prices received shows the total amount of money received by farmers. The index of the prices of things farmers buy might stand at 100, but if farmers now buy twice as much machinery, fertilizer, etc., as they did in 1909-14, they would be paying out an amount that should be represented by 200, not 100. The index shows only the prices, not the cost (prices $\times$ quantities) of things that farmers buy. ${ }^{7}$

The index of the prices paid by farmers is inaccurate for another reason. It is a single factor for the whole United States. This index is based upon the prices of 180 goods and 2 services (interest and taxes) used for living and production, with each good and service

[^3]TABLE 26
Income per Farm, Income per Person on farms and Not on Farms, Wages per Industrial Worker, and Income Parity Index, United States, 1910-45

| Year | Net Income From Agriculture per Farm | Net Income From Agriculture per Person on Farms | Income per Person Not on Farms | Ratio per Capita Farm Income to per Capita Nonfarm Income (1910-14 $=100$ ) | Average Annual Wages per Industrial Worker |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | 699 | 139 | 482 | 105 | 573 |
| 1911. | 613 | 122 | 468 | 95 | 562 |
| 1912. | 675 | 135 | 483 | 101 | 575 |
| 1913. | 680 | 136 | 521 | 95 | 600 |
| 1914. | 697 | 140 | 484 | 105 | 603 |
| 1915. | 674 | 135 | 502 | 97 | 622 |
| 1916. | 771 | 155 | 580 | 97 | 694 |
| 1917. | 1,274 | 258 | 640 | 146 | 818 |
| 1918. | 1,482 | 304 | 671 | 164 | 1,064 |
| 1919. | 1,527 | 319 | 762 | 152 | 1,188 |
| 1920. | 1,298 | 265 | 878 | 109 | 1,411 |
| 1921. | 584 | 119 | 720 | 60 | 1,234 |
| 1922. | 745 | 153 | 718 | 77 | 1,182 |
| 1923. | 876 | 180 | 815 | 80 | 1,274 |
| 1924. | 876 | 180 | 792 | 82 | 1,273 |
| 1925. | 1,078 | 223 | 812 | 100 | 1,293 |
| 1926. | 1,044 | 216 | 858 | 91 | 1,318 |
| 1927. | 1,009 | 209 | 820 | 92 | 1,311 |
| 1928. | 1,067 | 222 | 830 | 97 | 1,323 |
| 1929. | 1,072 | 223 | 871 | 93 | 1,334 |
| 1930. | 813 | 170 | 761 | 81 | 1,249 |
| 1931. | 545 | 114 | 605 | 68 | 1,130 |
| 1932. | 350 | 74 | 442 | 61 | 929 |
| 1933. | 445 | 93 | 419 | 81 | 900 |
| 1934. | 522 | 111 | 488 | 83 | 983 |
| 1935. | 742 | 159 | 540 | 107 99 | 1,058 |
| 1936. | 807 | 171 | 626 | 99 | 1,130 |
| 1937. | 943 | 197 | 671 | 107 | 1,219 |
| 1938. | 798 | 165 | 622 | 96 | 1,134 |
| 1939 | 847 | 173 | 663 | 95 | 1,205 |
| 1940. | 898 | 181 | 720 | 90 | 1,273 |
| 1941 | 1,251 | 253 | 849 | 107 | 1,495 |
| 1942. | 1,876 | 389 | 1,045 | 133 | 1,848 |
| 1943. | 2,349 | 522 | 1,250 | 149 | 2,176 |
| 1944. | 2,385 | 550 | 1,320 | 149 | 2,324 |
| 1945. | 2,509 | 585 | 1,294 | 162 | 2,250 |

Source: BAE, USDA, Net Farm Income and Parity Report: 1943, July, 1944, pp. 12, 14, and 16, and The Farm Income Situation, BAE, USDA, June, 1946, pp. 23-4.
weighted according to its purchases by farmers, as shown above. The index thus shows the cost of goods and services for the average farmer in the United States.

But actual farmers are not average farmers. They are cotton farmers, using cotton machinery, fertilizer, and labor; they are Cornbelt farmers, using corn planters, pickers, etc.; they are wheat farmers, using "one-way's" and combines; they are truck farmers, ranchers, fruit growers, etc., each with his own list of goods and services purchased, differing from that of the others. The United States (average) index doesn't accurately represent any of them.

Attempts to correct this inaccuracy of parity would probably bog down in complications. A separate index of the prices of goods and services bought by farmers could be constructed for each state. But that would not be accurate either, for most states include several different types of farming, each with its different costs. In addition, the indexes would differ from state to state (else there would be no need for constructing state indexes). So parity prices for the same commodities would differ from state to state, in ways that would not necessarily conform to actual market price differences among different states.

Since states are arbitrary political divisions cutting across economic divisions, a better procedure would be to set up separate indexes of the prices of goods and services bought by farmers, not by states but by commodities or types of farming. But this, too, would run into complications. An index for wheat or for wheat farming built on the cost of growing wheat in the western plains would not fit the central or eastern states, where binders and threshing machines are used rather than combines. There would have to be a break between the two areas, or a gradual shading from the one to the other. The results in any case would show only the prices per unit of goods and services bought, not the cost (prices $\times$ quantities).
5. Parity prices suffer from the fundamental conceptual defect that they apply the same standard to all agricultural commodities, with their great heterogeneity; and the standard is more than thirty years out of date.

