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Who Are Retired Farm Operators?

Robert A. Hoppe

FCRS
Farm Costs & Returns Survey

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Abstract

Approximately 352,000 farm operators, generally running very small farms, were identified as retired according to the 1993 Farm Costs and Returns Survey (FCRS). Although retired farmers operated 17 percent of all farms, they produced only 2 percent of the value of production. The information presented here has implications for the use of statistics on farming, the importance of farming to retired operators, the importance of the Conservation Reserve Program to retired operators, and the future of farming.

Keywords: Retired farmers, retired farm operators, elderly, retired, farm structure, Farm Costs and Returns Survey, farm income.

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Contents

Summary iii
Introduction 1
Data Sources 1
Defining Retired Operators 1
Retired Operators Really Are Retired 2
Background: Aging Farm Operators 2
Shares of U.S. Agriculture 5
Location 5
General Structural Characteristics 8
Farm Business Financial Characteristics 10
Operator Characteristics 13
Household Finances 13
Effects on Farm Statistics 16
Implications 17
References 20
Appendix 1: The Farm Costs and Returns Survey in Detail 21
Appendix 2: Definition of Terms 22

Summary

This report provides the first in-depth look at a significant segment of the U.S. farm community, retired farm operators. It is based on statistics from the 1993 version of USDA's Farm Costs and Returns Survey which, for the first time, allowed a "retired" response to a question about major occupation of the operator. The survey identified about 352,000 retired farm operators, usually running very small farms. These retirees, whose previous profession may or may not have been farming, accounted for 17 percent of all U.S. farm operators.

The information on retired producers may have implications for farm policy, as it gives analysts the ability to separate retired farmers who may produce little from the farmers who produce the bulk of U.S. farm output. The information also has implications for the use of farming statistics, the importance of farming to retired operators, the importance of the Conservation Reserve Program (CRP) to retired operators, and the future of farming.

Most of the farming retirees were counted as farm operators because only $1,000 worth of agricultural sales is necessary for an operation to qualify as a farm. About 84 percent of retiree-operated farms had sales of less than $10,000 in 1993; only 2 percent had sales of $50,000 or more. Therefore, although retirees ran 17 percent of U.S. farms in 1993, their farms accounted for only 2 percent of farm production.

Also, the retired operators spend relatively few hours on farm work. They operate only one-third the number of acres (143) as the national average, and they depend heavily on Social Security and other retirement income.

Retired farmers, however, receive two important economic benefits from their farms: farms are a major financial asset, and they provide nonmonetary income that is not included in standard measures of household income. In 1993, retired operators' farms generated an average of $3,500 in noncash income, made up of the rental value of farm dwellings and the value of farm products consumed on the farm.

The CRP is important to retired farmers: about 18 percent had land in the CRP in 1993, compared with 11 percent of all farmers, and about 17 percent of their gross cash income came from government payments, mostly CRP payments.

Because farm operators tend to be much older than the labor force as a whole, using "retired" as an answer in the annual U.S. farm survey allows a more realistic response for older operators who may be phasing out of farming. About 27 percent of all farm operators were at least 65 years old in 1993, compared with only 3 percent of the civilian labor force and 7 percent of the nonfarm self-employed.

Caution should be used when interpreting broad descriptions of U.S. agriculture based on aggregate statistics. U.S. farms are diverse, and national averages hide much of the variation within the industry.

Who Are Retired Farm Operators?

Robert A. Hoppe

Introduction

Approximately 352,000 farm operators, or 17 percent of all operators, were retired in 1993. Analyzing the characteristics of these retired operators is important for three reasons. First, statistics describing retired operators help in understanding the farming activities of the large number of older farmers. Second, for those concerned about the large percentage of farm operators 65 or older, statistics comparing retired and other operators may offer insights into the perceived need for replacements for elderly operators. Third, the large number of retired operators may affect some of the statistics describing farm structure, even though retired operators produce very little farm product.

This report draws most of its data from the 1993 Farm Costs and Returns Survey (FCRS).[1] The FCRS is the first nationwide data source to specifically identify retired farm operators. In its 1993 questionnaire, the FCRS first allowed "retired" as a response to its question about the major occupation of the farm operator.

In previous years, responses to the occupation question were limited to "farm or ranch work," "hired manager," or "something else." Most retired operators did relatively little work on (or off) their farms. Prior to 1993, however, if they devoted at least half of their working hours to farming, they were instructed to report farming as their major occupation.

Because farm operators tend to be much older than the labor force as a whole, using "retired" as an answer in the FCRS allows a more realistic response for older operators who may be phasing out of farming. About 27 percent of all farm operators were at least 65 years old in 1993, according to the FCRS, compared with only 3 percent of the civilian labor force and 7 percent of the nonfarm self-employed (U.S. Dept. Labor, 1994, pp. 184, 211).

Data Sources

Most of the farm data in this report are from the 1993 FCRS. The FCRS is an annual, sample survey jointly designed and conducted by the Economic Research Service (ERS) and the National Agricultural Statistics Service (NASS), both agencies of the U.S. Department of Agriculture. The target population of the FCRS is all U.S. farming units in the 48 contiguous States that sell or normally would sell at least $1,000 of agricultural products during the calendar year covered by the survey (U.S. Dept. Agr., 1994, p. 301). The $1,000 cutoff is also used in the Census Bureau's farm definition. For more information about the survey, see appendix 1.

Census of agriculture data are also used to provide historical perspective on the age of farm operators. The FCRS is a relatively new survey, beginning in 1985 when data were collected for the 1984 calendar year. In contrast, the census of agriculture began in 1840 (U.S. Dept. Comm., 1994, p. vii).

FCRS estimates noted as different in the text differ from each other at the 90-percent (or higher) level of statistical significance. According to ERS guidelines for use of the survey data, any estimate with a standard error greater than 25 percent of the estimate must be identified. Such estimates are indicated in the tables and figures.

Defining Retired Operators

The terms "elderly" and "retired" are often used interchangeably, although the first term refers to age and the second refers to employment status. One commonly used definition of the elderly or retired is

[1] The FCRS is an annual probability-based sample survey produced cooperatively by the Economic Research Service (ERS) and the National Agricultural Statistics Service (NASS), both agencies of the U.S. Department of Agriculture. The survey is the principal source of financial data for ERS research on farm businesses and households. For more information about the survey, see the section on data sources and appendix 1.

anyone at least 65 years old, because the original age at which full Social Security retirement benefits could be drawn was 65 years.

However, the 65-year cutoff has become less relevant for defining retirement in recent years. Some people at least 65 years old continue to work, and some people retire before age 65. A 65-year cutoff for defining retirement may be particularly irrelevant for the self-employed, a category that includes most farm operators. The self-employed can withdraw from work gradually by decreasing the scale of their operations. Wage and salary workers may also find the 65-year cutoff less relevant in the future. The age at which full Social Security benefits can be drawn is scheduled to rise gradually from 65 to 67 years starting in the year 2000 (U.S. Soc. Sec. Adm., 1995, p. 52).

For the reasons discussed above, elderly and retired are considered two separate (but related) concepts in this report. "Elderly" is defined to mean at least 65 years of age. Whether an operator is retired depends on his or her answer to the occupation question.

The FCRS Occupation Question

One way to determine whether people are retired is to ask them, which is the approach currently used in the FCRS. The FCRS asks respondents: "In [year] what was your (the operator's) major occupation?" They may now respond with "retired" in addition to responses used in earlier years ("farm or ranch work," "hired manager," or "something else"). If respondents both farm and do something else, they are instructed to select the occupation at which they spent at least 50 percent of their work time (U.S. Dept. Agr., 1993, p. M5114).

Allowing "retired" as a response to a question about the operator's major occupation may seem contradictory. Retired people are usually classified as outside the labor force, because they do not work and do not seek work. How can someone be retired and also work operating a farm? It is possible because the definition of a farm operator is independent of labor force concepts. Each farm has at least one operator, and only $1,000 of farm product sales are necessary to qualify as a farm. Therefore, some older people who work very little on their farms and who consider themselves retired (and out of the labor force) nevertheless have operations that satisfy the official farm definition. They may be retired, but they also are farm operators.

Comparison Groups

This report compares retired operators with all U.S. operators and with nonretired operators. Nonretired operators are further divided into two comparison groups: those who farm as their major occupation, answering "farm or ranch work" or "hired manager"[2] to the occupation question; and those who have a nonfarm occupation, responding with "something else" to the occupation question.

Retired Operators Really Are Retired

Some analysts were originally concerned that adding retired as a response might make the occupational question more confusing. Large numbers of respondents might answer retired if they had retired from an off-farm job, but now farm full-time.

In reality, however, very few operators who identify themselves as retired put in long hours on their farms. Respondents who answered retired were largely retired from both farm and off-farm work (table 1). Just 5 percent of retired operators worked on their farms for 2,000 or more hours per year, the equivalent of a full-time job. Nearly three-fourths worked fewer than 1,000 hours. Less than 12 percent of retired operators reported working off-farm, and these operators averaged only 1,000 hours of off-farm work per year.

When compared with retired operators, elderly operators who were not retired averaged more hours of farmwork, were more likely to work at least 1,000 hours on their farms, and had higher net farm income. The nonretired elderly were also more likely to work off-farm and averaged more hours of off-farm work per year when they did.

Background: Aging Farm Operators

Identifying retired farm operators and examining their characteristics is important because of the effects retired operators have on the age structure of U.S. agriculture. Farm operators have a high average age that has been getting higher for decades, and the share of operators at least 65 years old has increased over time.

[2] Hired managers are not used as a separate group because they accounted for only 1 percent of all operators.

Table 1–Selected characteristics of retired operators and elderly operators who are not retired, 1993[1]

Item	Retired	Elderly, but not retired
	Number	
Total	351,634	282,181
	Percent	
Occupation:		
Retired	100.0	N.A.
Farming[2]	N.A.	84.9
Other	N.A.	15.1
	Years	
Average age	71	71
	Percent	
At least 65 years old	79.3	100.0
	Hours per year	
Average hours worked on farm	685	1,685
	Percent	
Hours worked on farm per year:		
Less than 500	47.2	15.6
500 to 999	25.7	13.2
1,000 to 1,999	22.0	32.6
2,000 or more	5.2	38.6
Worked off-farm	11.5	22.3
	Hours per year	
Average hours worked off-farm per reporting operator	1,013	1,589
	Dollars per farm	
Net farm income[3]	3,623	8,045

[1] Elderly operators are defined as at least 65 years old.
[2] Includes hired managers.
[3] Net farm income is defined in appendix 2.
Source: 1993 FCRS, all versions for most items. Information on off-farm work is from the Farm Operator Resource (FOR) version.

