DOCUMENT RESUME

ED 038 211 08 RC 004 236

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TITLE The Changing Educational Needs of Rural People.
INSTITUTION Arkansas Univ., Fayetteville. Coll. of Education.
SPONS AGENCY Office of Education (DHEW), Washington, D.C. Div. of Comprehensive and Vocational Education Research.; Office of Education (DHEW), Washington, D.C. Div. of Vocational and Technical Education.
BUREAU NO BR-7-0348
PUB DATE 70
GRANT OEG-2-7-070348-2698
NOTE 46p.; Paper presented at National Institute on the Coordination of Supportive Services for Vocational Education Students in Rural Areas (University of Arkansas, Fayetteville, January 26-30, 1970)

EDRS PRICE EDRS Price MF-$0.25 HC-$2.40
DESCRIPTORS Demography, *Educational Problems, *Educational Programs, Employment Problems, *Equal Education, Historical Reviews, Manpower Needs, Migration, Occupational Guidance, *Rural Education, School Improvement, *Socioeconomic Influences, Technological Advancement

ABSTRACT

This report studies the educational needs of rural people in terms of the economic and social changes taking place in America. A historical review traces the educational patterns as they have evolved and studies the effects of these patterns on the rural population. The author considers migration and its effects as well as the effects of technology. It is concluded that general education plus vocational and occupational education in rural areas should be comparable in quality to educational programs in urban areas. This, in the author's opinion, is the goal for the education of rural people. A series of maps is included to illustrate demographic and employment factors considered in the report. (DB)

THE CHANGING EDUCATIONAL NEEDS OF RURAL PEOPLE

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The research reported herein was performed pursuant to a contract with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position.

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DEPARTMENT OF VOCATIONAL TEACHER EDUCATION
COLLEGE OF EDUCATION
UNIVERSITY OF ARKANSAS
FAYETTEVILLE, ARKANSAS

1970

U. S. Department of Health, Education, and Welfare
Office of Education--Bureau of Research
Division of Comprehensive and Vocational Education Research
Project No. BR-7-0348, Grant No. OEG-2-7-070348-2698

THE CHANGING EDUCATIONAL NEEDS OF RURAL PEOPLE

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Changes in the economic and social structure of the United States are producing profound effects upon the nature and location of employment opportunities and the distribution of population. These changes are providing new challenges for educational institutions. The purpose of this paper is to indicate some of the changes in economic and social structure taking place in rural America and to discuss the implications of these changes upon the educational needs of the people.

The Historical Setting

Traditionally, the rural areas of the United States placed heavy emphasis upon occupational education and relatively little emphasis upon general education. In the early stages of the development of the nation, vocational education consisted largely of on-the-job training. This was especially so in agriculture. Those who were reared on family farms were provided with technical agricultural training by the farmers. Those who were reared on plantations and multiple-unit farms were provided with technical training considered desirable by the farm operators. It was assumed that those who lived on the plantations would remain there. Therefore, training was given that was specific to the work they were expected to do in the future. It was assumed that most of those who lived on family farms would climb the

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[1]In the preparation of this paper I have drawn heavily upon material prepared for President Johnson's National Adivsory Commission on Rural Poverty and published in Rural Poverty in the United States, U. S. Government Printing Office, Washington, D. C., 1967, and upon material presented to President Nixon's Task Force on Rural Development, published in U. S. Population Mobility and Distribution ERS-436, USDA Washington, D. C., 1969.

"agricultural ladder," progressing from unpaid family worker to farm laborer, renter, and ultimately to owner-operator. This type of progression was well suited to on-the-job training.

Similarly, in the early industrial development of the rural areas, most vocational education was provided through on-the-job training. For example, miners were given little formal education or training prior to employment in the mines. In like manner weavers, loom operators, and other workers in the textile mills were provided specific training for their jobs after becoming employed by the textile mills.

Those who lived on the plantations or who lived in the mill villages were expected to work for the owners of the plantations and mill villages respectively. Since the employer provided the training, it was specific to the needs of the firm providing it. Although the farm skills were transferable to other farms, the fact that the employer provided a residence meant that he had prior claim on the services of all workers. Likewise, textile mill operators who provided housing were not disposed to let those who resided in the mill villages work for other employers, even though the skills obtained were transferable. The fact that the operators provided housing, in addition to vocational training specifically oriented toward their needs gave them strong monopsonistic power over the workers, particularly in places where there were few alternative employment opportunities.

Much of the training of youth was oriented around the belief that sons would follow the occupations of their fathers. It was believed, therefore, that the sons should receive the training that was necessary to prepare them to perform effectively in these occupations. Implicit therein was the assumption that the industries located in rural areas would be characterized

by sufficient growth to provide acceptable employment opportunities for those entering the labor force. Such an assumption failed to take into consideration that the growth processes of an economy inherently contain basic forces altering the employment of resources and therefore the educational needs of the people.

Basic Forces Altering the Educational Needs of Rural People

A nation that is characterized by population growth and increasing real income per capita must find ways of increasing output in order to meet the growing needs of its population. Under most conditions this will involve developing improved production technology. Moreover, in a developing economy, if the real return for labor is to increase the productivity of labor also must increase. Increases in the productivity of labor are brought about by investing directly in labor in order to enhance its productivity and by developing more productive forms of capital to be used with labor. Both sets of forces have been operative in the United States.

In 1909 the Report of the Country Life Commission recommended strong actions to redirect rural schools in such a way as to place emphasis upon education that would prepare people for more effective living in rural areas. The Commission recommended vocational agricultural education for youth, a system of extension education for rural communities to be carried out through the land grant colleges in order to provide technical assistance and scientific information on improved production practices for farmers, and other far reaching institutional changes to help increase the productivity of agriculture. In 1900 more than half of the people of the United States were rural residents. A spirit of Jeffersonian agriculture fundamentalism characterized much of the thinking of the period. Farming was regarded as the good

life. The farming industry was by far the largest employer in the nation, and it was believed that its capacity for increased employment was great. Heavy emphasis, therefore, was placed upon preparing people to farm and upon increasing agricultural output.

The recommendations of the Country Life Commission were very effective. From its recommendations there emerged a federal land bank system, the cooperative extension service, vocational agricultural education, modifications in land grant university curricula and programs, and other significant changes. The Commission should be credited with developing the institutional structure that transformed American agriculture into the productive industry that it is today.

The attack on the frontiers of production was two pronged. In addition to institutionalization of vocational agricultural education and training to increase the productivity of labor, efforts were greatly enhanced to develop and use improved production technology.

The results exceeded the greatest expectations. During the last thirty years, agriculture and most other natural resource-based industries have experienced dramatic and continuing improvements in technology. The effects have been far reaching and often unanticipated. Whether technological improvements were biological, chemical, mechanical or organizational in nature, almost invariably they increased the productivity of capital relative to labor and land. As a consequence, a premium was placed upon the employment of capital in the affected industries. Usually, this entailed a substitution of capital for labor and a decrease in employment of labor.

But the substitution effect is not the only results of changes in technology. Since most new technology is capital using, improvements in

technology normally are accompanied by increases in output of the firm. New techniques are employed only if they are expected to decrease costs relative to output in the range at which the firm expects to operate. When additional capital is employed, unit costs of production may be increased unless output is increased. In the substitution of capital for labor, therefore, incentives are provided to expand the output of the firm.

Third, the number of firms may be affected. The number of firms is largely dependent upon the market demand for the product and the amount of product produced per firm. The demand for farm products, and generally for the products of other natural resource-based industries, grows slowly in relation to increases in per capita income. Over time, changes in technology have increased greatly the capacity of firms in the natural resource-based industries to expand output. At the same time, the demand for their products increased slowly. Consequently, in order for firms to employ effectively technological improvements it was necessary to decrease the number of firms.

The extent of the decrease varied greatly among industries. Although many industries experienced a decrease in the number of firms and increased concentration of production, among the rural industries the effects were very pronounced in farming and in mining.

A fourth major effect of improvements in technology is that the structural relations between an industry and industries producing supplies for it may be altered. Improvements in technology usually involve the creation of new forms of capital. When this happens, old forms of capital are made obsolete while markets are created for the new forms. The firms supplying the old forms, therefore, must change to the new product lines or

incur losses. Meanwhile, opportunities are created for new firms.

The larger the investment required to adopt new technology the more far reaching its effects are likely to be. The larger the investment the larger the firm must be to use it profitably. Hence, the greater may be the decrease in the number of firms producing the product affected. The smaller the number of firms using any form of capital the larger the market area needed by firms that supply the capital form. Consequently, technological improvement may be accompanied by extensive relocation of economic activities. The community effects associated with relocation of economic activities constitute a fifth effect of technological change. When they occur the communities that are highly dependent upon forms of capital and methods of distribution that are rendered obsolete experience an eroding away of their economic base. On the other hand, those communities that become distribution and service centers for the new capital forms experience economic growth. These effects seldom have been anticipated.

Communities, like firms, have adapted to changes in technology in various ways. Some have expanded economic activities to take advantages of improved technology and now serve a larger area. Other communities have reverted to specialization within farming or other industries, and many of their functions have been transferred to other communities. Because of the intense specialization of many activities and changes in the organization and scale necessary for viability of communities, many rural communities have been pulled apart. The emergent communities tend to be larger and are highly interrelated. Fox estimates that in the mid-west the area that constitutes an effective community today is approximately 100 times the area that

constituted an effective community in the early 1920's.[2] The small villages have been particularly hard hit by changes in technology. In the decade of the 1950's more than half of the villages with 500 or fewer inhabitants suffered losses in population.

The technological and organizational changes referred to above have been so extensive that there has been large scale reduction in the employment of people in the natural resource-based industries throughout the United States. The natural resource-based industries predominate in the rural areas. In most rural areas the employment created in other industries has not been sufficient to employ those released from the natural resource-based industries. Thus, in the aftermath of technological improvements in production processes, millions of people left the small farms and villages of the United States in search of better employment opportunities elsewhere.

A measure of the pressure to migrate can be obtained by comparing the net changes in employment in an area with the normal addition to the working age group (15-64) that would have occurred from changes in age, death and retirement, assuming no emigration or immigration. During the decade of the 1950's employment in the United States increased by 72 for each 100 persons added to the working age group.[3]

There was large variation among the states in their ability to create employment opportunities for those being released from previous employment and for those entering the labor force age group. (Figure 1.) Six states,

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[2]Fox, Karl A., "The Study of Interaction Between Agriculture and the Non-Farm Economy: Local, Regional and National," J. Farm Econ. 44:1-34, Feb., 1962.

[3]Many of the remaining 28 were housewives, students and other not counted in the labor force.

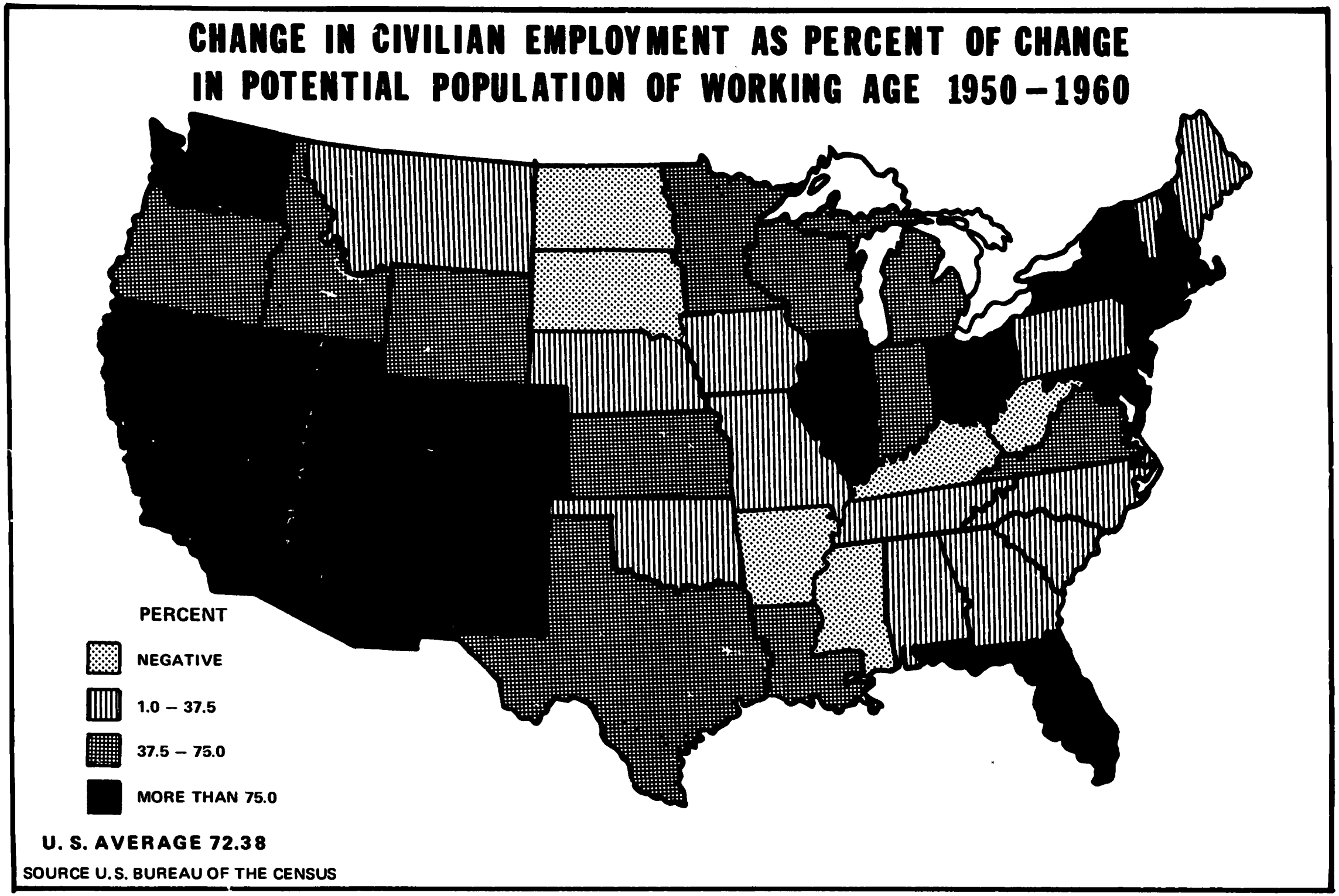

CHANGE IN CIVILIAN EMPLOYMENT AS PERCENT OF CHANGE
IN POTENTIAL POPULATION OF WORKING AGE 1950 – 1960
PERCENT
NEGATIVE
1.0 – 37.5
37.5 – 75.0
MORE THAN 75.0
U. S. AVERAGE 72.38
SOURCE U.S. BUREAU OF THE CENSUS

