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3. Studies of the adaptability and adequacy of marketing facilities and outlets to serve small-scale farmers are badly needed. This is especially true with perishable products, that is, eggs, poultry, milk, and livestock.

4. Studies of the impact of market controls on the use of processing and marketing resources should be undertaken for the purpose of learning the economic response to each type of regulation at each level in the marketing process.

5. Studies of the effects of States and industry commodity promotional programs on producers of

farm products, stressing particularly those programs that require a deduction from the producer's selling price in order to finance the general promotional activity.

6. Studies of the adaptability of various forms of business organizations to specific functions and activities in the processing and marketing of farm products. In this area, special attention should be given to the adaptability of the cooperative form of business to the various processing and distributing activities.

7. Studies of the pricing system and the extent to which it facilitates or restricts sales.

Farm Population as a Useful Demographic Concept

By Calvin L. Beale

In the development of plans for the 1960 Census of Population, the question has been raised as to whether "farm population" should be retained as a distinctive category of enumeration, or if "open country" residents should be enumerated without distinction as to whether their residences are farms. This article presents certain demographic differences that, in the author's view, argue the continuing usefulness of retaining farm residence as a distinct category for enumeration.

ONCE EVERY DECADE the planning stage arrives for the next national census of population. At such a time, the demographic concepts used in the census are reevaluated together with a host of proposals for changes. We have now come to that point in time with respect to the 1960 census.

From several sources, opinions have been expressed that separate data on farm people should no longer be obtained in the census of population or that the definition of farm population now employed needs radical modification.¹

Residence on rural farms has been a unit of classification in censuses since 1920. But today the farm population is only 13 percent of the total,

¹ For example, see the remarks of Price, Daniel O., and Hodgkinson, William, Jr., discussing the paper, *NEW DEVELOPMENTS AND THE 1960 CENSUS*, by Conrad Taeuber. *Population Index*. 22:181-182. 1956. Also, *FIRST LIST OF QUESTIONS ON 1960 CENSUS SCHEDULE CONTENT*, a statement prepared by the Bureau of the Census for the Council of Population and Housing Census Users. Pp. 1-2. September 1956.

and many farm people are now involved in non-farm industries to a degree not common in the past. Under such conditions, those who seek additional urban data in the census ask, "Is there justification for retaining in the next census the tabulation detail given to farm population in the last?" "Indeed, should the farm residence category be retained at all?"

During the period in which the majority of the people in the United States lived on farms, the censuses of population provided no statistics on the farm population. As an early student of the subject explained it, "the Nation was so largely rural that interest centered in the growth of cities."² The farm population was taken for granted.

But by the turn of the 20th century, the non-farm population was rapidly drawing away from the farm population in number. As the cities

² Foreword by Warren, G. F. to Truesdell, Leon E. *FARM POPULATION OF THE UNITED STATES, 1920*. Washington, D. C. U. S. Bureau of the Census. 1926. P. xi.

flourished, qualitative differences became evident. President Theodore Roosevelt motivated by concern that ". . . the social and economic institutions of the open country are not keeping pace with the development of the nation as a whole," appointed a Commission on Country Life.³ This was in 1908. It may be significant that the term "open country" was apparently still equated with "agriculture" at that time, as the work of the Commission on Country Life dealt almost entirely with agricultural questions.

Farm Population Distinguished From Remainder

Roosevelt's plea at this time for "organized permanent effort in investigation" was reflected some years later in the creation of a Division of Farm Population and Rural Life in the United States Department of Agriculture. Dr. Charles Galpin, in charge, felt that by 1920 the census statistics on the rural population had become inadequate as a measure of conditions in the farm population. Primarily at his urging—and for use in tabulations promoted by him—the farm population was distinguished from the rest of the rural population in the 1920 census. In the census monograph in which the new material was published, few words of justification were thought necessary. It was simply stated that material differences between the farm and nonfarm population had developed and that many persons "desired an analysis of the farm population."⁴ In the population censuses since 1920, the basic threefold classification of urban, rural-nonfarm, and rural-farm has been used extensively. The urban-farm population has been tallied, but as the number is so small, tabulations by characteristics have been confined to the rural-farm population, in order to achieve economy by fitting the farm residence concept into the urban-rural residence concept.