Long-Term Trends

Census of agriculture and Bureau of Labor Statistics (BLS) data allow the comparison of farm operators with the civilian labor force from 1910 to 1992 (table 2). Farm operators tend to be older than the labor force in general. About 47 percent of farm operators were at least 55 years old in 1992, compared with 12 percent of the total U.S. civilian labor force. This is not a recent development. In earlier years, farm operators were also more likely than the civilian labor force to be in the two older age categories.[3]

In general, the average age of farm operators has risen over time, increasing from 49 years in 1945 to 53 years in 1992. However, the average did not increase consistently from 1945 to 1992. The percentage of elderly operators likewise increased from 9 percent in 1910 to 25 percent in 1992, although the percentage did not increase every census year. The 1970's were particularly unusual (Gale, *RDP*, Vol. 8, Issue 3, p. 20):

> Concerns about aging farmers were temporarily allayed by an unusual influx of young farmers in the 1970's, due to a combination of farm sector prosperity, maturing of the "baby boom" cohort, and greater preference for rural living. The average age dropped between 1974 and 1978 from 51.7 to 50.3 before rising from 50.5 to 52 between 1982 and 1987. With the onset of the farm financial crisis in the 1980's, potential new young entrants were discouraged by bleak financial prospects and scarce farm credit.

Nevertheless, the longrun trend is toward an older average age for farm operators and an increasing percentage of elderly operators. In contrast, the percentage of elderly in the civilian labor force peaked in the early and mid-1950's and has trended downward ever since (U.S. Dept. Labor, 1989, p. 19).

Adjusting the Data

The census of agriculture somewhat overstates the age of operators. The census, like the FCRS, collects information about one senior operator per farm (see appendix 1). The oldest operator is selected if management is shared equally among two or more

[3] Constructing consistent data series back to the early 1900's is challenging. The farm definition has changed five times since 1910 (Stam and others, 1991, p. 33). Earlier labor force data from the 1910, 1920, 1930, and 1940 Decennial Censuses are not strictly comparable with later BLS data (U.S. Dept. Commerce, 1975, p. 121). Nevertheless, the data in table 2 indicate broad trends in the ages of farm operators and the civilian labor force.

Table 2–Farm operators by age and civilian labor force by selected age categories, 1910-92

Year	Total farm operators	Age of operator[1]							Age of civilian labor force, selected categories[2]	
		Under 25	25-34	35-44	45-54	55-64	65 and over	Average operator age[1]	55-64	65 and over
	Number	*Percent*						*Years*	*Percent*	
1992	1,925,300	1.4	9.3	19.8	22.3	22.3	24.8	53.3	9.3	2.8
1987	2,087,759	1.7	11.6	19.7	21.8	23.7	21.4	52.0	9.9	2.6
1982	2,240,976	2.8	13.1	19.8	22.6	23.9	17.8	50.5	10.9	2.7
1978	2,257,775	2.9	12.6	19.2	24.3	24.5	16.4	50.3	11.5	3.0
1974	2,314,013	2.3	10.5	17.6	25.3	25.8	18.5	51.7	12.3	3.2
1969	2,730,250	1.9	10.0	19.1	26.5	25.8	16.6	51.2	13.8	4.0
1964	3,157,857	1.7	9.8	20.7	27.0	23.5	17.4	51.3	13.9	4.2
1959	3,710,503	1.7	11.0	22.0	26.7	21.9	16.8	50.5	13.5	4.6
1954[3]	4,783,021	1.9	13.2	23.4	24.6	20.3	16.6	49.6	13.0	5.0
1950	5,385,525	3.2	15.7	23.5	22.9	19.8	14.8	NA	12.3	4.9
1945[3]	5,858,889	2.5	14.7	22.8	24.7	20.2	15.0	48.7	NA	4.5
1940	6,102,417	4.0	16.3	21.4	24.5	19.7	14.2	NA	NA	4.0
1930[3]	6,288,648	6.1	17.3	23.9	24.0	17.5	11.1	NA	NA	4.3
1920[3]	6,448,343	6.0	20.9	24.9	23.3	15.6	9.2	NA	NA	3.9
1910[3]	6,361,502	6.6	22.3	24.8	22.6	14.9	8.7	NA	NA	NA

NA = Not available.

[1] Not all operators reported their age in all the censuses. Age data are based on those who did report.

[2] Only two age categories are used for the civilian labor force data, to keep the table manageable.

[3] Census of agriculture data exclude Alaska and Hawaii.

Source: Censuses of agriculture for counts and age of farm operators (U.S. Dept. Comm., 1973, 1977, 1984, and 1994). Labor force age estimates from 1950 forward came from Current Population Survey (CPS) data published by the Bureau of Labor Statistics (U.S. Dept. Lab., 1989 and 1993). Earlier labor force age estimates are from historical statistics published by the Census Bureau (U.S. Dept. Comm., 1975). Labor force data for 1910 through 1940 are based on decennial censuses and are not strictly comparable with the BLS data.

operators. This procedure tends to skew higher the age of operators.

Age differences between farm operators and the civilian labor force may also be exaggerated by the inclusion of individuals in the farm operator data who are not part of the labor force. When conducting the census of agriculture, the Census Bureau does not exclude retired operators. Retired people, however, are excluded from the civilian labor force, by definition. The Current Population Survey (CPS), source of the more current BLS data in table 2, focuses on labor force participants and may screen out some operators who consider themselves retired (Hoppe, 1994, p. 8).

Retired operators cannot be identified and excluded from the census data in an effort to make the census data more comparable with the labor force data. However, retired operators can be identified and excluded from the FCRS, beginning in 1993. With retired operators included, 27 percent of FCRS operators were elderly in 1993 (fig. 1), quite similar to the 25-percent figure from the 1992 Census of Agriculture (table 2). When retired operators were excluded from the FCRS data, the share of elderly operators declined to 17 percent (fig. 1).

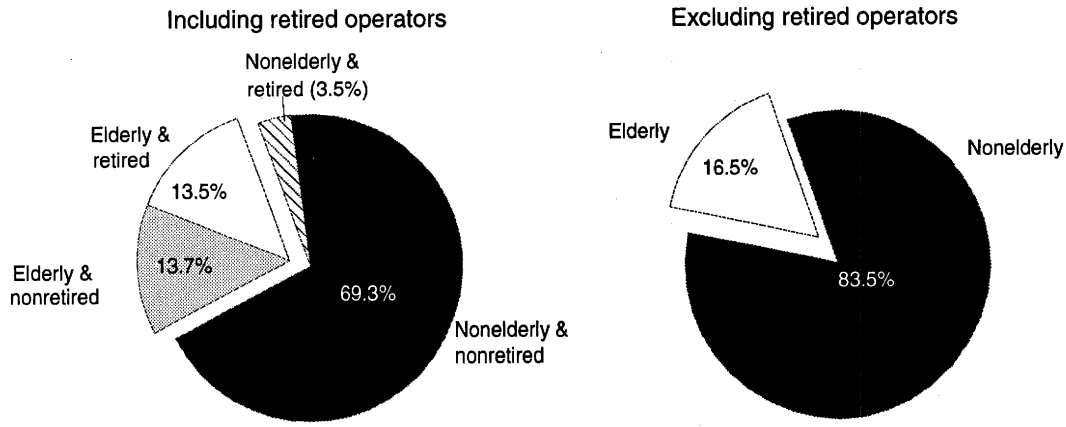
This is a substantial decline, but the percentage of elderly is still more than five times higher for farm operators than for the civilian labor force. Because they are self-employed and can scale back their work activities, farm operators are far more able to continue working beyond age 65 than the wage and salary workers who dominate the civilian labor force.

Farm operators also tend to be older than the nonfarm self-employed. About 7 percent of the nonfarm self-employed were elderly in both 1992 and 1993 (U.S. Dept. Labor, 1993, p. 201; 1994, p. 211), which was much less than the 1993 adjusted FCRS estimate (17 percent) or the 1992 Census estimate (25 percent)

Figure 1

Age distribution of farm operators, including and excluding retired operators,1993

Not all elderly operators are retired.



Note: Elderly operators are defined as at least 65 years old.
Source: 1993 FCRS, all versions.

for farm operators. Adjustments for the way the FCRS and census designate senior operators would only partially close the age gap between farm operators and other self-employed.

Some observers express concern about the future of agriculture, given the increasing percentage of elderly farm operators. Before this concern can be addressed, the characteristics of retired operators should be examined in detail.

Shares of U.S. Agriculture

Retired operators ran about 17 percent of U.S. farms in 1993 (table 3). These operators, however, accounted for a much larger share of noncommercial farms (23 percent) than commercial farms (1 percent), reflecting the small size of their farms, which is discussed in greater detail in the next section. In contrast, operators reporting farming as their major occupation ran most commercial farms.

The retired group's share of farms, particularly noncommercial farms, was much larger than its share of the other items in table 3, which ranged from 1 to 6 percent, with two exceptions. These exceptions were retired operators' share of farm business net worth (11 percent) and their share of acres owned (10 percent).

Retired operators had a much smaller share of the various farm income measures, farm business net worth, acreage, and production than operators reporting farming as their major occupation. Retired operators also had smaller shares of these items, except for net farm income, than operators who reported a nonfarm occupation. The difference between the two groups' shares of net farm income, however, was not statistically significant.

In at least one respect, operators reporting an occupation other than farming were very similar to retired operators. Like retired operators, they accounted for a large share of farms--37 percent--relative to their share of the value of production--10 percent (fig. 2).

For operators whose major occupation is farming, production and the income that production generates are critical. However, retired operators and operators with a nonfarm occupation, for the most part, operate on a small scale and are not attempting to earn a living from farm production. For them, a farm lifestyle and the chance to build or maintain wealth (or savings) through farm assets may be more important (Eastman and Meadows, 1995, p. 1).