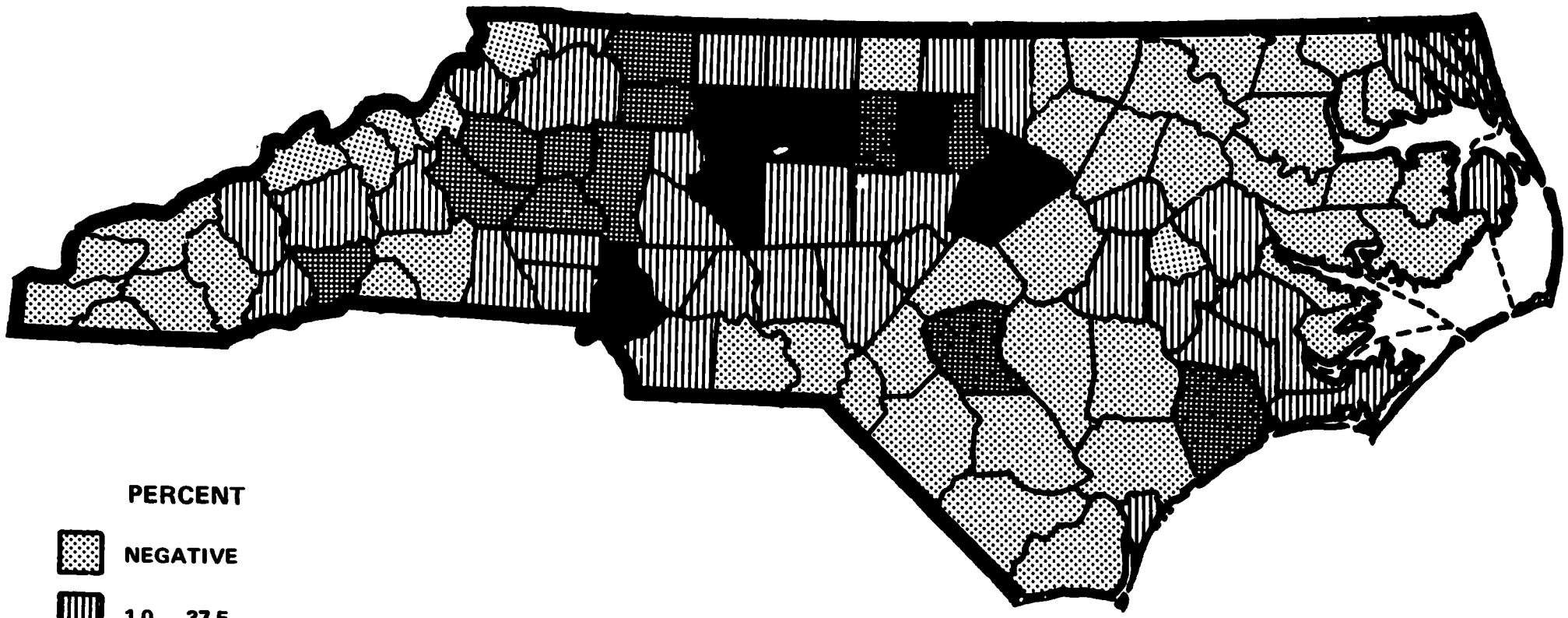
Figure 1

the Dakotas, Arkansas, Mississippi, Kentucky, and West Virginia, experienced a decrease in total employment between 1950 and 1960. The South, West North Central and Northern Plain states performed poorly. In contrast, Nevada, California, and Florida experienced phenomenal increases in employment of 350-400 for each 100 increase in their population in the labor force age group. Thus, there were strong incentives for people to migrate from the slow-growing states to those with better employment opportunities.

There also was large variation of employment growth within states. An example of the variation in growth among counties, within states, can be seen from Figure 2 showing North Carolina. During the decade of the 1950's North Carolina generated only 25 jobs for each 100 persons added to the working force age group. There was, therefore, an incentive for large scale migration from the State. But seven counties in the Piedmont, in and around the major metropolitan centers, created more employment opportunities in relation to the potential increases in the indigenous labor force than the national average. Incentives were created to migrate to those counties. In contrast, a high percentage of the counties in the most rural parts of the State, the Coastal Plain and the Appalachian Region, experienced a decline in employment during the decade even though their population in the working force age group would have increased in the absence of migration.

In brief, during the 1950's changes in the technology of production were accompanied by changes in market structure, community organization and population location. There was increased concentration of employment among counties within states and among states. Generally speaking, the rural states and counties did not fare well during the decade. Most of them experienced large net emigration.

CHANGE IN CIVILIAN EMPLOYMENT AS PERCENT OF CHANGE IN POTENTIAL POPULATION OF WORKING AGE IN NORTH CAROLINA 1950–1960



SOURCE U. S. BUREAU OF THE CENSUS AND N. C. DEPARTMENT OF LABOR

Figure 2

The Extent of Migration

The American population is highly mobile. Approximately twenty percent of the population changes residence each year. The data contained in Figure 3 show the net migration rates for rural and urban counties by major geographic regions of the United States since 1950. During the decade of the 1950's the annual rate of net migration from the rural counties was approximately nine-tenths percent per year. In contrast, the urban counties experienced a net gain from migration of approximately two-thirds of one percent per year.

The transfer of human resources from farms has been particularly heavy. The base farm population declined rapidly from 31 million in 1920 to approximately 10 million in 1969. For the decade of the 1940's the average annual net migration from farms was 1.3 million persons per year compared with 1.0 million in the decade of the 1950's. In spite of the fact that the farm population has been declining sharply in the United States, except for the period 1945-1950 when many veterans who were released from military service were provided with subsidies to return to farming, the average rate of net migration from farms has remained relatively constant since 1940. (Figure 4.) The average annual rate of net outmigration from farms during the current five year period is higher than in any preceding five year period for which data are available. For the period 1965-1968 the average annual net outmigration from the farm population was 711,000. This was approximately the same annual exodus that occurred during the period 1935-1940 even though the farm population now is less than one third of the farm population in that period.

In a study of persons who transferred from farm to nonfarm employment,

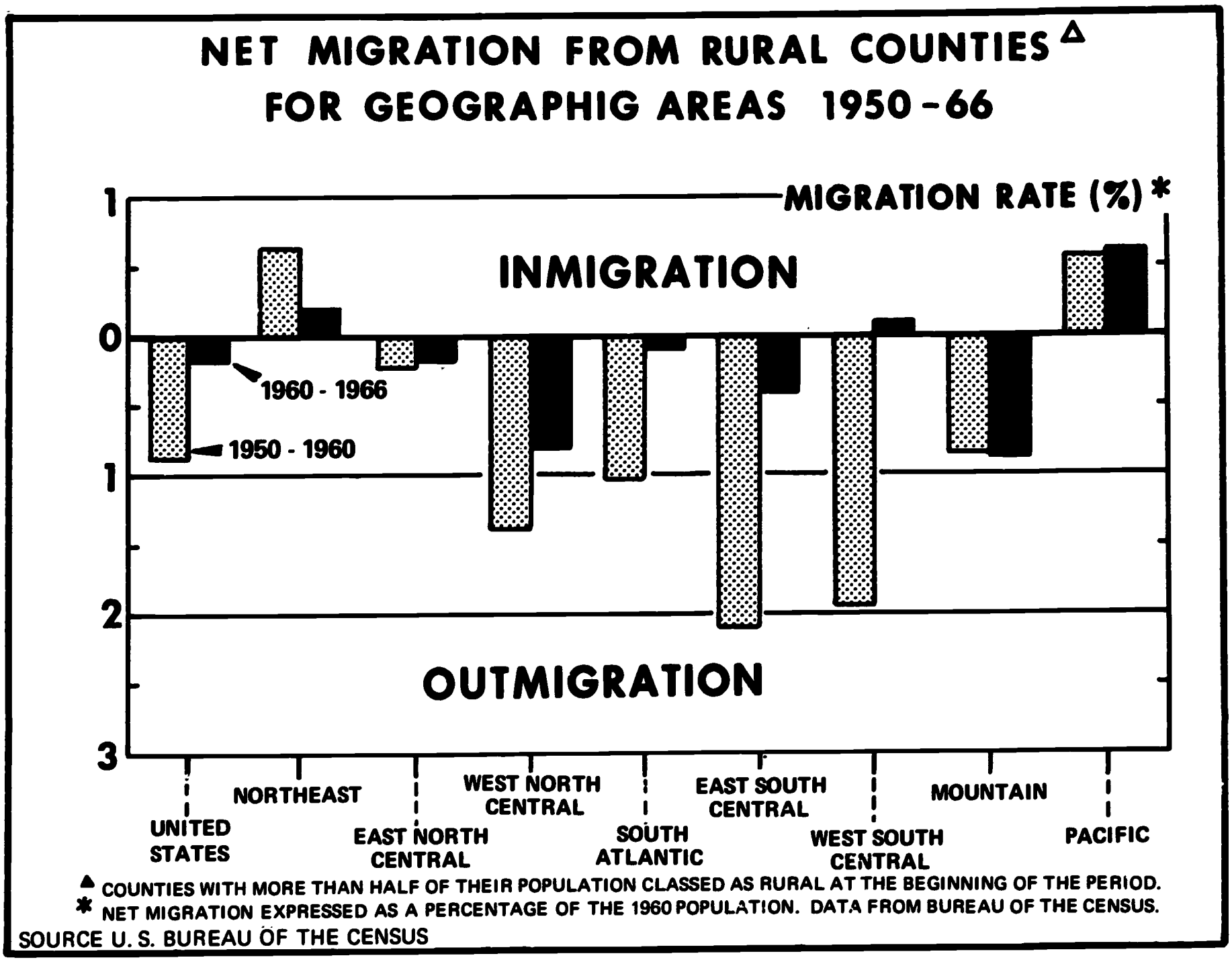

NET MIGRATION FROM RURAL COUNTIES △
FOR GEOGRAPHIG AREAS 1950-66
MIGRATION RATE (%) *
1
0
1
2
3
INMIGRATION
OUTMIGRATION
1960 - 1966
1950 - 1960
UNITED STATES
NORTHEAST
EAST NORTH CENTRAL
WEST NORTH CENTRAL
SOUTH ATLANTIC
EAST SOUTH CENTRAL
WEST SOUTH CENTRAL
MOUNTAIN
PACIFIC
▲ COUNTIES WITH MORE THAN HALF OF THEIR POPULATION CLASSED AS RURAL AT THE BEGINNING OF THE PERIOD.
* NET MIGRATION EXPRESSED AS A PERCENTAGE OF THE 1960 POPULATION. DATA FROM BUREAU OF THE CENSUS.
SOURCE U. S. BUREAU OF THE CENSUS

