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Purchasing Power of Urban, Rural Nonfarm, and Rural Farm Income, 1955

By Horace L. Puterbaugh

Measures of per capita dollar incomes seem, at first hand, to be a good simple first approximation to obtaining some idea of the differences that exist between farmers' living standards and those of nonfarmers at any one point in time. But unfortunately, the following factors, among others, make the correspondence of income and living standards difficult: (1) The consideration of assets accumulated by both groups, (2) differences between farm and city "ways of life," (3) valuation problems with respect to dwellings, especially farm dwellings, (4) valuation of home-produced food and fuel consumed on the farm, and (5) differences between prices paid by farmers and nonfarmers for the goods and services they consume. This paper is addressed to item 5. In other words, after obtaining measures of income for both farm and nonfarm populations, and adjusting them for factors 1, 2, 3, and 4, is there left enough difference between the purchasing powers of such incomes to warrant a further adjustment in the basic income estimates to translate them into comparable measures of living standards? This is the question that the author of this article examines.

DIFFERENCES in the food purchasing power of incomes among urbanization groups, within particular regions, (Northeast, North Central, South, and West) is not great, if home-produced food is evaluated at retail prices. The method of evaluation used for home-produced food will influence greatly the purchasing power comparisons, since in the Household Consumption Survey of 1955, home-produced food as a percentage of total food consumed at home, varied from 2 percent in the urban Northeast to 47 percent in the rural farm South (table 3).

The greatest difference, as might be expected, was between urban and rural farm groups. Between rural nonfarm and rural farm groups the difference was relatively small. The latter comparison is of particular importance in view of the fact that the rural nonfarm group is increasing in size relative to the rural farm group and that farm-nonfarm income comparisons usually combine the rural nonfarm income with urban income to form the nonfarm total.

Fresh vegetables and fruit and vegetable juices tended to be slightly more expensive in the farm group than in the urban group. Presumably, this is because large quantities of these items are first transported to large city markets and then back to rural-area markets.

If the four regions are combined using population figures in the respective regions as weights, the overall food purchasing power is approximately 4 percent greater in the rural nonfarm than in the urban, 8 percent greater in the rural farm than in the urban, and 3 percent greater in the rural farm than in the rural nonfarm (table 1). Weighting the differences between rural farm and rural nonfarm (3 percent) and between rural farm and urban (8 percent) by population figures, the differential is approximately 6 percent greater food purchasing power in the farm sector than in the combined nonfarm sector for the United States as a whole.

With the differential in food purchasing power between the farm and nonfarm segments of the economy estimated at about 6 percent and the purchasing power differential of nonfood items (excluding medical care, housing, and clothing) estimated to be about 1 percent, a purchasing power approximately 2 or 3 percent higher for the farm segment as compared with the nonfarm segment is indicated for 1955. This overall estimate is based on weights developed from the 1955 relative importance of consumption items in the Consumers Price Index and in the Index of Prices Paid by Farmers.

TABLE 1.—*Food purchasing power comparisons of incomes by urbanization groups, incomes \$0-\$5,999, United States, 1955*¹