Parity prices might be defended on this score on the grounds that they are fair; they treat the producers of all the different crops alike. But there is an obvious fallacy in this defense. The crops are different, and their costs of production have changed by different amounts since 1909-14. Even if the relative changes that have taken
place in demand could be ignored (which they cannot be) the costs of producing different crops have changed since 1909-14, and price controls that are based on 1909-14 prices do not now treat the producers of different crops alike.

It is difficult to get accurate estimates of changes in costs of production, but good estimates have been made of changes in the largest single item of cost, man-hours per unit of product. The man-hours required to produce 100 bushels of wheat in the United States have been cut in half since World War I. They declined from 89 in 1909-13 to 41 in 1934-36; in the small grain region they dropped from 78 to 31 , as compared to a decline from 128 to 93 in the northeastern states. The man-hours required to produce 100 bushels of corn, however, declined only from 109 to 90 for the United States as a whole; they fell from 57 to 49 hours in the corn area and remained virtually unchanged in the southeastern part of the United States. ${ }^{8}$ The data for vegetables go back only to 1918-21, but they show that the manhours required in this case rose 5 per cent as yields in some areas declined and as trouble with diseases and insects increased. ${ }^{9}$

Another more recent study, giving average labor requirements for different crops over the period 1930-39, states that the man-hour requirements for producing 100 bushels of wheat in the plains states averaged about 50 , while the requirements for corn in the Corn Belt averaged about 65. (Data for the United States as a whole are not given in this study.) These figures are both higher than the figures quoted above in the earlier investigation for 1934-36. The two studies are not strictly comparable, because of the differences in the dates, and perhaps for other reasons as well. But both of them show that the labor requirements per bushel for wheat in the main Wheat Belt are lower than the labor requirements for corn in the main Corn Belt. ${ }^{10}$

A considerable decrease has taken place in the labor requirements for corn since the periods covered by these two studies (1934-36 and 1930-39) owing to the extensive use of hybrid corn. This has increased yields 15 to 20 per cent. It has increased the labor requirements per acre only to a small extent, if at all (the increased number of bushels per acre increases the cost of harvesting

[^4]only if the husking is done by hand on a payment-by-the-bushel basis; most of the corn nowadays is harvested by machine, and the increased number of bushels per acre increases only the costs of hauling the corn away). Not much change has taken place in wheat labor requirements during the past few years. Even a 15 or 20 per cent reduction in corn labor requirements per bushel, however, still leaves them higher than the labor requirements for wheat.

To the extent that these changes in labor requirements represent relative changes in costs of production, they show that it is not fair to give all producers the same percentages of parity. For the labor requirements of some crops have declined more than 50 per cent* while those of others have risen 5 per cent. If the cost of producing wheat has declined, let us say, 35 per cent, while the cost of producing vegetables has risen 5 per cent, it is obviously not fair, but unfair, to give both of those crops parity prices now.

If proper account were taken of changes in costs, changes in demand also would need to be reckoned with. The 1909-14 parity price for horses in January, 1945, for example, was $\$ 136 \times 1.72=$ $\$ 233.92$ per head. But the demand for horses has declined so much that the actual price on that date was only $\$ 64.60$. The parity price was clear out of line with economic realities. The same thing is true, only in lesser degree, of some other farm products.

Parity prices for most industrial products would be as unsatisfactory as they are for some farm products. Farmers would not want to pay automobile manufacturers 1909-14 parity prices for automobiles, for they would average over $\$ 2,000$. Nor would they want to pay parity prices for electric light bulbs, for they would average over $\$ 1.00$.
6. Finally, prices are one of the chief instruments for controlling production. Adherence to parity requires restoration of the 1909-14 relationships, but those are entirely obsolete. The demands for different products have changed greatly since 1909-14 and will continue to change in the future. The relative costs of production have also changed. Thus, the relative prices that will call forth the desired production of different farm commodities have changed markedly since 1909-14. The great weakness of parity is that it looks backward at the past instead of forward into the future. It is like the legendary bird that flies backward because it is more interested in where it came from than in where it is going.

Schultz puts it in a nutshell. "Parity prices as defined in farm legislation are wholly obsolete, backward looking, and inappro-
priate criteria for determining the price relationships between farm commodities. While it is neither possible nor necessary to formulate at this time the price relationships that will be appropriate in the postwar period, it is possible to lay down the principles that should determine farm prices. It is the function of farm prices to guide and direct the use of agricultural resources. To do this, farm prices must be forward-looking; they must reflect the food situation in prospect, the expected demands and supplies which represent food needs, and the capacity of agriculture to produce. It is not the function of farm prices to maintain the status quo of farmers' prices or incomes; nor to maintain food prices to consumers at a given level. Farm prices are not an appropriate means for maintaining a given distribution of farm income except as this occurs coincidentally with the better use of agricultural resources. To do the job of production, farm prices cannot be static; they cannot be governed by the dead hand of past price relationships. To make them historical is to destroy their usefulness as a means for directing agricultural production." ${ }^{11}$.