Figure 3

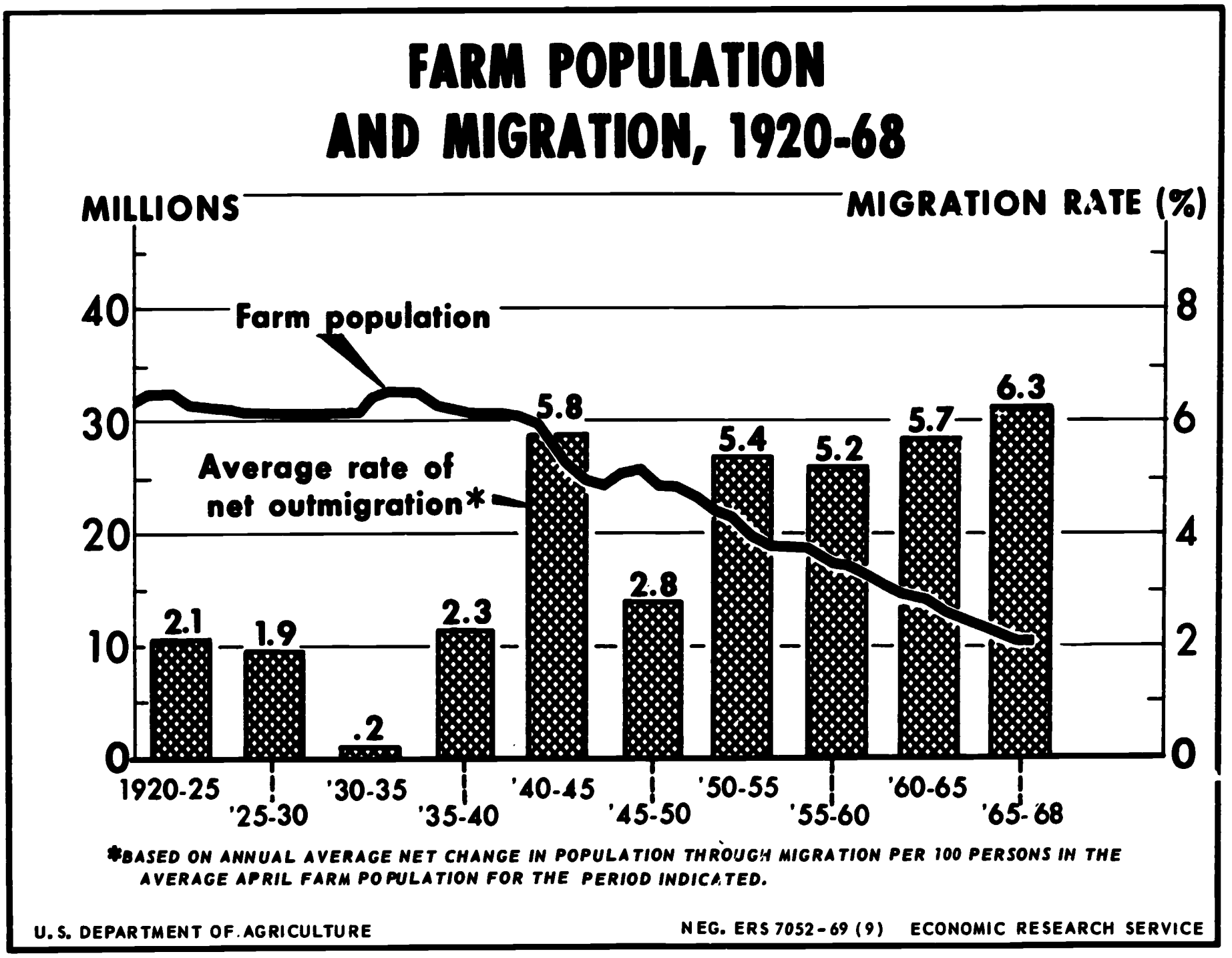

FARM POPULATION
AND MIGRATION, 1920-68
MILLIONS
MIGRATION RATE (%)
40
30
20
10
0
8
6
4
2
0
Farm population
Average rate of
net outmigration*
2.1
1.9
.2
2.3
5.8
2.8
5.4
5.2
5.7
6.3
1920-25
'25-30
'30-35
'35-40
'40-45
'45-50
'50-55
'55-60
'60-65
'65-68
*BASED ON ANNUAL AVERAGE NET CHANGE IN POPULATION THROUGH MIGRATION PER 100 PERSONS IN THE AVERAGE APRIL FARM POPULATION FOR THE PERIOD INDICATED.
U.S. DEPARTMENT OF AGRICULTURE
NEG. ERS 7052-69 (9) ECONOMIC RESEARCH SERVICE

Figure 4

Hathaway and Perkins concluded that most of the people who make the transfer do not change residence.[4] Instead they commute to nonfarm jobs. Those farm residents who are most inclined to change residence when transferring from farm to nonfarm employment are young, Negro, farm wage workers who reside in relatively prosperous rural areas in close proximity to metropolitan areas.

Among the major occupation groups, farm laborers and farm foremen have one of the highest migration rates. (Figure 5) Persons working in the farm labor force as unpaid family laborers or as hired laborers are much more inclined to migrate than owner operators.[5] Farm operators tend to be older, have larger investments in farms and in farm skills, have fewer alternative opportunities, and are less responsive to economic incentives to transfer to nonfarm employment than others in the farm labor force. Farm owner operators are among the least mobile of the occupation groups in the United States. The percentage of hired farm workers who migrate upon transferring from farm to nonfarm employment is more than twice as high as that for farm operators.

The age at which people migrate is important to educational institutions. There is a well-established relationship between age and migration. (Figure 6.) Migration rates are highest during the early years of labor force participation and decline rapidly above 25 years of age. Therefore,

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[4]Hathaway and Perkins, "Occupational Mobility and Migration from Agriculture," Chapter 13, Rural Poverty in the United States, National Advisory Commission on Rural Poverty, U. S. Government Printing Office, Washington, D. C., 1967.

[5]G. Edward Schuh, "Interrelations Between the Farm Labor Force and Changes in the Total Economy," Chapter 12, Rural Poverty in the United States, National Adivsory Commission on Rural Poverty, U. S. Government Printing Office, Washington, D. C., 1967

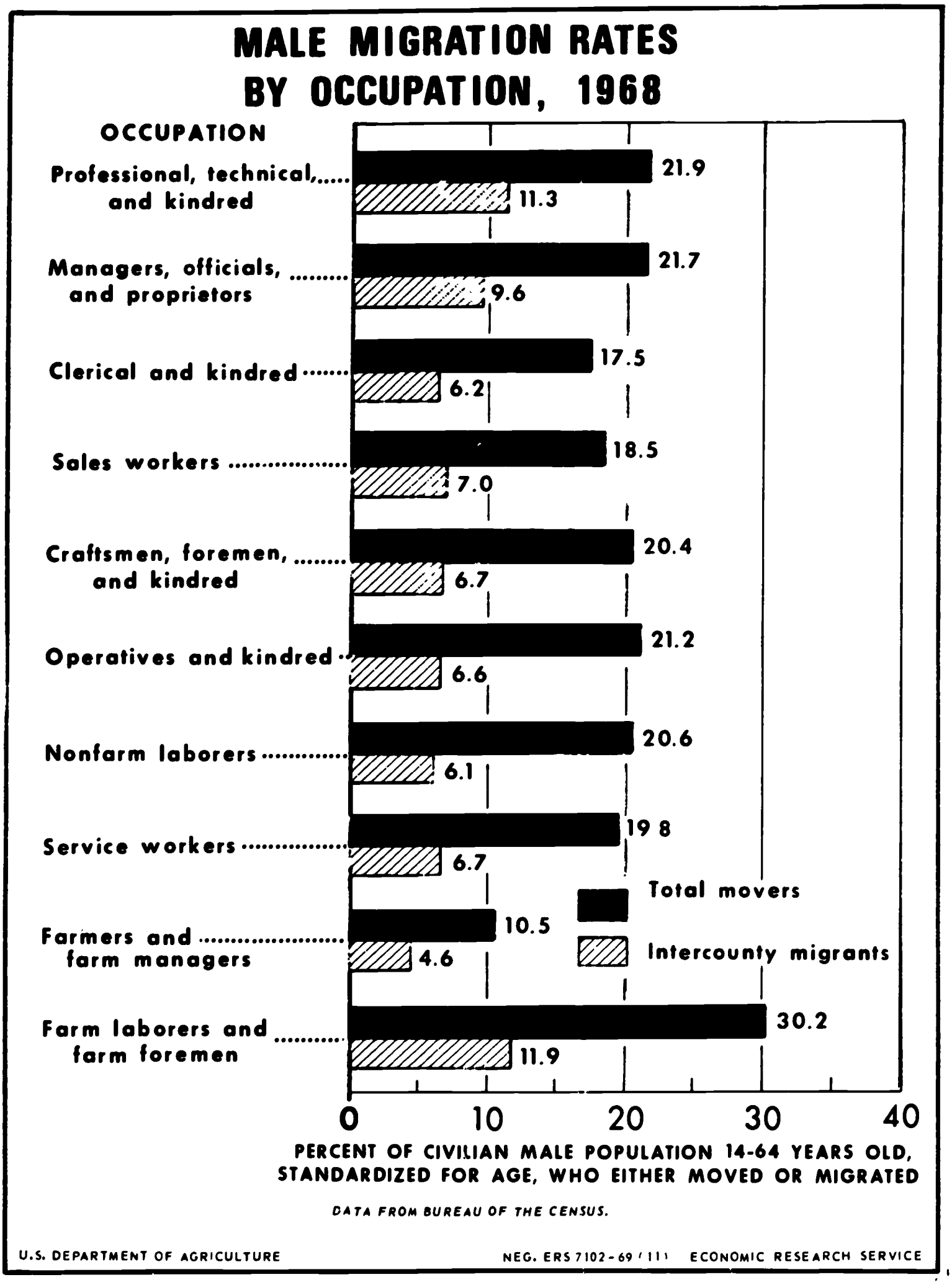
MALE MIGRATION RATES
BY OCCUPATION, 1968
OCCUPATION
Professional, technical, and kindred
21.9
11.3
Managers, officials, and proprietors
21.7
9.6
Clerical and kindred
17.5
6.2
Sales workers
18.5
7.0
Craftsmen, foremen, and kindred
20.4
6.7
Operatives and kindred
21.2
6.6
Nonfarm laborers
20.6
6.1
Service workers
19 8
6.7
Farmers and farm managers
10.5
4.6
Farm laborers and farm foremen
30.2
11.9
Total movers
Intercounty migrants
0
10
20
30
40
PERCENT OF CIVILIAN MALE POPULATION 14-64 YEARS OLD, STANDARDIZED FOR AGE, WHO EITHER MOVED OR MIGRATED
DATA FROM BUREAU OF THE CENSUS.
U.S. DEPARTMENT OF AGRICULTURE
NEG. ERS 7102-69 (11) ECONOMIC RESEARCH SERVICE

Figure 5

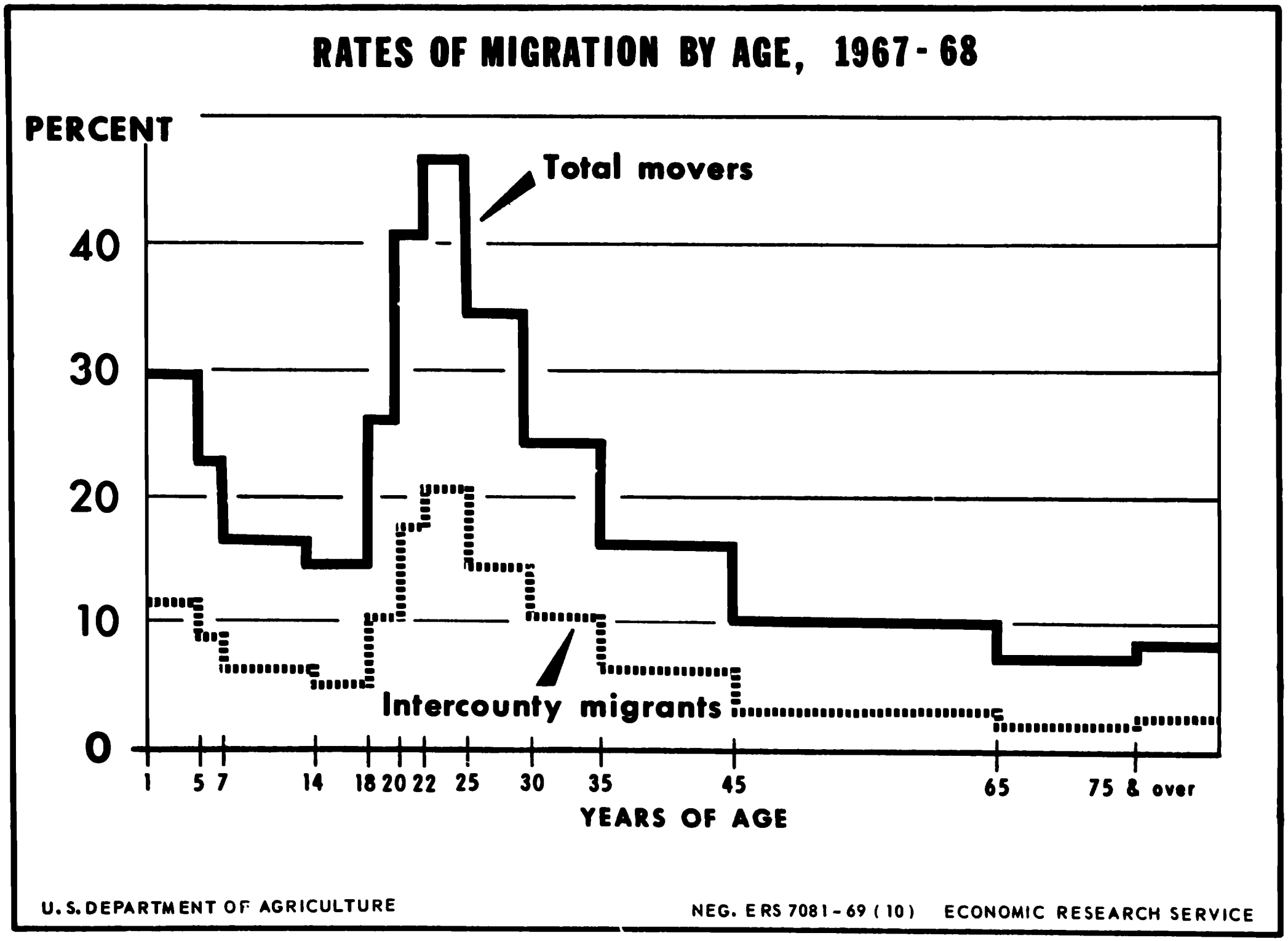
RATES OF MIGRATION BY AGE, 1967-68
PERCENT
40
30
20
10
0
Total movers
Intercounty migrants
1
5
7
14
18
20
22
25
30
35
45
65
75 & over
YEARS OF AGE
U.S. DEPARTMENT OF AGRICULTURE
NEG. ERS 7081-69 (10) ECONOMIC RESEARCH SERVICE

Figure 6

education and training at the time of entry into the labor force are important in determining the benefits derived from migration.

Migration from farms is similar with respect to age to the general pattern of migration Young adults who have relatively little invested in farming and who have a longer period of prospective employment in which to recoup the costs of migration are much more prone to transfer to nonfarm occupations.[6]

As improvements in technology have decreased the need for labor in farming, the major burden of reducing the number of farm operators and the labor input has fallen heavily upon decreasing the number of young men entering farm occupations. Stated differently, the major means of decreasing the supply of labor in farming is to find nonfarm employment for farm youth entering the labor force.[7]

The Migration Process

Few would contend that decisions concerning migration are made in a well considered manner. On the contrary, there is increasing evidence that most decisions to migrate are based on very scanty information. Furthermore, there has been no national program to provide relevant information or other relocation assistance to potential migrants.