Item	Percentage of urban expenditures	Percentage cost of urban budget in:		Percentage of rural nonfarm expenditures	Percentage cost of rural nonfarm budget in:		Percentage of rural farm expenditures	Percentage cost of rural farm budget in:	
		Rural non-farm	Rural farm		Urban	Rural farm		Urban	Rural non-farm
Milk, cream, ice cream, and cheese..	15.202	93.4	93.4	15.485	106.7	100.8	19.463	105.9	98.8
Fats and oils.....	4.187	102.6	99.3	4.996	100.2	97.5	5.829	104.5	102.9
Flour and other cereal products.....	3.463	100.9	97.2	5.134	102.6	98.6	6.180	107.8	104.5
Bakery products.....	7.274	99.2	96.6	6.867	101.2	97.8	4.667	103.5	103.2
Meat, poultry, and fish.....	33.681	94.1	89.1	29.881	106.1	94.3	27.899	112.7	106.8
Eggs.....	4.179	91.1	81.3	4.427	109.7	89.7	4.488	123.4	113.2
Sugar, sweets.....	2.972	98.4	93.5	4.030	100.2	94.0	4.429	107.0	109.7
Potatoes and sweetpotatoes.....	2.111	94.0	91.0	2.486	107.6	99.6	2.396	108.4	99.9
Fresh vegetables.....	5.718	104.9	102.8	5.915	96.6	100.8	6.875	97.1	98.8
Fresh fruits.....	4.679	91.8	86.4	4.949	110.9	96.8	5.189	118.4	105.3
Commercial frozen fruits and vegetables.....	.855	100.6	99.9	.629	97.9	93.6	.201	111.9	110.7
Commercial canned fruits and vegetables.....	3.680	99.0	98.1	3.277	101.1	98.8	2.226	100.9	99.9
Fruit and vegetable juices.....	1.497	108.5	104.9	1.166	101.7	105.0	.821	96.6	96.0
Dried fruits and vegetables.....	.489	107.7	95.3	.779	97.9	91.5	1.165	104.7	109.0
Beverages (nonalcoholic).....	5.655	100.6	99.0	5.840	100.1	99.4	4.920	101.8	102.8
Miscellaneous foods.....	4.358	95.3	89.5	4.139	108.4	98.7	3.252	110.8	105.2
Total.....	100.000			100.000			100.000		
Weighted average.....		96.4	92.8		104.4	97.1		108.4	103.9
Reciprocal of weighted average.....		103.7	107.8		95.8	103.0		92.3	96.2

¹ Regional figures weighted by population in each region.

No attempt was made in this study to relate price with quantities purchased. Since families are somewhat larger in rural than in urban areas, it is possible that purchases are made in larger quantities in the rural areas. If larger quantities are bought at lower prices, this would tend to reduce the indicated price differential between urban and rural urbanization groups.

If the results of this study are used to develop a purchasing power adjustment factor to be applied to ratios of incomes among the various urbanization groups, care must be taken to insure comparability between procedures used for treating nonpurchased food in this study and in the income ratio calculation. For example, agricultural income would need to include nonpurchased food valued at retail prices.

Data and Method

Purchasing power comparisons can never be precise comparisons of the relative satisfactions that may be obtained from particular incomes.

Some of the basic reasons for this inadequacy are as follows:

First, there are psychological and cultural differences in the people themselves. Particular occupational groups have particular needs and desires. Therefore, an article, or class of articles, in one group may be of considerable importance to that group but totally irrelevant to another.

Second, the measurement prerequisite of a comparable list of items purchased by all of the groups under study for making direct price comparisons is never exactly fulfilled. There are always grade differences of one form or another, as well as differences in the relative quantities purchased.

Third, there is the problem of weighting the individual items to obtain a single index measure of purchasing power for each group. Should the prices be weighted by quantities purchased in area A or area B; or should a type of formula cross be used as in the "Fisher Ideal" index formula?

TABLE 2.—*Value of food consumed as a percentage of income after taxes, families of two or more persons, incomes \$0 to \$5,999, 1955*

Region	Urban	Rural non-farm	Rural farm
	Percent	Percent	Percent
Northeast.....	42.5	38.9	49.8
North Central.....	39.1	39.2	44.8
South.....	40.5	46.2	57.8
West.....	37.4	43.2	51.0
United States.....	40.4	42.0	51.1

TABLE 3.—*Nonpurchased food as a percentage of total food consumed at home, by regions and urbanization groups, 1955*

Region	Urban	Rural non-farm	Rural farm
	Percent	Percent	Percent
Northeast.....	2.0	10.5	43.1
North Central.....	3.0	11.5	43.1
South.....	5.0	17.4	47.2
West.....	3.9	8.9	35.6

The measure used in this study of purchasing power was the reciprocal of the cost of consumption items actually purchased by one group relative to the cost of the same items if they had been purchased by another group.¹ Thus, for any two groups compared, two different measures were computed—the reciprocal of the percentage cost of the budget of area A if purchased in area B, and the reciprocal of the percentage cost of the budget of area B, if purchased in area A.

These two values are not necessarily extremes that bracket any "true value" of relative purchasing power. However, they are two very useful values. To the extent that the budgets (quantities and qualities) in the three urbanization groups—urban, rural nonfarm, and rural farm—are similar, the two values calculated do reflect a true value of relative purchasing power. A geometric mean of these two values would be equivalent to a "Fisher Ideal" index number.

