

Volume 5

**Special Reports**

Part 6

**1979 Farm  
Finance Survey**

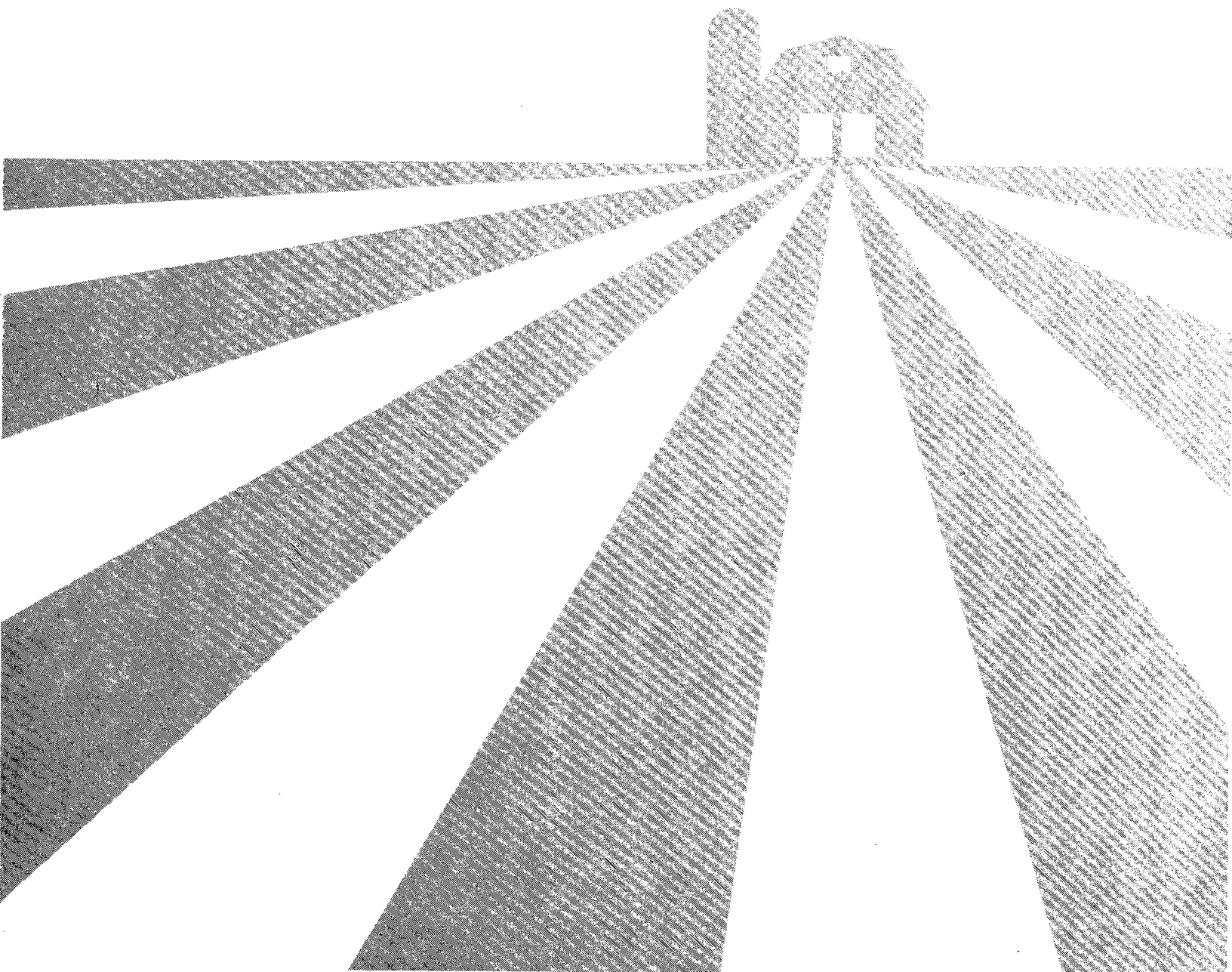
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1978  
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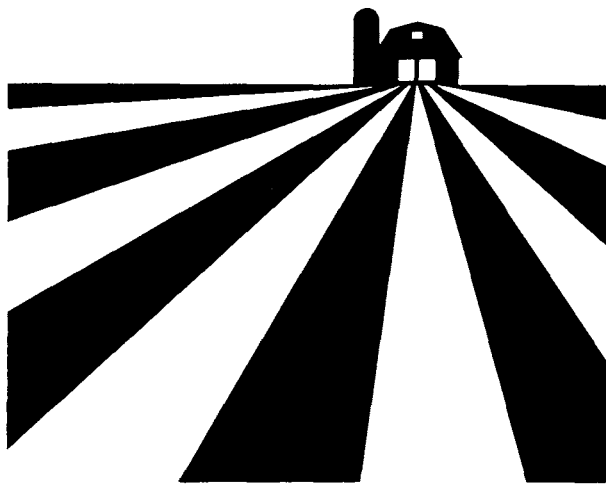
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# 1978 CENSUS OF AGRICULTURE