Location

Like farmers in general, retired operators were most likely to live in the Midwest and South and in nonmetro areas (table 4). (For a brief discussion of the geographic units used here, see the box.) Nonmetro retired operators were about equally

Table 3–Distribution of farms, gross cash income, net worth, land, and value of production

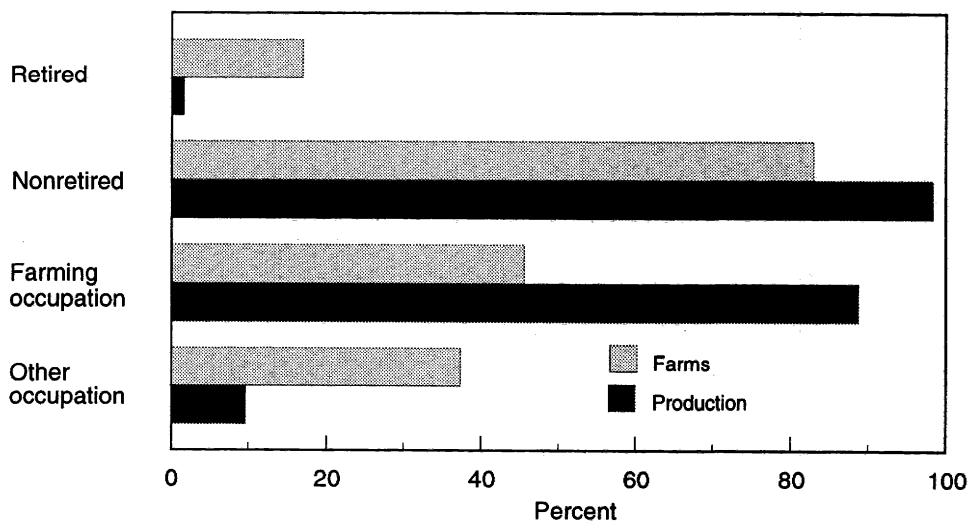
Item	Retired operators	Nonretired operators			U.S. total
		Total	Major occupation		
			Farming[1]	Other	
			Number		
Number of farms and operators	351,634	1,711,666	940,421	771,245	2,063,300
			Percent		
Farms	17.0	83.0	45.6	37.4	100.0
Sales less than $50,000 (noncommercial)	22.8	77.2	29.5	47.7	100.0
Sales $50,000 or more (commercial)	1.1	98.9	90.1	8.9	100.0
Gross cash income[2]	2.2	97.8	89.0	8.8	100.0
Livestock sales	2.2	97.8	88.2	9.6	100.0
Crop sales	1.2	98.8	91.3	7.5	100.0
Government payments	5.4	94.6	84.0	10.6	100.0
Other farm-related income	3.6	96.4	87.1	9.2	100.0
Net farm income[2]	5.7	94.3	89.9	4.5[3]	100.0
Farm business net worth[2]	11.2	88.8	64.9	23.9	100.0
Acres of farmland:[4]					
Operated	5.6	94.4	77.2	17.2	100.0
Owned	10.4	89.6	70.6	19.0	100.0
Total value of production	1.7	98.4	88.8	9.6	100.0
Crops	1.0	99.0	91.7	7.2	100.0
Livestock	2.2	97.8	86.3	11.6	100.0

[1] Includes hired managers. [2] See appendix 2 for definition of financial terms. [3] Standard error is greater than 25 percent of the estimate (48.1 percent). [4] Includes only land associated with the farm business. Farm operators and other members of their households may own additional land. Source: 1993 FCRS, all versions.

Figure 2

Percent of farms and production, by type of operator, 1993

Operators reporting farming as their major occupation account for most of production.



Source: 1993 FCRS, all versions.

Table 4–Geographic distribution of retired and nonretired operators, 1993

Item	Retired operators	Nonretired operators			U.S. total
		Total	Major occupation		
			Farming[1]	Other	
			Number		
Number of farms and operators	351,634	1,711,666	940,421	771,245	2,063,300
			Percent		
Census region:					
Northeast	4.9	6.6	6.4	6.8	6.3
Midwest	37.5	40.8	46.0	34.5	40.3
South	46.6	39.4	33.2	46.8	40.6
West	11.1	13.3	14.4	11.9	12.9
Metro-nonmetro status:					
Metro	31.4	30.9	27.6	34.9	31.0
Nonmetro	68.6	69.1	72.4	65.1	69.0
Adjacent	36.1	36.0	32.6	40.0	36.0
Nonadjacent	32.4	33.1	39.7	25.1	33.0
Type of county:					
Nonmetro[2]	68.6	69.1	72.4	65.1	69.0
Farming-dependent	14.4	15.3	21.5	7.6	15.1
Manufacturing-dependent	18.3	17.0	13.8	20.8	17.2
Services-dependent	9.8	10.2	11.3	8.8	10.1
Nonspecialized	21.2	18.5	18.0	19.0	18.9

[1] Includes hired managers.

[2] Nonmetro total includes operators in mining-dependent and government-dependent counties not shown separately because of FCRS sample size restrictions. The nonmetro total also includes operators in 17 counties that could not be categorized (Cook and Mizer, 1994, p. 30).

Source: 1993 FCRS, all versions.

Geographic Units

Although the FCRS is not designed for analysis at the county level, the characteristics of farms in large groups of counties can be determined by examining estimates from survey farms located in the county groups. Each group of counties must contain enough observations to provide statistically reliable results. Three levels of geography are used:

Census Regions. The Census Bureau has identified four major regions: Northeast, Midwest, South, and West. See appendix 2 for a list of the States in each region.

Metro and Nonmetro Counties. Metro areas are defined by the U.S. Office of Management and Budget (OMB) as core areas with a large population nucleus (generally at least 50,000 inhabitants), plus adjacent communities that are socially and economically integrated with that core (U.S. Dept. Comm., 1993). Metro designations as of 1993, which identify 813 metro counties, are used in this report.

The 2,276 nonmetro counties are a residual; they fall outside OMB metropolitan areas. ERS has divided nonmetro counties into two groups: nonmetro counties that are adjacent to metro areas and counties that are not adjacent to metro areas (Butler and Beale, 1994).

ERS County Typology. ERS has also classified nonmetro counties into six groups based on their economic specialization (Cook and Mizer, 1994). Data are presented for four of these groups (farming-dependent, manufacturing-dependent, services-dependent, and nonspecialized). Reliable data on retired operators could not be produced for the other two economic groups (mining-dependent and government-dependent) due to sample size.

divided between adjacent and nonadjacent nonmetro counties. Most retired operators did not live in farming-dependent counties. There were no significant differences between the geographic distribution of retired operators and all U.S. operators. Retired farmers tended to live alongside other farmers.

However, when retired operators were compared with the two groups of nonretired operators, some differences appeared. Retired operators were more likely to live in nonadjacent counties and in farming-dependent counties than operators reporting a nonfarm occupation. Compared with operators reporting farming as their major occupation, retired operators were less likely to live in the Midwest, in nonadjacent counties, or in farming-dependent counties, but more likely to live in the South. Commercial-size farms requiring substantial hours of work by the operator were disproportionately located in the Midwest, in nonadjacent counties, and in farming-dependent counties.

General Structural Characteristics

Farms operated by retired farmers were small in size, whether size was measured in sales or acres (table 5). About 84 percent of farms with a retired operator had sales less than $10,000, more than the percentages for all farm operators and for nonretired operators. At the other end of the size spectrum, less than 2 percent of farms run by retired operators were commercial-sized.

Farms with retired operators averaged 143 acres, about one-third of the U.S. average. Of the groups shown in table 5, only farms with retired operators rented out more land than they rented in.[4] This was reasonable, because most retired operators spent relatively few hours farming, and renting land out earned a return from excess acres.

Value of Land and Buildings

Despite their small size, farms run by retired operators had land and buildings with an average value of $193,800, about the same as for farms with operators reporting a major occupation other than farming ($194,000). But, farms with a retired operator were worth less, on average, than farms with operators who reported farming as their major occupation ($381,700). Per acre, however, retired operators' farms were worth more than the farms of operators reporting farming as their major occupation.

Specialization

Retired operators differed from all operators in commodity specialization. Retired farmers were less likely to specialize in cash grain and more likely to specialize in other field crops than operators in general (table 5). Retired operators' large specialization in other field crops (25 percent) reflects their heavy participation in the Conservation Reserve Program (CRP), which was originally designed to remove highly erodible land from production (Osborn and Heimlich, 1994). In the FCRS, farms with all their acreage in the CRP were classified as specializing in other field crops. About 62 percent of retired operators specializing in other field crops had their whole farm in the program (fig. 3).[5] Like renting land out, the CRP allowed retired farmers to earn income from excess land.

Compared with all operators, retired operators specialized more in beef, hogs, or sheep and less in other livestock (table 5). However, about the same share of retired operators (56 percent) and operators with a nonfarm major occupation (55 percent) specialized in beef, hogs, or sheep. The beef, hogs, or sheep category is largely made up of cattle farms, and cattle farms often have more flexible labor requirements than other enterprises (Holcomb, 1982, pp. 6, 22-23) that fit well with an off-farm job or retirement.

Tenure and Organization

Farms run by retired operators were more likely to be full-owners (and less likely to be full- or part-tenants) than other farm operations. Retired farmers had generally scaled their operations back and had little need to rent in more land. Most farms were sole proprietorships in 1993, and farms with retired operators were slightly more likely to be proprietorships than farms in general.[6]

[4] When a retired operator scales down his or her operation, the FCRS may classify farmland not used by the operation as separate from the farm operated. This tends to reduce acres owned and acres rented out for farms with a retired operator in the data presented here.

[5] Unlike the FCRS, the census of agriculture does not count operations with all their land enrolled in the CRP as a farm (U.S. Dept. Commerce, 1994, p. A4).

[6] In the FCRS, informal partnerships, such as many father-son or husband-wife partnerships, are classified as sole proprietorships. Partnerships set up legally are classified as part of the other organization category. For more information, see appendix 2.