Marsh found that the planning period was "one month or less for about one-third of the moves reported; alternatives were not even considered in two-thirds of them; and, in over half of the cases, family heads who

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[6]C. E. Bishop, Farm Labor in the United States, Columbia University Press, New York, 1967, p. 9.

[7]Marion Clawson, "Aging Farmers and Agriculture Policy," Journal of Farm Economics, Vol. XLV, February, 1963, pp. 13-30.

relocated consulted no more than one source of job information."[8] He also noted that the more highly educated workers deliberated at greater length concerning migration and that they had greater access to specific information prior to migration.

Migration operates largely through an informal process dependent upon friends and relatives. The results are evident in the patterns established by migrants. The significance of established streams of migrants is demonstrated clearly in a study by Kain and Persky as follows:

> "The typical rural Negro lifetime migrant tends to move to large urban areas (greater than a million in population outside of the South. Fifty-eight percent of Negroes born in the South Atlantic Division and now living elsewhere, live in the four North Eastern SMSA's greater than a million, (Buffalo, New York, Philadelphia, and Pittsburgh). Similarly, about 40 percent of the Negro lifetime migrants from the East South Central Division have moved to the five East North Central SMSA's greater than a million, (Chicago, Detroit, Cincinnati, Cleveland, and Milwaukee). Finally, about 36 percent of the same group from the West South Central Division live in the four Pacific SMSA's greater than a million (Los Angeles, San Diego, San Francisco and Seattle). Thus, not only have Negroes from the South moved to large metropolitan areas, they have moved along clear-cut lines to their destinations, forming at least three major streams, one up the Eastern seaboard, another up the Mississippi River to Ohio and Michigan and one westward to California."
>
> "The pattern is more diffused for whites. While whites from the three divisions also tend to move along these streams, there is a much greater willingness to cross longitudinal lines and to go to smaller places."[9]

The growth processes outlined above have had striking impacts upon the nature and extent of development in both urban and rural areas. During

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[8]Robert E. Marsh, "Geographic Labor Mobility in the United States, Recent Findings," Social Security Bulletin, No. 30,March, 1967, pp. 14-20.

[9]John F Kain and J. J. Persky, "The North's Stake in Southern Rural Poverty," Chap. 17, Rural Poverty in the United States, National Advisory Commission on Rural Poverty, U. S. Government Printing Office, Washington, D. C., 1967.

the 1950's the incentives to enlarge the size of firms and to concentrate economic activities led to the rapid growth of metropolitan centers. A high proportion of those who migrated from the rural areas migrated to these centers. Unfortunately, many of the migrants were disillusioned. They moved on the basis of scanty information and were poorly prepared for the jobs that were available in the centers to which they moved.

Movement of Population to Rural Areas

It should not be inferred that migrants from rural areas travel a one-way street. Migration involves a two-way flow of people. Even if mobility were perfect, a substantial movement of people to rural areas could occur at the same time that a large exodus from rural areas was taking place. While a large movement of labor to rural areas in a country which is experiencing a mass exodus from these areas may be evidence of excessive mobility, mistaken expectations and social waste, such migrations also may reflect differences in tastes or personal characteristics of inmigrants and outmigrants.

Unfortunately, data are not available to separate those who move to rural areas because of their preferences for employment or living in those areas and those who return to rural areas because of disillusionment and disappointment in urban centers. However, research demonstrates that there is a large gross movement of labor into as well as out of farm employment. For the period 1957 to 1963, the number of persons switching from nonfarm to farm employment averaged close to 90 percent of the number of persons moving from farm to nonfarm employment.[10] Most persons transferring from

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[10]Hathaway and Perkins, op. cit., p. 74.

nonfarm to farm employment had formerly been employed in farming and many of them continued to live on farms while endeavoring to establish themselves in nonfarm jobs. Even so, many who changed from farm to nonfarm residences also returned to farms. The proportion of off-farm movers who returned to farm work decreased as the size of the city to which they moved increased. Employment stability increased with city size for all persons transferring from farm to nonfarm employment regardless of whether they changed residence. It was noted above that nonwhites were much more likely to migrate to large urban complexes. It should also be pointed out that nonwhites fared better in the large metropolitan centers than in smaller cities.[11]

Workers who leave agricultural employment are likely to find employment in industries that are subject to cyclical and secular downturns in employment and thus subject to layoff when labor force reductions occur.[12] A high proportion find employment in unskilled or semiskilled occupations in manufacturing, retail trade and construction industries. Because a relatively large share of the migrants from farms in the South are long distance migrants who are employed in the industries subject to heavy layoff, recessions have a relatively high impact upon the South.

A high percentage of those who return from nonfarm to farm employment try again to obtain nonfarm employment. For the period 1957 to 1963, 37 percent of those who moved from nonfarm to farm employment, were employed in nonfarm employment again one year later.[13]

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[11] Loc. cit.

[12] Dale E. Hathaway, "Occupational Mobility from the Farm Labor Force," Chap. 5, Farm Labor in the United States, Columbia University Press, 1967, p.94.

[13] Hathaway and Perkins, Op. cit.

Technological change continues to generate significant structural changes in agriculture. The number of farms with sales of less than $10,000 continues to decrease sharply. Between 1960 and 1968 the number of such farms in the United States decreased by approximately one-third. In contrast, the number of farms producing more than $20,000 of products for sale continues to increase. Between 1960 and 1968 the number of such farms increased by fifty-five percent. These trends in employment in farming and the farm population will continue.

The size of farm that is necessary to provide an adequate income for a family is changing rapidly. During the decade of the 1950's farms with gross annual sales of $10,000 or more were generally considered necessary to provide an adequate income for a family. At the end of the decade it was estimated that a farm of this size would become available for each 10 farm males who were potential farmers. By the mid 1960's the size of farm necessary to provide an adequate income for a family had increased to one with gross annual sales of $15,000 or more. Opportunities for rural farm male youths to obtain a farm of this size were limited to one in twelve.[14] As technological improvements open new possibilities for farm production they will continue to provide incentives to substitute capital for labor and likely will result in an even further decrease in the number of farm opportunities for youth to obtain farms that will generate adequate family incomes.

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[14]J. M. Stam,"Farming as a Career: What are the Opportunities for Youth?" Minnesota Agricultural Economist No. 521, Minnesota Agricultural Extension Service, August, 1969.

A second major factor affecting educational needs is the fact that those who remain on farms are becoming increasingly dependent upon off-farm sources of income. In 1960 farm operator families received forty-two percent of their total income from off-farm sources. In 1968 income from off-farm sources accounted for almost one half of the total income of farm families. While the amount of off-farm income varied by size of farm, it was important to all classes, amounting to more than seventeen percent of the total money income of families living on farms where sales exceeded $40,000 per year. (Figure 7.) Information concerning the sources of off-farm income is not published. It includes income from wages and salaries as well as other sources. We know from other studies that many members of farm operator families are employed in off-farm jobs, and it is likely that a high percentage of the off-farm income of farm operator families comes from wages and salaries of family members employed in nonfarm occupations. Moreover, since off-farm income has been increasing in the recent past, continuation of the processes of structural change likely will lead to even greater dependence upon off-farm sources of income. It will become increasingly important that farm family members acquire the education and training necessary to take advantage of off-farm employment.

During the period from 1950 to 1960 outmigration from the farms and small villages was so large that half of the counties in the United States declined in population. (Figure 8.) The declining counties were overwhelmingly rural in character.[15] The areas that grew rapidly from inmigration of population were mostly urban, and particularly around the metropolitan

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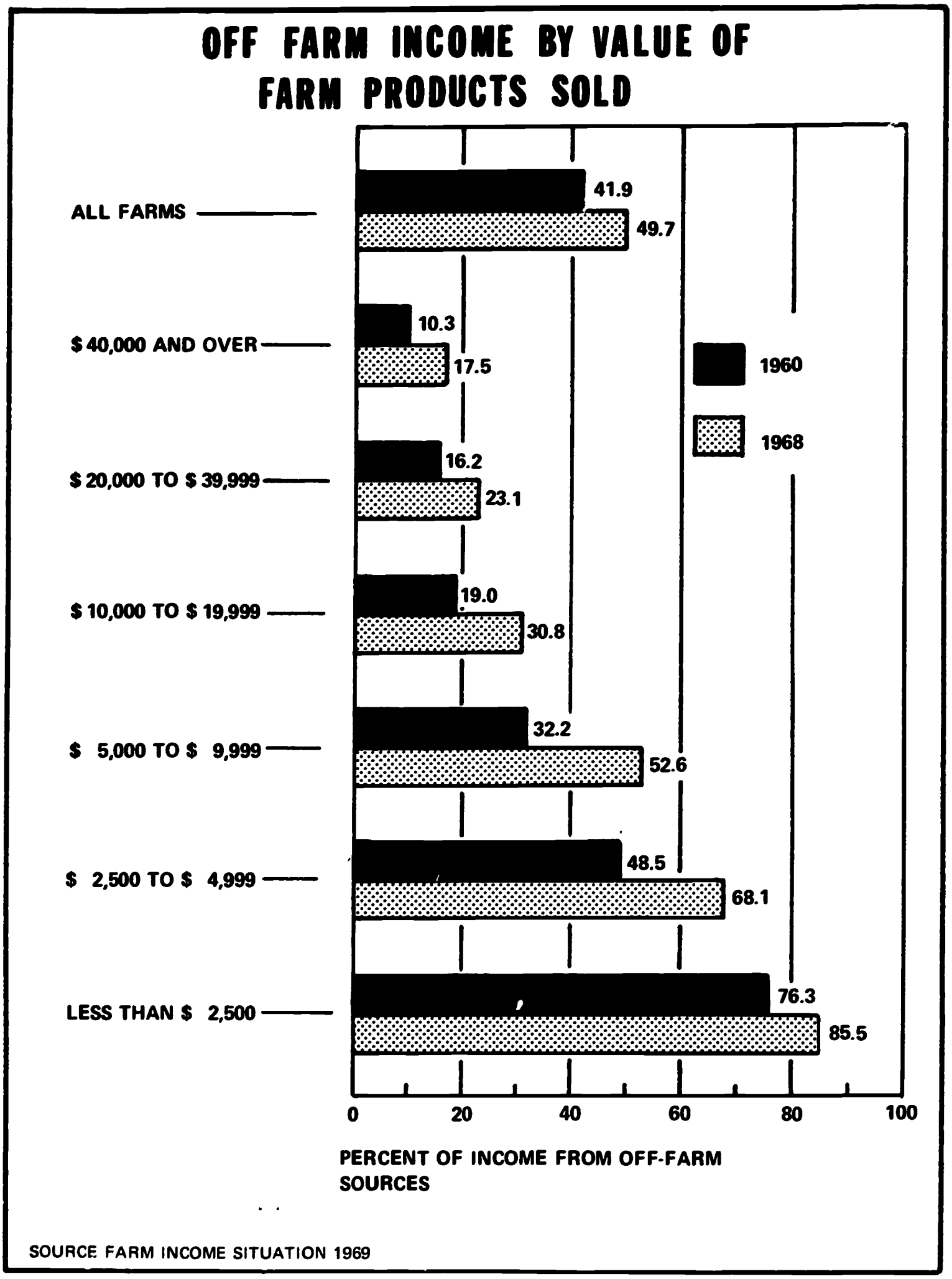
[15]U. S. Population Mobility and Distribution, Econ. Research Service-436, U. S. Department of Agriculture, Washington, D. C., 1969, p. 20.



SOURCE FARM INCOME SITUATION 1969

Figure 7

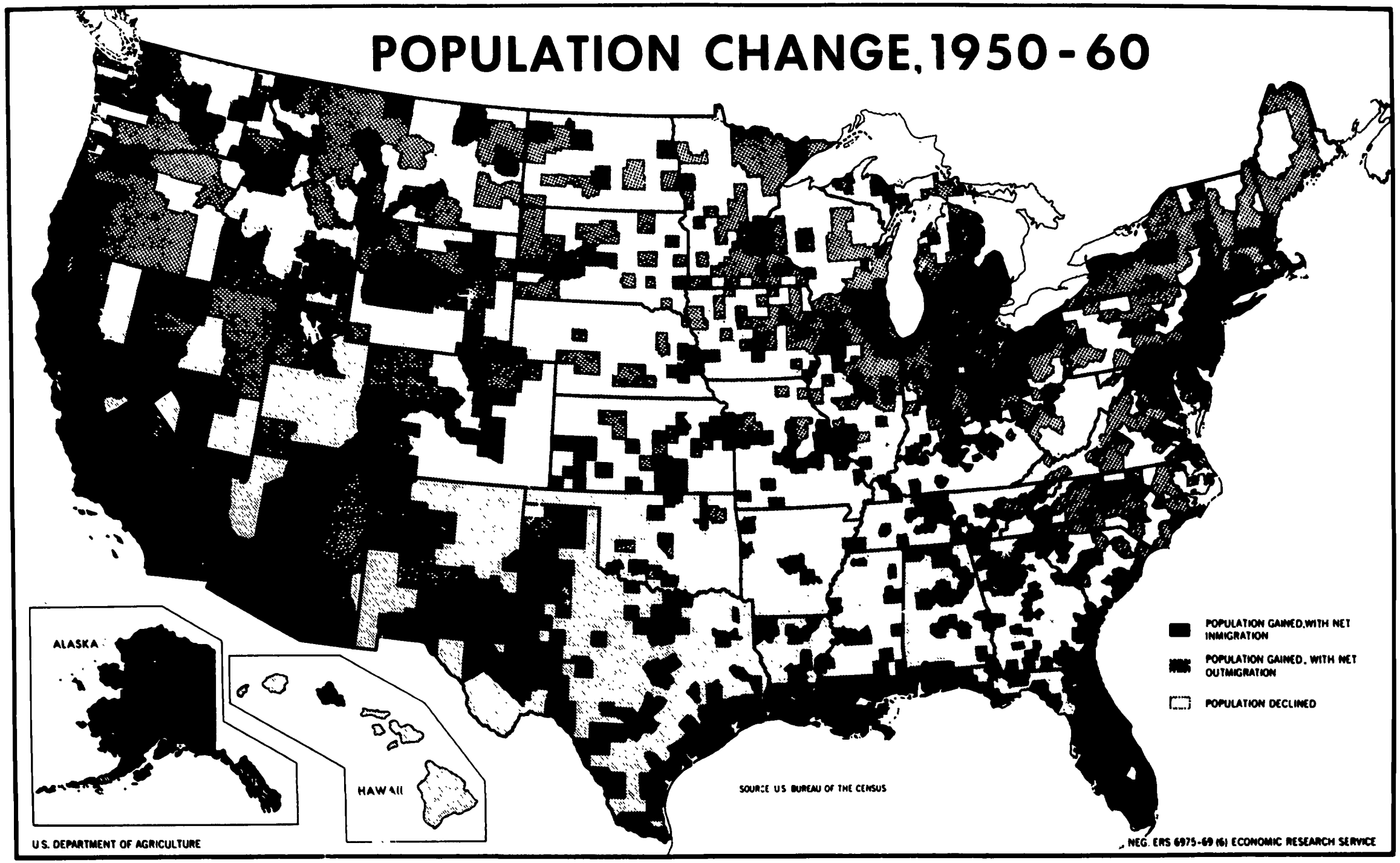

POPULATION CHANGE, 1950-60
ALASKA
HAWAII
POPULATION GAINED, WITH NET INMIGRATION
POPULATION GAINED, WITH NET OUTMIGRATION
POPULATION DECLINED
SOURCE U.S. BUREAU OF THE CENSUS
U.S. DEPARTMENT OF AGRICULTURE
NEG. ERS 6975-69 (6) ECONOMIC RESEARCH SERVICE