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Volume 5

**Special Reports**



Part 6

## **1979 Farm Finance Survey**

AC78-SR-6

Issued July 1982



**U.S. Department of Commerce**

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**ACKNOWLEDGMENTS**—Many persons participated in conducting the 1979 Farm Finance Survey. Primary direction was by **Shirley Kallek**, Associate Director for Economic Fields, and **Richard B. Quanrud**, Assistant Director for Economic and Agriculture Censuses (to June 1981), and **Michael G. Farrell**, his successor.

This report was prepared by the staff of the Agriculture Division under the general supervision of **Orvin L. Wilhite**, Chief (to January 1980), and **Arnold L. Bollenbacher**, his successor (to April 1982).

Clerical processing was performed in the Data Preparation Division, Jeffersonville, Ind.

Staff of the Administrative Services Division provided the forms design services.

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The computer processing facilities were provided by the Computer Operations Division.

Members of the Census Advisory Committee on Agriculture Statistics and representatives of both public and private organizations made significant recommendations which helped establish data content.

Representatives of the Economic Research Service and Farmers Home Administration of the U.S. Department of Agriculture, the Farm Credit Administration, the Bureau of Economic Analysis, and the Board of Governors of the Federal Reserve System contributed to the development of the content and tabulation plans for the survey.

Supplemental funding provided by the Economic Research Service allowed expansion of the survey to provide State-level estimates.

Special tribute is paid to the thousands of farm and ranch operators who furnished the information requested in this survey. Only through their cooperation was it possible to collect and publish the data in this report.

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# CONTENTS

	Page
Introduction. . . . .	VII
General Explanation . . . . .	IX
MAP—Regions and Divisions of the United States . . . . .	XXII

## TABLES

### FARMS AND LAND IN FARMS

#### Operators

1. Farms, Land in Farms, Value of Land and Buildings, Debt Status, and Land Sales, by States . . . . .	1
2. Farms, Land in Farms, Value of Land and Buildings, Debt Status, and Land Sales, by Operator Characteristics. . . . .	3
3. Year Owned Land Was Acquired by States . . . . .	7
4. Year Owned Land Was Acquired by Operator Characteristics. . . . .	9
5. How Owned Land Was Acquired by States . . . . .	13
6. How Owned Land Was Acquired by Operator Characteristics. . . . .	14

#### Landlords

7. Acres Owned and Rented, Their Value, and Rent Received for All Landlords, by States . . . . .	16
8. Acres Owned and Rented, Their Value, and Rent Received for All Landlords, by Operator Characteristics. . . . .	17
9. Acres Owned and Rented, Their Value, and Rent Received for All Landlords, by Landlord Characteristics. . . . .	18
10. Acquisition and Sale of Land for All Landlords by States . . . . .	22
11. Type of Organization for All Landlords by States . . . . .	24

### ASSETS

#### Combined Operators and Landlords

12. Combined Operator and Landlord Physical Farm Assets by States . . . . .	25
13. Combined Operator and Landlord Physical Farm Assets by Operator Characteristics . . . . .	28

#### Operators

14. Assets Owned by Operators by States . . . . .	31
15. Physical Farm Assets Owned by Operators by States . . . . .	32
16. Financial Farm Assets Owned by Operators by States. . . . .	36
17. Assets Owned by Operators by Operator Characteristics . . . . .	38
18. Physical Farm Assets Owned by Operators by Operator Characteristics . . . . .	40
19. Financial Farm Assets Owned by Operators by Operator Characteristics . . . . .	44
20. Gross Value of Farm Assets by Income and Value of Sales . . . . .	46