Table 5–Structural characteristics of farms, by type of operator, 1993

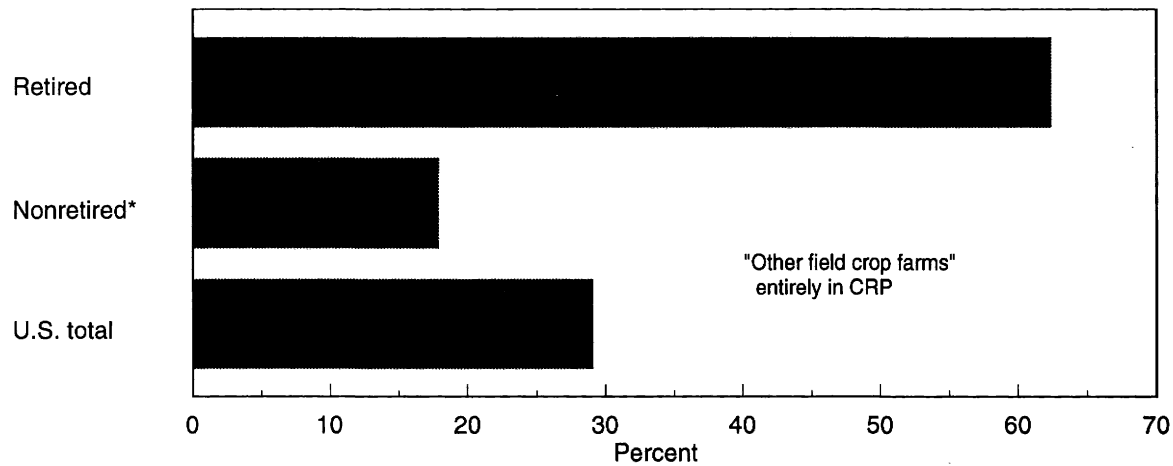
Item	Retired operators	Nonretired operators			U.S. total
		Total	Major occupation		
			Farming[1]	Other	
			Number		
Number of farms and operators	351,634	1,711,666	940,421	771,245	2,063,300
			Percent		
Sales class of farm:					
$50,000 or more (commercial farms)	1.7	31.7	52.6	6.3	26.6
$10,000 to $49,999	14.4	26.1	28.5	23.1	24.1
$9,999 or less	83.9	42.2	18.9	70.6	49.3
			Acres per farm		
Acres operated by farm business[2]	143	497	739	201	436
Owned	166	295	423	139	273
Rented in[3]	22	231	360	74	195
Rented out[4]	44	30	46	12	33
			Dollars		
Average value of land and buildings:					
Per farm	193,782	297,106	381,678	193,982	279,497
Per acre owned	1,166	1,008	903	1,397	1,024
			Percent		
Type of farm by specialty:					
Cash grain	6.5	19.2	24.6	12.6	17.0
Other field crops	24.5	15.0	11.9	18.7	16.6
Fruits, tree nuts, vegetables, or nursery or greenhouse	9.9	7.4	7.9	6.7	7.8
Beef, hogs, or sheep	55.7	44.8	36.8	54.7	46.7
Other livestock	3.5[5]	13.7	18.9	7.3	11.9
Tenure:					
Full- or part-tenant	22.6	50.2	61.6	36.3	45.5
Full-owner	77.4	49.8	38.4	63.7	54.5
Legal organization:					
Sole proprietorship	94.1	89.8	86.6	93.7	90.5
Other	5.9	10.2	13.4	6.3	9.5

[1] Includes hired managers.
[2] Includes only land associated with the farm business. Also includes land used by the operation part of the year and rented to another operation during another part of the year. This small amount of twice-used land is not shown separately.
[3] Includes land rented from others for cash or a share of production and land used free of charge. Land rented for a per-head fee in Western States is excluded.
[4] Includes land rented to others for cash or a share of production. Also includes land others are allowed to use free of charge.
[5] Standard error is greater than 25 percent of the estimate (33.9 percent).
Source: 1993 FCRS, all versions.

Figure 3

Percent of farms classified as specializing in other field crops where the whole farm is in the Conservation Reserve Program, by type of operator, 1993

Most farms specializing in other field crops actually are entirely in the CRP program when they are operated by the retired.



* Sample size considerations prevent presenting data for the two groups of nonretired operators.

Source: 1993 FCRS, all versions.

Farm Business Financial Characteristics

An abbreviated income statement appears in the top part of table 6. Gross cash income shows the total cash income generated by farming operations, through farming and closely related activities. Net cash income is calculated by deducting cash expenses from gross farm income. Net farm income is derived from net cash farm income by subtracting noncash expenses (not shown), adjusting for inventory change (not shown), and adding noncash income. Noncash expenses include depreciation and nonmonetary benefits provided to labor. Noncash income includes the imputed rental value of farm dwellings and the value of agricultural products consumed at home. For a more detailed explanation of financial terms, see appendix 2.

Gross Cash Income

Average gross cash income for farms run by retired operators ($8,700) was much less than the average for all farms ($69,100). This is not surprising, given the small scale of retired operators' farming activity. The average for each of the four components of gross cash income was also much lower for farms with a retired operator than for all farms or farms with operators reporting farming as their major occupation. Averages for farms with retired operators and for farms with operators reporting a nonfarm occupation were much closer.

Differences also existed in the distribution of gross cash income by source between farms with retired operators and other farms. Crop sales made up a smaller share of gross cash income for farms operated by the retired than for all farms or for farms run by nonretired operators. On the other hand, about the same percentage of income came from livestock sales for farms with retired operators, all farms, and farms with nonretired operators.

Retired operators' 17-percent share of gross cash farm income from government payments reflects their heavy participation in the CRP. About 18 percent of farms with retired operators had land in the CRP, compared with only 11 percent of all farms (fig. 4). In contrast, only 2 percent of farms with retired operators set aside land under commodity programs, compared with 21 percent of all farms.

Other farm-related income was a larger percentage of gross cash income for farms with retired operators (18 percent) than for all U.S. farms (11 percent) (table 6). Rents from renting land out to other farms made up about half of this income category for farms with retired operators (fig. 5).

Net Income Measures

Cash expenses averaged $7,500 for farms of retired operators, much less than the U.S. average or the averages for farms run by nonretired operators (table 6). Farms run by retired operators averaged $1,200 in

Table 6–Financial characteristics of farm businesses, by type of operator, 1993[1]

Item	Retired operators	Nonretired operators			U.S. total
		Total	Major occupation		
			Farming[2]	Other	
			Number		
Farms	351,634	1,711,666	940,421	771,245	2,063,300
			Dollars per farm		
Gross cash income	8,721	81,252	134,541	16,273	68,891
Livestock sales	3,807	35,455	58,184	7,741	30,062
Crop sales	1,831	31,820	53,514	5,368	26,709
Government payments	1,514	5,428	8,776	1,347	4,761
Other farm-related income[3]	1,568	8,548	14,067	1,818	7,359
			Percent		
Distribution of gross cash income:					
Livestock sales	43.7	43.6	43.3	47.6	43.6
Crop sales	21.0	39.2	39.8	33.0	38.8
Government payments	17.4	6.7	6.5	8.3	6.9
Other farm-related income[3]	18.0	10.5	10.5	11.2	10.7
			Dollars per farm		
Total cash expenses	7,497	67,389	108,398	17,385	57,182
Net cash income	1,224[4]	13,863	26,143	-1,112[4]	11,709
Nonmoney income[5]	3,491	4,294	4,282	4,309	4,157
Net farm income	3,623	12,417	21,529	1,306[4]	10,918
Net worth	230,441	373,786	497,442	223,005	349,356
			Percent		
Low debt/asset ratio[6]	91.9	56.8	55.4	58.6	62.8
Favorable financial position[7]	73.3	56.8	60.6	52.1	59.6

[1] See appendix 2 for definition of financial terms used in this table.
[2] Includes hired managers.
[3] Includes income from custom work, machine hire, livestock grazing, farmland rental, contract production fees, timber sales, outdoor recreation, hedging, tobacco allotment leases, road tax refunds, and any other farm-related income.
[4] Standard error is greater than 25 percent of the estimate. Standard errors ranged from 37.9 percent to 48.7 percent of the estimates indicated.
[5] Imputed rental value of the farm operator's dwelling, plus the value of farm products used or consumed on the farm.
[6] Debt/asset ratio less than or equal to 0.10.
[7] Positive net farm income and debt/asset ratio less than or equal to 0.40.
Source: 1993 FCRS, all versions.

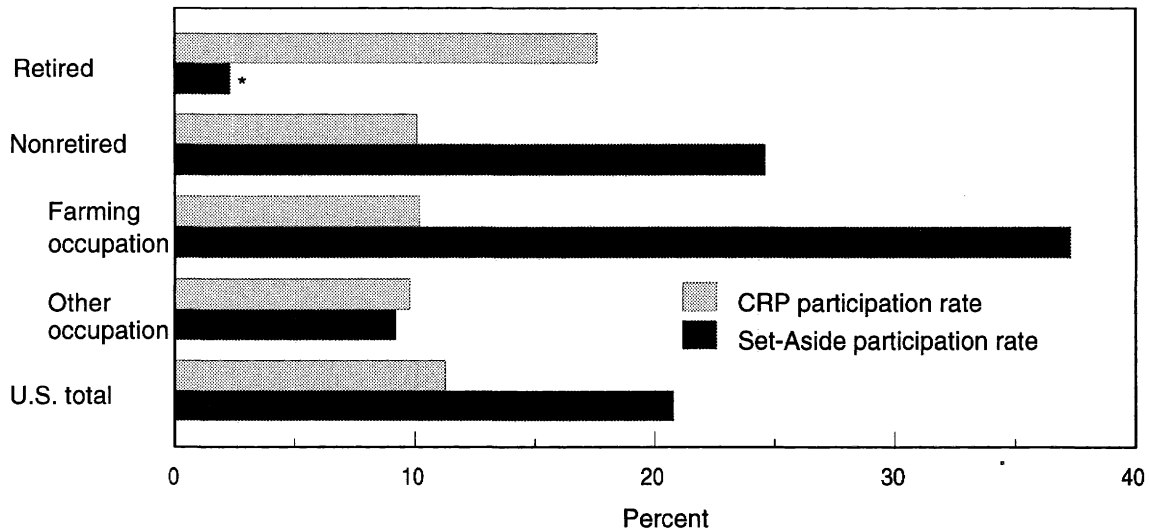
net cash income, which was much less than the corresponding average for all farms ($11,700) or farms with operators reporting farming as their major occupation ($26,100). Farms with an operator reporting a nonfarm major occupation, however, had the lowest average net cash income, a loss of $1,100.

Farms with retired operators averaged $3,600 of net farm income, substantially less than the $10,900 U.S. average and the $21,500 average for farms with operators reporting farming as their major occupation. Nonmonetary income was large relative to net farm income for farms with retired operators and for farms with operators reporting a nonfarm occupation. A large portion of the economic benefits these two groups of operators got from their farms was in the form of housing from their farm dwelling and the value of farm products they consumed.

Figure 4

Participation in the Set-Aside and Conservation Reserve (CRP) Programs, by type of operator, 1993

Retired operators are most likely to participate in the CRP.