Since 1920, great changes have been wrought in the lives of farm people and in the nature of farming. The physical isolation of farm life and its concomitant social isolation from urban life have been reduced by automobiles, paved roads,

and electricity. The subsistence farm is almost a thing of the past; crop specialization has increased. The farmer's cash needs have grown enormously. He needs large amounts of cash to enable him to buy the expensive equipment characteristic of modern farming and the goods and services that make up the modern standard of living. Increasing numbers of farm operators and their wives and children have taken nonfarm jobs to supplement the farm income. These statements are truisms—they have been repeated often in the last generation.

If farm and nonfarm conditions of work and living have tended to converge, are there still major differentials between the two groups of the demographic and quasi-demographic type measured by the decennial census? The answer would appear to be yes. Table 1 shows summary measures and frequency of occurrence for various characteristics of the urban, rural-nonfarm, and rural-farm population. For many of these measures, substantial differences between the farm and the total nonfarm populations are evident. As the key question is whether the farm and rural-nonfarm values of the measures are different, attention here is focused on these values.

Farm population declined by 18 percent from 1940 to 1950 through heavy outmigration, while rural-nonfarm population grew at a rapid but somewhat unmeasurable rate. Through differential migration, the sex ratio in the farm population is much higher than elsewhere. (Without the military and institutional populations, the rural-nonfarm ratio of males to females is below 100.) The prevalence of nonwhite people is higher in the farm population. Educational attainment is somewhat lower in the farm population, especially for men in the prime of life. Retardation in grade reaches its most serious proportions among farm children. Cumulative fertility, both for women now bearing children and those of older age, is considerably higher for farm than for rural-nonfarm women. Differences in natural increase rates are even greater.

The mobility rate, measured by the proportion of people who move from one house to another in a year, is lower for the farm population than for the nonfarm. The average size of farm households is considerably larger than that of

³ U. S. Cong., 60th, 2d sess., Senate Doc. 705, Country Life Commission Report. P. 21.

⁴ Truesdell, Leon E. FARM POPULATION OF THE UNITED STATES, 1920. *op. cit.* P. xi.

TABLE 1.—Selected characteristics of the population of the United States, by residence groups, 1950

Characteristic	Urban	Rural non-farm	Open-country nonfarm	Rural farm
Total population (millions).....	96.2	31.0	20.9	23.0
Percent change in population, 1940 to 1950.....	23.8		NA	-17.9
Sex ratio, population 14 years and over.....	92.2	103.2	105.8	112.2
Percent nonwhite.....	10.1	8.7	9.8	14.5
Median age—years.....	31.6	27.9	26.5	26.3
Percent 65 years and over.....	8.1	8.6	7.3	7.6
Children ever born:				
Per 1,000 women 15-44 years.....	1,215	1,927	NA	2,420
Per 1,000 women 45-49 years.....	1,957	2,626	NA	3,564
Percent movers and migrants in population.....	17.3	20.2	23.5	13.9
Percent of movers having farm residence in 1949.....	4.5	18.1	18.9	62.8
Average persons per household.....	3.24	3.45	NA	3.98
Percent of households with female head.....	17.5	13.1	NA	6.3
Median age at first marriage:				
Males.....	23.1	22.4	NA	23.2
Females.....	20.6	19.3	NA	19.7
Percent single—males age 21.....	71.2	65.9	NA	72.6
Percent married—males 65+.....	65.1	64.2	61.1	70.0
Percent widowed—females 65-69 years.....	44.1	38.8	NA	28.6
Highest percent divorced at any age—female.....	4.6	2.6	NA	1.3
Median years of education:				
Persons 25 years old and over.....	10.2	8.8	8.7	8.4
Males 30-34 years old.....	12.1	10.4	NA	8.7
Percent high school graduates among males 30-34 years.....	52.5	38.7	NA	25.8
Percent of children 16-17 years old enrolled in school.....	78.8	70.2	NA	67.2
Percent of enrolled 7-year old children in 2nd grade or higher.....	67.1	54.7	NA	51.6
Percent in the labor force:				
Males, 14 years and over.....	79.3	74.1	73.4	82.7
Females, 14 years and over.....	33.2	22.7	21.1	15.7
Males, 65 years and over.....	40.0	31.3	29.1	60.6
Females, 40-44 years.....	40.9	30.7	NA	19.4
Median income, 1949 (dollars):				
Families.....	3,431	2,560	NA	1,729
Persons (males only).....	2,602	1,835	1,743	1,246
Percent of civil labor force unemployed.....	5.3	5.1	5.4	1.7
Percent of births not occurring in hospitals.....	6.2	16.0	NA	33.5
Percent of infants missed by the 1950 Census.....	3.2	3.3	NA	5.3
Percent of population 14 years and over in institutions.....	.9	3.4	4.9	1.0
Percent of males 14 years and over in the Armed Forces.....	1.4	4.0	5.8	.1
Percent of employed males with farmer, farm manager, farm laborer or foreman as primary occupation.....	1.1	9.6	11.2	76.3