#### Landlords

21. Physical Farm Assets Owned by All Landlords by States. . . . .	48
22. Physical Farm Assets Owned by All Landlords by Operator Characteristics. . . . .	52
23. Physical Farm Assets Owned by All Landlords by Landlord Characteristics . . . . .	55

**TABLES—Con.**

	Page
<b>VALUE OF AGRICULTURAL PRODUCTS SOLD, INCOME, AND PRODUCTION CONTRACTS FOR OPERATORS</b>	
24. Value of Agricultural Products Sold and Measures of Income by States . . . . .	61
25. Value of Agricultural Products Sold and Measures of Income by Operator Characteristics . . . . .	63
26. Income and Expenses From Farm-Related Sources by States . . . . .	67
27. Income and Expenses From Farm-Related Sources by Operator Characteristics . . . . .	69
28. Production Contracts by States . . . . .	73
29. Production Contracts by Farm Characteristics . . . . .	74
30. Total Net Cash Income, Net Cash Farm Income, Farm-Related Income, and Off-Farm Income, by States . . . . .	76
31. Total Net Cash Income, Net Cash Farm Income, Farm-Related Income, and Off-Farm Income, by Operator Characteristics . . . . .	77
32. Off-Farm Income and Total Operator Income by Days of Off-Farm Work by Operator Characteristics . . . . .	79
33. Off-Farm Income of Operators and Members of Their Family by Source, by States . . . . .	83
34. Off-Farm Income of Operators and Members of Their Family by Source, by Operator Characteristics . . . . .	86
<b>CAPITAL PURCHASES, OPERATING EXPENSES, AND CREDIT USED</b>	
<b>Combined Operators and Landlords</b>	
35. Combined Operator and Landlord Capital Purchases, Operating Expenses, and Funds Borrowed for Unspecified Purposes . . . . .	92
36. Combined Operator and Landlord Capital Purchases and Operating Expenses by Operator Characteristics . . . . .	95
37. Combined Operator and Landlord Capital Purchases and Operating Expenses by Kind . . . . .	98
38. Combined Operator and Landlord Capital Purchases and Operating Expenses by Kind and States . . . . .	99
39. Combined Operator and Landlord Purchases of Land and Buildings by States . . . . .	103
<b>Operators</b>	
40. Capital Purchases and Operating Expenses by Cash and Credit for Operators by States . . . . .	104
41. Capital Purchases and Operating Expenses by Cash and Credit for Operators by Operator Characteristics . . . . .	106
42. Items of Capital Purchases and Operating Expenses by Cash and Credit for Operators . . . . .	110
43. Capital Purchases and Operating Expenses by Kind for Operators by States . . . . .	111
44. Capital Purchases by Item, Cash, and Credit, by States . . . . .	115
45. Capital Purchases by Item by Operator Characteristics . . . . .	121
46. Operating Expenses by Item by States . . . . .	125
47. Operating Expenses by Item by Operator Characteristics . . . . .	131
<b>Landlords</b>	
48. Capital Purchases and Operating Expenses for All Landlords by States . . . . .	135
49. Capital Purchases and Operating Expenses for All Landlords by Operator Characteristics . . . . .	137
50. Capital Purchases for All Landlords by Item and States . . . . .	140
51. Capital Purchases for All Landlords by Item and Operator Characteristics . . . . .	145
52. Operating Expenses for All Landlords by Item and States . . . . .	147
53. Operating Expenses for All Landlords by Item and Operator Characteristics . . . . .	151
<b>FARM DEBT</b>	
<b>Combined Operators and Landlords</b>	
54. Combined Operator and Landlord Debt by Kind . . . . .	153
55. Combined Operator and Landlord Debt by Lender and States . . . . .	154