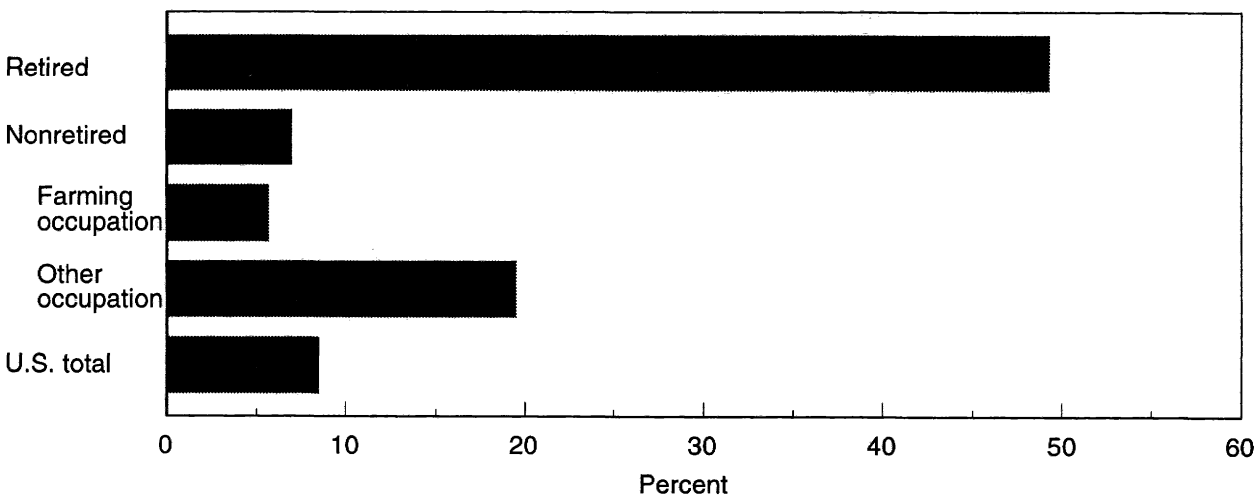


* Standard error of the estimate is greater than 25 percent (25.03 percent).
Source: 1993 FCRS, all versions.

Figure 5

Percent of farm businesses' other farm-related income from farmland rentals, by type of operator, 1993

About half of other farm-related income comes from farmland rentals for farms operated by retired farmers.



Source: 1993 FCRS, all versions.

Net Worth

Although the net worth of farms with retired operators was substantial ($230,400), it was less than the average for all farms ($349,400) and farms with operators reporting farming as their major occupation ($497,400). Retired farmers had very little debt, however. About 92 percent of farms with a retired operator had a debt/asset ratio less than 0.10, compared with only 63 percent for all farms.

Retired operators' low debt, combined with their small (but usually positive) net farm income, put their farms under little financial stress. About 73 percent of the farm businesses with retired operators had a favorable financial position, or a positive net farm income and a debt/asset ratio no more than 0.40. The corresponding percentages for all farms and farms with nonretired operators were considerably lower.

Operator Characteristics

Not surprisingly, retired operators were much older than operators in general (table 7). Retired operators' average age (71 years) was about 17 years higher than the average age for all operators (54 years). About 17 percent of retired operators were women, compared with only 8 percent of all operators. Some retired female operators were probably widows of farm operators.

About 41 percent of retired operators did not complete high school, compared with only 23 percent of all operators. Retired operators' educational attainment reflects their advanced average age. The likelihood of completing high school is less for older operators (Bellamy, 1992).

Retired operators reported relatively few hours of farmwork. On average, retired operators worked 685 hours per year on their farms, or approximately 13 hours per week. This was substantially less than the average for all operators and for nonretired operators. About 47 percent of retired operators worked fewer than 500 hours per year, compared with only 22 percent of all operators.

Household Finances

As one would expect, average household income was much less for households with a retired operator ($26,500) than for all U.S. operator households ($40,200) and nonretired operator households (table 8).[7]

Comparisons With All U.S. Households

In 1993, the average income of retired operator households was about 64 percent of the average household income for all U.S. households, as estimated in the CPS. In contrast, the corresponding percentage for all operator households was much higher, 97 percent.

Comparing retired operator households with all U.S. households is somewhat misleading, however, because most U.S. households do not contain members who have retired. It would be more relevant to compare the income of retired operator households and all U.S. households with retired members. The Census Bureau does not publish CPS statistics for households containing retired members, but it does publish average income for households with an elderly householder (U.S. Dept. Comm., 1995, p. 5). In 1993, the average income for retired farm operator households was about 102 percent of the average income for all U.S. households with an elderly householder.

Sources of Income

Reflecting their retired status, retired operator households received large percentages of their income from interest and dividends, Social Security and other programs, and the category "other off-farm income." Other off-farm income includes private pensions and miscellaneous property income, including the rental of farmland.[8] Operator households in general and the two groups of nonretired operators received a much smaller share of their income from these unearned sources. Nonretired operators were still working, and they relied more on earned income from work.

The term "unearned income" refers to income from sources other than work performed in the time period under consideration (1993 in this report). Unearned income, however, often reflects income earned from work earlier in life. Retired operators now receive Social Security and investment income because they

[7] Farm operator household income in table 8 is defined to be consistent with the Census Bureau's money income concept. For more information, see appendix 1. Both the FCRS and Census Bureau income concepts understate economic well-being by excluding nonmonetary income.

[8] In the 1993 and 1994 FCRS, net income from farmland rentals is included as part of other off-farm income in the household income accounts (table 8, fig. 6). In previous years, net income from farmland rentals is counted as part of household farm income. In the farm business financial accounts (table 6, fig. 5), farmland rent is always included in gross cash farm income as a part of other farm-related income, regardless of the year.

Table 7–Characteristics of farm operators, by type of operator, 1993

Item	Retired operators	Nonretired operators			U.S. total
		Total	Major occupation		
			Farming[1]	Other	
			Number		
Operators	351,634	1,711,666	940,421	771,245	2,063,300
			Years		
Average age of operator	71	51	53	48	54
			Percent		
Age of operator:					
Under 55 years	--	61.4	54.2	70.3	51.5
55 to 64 years	17.6	22.1	20.4	24.2	21.3
65 years or older	79.3	16.5	25.5	5.5	27.2
Gender:					
Male	82.8	93.5	92.9	94.1	91.6
Female	17.2	6.5	7.1	5.9	8.4
Education of operator:					
Less than high school	41.4	19.3	22.0	16.1	23.1
High school graduate	35.4	42.2	41.1	43.5	41.0
Some college	15.5	21.4	21.3	21.4	20.4
College and beyond	7.6	17.2	15.6	19.1	15.6
			Hours per year		
Average amount of farm work by operator	685	1,763	2,474	895	1,579
			Percent		
Hours worked on the farm per year by the operator:					
Less than 500	47.2	17.1	5.6	31.1	22.2
500 to 999	25.7	16.9	7.6	28.2	18.4
1,000 to 1,999	22.0	27.7	22.0	34.6	26.7
2,000 or more	5.2	38.4	64.8	6.2	32.7

-- = Insufficient number of observations.
[1] Includes hired managers.
Source: 1993 FCRS, all versions, for most items. Information on gender is from the Farm Operator Resource (FOR) version.

used some of their earnings earlier in life to pay Social Security taxes, to save, and to invest.

Only about 4 percent of retired operator households depended on farm income for at least half of their total household income (fig. 6). In contrast, 17 percent of all operator households depended that heavily on farm income. As one would expect, the percentage was highest (35 percent) for households with operators reporting farming as their major occupation.

Household Net Worth

Average net worth of retired operator households was approximately $298,500 in 1993 (table 8). This estimate was less than the $365,500 estimate for all operator households, but about double the $153,400 average for all U.S. households with an elderly

Table 8–Financial characteristics of farm operator households, by type of operator, 1993

Item	Retired operators	Nonretired operators: Total	Nonretired operators: Major occupation: Farming	Nonretired operators: Major occupation: Other	U.S. total
			Number		
Operator households[1]	347,410	1,688,281	919,044	769,237	2,035,692
			Dollars per household		
Total household income[2]	26,507	43,045	36,117	51,322	40,223
Earned income	4,615	35,259	26,577	45,632	30,029
Farm income	S	5,881	13,945	-3,754	4,815
Off-farm business income	1,416[3]	7,795	3,132	13,366	6,706
Off-farm wages and salaries	3,567	21,583	9,500	36,019	18,508
Unearned income	21,891	7,786	9,541	5,691	10,194
Interest and dividends	5,418	2,257	2,655	1,781	2,796
Social Security and other public programs[4]	11,754	2,502	3,704	1,066	4,081
Other off-farm income[5]	4,720	3,028	3,181	2,844	3,316
			Percent		
Operator household compared with U.S. average[6]	64.0	103.9	87.2	123.9	97.1
Distribution of household income by source:[2]					
Earned income	17.4	81.9	73.6	88.9	74.7
Farm income	S	13.7	38.6	-7.3	12.0
Off-farm business income	5.3[3]	18.1	8.7	26.0	16.7
Off-farm wages and salaries	13.5	50.1	26.3	70.2	46.0
Unearned income	82.6	18.1	26.4	11.1	25.3
Interest or dividends	20.4	5.2	7.4	3.5	7.0
Social Security and other public programs[4]	44.3	5.8	10.3	2.1	10.2
Other off-farm income[5]	17.8	7.0	8.8	5.5	8.3
			Dollars per household		
Total household net worth	298,450	379,255	472,396	267,976	365,465
Farm[7]	226,928	327,465	427,397	208,071	310,307
Nonfarm	71,521[3]	51,791	44,999	59,905	55,158

S = Suppressed. Cell was suppressed because the standard error was greater than 50 percent of the estimate.

[1] The count of operator households is slightly less than the count of farms in previous tables. See appendix 1 for an explanation.

[2] Household income is defined to be consistent with the Census Bureau's money income concept. See appendix 1 for details.

[3] Standard error is greater than 25 percent of the estimate. Standard errors ranged from 25.9 percent to 27.2 percent of the estimate for the cells indicated.

[4] Veterans benefits, military retirement, unemployment, and other public retirement and public assistance programs.

[5] Includes net income from estates or trusts, net rental income from farm and nonfarm properties, royalties for mineral leases, private pensions, annuities, alimony, regular contributions from persons not living in this household, and any other income.

[6] Total income per operator household divided by average household income for the U.S. ($41,428) from the Current Population Survey (U.S. Dept. Comm., 1995, p. 5).