NA=Not available.

¹ No institutional population by definition.

Sources: Reports of the 1950 Census of Population and unpublished data of the National Office of Vital Statistics.

nonfarm. Differences in marital status exist, the most notable of which is perhaps the high proportion of married persons and the low proportion of widows among elderly farm residents as compared with nonfarm. A related statistic is the proportion of households having female heads—it is very low among farm people.

Labor-force participation rates are noticeably higher for farm men, particularly for young and elderly men. On the other hand, farm women have lower labor force participation than other

residence groups. The percentage of the labor force enumerated as unemployed is lowest among farm residents. The average money income of farm families is lower than that of the rest of the population, allowing for difficulties in the comparison of income for farm and nonfarm classes. The proportion of births not occurring in hospitals is much higher for farm than rural-nonfarm births, and the proportion of infants missed by census enumerators is likewise greater in the farm population.

Differentials Reveal Special Problems

The significance of many of these differentials between the farm and rural-nonfarm or urban populations is that they reveal conditions of problem nature in the farm population that are not present in so severe a degree in the rest of the population. For example, the high fertility of farm people, coupled with contracting manpower needs in agriculture, necessitates outmigration at extremely heavy rates, with resulting social consequences and loss of investment to the farm population.

The low educational achievement of many farm youth leaves them unprepared either to practice modern farming or to acquire skilled nonfarm jobs. In 1954, farm families made up only 12.5 percent of all families, but they accounted for 38 percent of families receiving less than \$1,000 cash income. A fourth of the farm families fall in this category.

The abnormal occurrence of such social or economic conditions among farm residents is a major factor in creating a continued demand for farm population statistics out of proportion to the relative number of farm people in the total population.

The rural-nonfarm population, as defined in the census, was largely purged of its urban elements in 1950 by the transfer of unincorporated communities of 2,500 persons or more and suburban fringes to the urban category. Despite this transfer, the rural-nonfarm population has remained a somewhat heterogeneous group, as the rural village population differs demographically in many ways from the open-country nonfarm population. Under these conditions, one must consider whether the differentials between rural farm and rural nonfarm that we have cited are also present between rural farm and open-country nonfarm. Some information on this is available from a special report of the last census.⁵

Of the differentials shown in table 1, those for sex ratio, percentage nonwhite, median age, and median income of persons are less between rural farm and open-country nonfarm than between rural farm and total rural nonfarm. Only in the

case of median age is the differential cut substantially. But other differentials, including percentage of movers and migrants, percentage unemployed, percentage in the labor force, percentage married at some age groups, and percentage of population in institutions or Armed Forces are greater between rural-farm residents and other open-country residents than between rural farm and all rural nonfarm. In sum, the open-country nonfarm population remains demographically different from the farm population.

For two of the characteristics mentioned, the fact of farm-nonfarm residence involves conceptual differences that make separation of data by farm residence essential. In a basically nonfarm area, the unemployment rate is a good index of economic conditions. But, in a severe agricultural depression, unemployment rates for farm people do not reach high levels, and they run well below those for nonfarm. The reason is simple. If a man even farms at a mere subsistence level, he will usually remain technically employed under our labor-force concepts.

This fact has great relevance for all geographic analysis of unemployment. One of the major domestic questions before this session of the Congress is a program of aid to areas of prolonged economic distress. A key—and controversial—issue in the question of area assistance legislation is whether Federal aid shall be based solely on unemployment rates or on separate criteria devised to delineate distressed farming areas. It is argued that unemployment does not reflect basic conditions in farming areas as it does in nonfarm areas. Such a situation obtains whether an area is one in which farming is largely full time or one in which it is often supplementary to off-farm work.