¹ This measurement technique is the same as that used by Nathan Koffsky in his article, "Farm and Urban Purchasing Power," published by the National Bureau of Economic Research in Volume 11 of *Studies in Income and Wealth*, 1949.

Food is the most important single item consumed by households. Since data were available in detail for this consumption item, a detailed analysis was made of the differences in the purchasing power of incomes in terms of food by urbanization groups within regions. For selected nonfood items, a similar analysis on a national basis was made between all nonfarm and farm groups.

The percentage that the value of food consumed was of incomes (after taxes and including non-purchased food valued at retail) for families of two or more persons with incomes from \$0 to \$5,999, by regions and urbanization groups, is shown in table 2.

Variations in the proportions of nonpurchased food to total food consumed at home, by regions and urbanization groups, are shown in table 3.

In addition to the usual comparison between urban and farm segments, comparisons with the rural nonfarm segments are also analyzed, since this segment of population constitutes a significant proportion of the total population (table 4).

Data for the food portion of the study was obtained from published reports 1, 2, 3, 4 and 5 of the Household Food Consumption Survey of 1955. Report no. 1 was the United States report, while reports 2, 3, 4, and 5 were food consumption reports for the Northeast, North Central States, South, and West. Certain characteristics of this survey were of importance in this study of purchasing power.

1. The Census of Agriculture definitions of urban, rural nonfarm, and rural farm were used. Urban households lived in communities of 2,500 or more persons or in the fringe areas around

TABLE 4.—*Rural and urban population by regions, 1950*¹

[In thousands]				
Region	Urban	Rural		
		Total	Nonfarm	Farm
North Central.....	28,491	15,970	8,537	7,432
Northeast.....	31,374	8,105	6,314	1,791
South.....	22,961	24,241	12,345	11,896
West.....	13,648	5,914	3,985	1,929
Total.....	96,474	54,230	31,181	23,048

¹ Source: Statistical Abstract of the United States, 1959.

cities of 50,000 or more. *Farm* households were those that included a farm operator, a person responsible for the operation of a farm, either performing the labor himself or directly supervising it. A farm was defined as in the 1954 U.S. Census of Agriculture, that is, a place of three or more acres with value of farm products raised (for sale or for home use exclusive of home gardens) amounting to \$150 or more in 1954, or a place of less than three acres with value of sales of agricultural products amounting to \$150 or more. Those few farm households that lived in urban places were tabulated as urban schedules. *Rural nonfarm* households were those living outside urban places that were not classified as rural farm.

2. Food quantities and values were based on *food consumed* (not purchased) at home by households in one week during April to June, 1955.

3. Home-produced food was valued at prices reported by households in the same region and urbanization group purchasing a similar item.

For this food purchasing power study, only selected groups within the larger study group were considered. This selection was based on the following criteria:

1. Income groups from \$0 to \$5,999 *after taxes* were combined. This combination seemed essential to give a broad base to the study. The base was not so broad, however, as to include a large number of households with incomes so high that a distortion would be created by large expenditures for luxury food items at excessively high prices.

2. Only households of two or more persons were considered.

3. Food items not consumed in all three urbanization classifications, within a given region, were excluded from the analysis. Hence, the number of food items analyzed varies slightly from region to region as follows:

Northeast	North Central	South	West
214	219	214	211

This detailed list of food items was aggregated into the 16 major food groupings presented in the following analytical section. Within each major grouping, price relatives and the weighting of such relatives were based on the detailed breakdown.

Some differences in the composition of the food budget occur between urbanization groups within each region. These differences, however, are not extreme. The percentage of the total food budget expended on any one item seems to be remarkably stable.

Data for the nonfood portion of this study was limited. A sample of 17 items was taken from the Index of Prices Paid by Farmers and the Consumers Price Index. This was believed to be the extent to which nonfood items included in the two indexes could be considered comparable.

Regional Comparisons²

Northeast

The Northeast Region is the smallest contributor of the four regions to total agricultural output; it accounts for only 9 percent of the total cash receipts from farm marketings in 1955. Only 15 percent of the total United States rural population lived in the Northeast in 1955, and of that rural population, only 22 percent was rural farm population.

Five food items in the urban food budget would have cost more if purchased at prices prevailing for the rural nonfarm group, and three items would have cost more at prices prevailing for the rural farm group.