**TABLES—Con.****FARM DEBT—Con.**

	Page
<b>Operators</b>	
56. Total Operator Debt by Kind by States . . . . .	157
57. Total Operator Debt by Kind by Lender . . . . .	159
58. Total Operator Debt by Kind by Operator Characteristics . . . . .	160
59. Total Operator Farm Debt by Value of Agricultural Products Sold by Lender . . . . .	164
60. Operator Debt by Kind for Operators With Real Estate Debt by Lender . . . . .	167
61. Operator Debt by Kind for Operators with Non-Real Estate Debt by Lender . . . . .	167
62. Real Estate Debt for All Operators by Lender and States . . . . .	168
63. Non-Real Estate Debt for All Operators by Lender and States . . . . .	171
<b>Landlords</b>	
64. Debts for All Landlords by Kind and States . . . . .	174
65. Debts for All Landlords by Lender . . . . .	175
66. Debts for All Landlords by Kind and Operator Characteristics . . . . .	176
67. Debts for All Landlords by Kind and Landlord Characteristics . . . . .	177

**FARMS AND LAND IN FARMS FOR FARMS WITH DEBT****Operators**

68. Farms, Land in Farms, and Value of Land and Buildings for Operators With Farm Debt, by States . . . . .	179
69. Farms, Land in Farms, and Value of Land and Buildings for Operators With Farm Debt, by Operator Characteristics . . . . .	181

**Landlords**

70. Owned and Rented Lands for All Landlords With Debt by States . . . . .	185
--	-----

**ASSETS FOR FARMS WITH DEBT****Combined Operators and Landlords**

71. Combined Physical Farm Assets for Operators and Landlords With Farm Debt by States . . . . .	186
72. Combined Physical Farm Assets for All Operators and All Landlords With Farm Debt by Operator Characteristics . . . . .	188

**Operators**

73. Assets Owned by Operators With Farm Debt by States . . . . .	191
74. Physical Farm Assets Owned by Operators With Farm Debt by States . . . . .	192
75. Financial Farm Assets Owned by Operators With Farm Debt by States . . . . .	196
76. Assets Owned by Operators With Farm Debt by Kind by Operator Characteristics . . . . .	198
77. Physical Farm Assets Owned by Operators With Farm Debt by Kind by Operator Characteristics . . . . .	200
78. Financial Farm Assets Owned by Operators With Farm Debt by Operator Characteristics . . . . .	204
79. Farm Net Worth for Operators by Division, Value of Sales, Debt, Off-Farm Income, and Age . . . . .	206
80. Nonfarm Net Worth for Operators by Division, Value of Sales, Off-Farm Income, and Age . . . . .	208
81. Debt to Asset Ratio of Total Farm and Nonfarm Debts, and Total Farm and Nonfarm Assets for Operators by Division, Value of Sales, Net Worth, Income, and Age . . . . .	210

**Landlords**

82. Physical Farm Assets Owned by All Landlords With Debt by States . . . . .	211
---	-----

**TABLES—Con.**

	Page
<b>VALUE OF AGRICULTURAL PRODUCTS SOLD AND INCOME FOR OPERATORS WITH FARM DEBT</b>	
83. Value of Agricultural Products Sold and Measures of Income for Operators With Farm Debt by States . . . . .	213
84. Value of Agricultural Products Sold and Measures of Income for Operators With Farm Debt by Operator Characteristics . . . . .	215
<b>REAL ESTATE TAXES</b>	
85. Taxable Land and Buildings and Real Estate Taxes . . . . .	219
86. Taxable Land and Buildings and Real Estate Taxes for Land Operated by Full Owners . . . . .	220
87. Taxable Land and Buildings and Real Estate Taxes for Owned Land Operated by Part Owners. . .	221
88. Taxable Land and Buildings and Real Estate Taxes for Land Rented and Operated by Part Owners . . . . .	222
89. Taxable Land and Buildings and Real Estate Taxes for Land Operated by Tenants. . . . .	223
<b>OFF-FARM WORK AND HOUSEHOLD CHARACTERISTICS</b>	
90. Off-Farm Work Characteristics for Operators by Age and Value of Agricultural Products Sold . . .	224
91. Household Characteristics and Income for Operators by Age and Value of Agricultural Products Sold . . . . .	226
<b>LANDLORD CHARACTERISTICS</b>	
92. Individual and Partnership Landlords by Percent of Total Business Income Received From Agriculture. . . . .	227
93. Corporate Landlords by Percent of Total Business Income Received From Agriculture. . . . .	227
94. Participation in Management Decisions for All Landlords by Their Characteristics . . . . .	228
<b>SAMPLING RELIABILITY</b>	
95. Estimates of Sampling Reliability . . . . .	230
<b>APPENDIX</b>	
Report Forms. . . . .	A-1