Money income is difficult to measure for farm people, and it is therefore difficult to compare that received by farm and nonfarm people. Most farm families have income in kind from consumption of home-grown products, use of a house as part of a tenure agreement, or receipt of room or board as a perquisite of farm wage work. Statistically, this is partly offset by nonmonetary income items of nonfarm workers. However, the ability to subtract income of farm recipients from that of all income recipients in order to get a purified nonfarm series remains a basic reason for classifying income data by farm residence.

⁵ U. S. Bureau of the Census, *Census of Population: 1950. CHARACTERISTICS BY SIZE OF PLACE*. Washington, D. C., 1953.

Another sustaining factor in the demand for farm population data is the particular responsibility that the Federal Government has assumed in the promotion and regulation of agriculture and for the welfare of farm people. In addition to agriculture, commerce and labor are economic groups recognized at the Cabinet level, but only the Department of Agriculture has a clientele that can be readily distinguished demographically. The Congress, the Department of Agriculture, the land-grant colleges, and the Council of Economic Advisers continually demand farm population data in their policymaking and research work.

Agriculture Still Big Business

The declining number of farm people brings no lessening of this interest, for agriculture remains as big a business as ever, and farm people continue to determine the land use of more than 60 percent of the land surface of the country. If anything, the administrative needs for farm population data have increased because of the far-reaching adjustments under way in farming. This is augmented by the increased sophistication in demographic matters of those responsible for agricultural policy. Some of the appropriations for agricultural purposes are allocated to the States on the basis of their share of persons resident on farms as determined in the decennial census of population.⁶

If we accept the continuing need for data on the numbers and characteristics of farm people, the problem of how to define this population remains. In 1930 and 1940, a household was included in the farm population if the enumerator or respondent considered the place of residence to be located physically on a farm. In the 1950 census, the respondent was asked the direct question, "Is this place on a farm or ranch?" Institutional residents or households paying cash rent for house and yard only are excluded.

But the censuses of agriculture, taken simultaneously, used criteria of acreage and value of production or sales to decide what places were farms. In the last census, agricultural schedules were taken for every place that a respondent said was a farm, but some of the places were disqualified in the editing process. There are, then, people

⁶ Bankhead-Jones Act of 1935 and Research and Marketing Act of 1946.

listed as farm residents in the census of population whose places are not treated as farms in the census of agriculture, and a farm operator who lives in town, and not on the farm he operates, is counted as a nonfarm resident.

For analytical and administrative purposes of agencies concerned with agriculture, the lack of complete correspondence between farms and farm population is unfortunate. Nor is the present definitional situation always understood. Since 1950, more than one demographic publication emanating from land grant colleges has erroneously cited the farm definition of the census of agriculture in place of that of the census of population.

Some demographers appear to believe that the census of population definition of farm population is an attitudinal or subjective one, and is thus somehow inferior to objective questions or to definitional standards appropriate for a decennial census. As a respondent is not given a definition of a farm, there is of course a subjective element in the answer he gives. Because concern over the nature of the definition produces doubt in the minds of some regarding the utility of the data, it may be well to comment further on the definition aspect.

The writer believes that the farm question is no more subject to bias or variation through subjectivity than many other items on the census schedule; actually, the attitudinal element in this instance may have a useful discriminatory function. A point to remember is that the overwhelming majority of farms are listed as farm residences in the population census no matter what definition is used. In 1950, data from the collation sample of the censuses of population and agriculture show that 95 percent of the people living in farm-operator households as defined in the census of agriculture were numerated as farm residents in the census of population.⁷ The majority of the remaining 5 percent represents families who operated farms but did not live on them, rather than families whose classification was affected because of the subjective nature of the population census inquiry.

From the same study, we know that only 7.5 percent of the people who were treated as farm residents in the population census lived on places

⁷ U. S. Departments of Agriculture and Commerce. FARMS AND FARM PEOPLE. 1953. P. 48.

that did not qualify as a farm under usages in the census of agriculture. Thus it is only for about a tenth of the total universe in question that the attitudinal element in the definition really comes into play. For certain purposes, it would be desirable to improve further the correspondence between the two censuses. My personal opinion is that from the viewpoint of demographic characteristics, persons with marginal connections to agriculture who term themselves farm residents are likely to be closer to the demographic norms of the core of the farm population than are those with marginal connections who call themselves nonfarm.