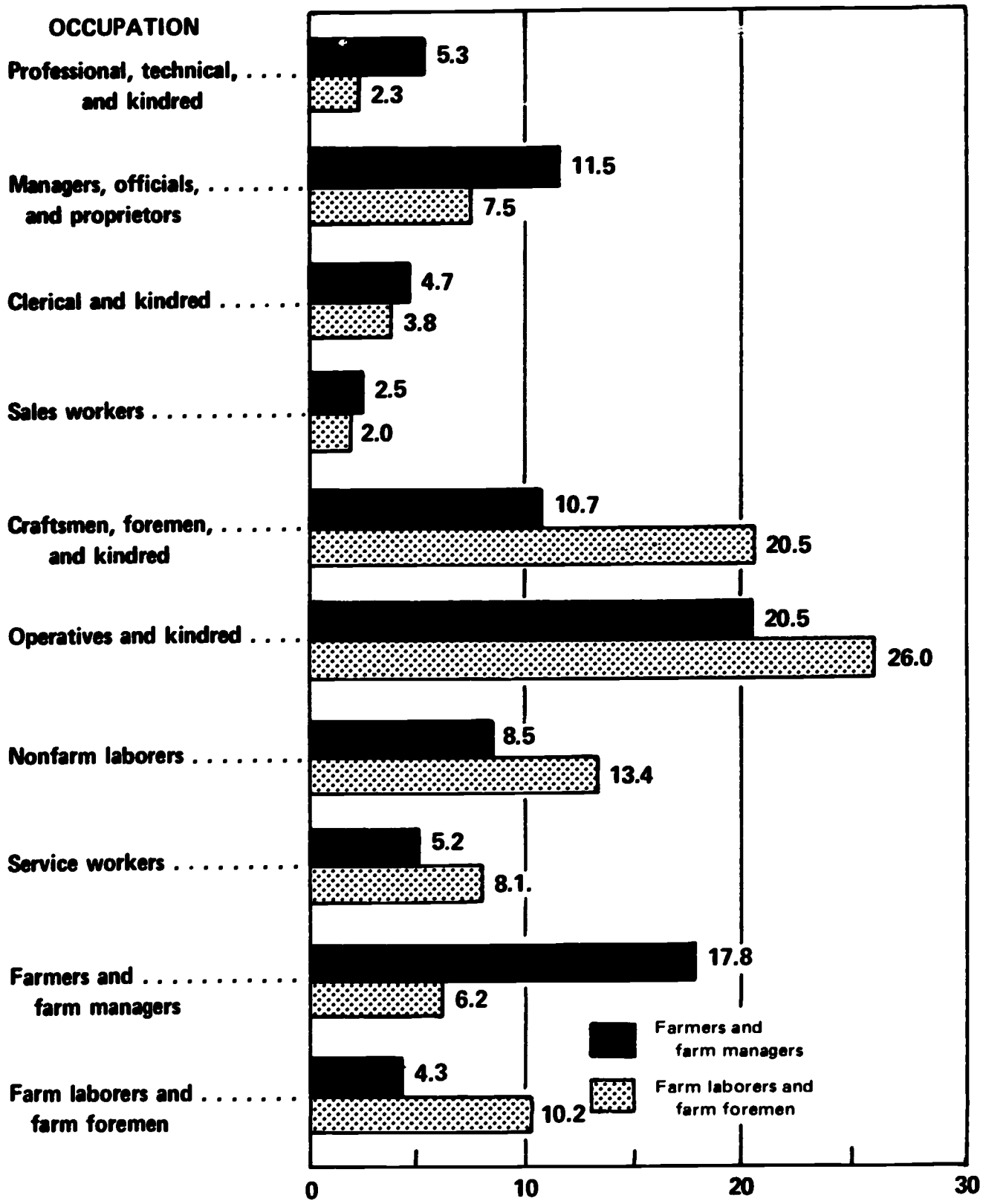
Figure 8

centers of the Great Lakes, the Pacific Coast, and Florida Peninsula. It will be recalled from the map showing the generation of jobs in relation to the potential addition of the labor force from the indigenous population that the areas of high growth in population tend to conform to the areas where jobs were created in excess of the normal additions to the labor force age group. In like manner, a large share of the counties in the areas of the United States that experienced slow growth in the generation of jobs in relation to the labor force also experienced heavy outmigration of population and population declines.

It was emphasized earlier that in much of the history of the United States sons have been trained as if they were to enter the same occupations as their fathers. There is, however, less tendency for the sons of farmers and farm laborers to enter the occupations of their fathers than for many other occupation groups. A high percentage of the sons of farmers and farm managers go into the blue collar occupations as operatives and kindred workers and craftsmen and kindred workers. (Figure 9.) Only about 10 percent of the sons of farm laborers are now employed in that occupational group. Eighteen percent of the sons of farmers and farm managers are employed in that occupational group. It is clear from these data that providing specialized skills to young men as if they were to enter the same occupations as their fathers can lead to serious misallocation of educational resources. The highest rate of occupational inheritance is in the professional, technical, and kindred workers category. Even here, almost sixty percent of the sons enter a different occupation than their fathers.

In spite of the heavy outmigration from the rural areas, approximately one half of all persons eighteen years old and over who were born in

CURRENT OCCUPATIONS OF SONS OF FARMERS AND FARM WORKERS, 1962



SOURCE: CURRENT POPULATION REPORTS

Figure 9

rural areas are still living there. About thirty-one percent of the rural born adults now live in metropolitan areas. In 1967 twenty percent of the urban population was of rural childhood origin. Moreover, the percentage of the rural population that was of urban origin was not greatly different. More than one half of the rural whites live in locations that are more than fifty miles from their point of origin.

It is clear from the above that successful educational programs must prepare rural residents to work in nonfarm occupations whether they remain in rural areas or migrate to metropolitan centers. It is also clear that urban residents should be prepared to live in rural residences where some will work in agriculturally related occupations. But an increasing proportion of rural residents do not live on farms and they are employed in nonagricultural occupations. Moreover, there is reason to believe that employment and population growth will occur more rapidly outside the major metropolitan centers in the years immediately ahead than in the past, emphasizing the need for general education of youth living outside metropolitan centers.

Changes in the 1960's

Many recent developments are altering industrial location advantages. Transportation costs have been altered by the development of the interstate highway system, commercial aviation and containerization. Locational advantages also have been altered by the advent of computers and by improvements in communication technology. Energy costs are being altered by the development of nuclear sources of energy. Perhaps even more important, during most of the 1960's the economy experienced high levels of employment, low unemployment and rapidly rising prices. Under these conditions, the supply of labor assumed a more important role in plant location decisions. These

factors have contributed to a more dispersed pattern of economic growth, including more rapid growth in the non-metropolitan areas.

During the period 1962-1967 the rate of employment growth in private nonfarm industries in non-metropolitan counties was greater than in metropolitan counties. (Figure 10.) In contrast, in earlier periods the development of nonfarm jobs in non-metropolitan areas usually lagged behind the rate of growth in metropolitan areas.

The growth in employment in relation to the potential increase in the labor force from the indigenous population also was strikingly different among the states in the 1960's than in the 1950's. Between 1962 and 1966 the United States created employment for 76 of each 100 persons added to the working age group. The distribution of employment gains among the states was much better in relation to the potential increases in the labor force than during the 1950's. (Figure 11.) Progress in the southeastern states was quite pronounced, with Tennessee and Georgia exceeding the national average, and other southern states performing at a rate only slightly less than the national average. During this period, absolute decreases in employment occurred only in four states in the northern part of the Great Plains.

In the current decade about half of the rural and semi-rural counties in the nation are creating enough private nonfarm jobs to offset the declines in the farm labor force.[16] As a result of this improvement in employment opportunities, the predominantly rural counties have done much better during the current decade in retaining their population than they

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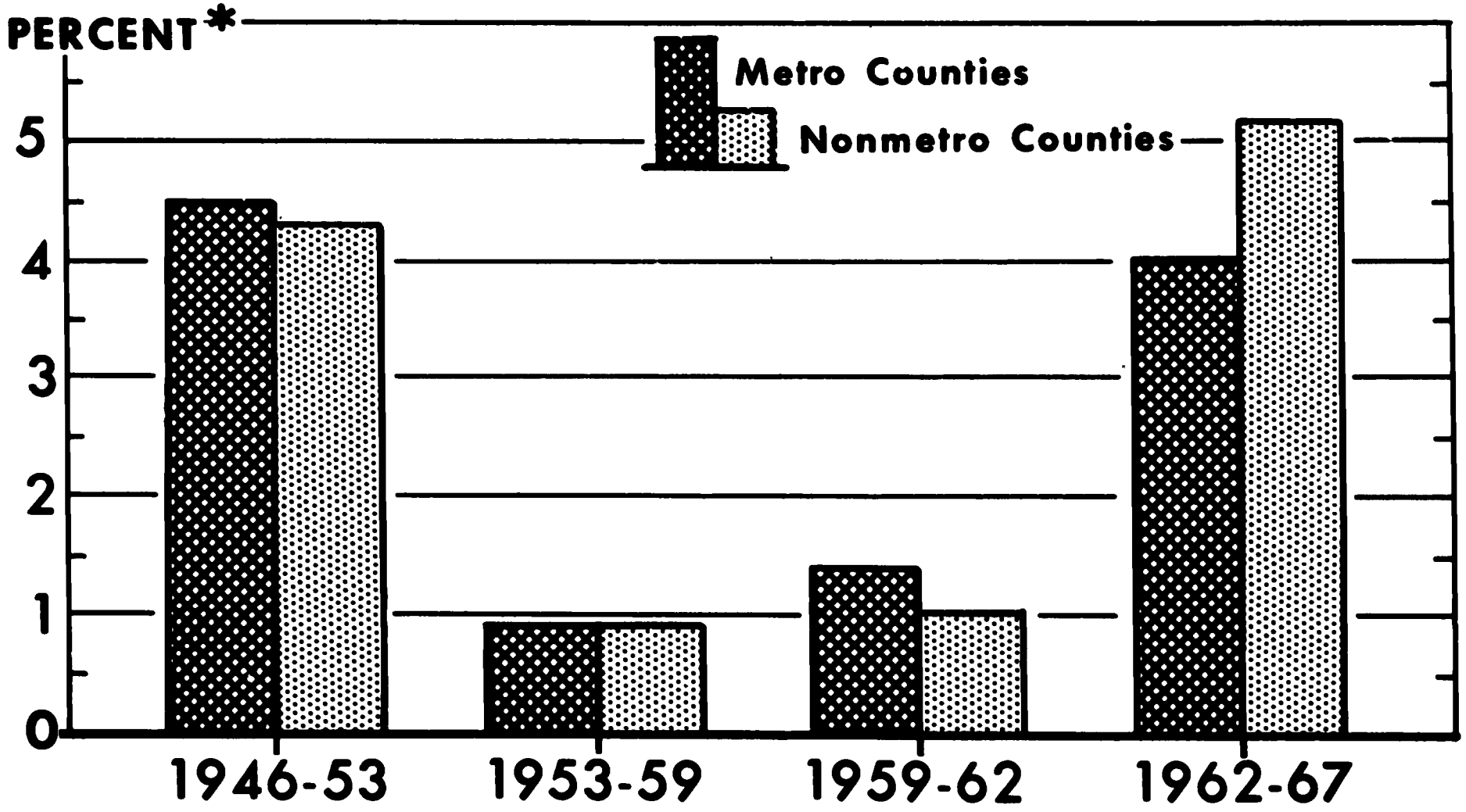
[16]Clark Edwards and Calvin Beale, "Rural Change in the 1960's, " National Agricultural Outlook Conference, ERS, USDA, February, 1969, p. 5.