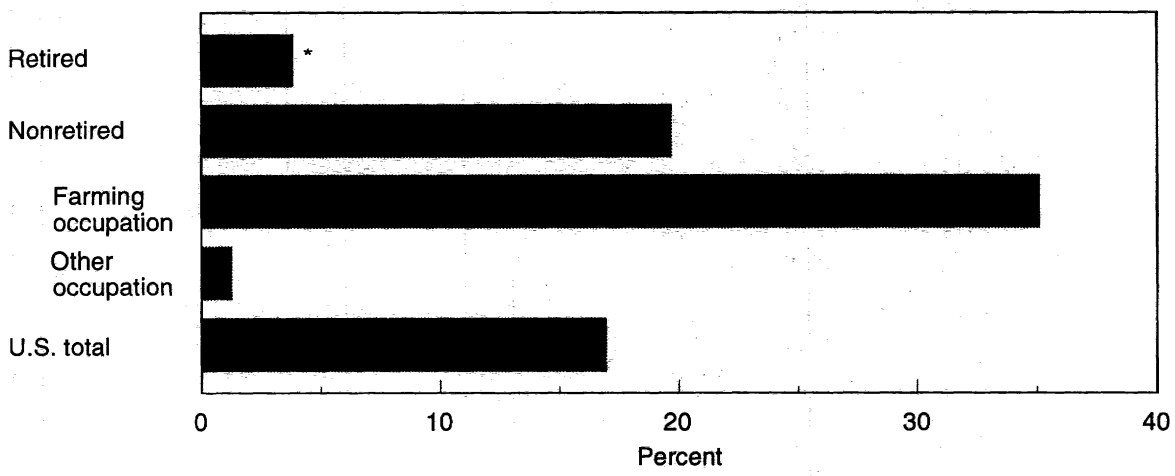
[7] Includes only the operator household's share of the farm's net worth.

Source: 1993 FCRS household files, all versions.

Figure 6

Percent of operator households with farm income making up at least 50 percent of total household income

Only 4 percent of operator households with a retired operator rely on farming for at least half their income.



* Standard error of the estimate is greater than 25 percent (32.8 percent).
Source: 1993 FCRS, all versions.

householder in 1993.[9] Farm business net worth accounted for most of household net worth, regardless of the occupation of the operator. Farm business net worth was mostly real estate, and real estate also accounted for about half of the net worth of all U.S. households with an elderly householder (Eller and Fraser, 1995, p. 9).

Effects on Farm Statistics

As discussed earlier, retired operators' share of farms was much larger than their shares of various income measures, farm business net worth, acreage, and production (table 3). This can affect statistics for all U.S. farms. For example, consider average gross cash farm income for all U.S. farms. This average lumps together retired operators with operators who farm as their major occupation. The numerator of average gross cash farm income includes retired operators' very small share of gross cash income, while the denominator includes their much larger share of farms. This comment also applies to operators with a nonfarm occupation, since they also produce little relative to their numbers.

For some purposes, such as determining the characteristics of farms producing the bulk of the Nation's food and fiber, analysts may want to exclude retired operators from their calculations. Or, they may want to conduct separate analyses of retired farmers. To determine the effects of excluding retired operators, one can compare columns 2 (total nonretired operators) and 5 (U.S. total) of tables 4-8 and look for large and statistically significant differences.

Location

Excluding retired operators from the data would have little effect on statistics describing the geographic location of farm operators. Retired farmers tend to live in the same areas as more active farmers (table 4).

General Structural Characteristics

Because retired operators tend to have very small farms, excluding them from analyses increases the percentage of farms in the commercial class and decreases the percentage of farms with sales of $9,999 or less (table 5). Similarly, excluding farms with retired operators increases the average acres operated from 436 to 497 acres.

[9] The average net worth for all U.S. households with an elderly householder is an unpublished estimate from the Survey of Income and Program Participation, conducted by the Census Bureau.

Although the farm businesses of retired operators rent out more land than they rent in (on average), excluding them from the statistics has little effect on average land rented out. The aggregate amount of land retired operators rent out is not large enough to lower the national average by a statistically significant amount. Disregarding retired operators, however, increases the average acres rented in, increases the share of full- or part-tenants, and decreases the share of full-owners. Excluding retired operators' farms has little effect on the average value of land and buildings (per farm or per acre), legal organization, or commodity specialization.

Farm Business Financial Characteristics

Excluding farms of retired operators has a greater effect on financial statistics (table 6) than on most structural characteristics. Excluding farms of retired operators increases average gross cash income and each of its components, increases average cash expenses and average net cash income, and reduces the percentages of farms with a low debt/asset ratio and a favorable financial position. Net worth also increases.

Farm Operator Characteristics

Because retired operators are much older and have much lower educational attainment than other operators, excluding them affects age and educational statistics (table 7). Excluding retired operators lowers the average age of operators from 54 to 51 years and reduces the share of those at least 65 years old while increasing the share under 55 years old. In addition, the share of operators with less than a high school education decreases from 23 to 19 percent.

Retired operators have cut back on their work enough to affect the statistics on hours of work. Excluding retired operators increases average annual hours worked by about 200, decreases the share of operators working fewer than 500 hours by 5 percentage points, and increases the share of operators working at least 2,000 hours by 6 percentage points.

Household Finances

Excluding households of retired operators has some effect on household financial statistics (table 8). Although total household income does not change by a statistically significant amount, the percentage of income from earned sources increases while the percentage from unearned sources declines. Excluding a group that has largely left the labor force increases reliance on earned income. Excluding retired operators has no statistically significant effect on household net worth.

Summarizing Effects of Excluding Retired Operators

In summary, excluding retired operators increases the average size of the remaining farms. Farms run by the nonretired operate more land and generate higher gross cash income. Excluding retired operators also decreases average age, increases educational levels, and increases average hours worked on the farm. The major impact on household income is an increase in the percentage of income from earned sources.

Excluding operators with a nonfarm occupation, in addition to excluding retired operators, would also increase the average size of the remaining farms. Only operators reporting farming as their major occupation would be left, and these operators tend to operate the largest farms. In fact, excluding farms with retired operators and farms with operators reporting a nonfarm occupation nearly doubles average gross cash income (fig. 7).

Implications

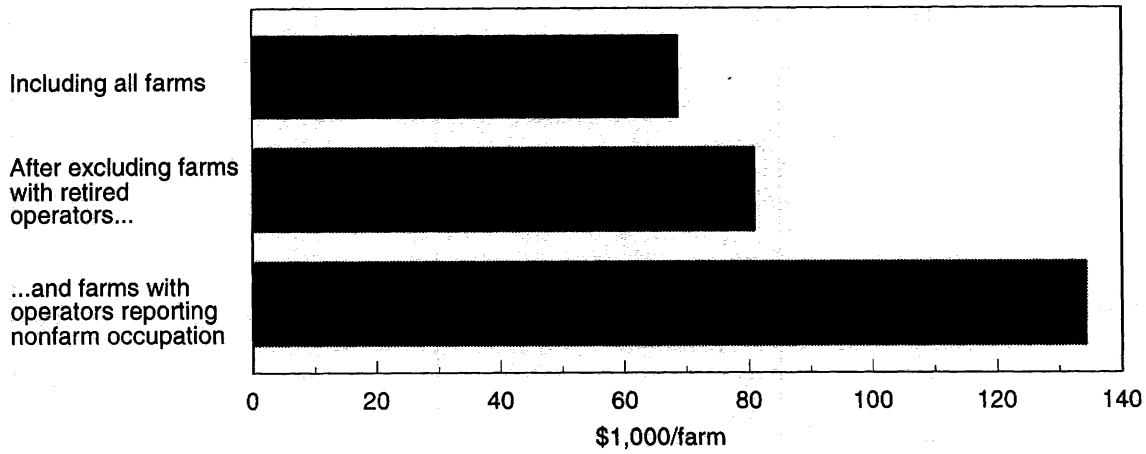
Analysts (and the public) should use caution when interpreting broad descriptions of U.S. agriculture based on aggregate statistics. U.S. farms are diverse, and much variation within the industry is hidden by U.S. averages. As long as the farm definition requires only $1,000 of agricultural sales, a large number of operators only minimally involved in farming will be included in national agricultural statistics. These operators' small farms will continue to have a disproportionate influence on overall averages.

In some cases, focusing on some particular group makes sense. For example, during farm policy debates, discussion may focus on farms run by operators reporting farming as their major occupation, since these operators are responsible for most of the value of production. Or, more appropriately, separate analyses could be prepared for the three groups of operators presented in this report. ERS has been using this three-way occupational breakdown since it became available from the 1993 FCRS data. Although FCRS data using this breakdown are relatively new, they have been well-received in analyses for the USDA and Congress.

Figure 7

Average gross cash income after excluding retired operators and operators with a major occupation other than farming, 1993

Average gross cash income nearly doubles as retired operators and operators with a nonfarm occupation are excluded.



Source: 1993 FCRS, all versions.

Importance of the Farm to Retired Operators

In general, farms of retired operators generate low sales and low net farm income, and retired operators spend relatively few hours on farmwork. Retired operators' households depend heavily on Social Security to pay for living expenses.

Despite these facts, however, retired operators receive two important economic benefits from their farms. First, farms are a major asset and store of value for retired operators. The average net worth of retired farm operator households was nearly $300,000 in 1993, and the farm accounted for most of this net worth.

Second, farms are a source of nonmonetary income to retired operators and their households. In 1993, farms of retired operators generated an average of $3,500 in noncash income, made up of the imputed rental value of the farm dwelling plus the value of farm products consumed on the farm. This noncash income is not counted as taxable income and adds to the well-being of retired operators and their households by decreasing the level of their living expenses.

The Conservation Reserve Program

Discussions of potential changes in the CRP should consider possible effects on retired operators. The CRP is important to retired operators, because many of them have enrolled land in the program. About 18 percent of farms with retired operators had land in the CRP in 1993, compared with only 11 percent of all farms. About 17 percent of retired operators' gross cash income came from government payments, mostly CRP payments. Not only had the operators retired, but some of their land had also.

The Future of Farming

Some people have expressed concern over the high average age of farm operators and worry about replacement farmers as older farmers leave the industry. Eventual replacements for operators currently reporting farming as their major occupation are particularly important, since these farmers account for most of the value of production.

Some replacements could come from the pool of operators with a major occupation other than farming. Compared with operators reporting farming as their major occupation, operators reporting another occupation are much less likely to be elderly. Their farms also account for about one-fourth of the total U.S. farming net worth. In other words, operators reporting another occupation already possess some of the resources necessary for farming more intensely.

Switching their major occupation to farming would only be a temporary solution to the shortage of younger farmers, however, for operators reporting a nonfarm occupation could hardly be described as young. Their average age was 48 years in 1993, only 5 years less than the 53-year average for operators

reporting farming as their major occupation. In any event, it is unlikely that many operators with a nonfarm major occupation would switch occupations, because these operators currently have adequate income from off-farm sources, and few are likely to be interested in a greater commitment to farming.