The cost of the entire food budget for the urban group would have been about 93 percent of its urban cost if purchased at prevailing prices for the rural farm group and about 95 percent if purchased at prevailing prices for the rural nonfarm group. Conversely, the cost of the rural farm budget would have been 108 percent of its actual cost at prices for the urban group and 103 percent if purchased at levels prevailing for the rural nonfarm group.

In general, differences in food purchasing power of incomes between the urbanization groups were small, the food purchasing power of the rural farm group was slightly larger.

North Central

The North Central region contains 32 percent

² Statistical tables indicating food purchasing power comparisons by each of the four regions—Northeast, North Central, South, and West—analogue to table 1 are available from the Economic Statistical and Analysis Division of the Economic Research Service.

of the total United States farm population, and cash receipts from farm marketings in 1955 were 13 percent of the United States total. The agricultural importance of this region, which contains the Corn Belt and a great share of the Wheat Belt, lends significance to the food purchasing power comparisons of urbanization groups within this region.

Meat, poultry, and fish were by far the most important items tending to widen the gap between urban and rural farm food purchasing power. As they constitute nearly a third of the urban food budget, these items would have amounted to 84 percent of its actual cost if purchased at prices prevailing for the rural farm group. The rural farm group spent nearly as great a share of its food budget for these items; at prices prevailing for the urban area, their cost would have been 120 percent of actual cost.

Milk products, which constitute 15 percent of the urban food budget and 19 percent of the rural farm budget, would have cost the urban group about 6 percent less and the rural farm group about 13 percent more, if they had been purchased at prices paid by opposite groups.

In each of the three urbanization groups studied, at least 6 of the 16 major food items could have been purchased at less cost if purchased at prices prevailing for another urbanization group. Ninety-two percent of the urban budget could have been purchased at less cost at prices paid by the rural nonfarm group and 94 percent at less cost at prices paid by the rural farm group. Only 5 percent of the rural nonfarm budget could have been purchased at less cost at prices prevailing in the urban group, while 66 percent could have been purchased at less cost at prices prevailing for the rural farm group. A reduction in the cost of the rural farm budget could have been achieved in only 1 percent of the budget if purchased at prices paid by the urban group, but in 38 percent of the budget if purchased at prices prevailing for the rural nonfarm group.

As might be anticipated, food costs tended to be farther apart between the urban and rural farm groups. The urban budget could have been purchased for 90 percent of its cost if bought at prices prevailing for the rural farm group and the rural farm budget would have cost 113 percent of its actual cost at prevailing prices for the urban group. On the other hand, the rural nonfarm

budget would have cost 96 percent of its actual cost at prices paid by the rural farm group and the rural farm budget could have been purchased for 104 percent if bought at prices paid by the rural nonfarm group.

South

The Southern Region, containing 40 percent of the farm population and 45 percent of the total rural population of the United States, contributed only 30 percent to the total cash receipts from farm marketings in 1955. Its characterization as the low-income area of agriculture is sustained by the fact that in the income group analyzed for this region households of 2 or more persons with incomes from \$0 to \$5,999 contained a higher proportion of all 2-or-more person households than any other region studied—78 percent of the urban, 86 percent of the rural nonfarm, and 84 percent of the rural farm.

Meat, poultry, and fish accounted for most of the higher food purchasing power of rural farm incomes compared with urban incomes. Fresh vegetables, commercially canned fruits and vegetables, and fruit and vegetable juices, were approximately 6 to 7 percent more expensive in the rural farm group than in the urban group. As in all regions, eggs were purchased at considerably less cost by the rural farm group than by any other group; however, this item accounted for only about 5 percent of the food budget in each of the three urbanization groups in the South.

In each of the three urbanization groups, at least 6 of the 16 major food items could have been purchased at less cost if bought at prices prevailing for other urbanization groups.

However, the difference in food costs in urban compared with rural nonfarm groups was extremely small. The urban budget would have cost the same if purchased at prices paid by the rural nonfarm group and the rural nonfarm budget would have cost 102 percent of its actual cost if purchased at prices paid by the urban group.

A slightly greater difference was obtained between the rural nonfarm and the rural farm group; the two measures were 97 and 104 percent, with food costs less for the rural farm group. The urban and rural farm groups indicated the greatest difference in food costs—the percentage cost of the urban budget if purchased at prices prevailing for the rural farm group was 96 per-

cent and the percentage cost of the rural farm budget at prices prevailing for the urban group was 106 percent.