EMPLOYMENT GROWTH IN PRIVATE NONFARM INDUSTRIES



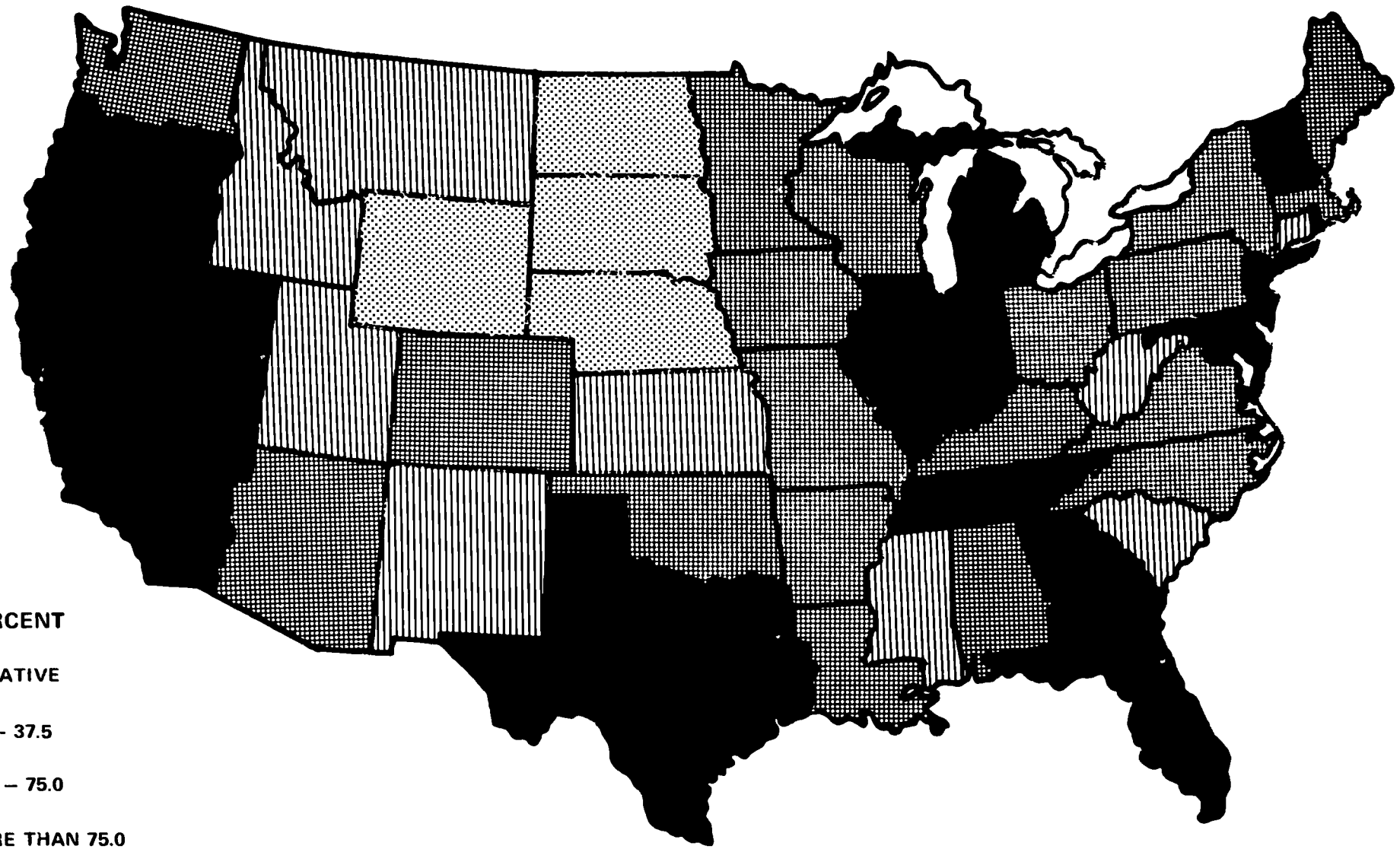
DATA ADAPTED FROM COUNTY BUSINESS PATTERNS.

*ANNUAL AVERAGE PERCENT OF GAIN FOR THE PERIOD INDICATED.

U. S. DEPARTMENT OF AGRICULTURE NEG. ERS 7049-69 (9) ECONOMIC RESEARCH SERVICE

Figure 10

CHANGE IN CIVILIAN EMPLOYMENT AS PERCENT OF CHANGE IN POTENTIAL POPULATION OF WORKING AGE 1962 – 1966



U.S. AVERAGE 75.64

SOURCE U. S. BUREAU OF THE CENSUS

Figure 11

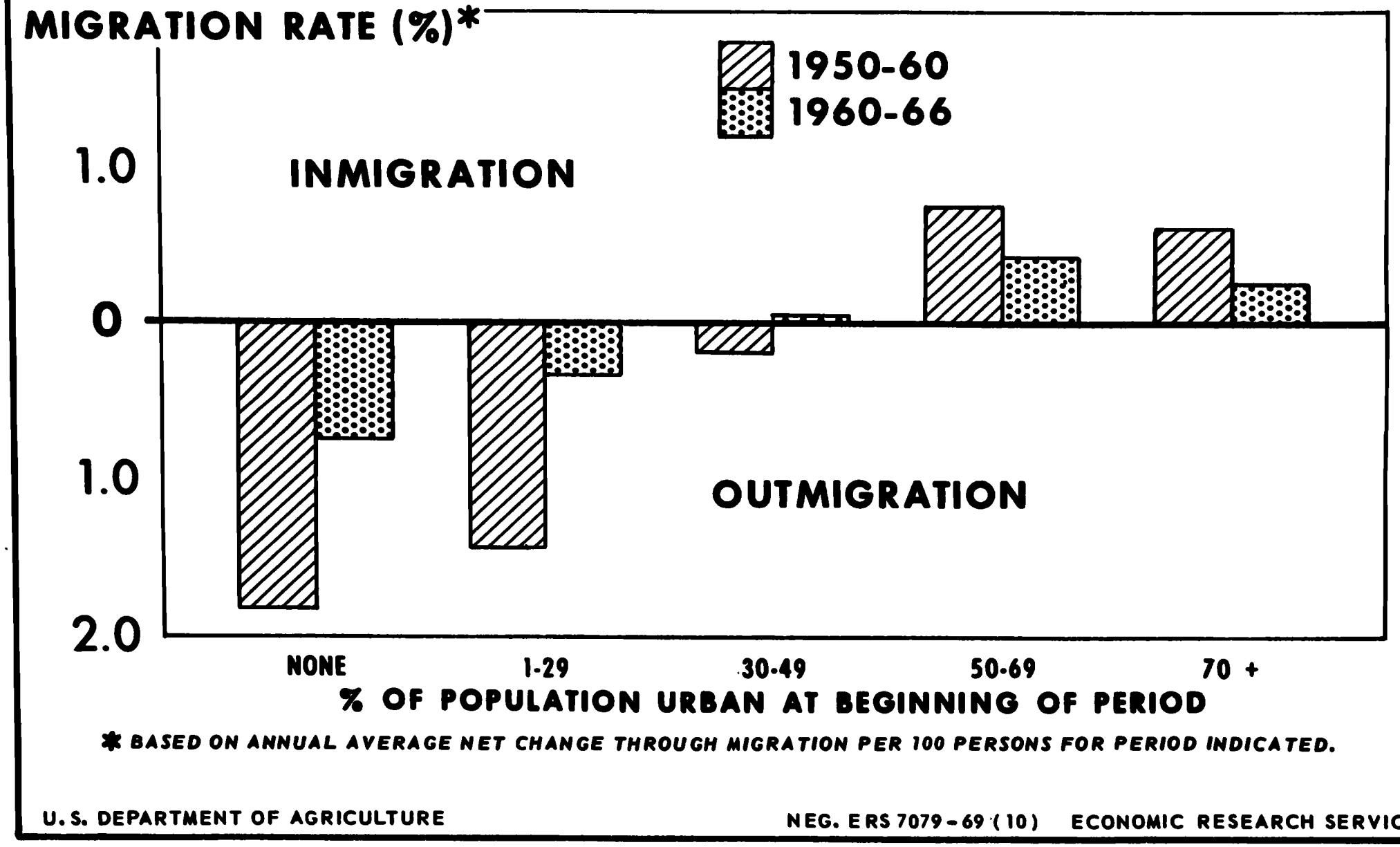
did in the 1950's. (Figure 12.) During the 1950's this group of counties had a net outmigration of more than 4.6 million people, but between 1960 and 1966, the annual average migration was only about one-fifth this rate. Although the counties where more than one-half of the population is urban are still gaining population through inmigration the rate of gain dropped sharply during the decade of the 1960's.

An example of improvement in the distribution of growth within a state is shown for North Carolina in Figure 13. Between 1962 and 1966, in relation to each 100 potential natural increase in population of working age the State generated 68 jobs. Thirty-four of the 100 counties in the State had growth rates in excess of 76, the national average. Even though 24 counties lost employment during this period, in comparison with the 1950's improvement was quite pronounced in the non-metropolitan areas. As a result, migration from the State decreased sharply.

A more striking example of a state that is experiencing a much more rapid growth of employment and a better distribution of that growth during the current decade is Arkansas. During the decade of the 1950's technological and structural changes produced profound effects in Arkansas. Sixty-eight of the 75 counties in the State suffered a decrease in employment. Although 13 counties continued to lose employment during the 1960's, 34 counties now are generating more jobs in relation to the indigenous labor force than the national average. (Figure 14.) The slow growth areas in the State are concentrated largely in the Northwestern and Northeastern parts. Most of the western half of the State is growing more rapidly than the national average.

In contrast, Nebraska is an example of a state where employment is

NET MIGRATION 1950-60 AND 1960-66 FOR COUNTIES GROUPED BY DEGREE OF URBANIZATION

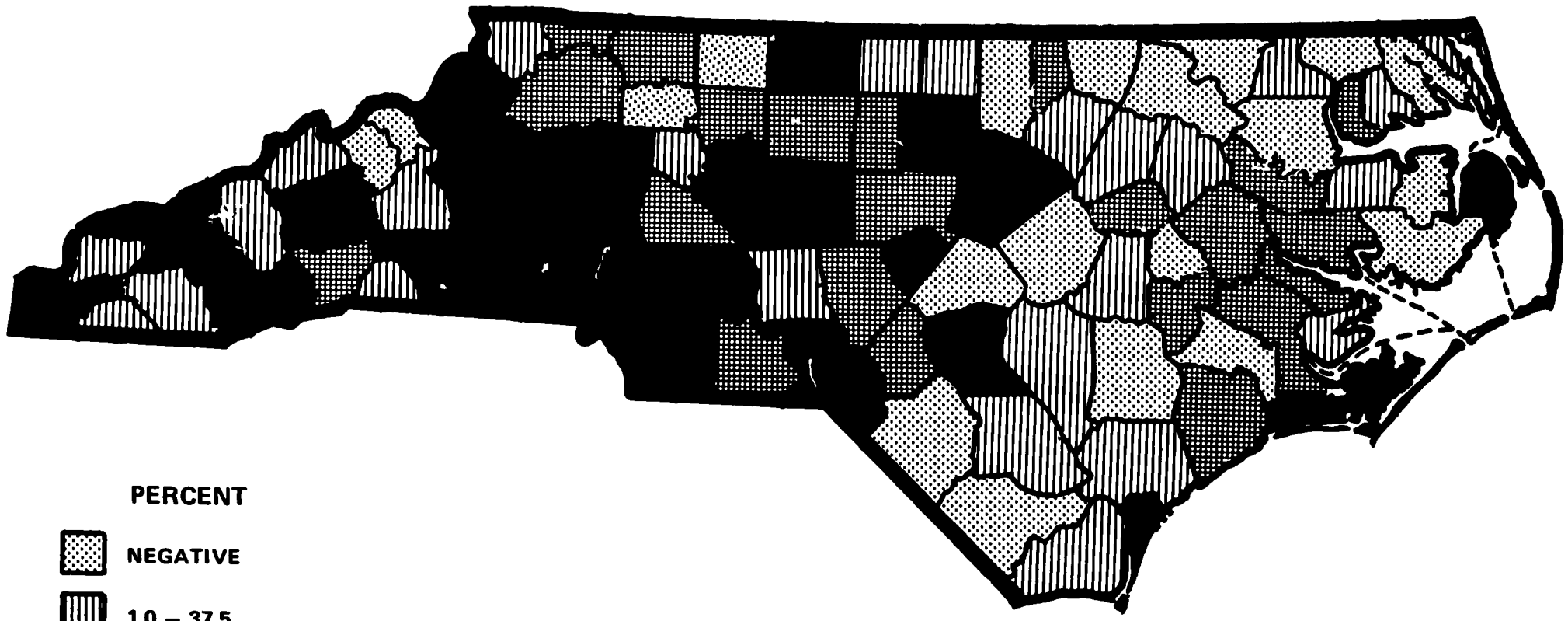


* BASED ON ANNUAL AVERAGE NET CHANGE THROUGH MIGRATION PER 100 PERSONS FOR PERIOD INDICATED.