The traditional pool of replacement farmers has been young people raised on farms (Gale, 1994, p. 6-7). Beginning full-time farmers are generally limited to people raised on farms, because much of the knowledge necessary to farm can be gained by growing up on a farm. The pool of people raised on farms has declined because of off-farm migration and the declining birthrate of farm women during recent decades. Nevertheless, finding replacement operators may not be a real problem, according to Gale (*RDP*, Vol. 8, Issue 3, p. 22):

> Although farm production will likely continue to grow at a modest pace, fewer farm operators will be needed to produce any given amount of food and fiber. The large number of farmers who are 65 or over can be adequately replaced with a smaller number of new young farmers, because older farmers generally have smaller farms and produce less than younger farmers.

Gale concluded that the number of farms will continue to drop modestly and gradually, without large increases in agricultural prices (1994, p. 34). Relatively stable demand for food and growing productivity will keep agricultural prices low and continue to force some producers out of business.

Finding replacements may be less of a problem than is suggested by operator age statistics. Selection of only one senior operator in the FCRS (and census of agriculture) understates the participation of younger people in farming. At least some replacement farmers are currently working alongside older operators.

From another perspective, retired farm operators do not need to be replaced as they leave farming: they already have left farming. These operators classify themselves as retired and account for a small share of production, but they still are counted as farmers because they sell at least $1,000 worth of agricultural products. Any replacement of these operators by younger operators has already occurred, as far as production is concerned. However, retired operators may still provide a stimulus to local economies through their consumption expenditures, and they may still participate in community affairs.

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Appendix 1: The Farm Costs and Returns Survey in Detail

The Farm Costs and Returns Survey (FCRS) collects financial data on U.S. farm businesses and information about farm operators and their households. The target population of the FCRS is all U.S. farming units in the 48 contiguous States that sell or normally would sell at least $1,000 of agricultural products during the calendar year covered by the survey (U.S. Dept. Agr., 1994, p. 301). Compared with other data sources, the FCRS has the advantage of producing timely, detailed information about U.S. farms and their operators. The 1993 FCRS is the first nationwide data source to specifically identify retired farm operators.

The FCRS sample is drawn from both a list frame and an area frame (Ahearn et al. 1993, p. 5; U.S. Dept. Agr., 1994, pp. 301-307). The list frame is an efficient way to sample large farms. The list frame, maintained by the National Agricultural Statistics Service (NASS), contains all known large farms stratified by economic size and other characteristics. The area frame supplements the list by capturing farms (usually small) omitted from the list frame. The area frame is stratified by land use.

For most years since its inception in 1985 (when data were collected for the 1984 calendar year), the usable FCRS sample has been approximately 12,000 farms. Due to a reduction in survey funding, which resulted in a decrease in the number of farms contacted, there were only 7,939 usable sample farms in 1993. Retired operators ran 530 of the sample farms in 1993. Each sample farm has a weight or expansion factor that reflects the number of farms of similar size and type in the population of farms that the sample farm represents. Thus, survey responses can be expanded to provide estimates for the entire population of farms.

Different versions of the FCRS questionnaire are used each year, and each version collects information useful for a specific purpose (U.S. Dept. Agr., 1993, pp. 301-302). However, some questions are common to all versions, and this report generally uses information derived from these questions to allow using more observations.

The FCRS collects information about the senior, or primary, operator of a surveyed farm. In cases where management is shared equally among two or more operators, such as some father-son partnerships, the oldest operator is designated as the senior operator. Similarly, the FCRS collects general information about households of senior operators and very limited information about households of junior operators.

The number of operator households is generally about 1 percent smaller than the number of farm businesses (Ahearn et al., 1993, p. 2), because the operator household concept is not relevant for the small number of farm businesses not closely held by the operator and the operator's household. Farms organized as nonfamily corporations or cooperatives are excluded from the farm operator household files. Farms operated by hired managers are also excluded in 1993.

Household income from the FCRS is defined to be consistent with the money income concept used by the Census Bureau. This allows comparing operator household income from the FCRS with U.S. household income from the Current Population Survey (CPS). The CPS definition of income includes any income received as cash but excludes income received in-kind. The CPS definition departs from a strictly cash concept by deducting depreciation as an expense for farm operators and other self-employed people (U.S. Dept. Comm., 1992, pp. C2-C3). For more detailed information on the calculation of operator household income, see appendix 2.

Appendix 2: Definition of Terms

Farm

Farm: Any establishment from which $1,000 or more of agricultural products were sold or would normally be sold during the year.

Farm Operator

Farm Operator: The person who runs a farm, making the day-to-day decisions. Information is collected for only one operator per farm. For farms with more than one operator, data are collected only for the senior, or primary operator. Where management is shared equally among two or more operators, the oldest operator is designated as the senior operator.

Farm Operator Household Finances

Farm operator households: The households of senior operators of farms organized as individual operations, partnerships, and family corporations. Farm operator households exclude households associated with farms organized as nonfamily corporations or cooperatives, as well as households where the operator was a hired manager. For farms with more than one operator, information was obtained only for the households of the senior operator. (See farm operator, defined above.)

Farm operator household income: The farm income that accrues to the senior farm operator's household plus all sources of off-farm income accruing to the household in the reporting year. Both farm income and off-farm income may be negative.

> *Farm operator household farm income:* Net income of the farm operated (defined in the next sentence) times the percent received by the household, plus net income received by the household from other farm businesses, plus wages and salaries paid to the operator and household members by the farm business. The net income of the farm operated is calculated as the net cash income of the farm business, excluding income the business receives from renting out farmland, less depreciation.
>
> Wages and salaries paid to household members are added to operator household farm income because they are deducted as an expense when calculating net cash income. Although income from renting out farmland is excluded from net income of the farm, net income from farmland rental is counted as part of other off-farm income (discussed below).
>
> *Farm operator household off-farm income:* Includes off-farm wages and salaries of all household members, plus the net income of any nonfarm businesses, interest and dividends, and all other off-farm cash income of household members.
>
> In the 1993 and 1994 FCRS, net income from renting out farmland is included as part of other off-farm income in the household income accounts. In previous years, farmland rentals were counted as part of household farm income. Note that in the farm business income accounts, farm rent is always included in gross cash income as part of other farm-related income, regardless of the year.

Farm operator household net worth: The sum of the senior operator household's farm net worth and nonfarm net worth.

> *Farm net worth:* Total assets of the farm operated times the operator household's percent of the assets minus total liabilities of the farm operated times the operator household's percent of the liabilities.
>
> *Nonfarm net worth:* Other assets of the operator household minus other liabilities of the operator household.

Farm Structural Characteristics

Sales class: Based on gross farm sales. (See gross farm sales.) Two major classes, noncommercial and commercial, were constructed.

> *Noncommercial farms:* Farms with gross sales of less than $50,000 during the year.
>
> *Commercial farms*: Farms with gross farm sales of $50,000 or more during the year.

Total acres operated: Agricultural land owned, plus land rented in, less land rented out, plus land both used and rented out. Rentals may be for cash, for a share of production, or free of charge.

> *Owned:* Total acres owned by the farm operation.
>
> *Rented in:* Acreage rented from others during the year for cash or for a share of crop or livestock production. Also includes land used free of charge. Excludes land rented in on an animal-unit-month (AUM) basis.
>
> *Rented out:* Acreage provided to other farm operations for cash or for a share of crop or live-

stock production. Also includes land provided to other operations without charge.

Used and rented out: Acreage used for crops or livestock during a part of the year and rented to another operation for crop or livestock production during another part of the year. Because of the small amount of acreage involved, this category does not appear separately in the tables, but the acreage is added when calculating total acres operated.

Type of farm: Farm operators were asked to identify the farm production specialty classification that represented the largest portion of gross sales from their farm operation. Possible responses included the following:

Cash grains: Largest portion of gross sales from corn, other grains (such as wheat, oats, barley, rye, and sorghum), soybeans, dry edible beans and peas, and/or rice.

Other field crops: Largest portion of gross sales from cotton and cottonseed, tobacco, peanuts, Irish potatoes, sunflowers, sweet potatoes, sugarcane, broomcorn, popcorn, sugar beets, mint, hops, seed crops, hay, silage, forage, and/or any remaining field crops. Also includes farms entirely in the CRP.

Fruits, tree nuts, vegetables, or nursery or greenhouse: Largest portion of gross sales from fruits, tree nuts, berries, vegetables, nursery and/or greenhouse products. Also includes farms entirely in Christmas trees.

Beef, hogs, or sheep: Largest portion of gross sales from cattle (except dairy breeding stock), hogs, pigs, sheep, goats, wool, mohair, and/or lambs.

Other livestock: Largest portion of gross sales from milk and dairy products, poultry and poultry products, mules, horses, foals and ponies, fur-bearing animals, bees and honey, fish, minnows, or any remaining livestock.

Tenure: Based on questions about owned and operated farmland. Defined as acres owned as a percentage of land operated. Tenure groupings used are:

Full-owner operations: Own all of the land operated.

Full- or part-tenant: Rent all or part of the land operated.

Farm organization: Respondents were asked to identify their farm operation as an individual operation (sole proprietorship), a legal partnership, a family-held corporation, a nonfamily corporation, or a cooperative. In this report, legal partnerships, family-held corporations, nonfamily corporations, and cooperatives are all combined into an "other" category.

Financial Characteristics of the Farm Business

Gross cash farm income (or gross cash income): The sum of four components:

Livestock sales: Gross value of all livestock items sold from the farm or ranch, net of marketing charges. Includes sales of livestock and livestock products under marketing contracts. Payments received in the current year for livestock items produced in previous years are included.

Crop sales: Gross value of all crop items sold from the farm or ranch. Includes sales of crops under marketing contracts. Also includes net Commodity Credit Corporation (CCC) loans (value of crops placed under CCC loans during the year less the value of CCC loans repaid). Payments received in the current year for crops produced in previous years are included.

Government farm payments: Gross value of direct payments by the Federal Government (excluding wool and unshorn lamb wool payments) received during the calendar year.

Other farm income: Income from custom work, machine hire, livestock grazing, farmland rental, contract production fees, timber sales, outdoor recreation, hedging, tobacco allotment leases, road tax refunds, and any other farm-related income.