West

The West contributed 19 percent to total United States cash receipts from farm marketings in 1955. Of this 19 percent, California contributed 9 percent—nearly half of the total farm cash receipts in the West.

Only 11 percent of the United States rural population was in the West. Within this rural population, 33 percent was rural farm population.

Meat, poultry, and fish were responsible for most of the food cost difference in the West. This was because of the large part of the food budget consisting of this item—more than 30 percent in each of the three urbanization groups.

The urban food budget could have been purchased for 99 percent of its actual cost if purchased at prices paid by the rural nonfarm group and for 94 percent of actual cost at prices paid by the rural farm group.

The rural nonfarm budget would have cost 104 and 95 percent of its actual cost if purchased at prices paid by the urban and rural farm groups, respectively.

The rural farm budget was more expensive when priced at prevailing prices for each of the other two urbanization groups—the percentages of its actual cost were 110 and 105 percent at prices paid by the urban and rural nonfarm groups, respectively.

Nonfood Items

Food was by far the greater expenditure item for the income group \$0-\$5,999 examined in the study. To learn whether the purchasing power differentials obtained for food were typical of those for other items in the consumer budget, a sample of 17 items was taken from items in the Index of Prices Paid by Farmers and the Consumers Price Index (table 5). This sample excluded medical care, housing, and clothing. It was believed that differences in quality between the various urbanization groups for these consumption items was so great as to make direct price comparisons of specific articles of little value. The 17-item sample was assumed to be representative of all consumption items not otherwise accounted for—approximately 20 percent of the total consumer budget in both the farm and nonfarm

TABLE 5.—*Price comparisons of selected items from the Index of Prices Paid by Farmers and the Consumer Price Index, 1955*

Item	Price relatives		Percentage importance in index	
	Prices pd./CPI (1)	CPI/Prices pd. (2)	Prices pd. ¹ (3)	CPI (4)
Sheets.....	108.5	92.2	0.378	0.192
Blankets, wool.....	78.0	128.2	.109	.090
Turkish towels.....	67.0	149.2	.101	.066
Living room suites.....	107.7	92.8	.680	.518
Bedroom suites.....	69.4	144.0	.428	.488
Mattresses, innerspring.....	104.0	96.2	.202	.222
Refrigerators, electric.....	109.3	91.5	.622	.763
Vacuum cleaners.....	87.1	114.8	.092	.209
Sewing machines, electric.....	88.1	113.6	.126	.173
Curtains.....	54.6	182.6	.227	.156
Rugs, Axminster 9' x 12'.....	90.8	110.2	.420	.358
Washing machines, electric.....	117.0	85.4	.588	.488
Coal, bituminous.....	103.7	96.4	1.133	.528
Coal, anthracite.....	121.9	82.1	.684	.242
Electricity.....	100.0	100.0	.957	1.022
Auto tires.....	98.6	101.4	.638	.349
Gasoline.....	100.0	100.0	4.380	2.402
Total.....			11.765	8.266

¹ Adjusted to compensate for production items in the index.

Source: *Agricultural Prices*, January 15, 1956, and *Average Retail Prices, 1955*, Bureau of Labor Statistics Bulletin No. 1197.

Percentage cost of the farm budget if purchased at prices prevailing for the urban group (weighted average of col. 2; weighted by col. 3)—101.3. Percentage cost of urban budget if purchased at prices prevailing for the farm group (weighted average of col. 1; weighted by col. 4)—99.3.

group. It was assumed that prices of articles in the Index of Prices Paid by Farmers and the Consumers Price Index represented prices in the farm and nonfarm groups, respectively.

Although this sample was limited, it indicated roughly that purchasing power differentials are greater in the food portion of the budget than in the nonfood portion. The percentage cost of the nonfood items in the farm budget (Index of Prices Paid by Farmers) priced at prices paid by the nonfarm group (Consumer Price Index) was 101 percent and the percentage cost of the nonfood items priced at prices paid by the farm group was 99 percent. It was assumed that price differences in medical care, housing, and clothing resulted from differences in quality. These results suggest very little difference in the purchasing power of farm income versus nonfarm income with respect to comparable nonfood items.