When singling out the question of farm residence as subjective, it should not be overlooked that subjective elements are in the rest of the urban-rural residence scheme, especially in the very refinements made in 1950, which it is proposed to extend in 1960. What objective criteria do we have for drawing the boundaries of unincorporated urban communities? The results are indisputably reasonable, but communities string out along the highway or shade off into the countryside, and the boundaries that separate urban from rural in such instances must be based on subjective decisions of the census geographers. The same comment applies to delineation of suburban fringes in metropolitan areas.

Advantages and Disadvantages of Definition

What definition should be used? As I see it, the advantages of the present definition are as follows:

1. Operationally, it is by far the simplest and cheapest form, requiring only one yes-or-no question on the schedule.

2. It provides comparability with the last census and other historical series, a property that may be rare in 1960.

3. It defines as farm residents the great majority of people whose residence is clearly agricultural under any definition. Among marginal cases it probably discriminates as meaningfully as any other definition that could be used in a population census.

4. Using this definition, farm residence has been placed on the vital statistics certificates of 33 States in the last 2 years. No one can state yet that the data from this source will prove to be

comparable with that from the census. But this is the intention. The National Office of Vital Statistics has gone to much effort and expense to get farm residence on vital records. It will be unfortunate in more than one respect if it does not get population base data from at least one census for the study of vital events by farm-nonfarm residence. No other definition of farm is deemed to be usable in the vital registration system. It is well to recall that urban-rural residence is no longer obtainable for births and deaths under current urban-rural definitions.

The disadvantages of the definition appear to be these:

1. It does not provide a base population identically relatable to statistics from the census of agriculture.

2. Persons who live under the same physical circumstances, or even under the same roof, may construe differently the farm status of their home.

3. No matter how useful and valid a subjective definition may be, it is not easy to provide a precise meaning for it or to explain it to the public.

4. It does not include as farm people some families who depend solely on farming but who do not reside on farms.

The most frequent alternative proposed is to define farms as in the census of agriculture. But a battery of questions on production or sales is necessary to get accurate answers from this approach, especially for the marginal cases where the reliability of the definition now used is under question.

Other proposals would tabulate a population based on farmwork as a primary occupation or on farm income as the chief source of all income. The definition of a farm used in the census of agriculture is a broad one; it results in a maximum number of places called farms, as only \$150 worth of products produced or sold in a year is required to qualify under it. Obviously, under current economic conditions, most of the people who raise only a few hundred dollars' worth of products must have other sources of income.

The self-defining definitions used in the census of population also must be considered to classify a maximum number of households as farm households. But the policy of the Department of Agriculture, which has been reaffirmed in recent months, is that its responsibility encompasses all

farms, including the small farms or those for which off-farm work provides most of the income. Data on the population primarily dependent on farming, whether revealed by income or occupation, are much needed and widely used, but they do not supplant the need for farm population data more broadly defined.

With the present and prospective high rate of growth in the nonfarm population, it is natural that the demand for more data on metropolitan areas, urbanized areas, tracts, unincorporated communities, and even city blocks should increase—and be met. The crux of the problem is how these legitimate needs can be met without digging an untimely grave for data on the farm population. Segregation of the village population in a separate class would not justify the merger of the rest of the rural population into one heterogeneous group. Maybe Univac will perform the miracles of economy that will allow us to have additional community classes and farm population, too.

Since 1950, rural sociologists have made much use of the State economic area concept in population research, even though it meant doing their

own data consolidation work in the absence of economic area tabulations. This would appear to hold out the promise that certain data for the farm population, such as some of the items based on sample counts, could be published for economic areas only, without fatally compromising the needs of workers in this field. The basic interest, however, is *where* and *how many*. The administrative organization of agricultural work being what it is, this means county data for such subjects as sex, race, and age.

Summary

In sum, we are interested in a group of people whose lives are related to agriculture in greater or lesser degree, whose demographic, social, and economic characteristics still differ significantly from those of their neighbors, and who as a group are the administrative concern of various Government and private agencies. The method now used to identify these people in the census has conceptual imperfections, but for most purposes these imperfections are tolerable and are offset by the economic and operational superiority of the definition over its possible alternatives.