U. S. DEPARTMENT OF AGRICULTURE NEG. ERS 7079-69 (10) ECONOMIC RESEARCH SERVICE

Figure 12

CHANGE IN CIVILIAN EMPLOYMENT AS PERCENT OF CHANGE IN POTENTIAL POPULATION OF WORKING AGE IN NORTH CAROLINA 1962 – 1966



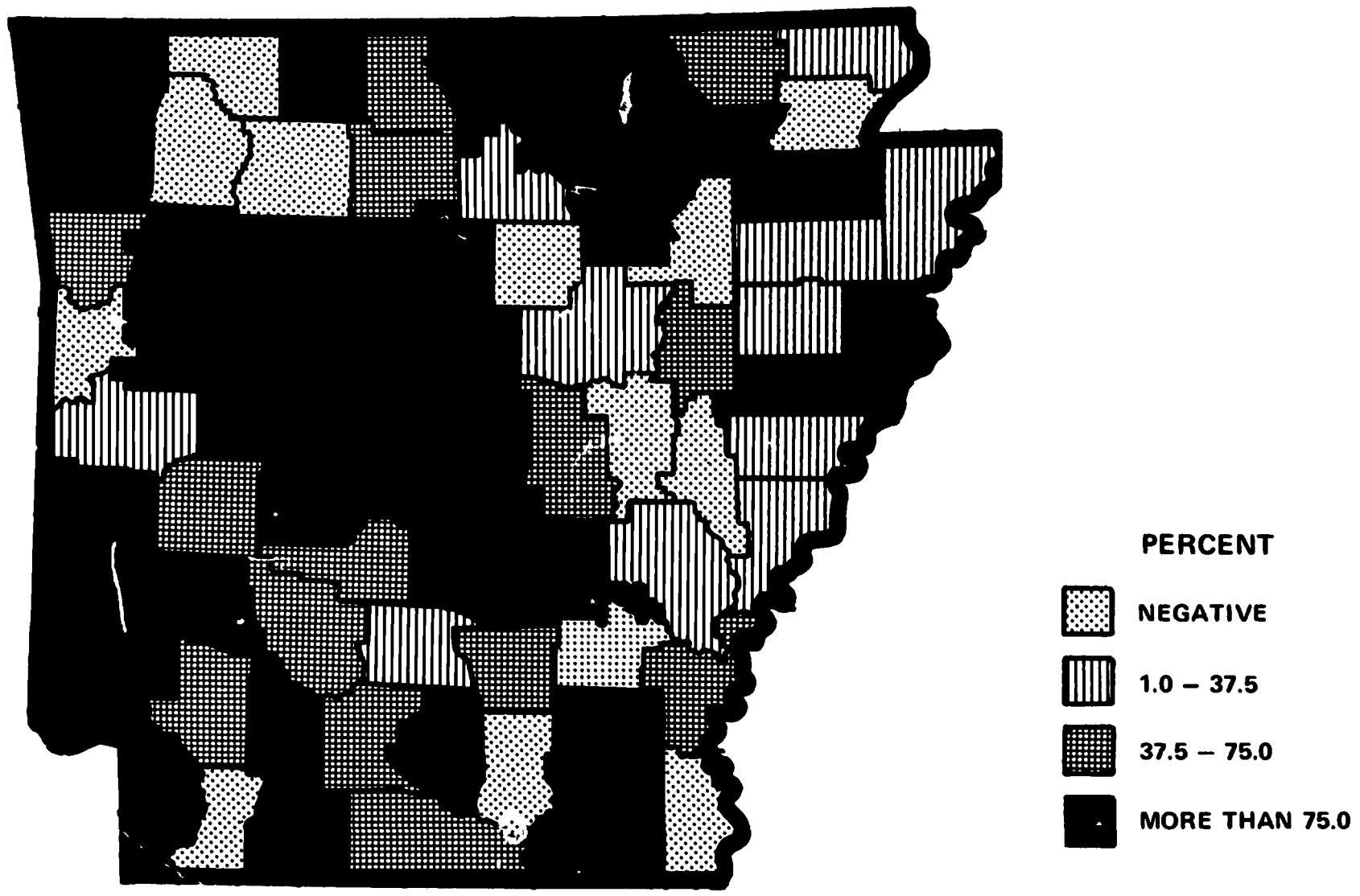
PERCENT

- NEGATIVE
- 1.0 – 37.5
- 37.5 – 75.0
- MORE THAN 75.0

SOURCE U. S. BUREAU OF THE CENSUS AND THE N. C. DEPARTMENT OF LABOR

Figure 13

CHANGE IN CIVILIAN EMPLOYMENT AS PERCENT OF CHANGE IN POTENTIAL POPULATION OF WORKING AGE IN ARKANSAS 1962–1967



SOURCE U. S. BUREAU OF THE CENSUS AND ARKANSAS DEPARTMENT OF LABOR

Figure 14

growing slowly in relation to the potential additions to its labor force. Although the data are fragmentary and do not cover as long a period as was used for North Carolina and Arkansas, they suggest that the distribution of growth in Nebraska during the 1960's is concentrated in a few growth centers. The pattern resembles the distribution of growth within North Carolina during the 1950's. Approximately two-thirds of the counties in the state continue to lose employment. Only seven counties generated more employment in relation to the additions to the indigenous labor force than the national average. (Figure 15.)

In spite of the fact that many rural counties are now experiencing more rapid growth in employment than they have for the past twenty to thirty years, some continue to experience decreases in economic activity. While the number of counties losing population was considerably reduced between 1960 and 1966 compared with the 1950's, the number that continue to experience net outmigration is large. (Figure 16.) By comparing the map of the population changes in the period 1960-66 (Figure 16.) with the map showing the generation of jobs in relation to the indigenous labor force (Figure 11.) one can see that the population has declined in states that are experiencing relatively slow growth in employment opportunities.

The migration from rural areas has been heavily weighted by young adults. Consequently, the residual population in many counties includes a high percentage of persons in the older age groups. In 1967 there were 345 counties in the United States in which there was a natural decrease in population resulting from an excess of deaths over births. (Figure 17.) It is estimated that the number of such counties may exceed 500 in 1970.[17]

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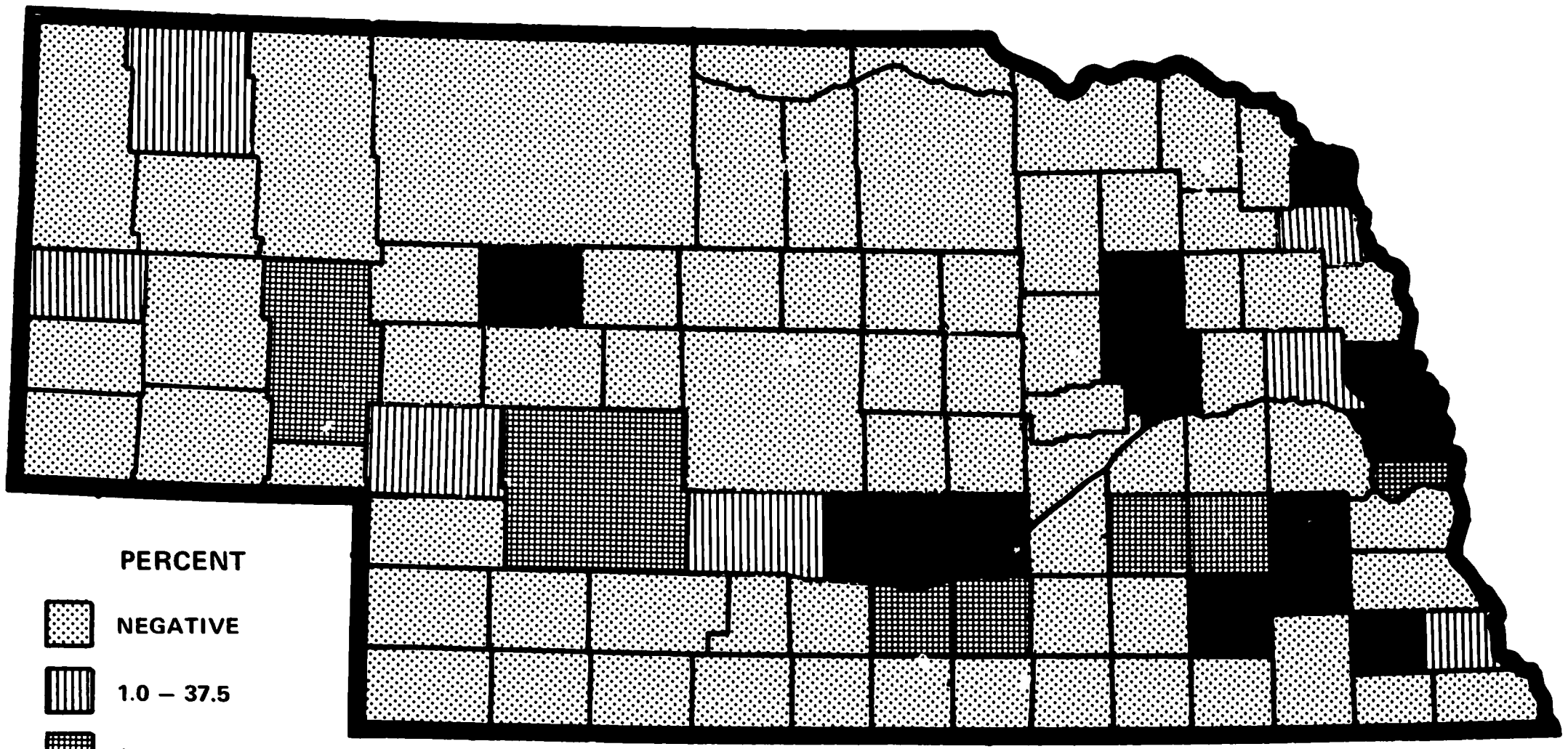
[17] ERS Report No. 436, op. cit., p. 38.

CHANGE IN CIVILIAN EMPLOYMENT AS PERCENT OF CHANGE IN POTENTIAL POPULATION OF WORKING AGE IN NEBRASKA 1962 – 1967



SOURCE: U.S. BUREAU OF THE CENSUS AND NEBRASKA DEPARTMENT OF LABOR

Figure 15

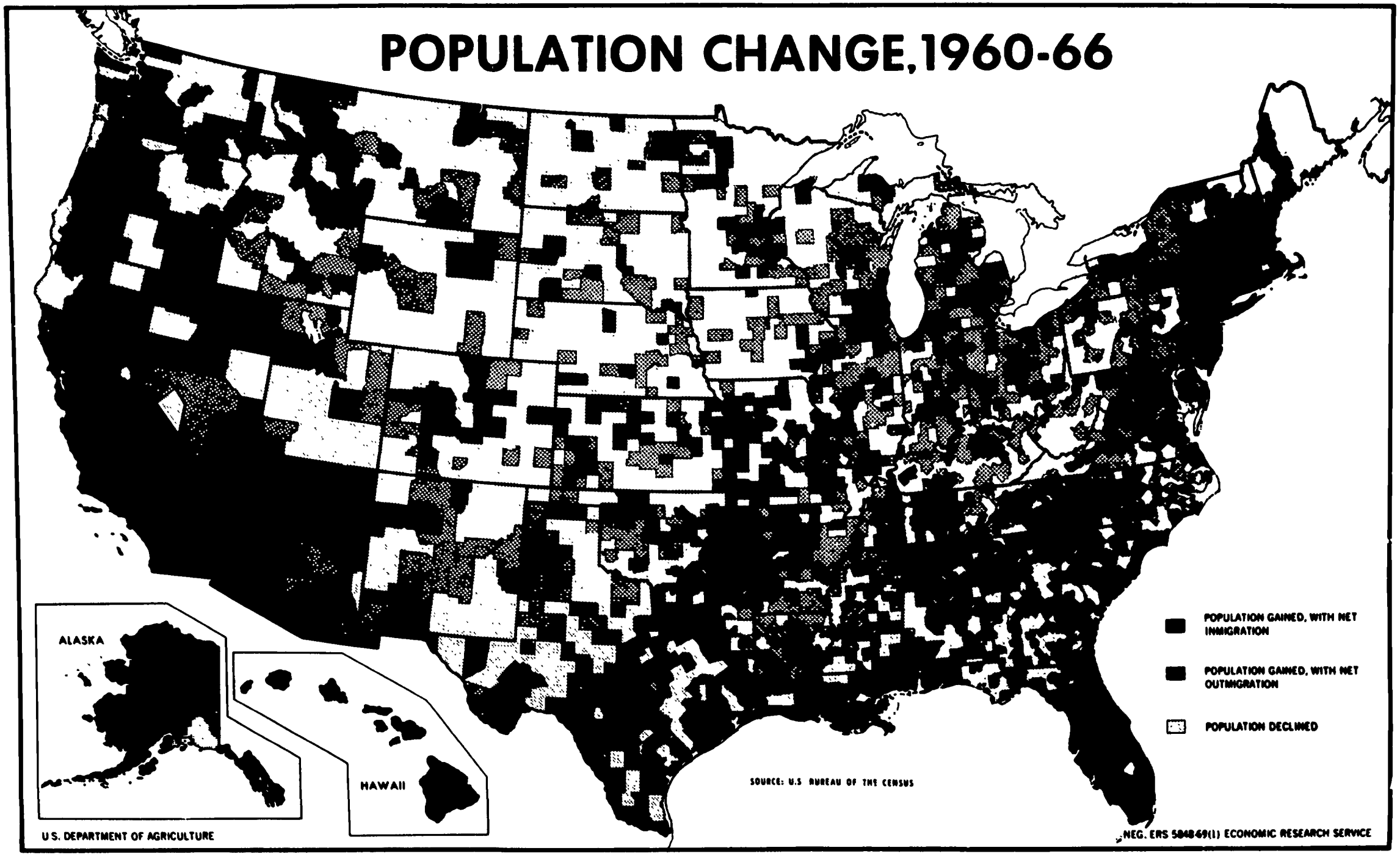

POPULATION CHANGE, 1960-66
ALASKA
HAWAII
POPULATION GAINED, WITH NET INMIGRATION
POPULATION GAINED, WITH NET OUTMIGRATION
POPULATION DECLINED
SOURCE: U.S BUREAU OF THE CENSUS
U.S. DEPARTMENT OF AGRICULTURE
NEG. ERS 584-69(1) ECONOMIC RESEARCH SERVICE