## PARITY NET INCOME

By all odds, net income provides a more accurate measure of agricultural well-being than prices. A good deal depends, however, upon the definition of 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 a rapid 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. ${ }^{12}$ In the Agricultural Adjustment Act of 1938, therefore, the

[^5]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." A supplementary definition of parity income to be used in apportioning parity payments among individual crops appears in later legislation. But the definition quoted above remains in effect for the general purpose of appraising the economic status of farmers.

The 1938 definition of parity income differs from the 1936 definition in four respects. (1) The term "net" is used; it is 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 includes income from farming operations only. (4) The limitation "as determined from statistics available in the USDA" is omitted. ${ }^{13}$

The 1938 definition avoids some of the difficulties inherent in measurements of net income. The existing farm income statistics need substantial revision before they can be used for current comparisons with nonfarm incomes. The estimates of net income per person in agriculture do not include income from nonagricultural sources (the estimates of net income per person not on farms do include income from agricultural sources). The net income to persons on farms from nonagricultural sources is a considerable item. In 1935-39 it averaged 2.1 billion dollars, compared with 5.4 billion dollars from farming operations. It would seem that the estimates of income per person in agriculture should include the income from all sources if they are to be compared with the estimates of income per person outside of agriculture. One of the reasons why the income from nonagricultural sources is not included in the income parity computations is that estimates are not available for the base period 1909-14. This reason would disappear if a more recent base period were adopted.

The inclusion of income from nonagricultural sources still would leave some considerable inaccuracies in the estimates for purposes of comparison with the net incomes of other groups. Farmers

[^6]ordinarily get only about 50 per cent of the retail value of the food they produce. The estimates of net farm income, however, value the farm products consumed by the farm household at farm prices. If those products were valued at retail prices, as they should be for comparability with nonfarm conditions, that would have increased the net income to persons of farms in 1939 by more than 20 per cent. The rental value of farm dwellings, estimated in 1939 at $\$ 110$ per year per farm, also is perhaps about 50 per cent low by comparison with the rental value of comparable dwellings and sites in town. Other items-taxes, charges for depreciation on equipment, etc.also may need checking for comparability.

Finally, the existing net income figures do not include the nonmonetary items of income on the farm and off the farm-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.

The 1938 definition of net income, however, avoids these shortcomings. It does 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.

This comparison relative to the base period, without reference to changes in the purchasing power of either farm or nonfarm income, assumes that the prices paid by farm and nonfarm people have risen and fallen fairly similarly. It also assumes that the nonmonetary items have not changed much relatively. These assumptions correspond reasonably closely to the facts, and the reference to the base period permits evaluation in terms of real income or purchasing power without deflation of the incomes for changes in the prices of the things those incomes buy.


[^0]:    ${ }^{1}$ Not all farm products, but products which amount to about two-thirds of the total value of agricultural production.

[^1]:    ${ }^{2}$ Agriculture and the Parity Yardstick, by H. R. Tolley; address before the National Cooperative Milk Producers Federation, Chicago, Ill., November 11, 1941, BAE, USDA, pp. 7-10.

[^2]:    ${ }^{3}$ The Farm Income Situation, BAE, USDA, June, 1946, p. 26.

[^3]:    * Agricultural Statistics, 1945, USDA, p. 437.
    ${ }^{5}$ The Farm Income Situation, BAE, USDA, June, 1946, p. 23.
    ${ }^{6}$ Ibid., p. 23.
    ${ }^{7}$ The weights used in the calculation of the price index are rather out of date. They are based upon expenditures in 1924-29.

[^4]:    ${ }^{8}$ John A. Hopkins, Changing Technology and Employment in Agriculture, BAE, USDA, May, 1941, pp. 118 and 123.
    ${ }^{\circ}$ J. C. Schilletter, Robert B. Elwood, and Harry E. Knowlton, Vegetables, WPA, National Research Project, September, 1939, p. 85.
    ${ }^{10}$ M. R. Cooper, W. C. Holley, H. W. Hawthorne, and R. S. Washburn, Labor Requirements for Crops and Livestock, BAE, USDA, mimeo., May, 1943.

[^5]:    ${ }^{11}$ This paragraph is taken from "Transition Readjustments in Agriculture," by T. W. Schultz, Journal of Farm Economics, XXVI, February, 1944, No. 1, p. 83.
    ${ }^{12}$ See the discussion of "Income Parity for Agriculture," by O. C. Stine, M. R. Benedict, and J. D. Black in Studies in Income and Wealth, I National Bureau of Economic Research, 1937).

[^6]:    ${ }^{13}$ A more detailed appraisal of these and other points is given in E. W. Grove's able article, "The Concept of Income Parity for Agriculture," Studies in Income and Wealth, VI, National Bureau of Economic Research, 1943, pp. 97-139.