Cash expenses: Includes variable expenses for livestock purchases, feed, veterinary services and supplies, other livestock-related expenses, seed and plants, fertilizer and chemicals, labor, fuels and oils, repairs and maintenance, machine-hire and custom work, utilities, and other variable expenses, as well as fixed expenses including real estate and property taxes, interest, insurance, and rent and lease payments.

Net cash farm income: Gross cash income (as defined above) less cash expenses. Represents

income available to those who have a stake in the farm business (operators, partners, and shareholders) for living expenses, principal payment, reinvestment in the farm, or other obligations.

Net farm income: Net cash farm income minus depreciation and other nonmoney expenses plus the value of inventory change and nonmoney income.

Farm business net worth: The difference between farm assets and farm liabilities.

Farm assets: The estimated market value of all capital assets owned by the farm operation on December 31 of the reporting year.

Farm liabilities: Total amount of debt owed by the farm or ranch on December 31 of the reporting year. Includes outstanding principal plus unpaid interest owed to any banks, individuals, co-ops, merchants, or Federal agencies.

Favorable financial position: A farm has a favorable financial position if it has a positive net farm income and a debt/asset ratio no more than 0.40.

Geographic Units

Census Regions:

Northeast: Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, and Pennsylvania.

Midwest: Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

South: Delaware, Maryland, Virginia, West Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

West: Montana, Idaho, Wyoming, Colorado, Utah, Nevada, New Mexico, Arizona, Washington, Oregon, and California.

(Alaska and Hawaii are not covered by the FCRS and are excluded from this report.)

Metro-nonmetro counties:

Metro counties: Counties in Metropolitan Statistical Areas (MSA's), as defined by the Office of Management and Budget. Each MSA is a county or group of contiguous counties that contains either: (1) at least 1 central city with a population of at least 50,000, or (2) a Census Bureau urbanized area of at least 50,000 with a total population of at least 100,000. Additional counties may be included in the MSA if they have strong ties to the MSA. This report uses the MSA's designated as of 1993, which encompass 813 counties.

Urbanized area: An urbanized area consists of 1 or more central places and adjacent densely settled areas that together have a minimum population of 50,000. "Densely settled" is defined here as at least 1,000 persons per square mile.

Nonmetro counties: Counties outside MSA's. (See metro counties, defined above.). According to the 1993 metro-nonmetro designations, there were 2,276 nonmetro counties. Nonmetro counties are frequently categorized into two groups, adjacent and not adjacent.

Adjacent counties: 991 nonmetro counties that are physically adjacent to one or more MSA's and have at least 2 percent of their employed labor force commuting to the central counties of the MSA's.

Not adjacent counties: 1,285 nonmetro counties that do not meet the criteria to be adjacent counties.

Economic specialization: The Economic Research Service (ERS) typology categorized nonmetro counties according to their economic specialization. The typology identifies six mutually exclusive groups of counties:

Farming-dependent counties: 556 counties in which farming accounted for at least 20 percent of earned income from 1987 to 1989.

Mining-dependent counties: 146 counties in which mining accounted for at least 15 percent of earned income from 1987 to 1989.

Manufacturing-dependent counties: 506 counties in which manufacturing accounted for at least 30 percent of earned income from 1987 to 1989.

Government-dependent counties: 244 counties in which government employment accounted for at least 25 percent of earned income from 1987 to 1989.

Services-dependent counties: 323 counties in which services accounted for at least of 50 percent of earned income from 1987 to 1989.

Nonspecialized counties: 484 counties not classified as a specialized economic type.

The typology excludes 17 nonmetro counties that could not be categorized due to data suppression.

Government Programs

Set-aside programs: Land idled from production under annual commodity acreage adjustment programs and devoted to conservation uses. Include acres set aside during the year through the Acreage Reduction Program (ARP) or zero/85-92 Program.

The 10-year Conservation Reserve Program (CRP): Takes highly erodible cropland out of production under 10-year contracts. Land in the CRP is planted in protective cover crops or reforested for conservation purposes.

Gross Farm Sales

Gross farm sales (or gross sales): Gross farm sales is used primarily as an indication of farm size. It is a measure of what the farm produces, measured in dollars, regardless of who has a claim on that production. Gross sales is calculated as the operation's crop and livestock sales (including sales from inventory) plus the shares of the value of production received by share landlords and contractors. Gross sales also includes all government payments received by the operation and share landlords.

Value of Production

Value of Production: Agricultural production in a given year measured in dollars using market prices for the various commodities. This is a measure of output during the year and excludes sales from inventories.

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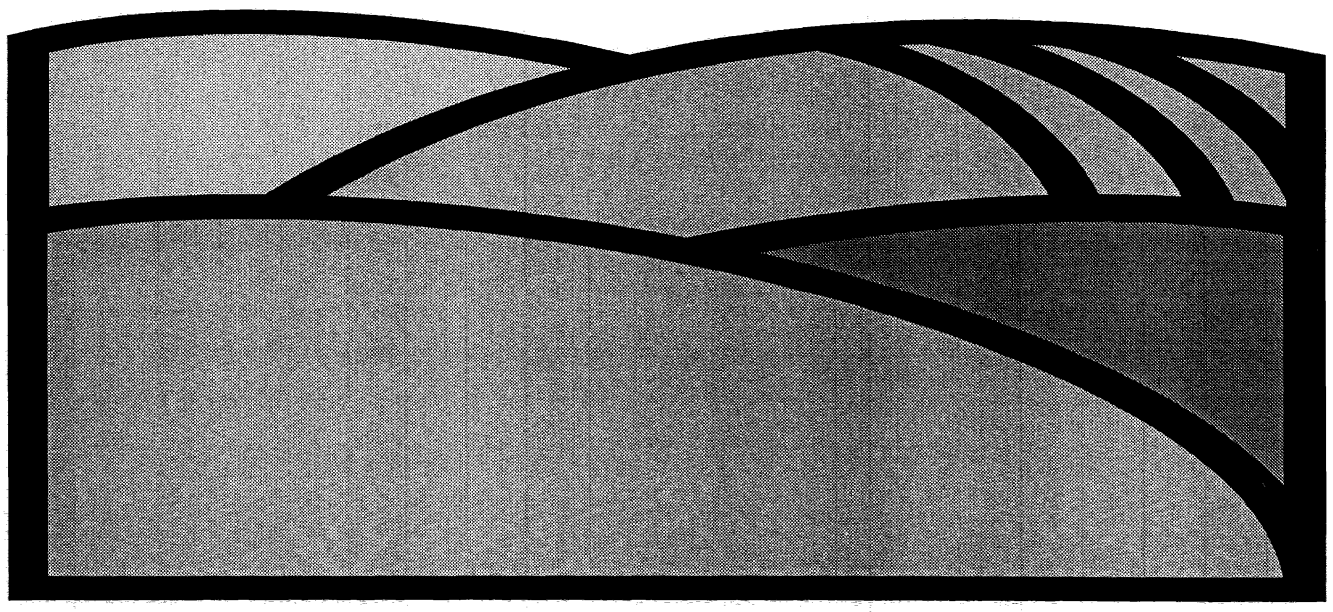

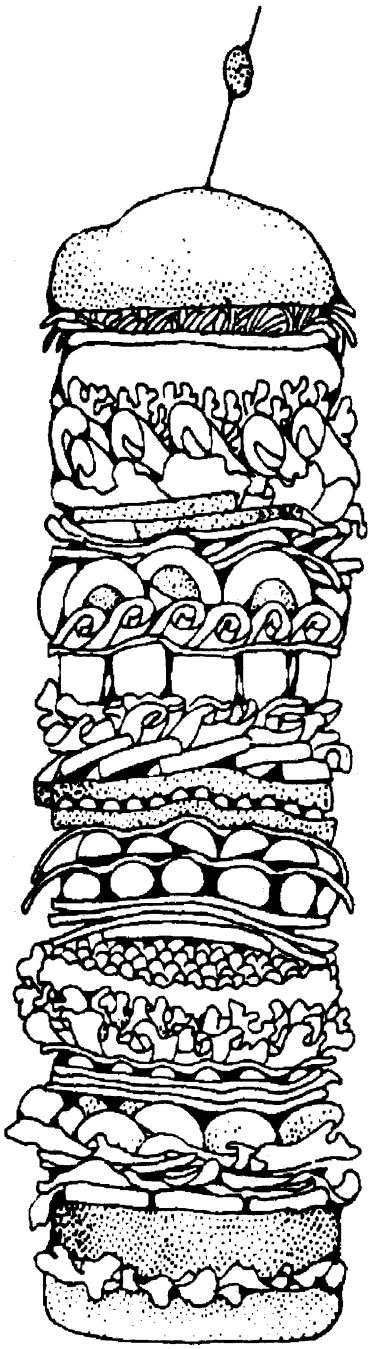

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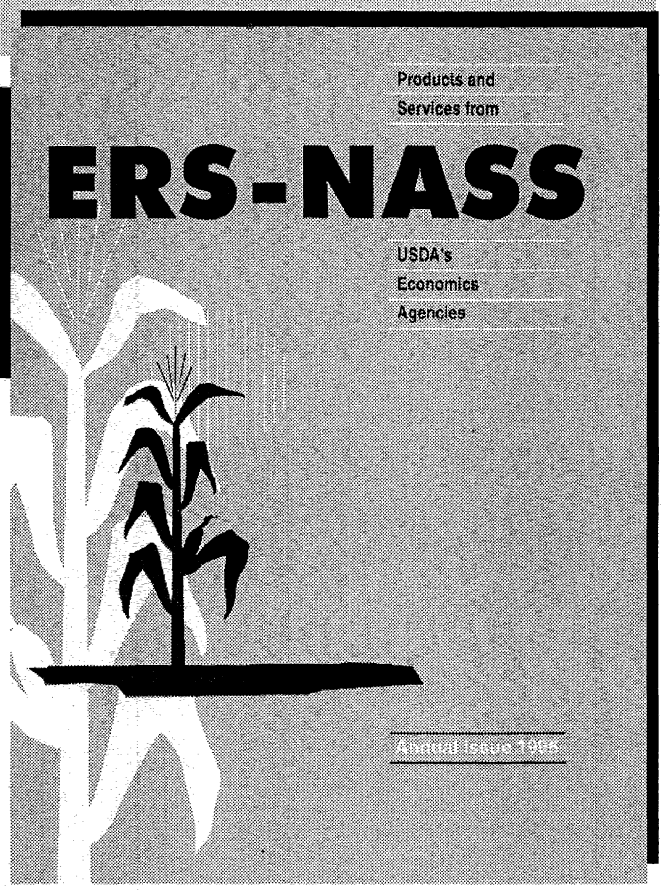

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