Figure 16

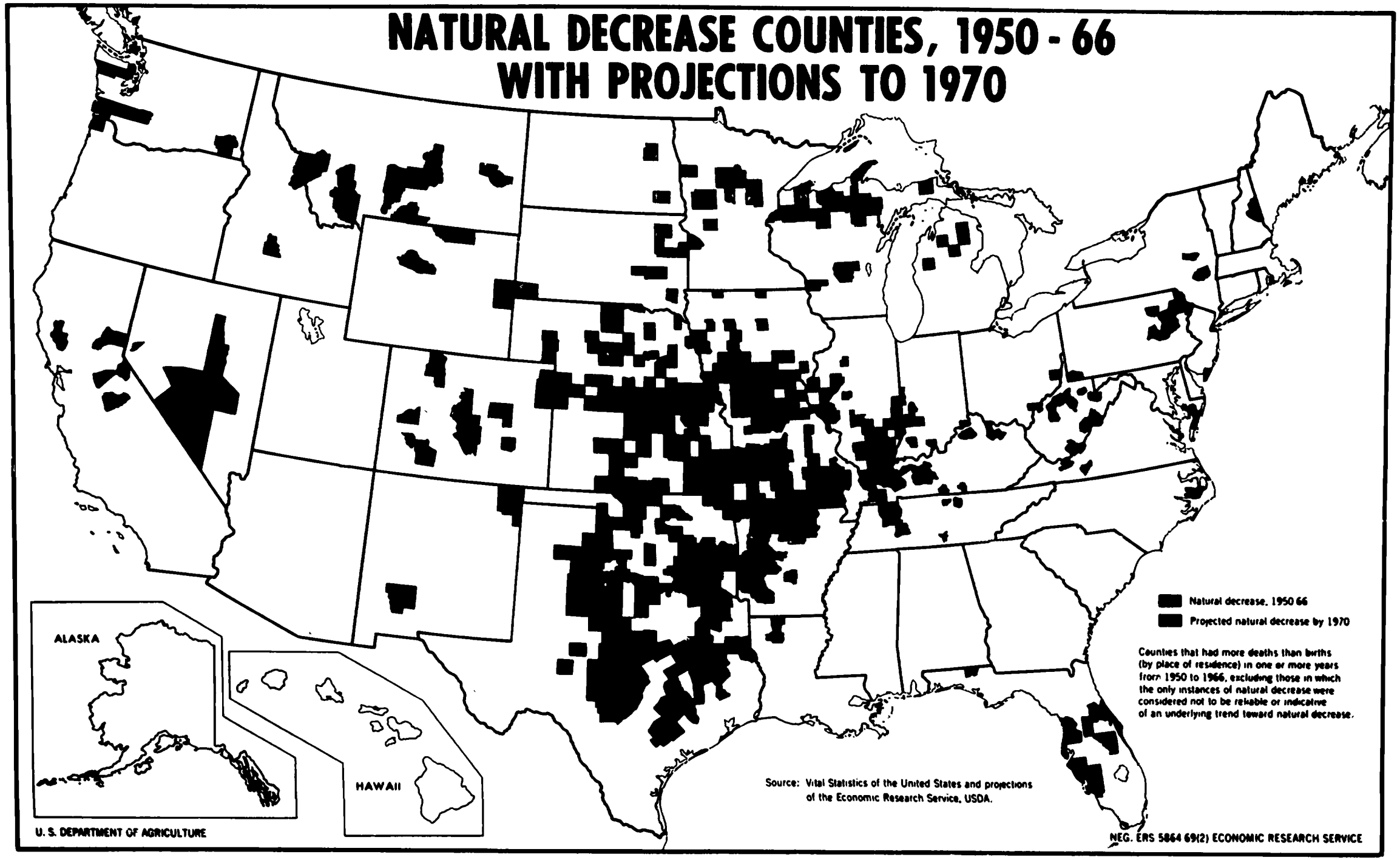

NATURAL DECREASE COUNTIES, 1950 - 66
WITH PROJECTIONS TO 1970
ALASKA
HAWAII
U. S. DEPARTMENT OF AGRICULTURE
Natural decrease, 1950 66
Projected natural decrease by 1970
Counties that had more deaths than births (by place of residence) in one or more years from 1950 to 1966, excluding those in which the only instances of natural decrease were considered not to be reliable or indicative of an underlying trend toward natural decrease.
Source: Vital Statistics of the United States and projections of the Economic Research Service, USDA.
NEG. ERS 5864 69(2) ECONOMIC RESEARCH SERVICE

Figure 17

Most of these counties are predominately rural and relatively isolated.

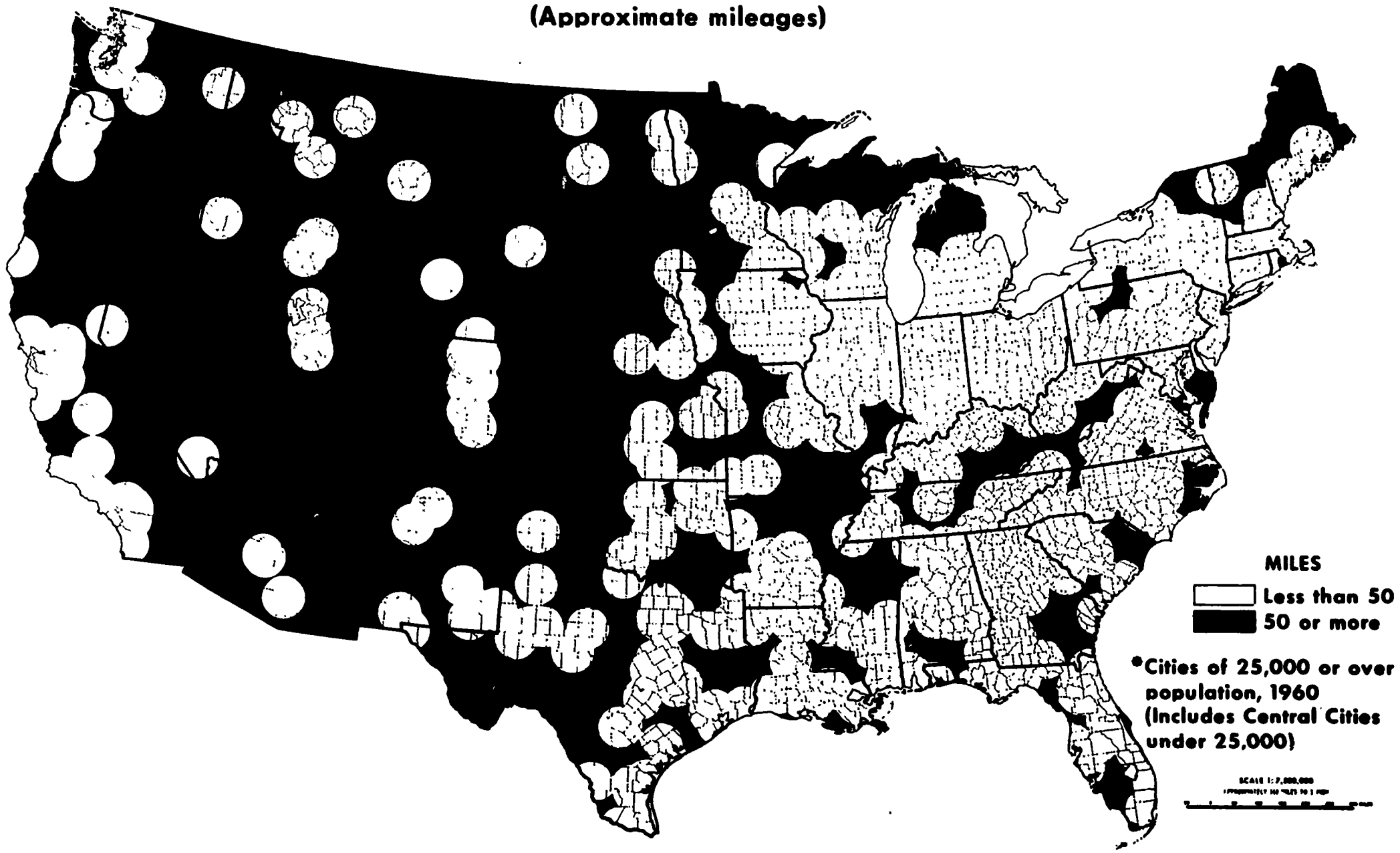
Although the non-metropolitan population in the United States is increasing, it is increasing more slowly than the metropolitan population. In 1968 thrity-six percent of the American people lived outside metropolitan areas. It should be emphasized, however, that only one-seventh of the non-metropolitan residents live on farms. The vast majority live in small cities and towns, or in rural nonfarm residences. Most of the rural residents living in the eastern half of the United States are within fifty miles, approximately one hour's driving time, of a city of 25,000 or more population. (Figure 18.) In fact, it is estimated that between eighty-five and ninety percent of the total population of the eastern half of the United States lives within fifty miles of a city with 25,000 or more population. Most of the cities of this size or larger are economically viable. Clearly, therefore, most of the people in the eastern half of the United States who live outside the major metropolitan areas live within commuting distance of cities in which employment is expanding. They also live within commuting distance of cities that could serve effectively as centers to provide the educational services, health services and other public services for the development and conservation of human resources.

Some Implications of Changes in Economic and Social Structure for Education

The economic structure and the growth of rural areas will continue to be affected importantly by technological changes and by changes in market phenomena in the future. The effects will be manifested by changes in the industry mix, occupational structure and in the spatial distribution of employment and population growth. The implications of these changes for our

GENERALIZED COMMUTING DISTANCES TO POPULATION CENTERS*

(Approximate mileages)



U.S. DEPARTMENT OF AGRICULTURE NEG. ERS. 3295-64(10) ECONOMIC RESEARCH SERVICE

Figure 18

educational institutions have been dramatic in the past and they will continue to be so in the future. The nature of the structural changes that are likely to occur is apparent. The implications of these changes for educational institutions is less clear. What can, or should, be done and the consequences are not generally agreed upon.

Clearly, only a very small minority of the rural youth should enter the occupation of farming in the future. Only one of 7 rural youth now lives on farms. It was pointed out above that only one of 12 farm youth will have an opportunity to obtain a farm large enough to generate an adequate income for a family. Clearly, therefore, only a very small proportion of the youth living on farms should receive vocational training designed to produce operators of commercial farms. Furthermore, many of those who become commerical farmers also will engage in off-farm employment. One of each six operators of commerical farms now works off the farm 100 days or more per year, and ten percent of the commercial farm operators receive more income from off-farm work than they do from farming.

The vast majority of farm youth must find employment in occupations other than farming. Furthermore, the majority of farm youth are not likely to live in rural areas in the future. In like manner many of the youth who now live in the villages and towns in rural America will find that their communities will not be able to generate employment opportunities that fulfill their expectations. Consequently, many of them will live in urban centers in the future.

The implications for educational programs are quite clear. The vast majority of the farm youth and of the rural nonfarm youth need general education and occupational and vocational education that is comparable in quality

to that received by urban residents.

Historically, educational programs in rural areas have been oriented toward meeting what were presumed to be the special educational needs of rural people. These "special needs" were defined relative to anticipated occupational choices of rural youth. This paper has emphasized that Americans move freely between rural and urban residences, often changing occupations in the process. The great challenge of our educational institutions, therefore, is not to meet the "special educational needs" of any particular residence group, but to develop institutional forms that will provide residents of all residence groups with educational services comparable in quality and quantity.

Since such a high proportion of the rural youth are destined to migrate to urban centers and work in nonfarm occupations, it is imperative that a better job be done in occupational counseling and occupational preparation in order to rationalize migration. Although more emphasis must be placed upon nonagricultural vocational training in the rural areas, the training programs should provide for flexibility in occupational choice. In the past mistakes were made in training people for farming when farming opportunities were very limited. It could be equally wasteful to train people for specific nonagricultural occupations that will be adversely affected by technological changes of the future. Therefore, occupational testing and counseling programs in the public schools should be coordinated with the manpower outlook programs of the Employment Service. This becomes particularly important at the time of placement. The well established streams of migration in the nation suggest that, in the informal system now guiding migrants, the pattern of dissemination of information has a more

important effect on who migrates and where they go than the potential increase in earnings. The migration process will not be rationalized until a comprehensive nationwide manpower program is established.

The problem of developing institutional structures to make educational services available to the people is as important as developing the content of education programs. It is clear that many counties, villages and the people within them have been left behind by the technological and structural changes that have taken place in rural America. Many people are now confronted with the fact that their local governments cannot provide the schools, libraries, hospitals, roads and other social services of the quality desired. In short, the changes in industrial and population structures that have been brought about during the past few decades have undermined many local governments to the point that they are no longer able to provide the services needed.

We have made many attempts to accommodate to the structural changes, including the creation of area vocational schools, but little attention has been given to how the basic forces at work in our society are affecting the spatial distribution of population and economic activity, and particularly with reference to the ability of society to supply public services to the people concerned. One of the challenges confronting this workshop is to develop new ideas for meeting the occupational education needs of the 1970's. As this task is undertaken it should be kept clearly in mind that the rural and urban areas of the United States must be viewed as an entity. The technological and economic changes that have occurred during the past thirty years have rendered the rural-urban dichotomy virtually meaningless from the standpoint of economic and social organization. The educational

institutions and their programs must reflect this change in economic structure.

Sufficient attention in our society has not been given to the fact that production technology, industry mix, occupational structure, and the pattern of growth of employment and population are interrelated. Neither has sufficient attention been given to the fact that the costs of providing public services for society also are related to the nature of the growth and distribution of its population. The structural changes that have been brought about as a result of the adoption of new technology in our society are secondary changes made in an attempt to adjust to the new technology, and for the most part do not represent changes that were planned. We have not endeavored to develop technology consistent with any particular pattern of social and economic organization. Instead, we have sought to develop technology to provide the most efficient production of commodities, and have left the pattern of economic and social organization to be determined by the state of production technology. Perhaps it is time that we concerned ourselves with fundamental questions concerning the organization of society. What organization of society spatially and structurally would yield an efficient production of goods and services? How many cities does the nation need for efficient production of goods and services? What size should they be? Where should they be located? How should they be related in order to provide effective access to services? How can those living outside the cities obtain access to services that are comparable in quality to those provided urban residents? Until these questions receive due consideration, we shall continue to treat the problems of social and economic organization as secondary to the problems of organization for the production of goods.