## INTRODUCTION

	Page
BACKGROUND AND PURPOSE . . . . .	VII
SOURCE OF DATA . . . . .	VII
PRESENTATION OF DATA . . . . .	VII
UNPUBLISHED DATA . . . . .	VII
HISTORICAL DATA . . . . .	VII
ABBREVIATIONS AND SYMBOLS . . . . .	VIII

### BACKGROUND AND PURPOSE

Varying elements of farm finance have been collected since the first agriculture census was taken in the United States. Initially, the principal points of interest were the value of farmland and sales of agricultural products, but in 1890, census data were also requested on farm mortgage debt. In later censuses, this aspect of the data collection effort was expanded to include farm taxes.

Beginning in 1960, special surveys were conducted in connection with the 1959 and 1964 Censuses of Agriculture on selected aspects of farm finance. In 1971, the 1970 Survey of Agricultural Finance was conducted as part of the 1969 Census of Agriculture. This survey collected data on land in farms, value of land and buildings, rents, capital and operating expenditures, credit used for purchasing specific items, debts outstanding by kind and source, taxes, value of agricultural products sold, construction of new buildings and other structures, and off-farm income.

The 1979 Farm Finance Survey is basically comparable to the 1970 Survey of Agricultural Finance. The 1979 Survey included new sections on production contracts, income and expenses from farm-related sources, assets, when and how owned land was acquired, off-farm work, education, and household characteristics; and repeated questions from the 1970 Survey on debts, expenditures, income, and taxes. Data for all of these items were collected from farm operators, and most of them from landlords. The landlord report form also included new sections on ownership and sales of agricultural land, participation in management decisions, type of ownership, and characteristics and occupation of landlords.

### SOURCE OF DATA

Essentially all data shown in this report are from the 1979 Survey of Farm Finance, which was taken in 1980 to cover the calendar year 1979.

The items included in the report forms were suggested by the Census Advisory Committee on Agriculture Statistics in 1978 and 1979, and by various government agencies and private organizations during 1977, 1978, and 1979. These suggestions

were augmented and refined by staff research and by consultations with the suggesting agencies and organizations.

Particularly noteworthy was the assistance provided by the Economic Research Service of the U.S. Department of Agriculture, the Farm Credit Administration, the Federal Reserve Board, and various universities.

In the fall of 1978, a mailout pretest was made of draft versions of the operator and landlord report forms. The pretest was based on a national sample of operators and landlords taken from respondents to the 1974 Census of Agriculture.

Based on evaluation of the pretest and additional research, final data collection forms were developed for operators (79-A9A) and for landlords (79-A9B). Copies of these forms are in the appendix.

The data for the survey were collected principally by mail. Form 79-A9A was sent to a sample of farm operators for completion of applicable items for the land which they operated. Form 79-A9B was sent to landlords for completion of items relating to the land rented to the specified farm operators. A combination of the requisite items from both reports made possible the determination of total estimates for items applicable to all land in farms.

### PRESENTATION OF DATA

Data are published for the United States, the 4 regions, the 9 divisions, and each of the 50 States. In general, data are published in greater detail for the United States than for lesser geographic areas. There are tables for operators only, for landlords only, and for operators and landlords combined. Small differences may occur between tables in the totals for the same categories of items because of rounding figures to thousands.

### UNPUBLISHED DATA

More detailed data were tabulated at the request of the U.S. Department of Agriculture, but these data have not been published in this report because of space limitations. Inquiries about the content, availability, and costs of reproduction should be directed to: Chief, Agriculture Division, Bureau of the Census, Washington, D.C. 20233.

### HISTORICAL DATA

No comparative historical data are shown in this publication. Data from past surveys or censuses are available; see:

1974 Census of Agriculture—volume II, part 2, Chapter III,  
Farm Debt.

- 1970 Survey— 1969 Census of Agriculture, volume V, Part II, **Farm Finance**
- 1965 Survey— 1964 Census of Agriculture, volume III, Part 3, **Sample Survey of Agriculture**, and Part 4, **Farm Debt**
- 1960 Survey— 1959 Census of Agriculture, volume V, Part 5, **1960 Sample Survey of Agriculture**, and Part 4, **Farm Mortgage Debt and Farm Taxes**; Board of Governors, Federal Reserve system (Washington, 1964), **Farm Debt**.

## ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used throughout the tables:

- Zero.
- (D) Data withheld to avoid disclosing information for individual farms.
- (X) Not applicable.
- (Z) Less than half of the unit reported.
- (NA) Not available.

## GENERAL EXPLANATION

	Page
COLLECTION PROCEDURES . . . . .	IX
DATA PROCESSING . . . . .	IX
LIMITATIONS OF THE DATA . . . . .	X
DEFINITIONS AND EXPLANATIONS . . . . .	X
CLASSIFICATION OF FARMS . . . . .	XIV
SAMPLING AND ESTIMATING PROCEDURES . . . . .	XV
RELIABILITY . . . . .	XV
SUMMARY OF FINDINGS . . . . .	XVIII
<b>TABLES</b>	
A. COUNTS OF FARM OPERATORS IN THE SURVEY AND IN THE 1978 CENSUS OF AGRICULTURE . . . . .	XVII
B. COMPARISON OF 1979 FARM FINANCE SURVEY TO 1978 CENSUS OF AGRICULTURE FOR SELECTED FARM CHARACTERISTICS . . . . .	XVIII
C. BALANCE SHEET FOR COMBINED OPERATORS AND LANDLORDS: DECEMBER 31, 1979. . . . .	XIX

### COLLECTION PROCEDURES

#### Operator

A total of 44,968 report forms were mailed to operators from March to June 1980. The initial mailing was carried out as sample lists and labels became available.

The package contained form 79-A9A, Farm Finance Survey, a form 79-A9A for the respondent's file, an instruction sheet, a brochure—*Why a Farm Finance Survey*, cover letter, and a return envelope.

After the original mailout, there were four mail followups. The first and third consisted of complete survey packages, and the second and fourth consisted of a form letter requesting prompt response. The operator responses were 32,831 or 73 percent. A stratified sample of approximately 5,500 nonrespondents was selected for followup by telephone.

It was not possible to enumerate all of the sample non-response cases, however, 1,710 cases were enumerated. The remaining certainty cases were imputed, and a reweight program was applied to the entire farm finance survey to compensate for the noncertainty nonresponse cases.

#### Landlord

The report forms were mailed to landlords from September to December 1980 in three phases, as the names became available from the operator reports. The reports provided approximately 37,600 landlords. Of these, 34,200 were mailed report forms. The remaining 3,400 names were held as abnormals (government agencies and other institutions) or without sufficient addresses. Attempts were made to call all operators with insufficient or missing landlord names or addresses.

After the original landlord mailouts, there were three mail followups. The first and third consisted of complete survey packages, and the second consisted of a form letter requesting prompt response. The response was 26,000 reports or 76 per-

cent. An additional 3,000 landlords, or 8.8 percent, were returned by the post office because of insufficient address or no forwarding address available.

Additional landlords were located which were not identified in the original review. Information for these landlords, as well as the mail nonresponse landlords, were imputed during processing. Data for these cases were imputed using their operators' data as well as characteristics of landlords of similar size and type.

No field enumeration of landlords was conducted. Telephone followup for nonresponse was limited.

### DATA PROCESSING

#### Operator's Report Forms

The report forms for operators were reviewed prior to keying the data to magnetic tape. This involved a clerical edit check for incompleteness. Whenever the incompleteness was significant, correspondence was initiated or telephone calls were made to collect the missing data.

All problem cases, large operations (as determined by acres or sales), multiunit operations, and multiform cases (reports involving the other follow-on surveys) were referred to technical analysts for review.

The report forms specifying off-farm work were coded by the Current Population Surveys Branch of the Demographic Surveys Division. Approximately 12,000 reports received a three-digit code indicating the type of industry and occupation of the operator and spouse. The coding system was based on the Bureau of the Census 1970 Industrial and Occupational Classification System.

Following the initial edit review, the data were keyed to tape and used in this report. About 1,400 report forms failed for a variety of reasons to meet the census definition of a farm for 1979.

The keyed data were subjected to a series of computer checks to determine whether all required entries had been made and if the entries were internally consistent. Problem items were flagged by the computer and displayed on printouts for review and correction by statistical analysts.

#### Landlord's Report Forms

The landlord reports were processed in the same way as the operator reports, but in accordance with separate landlord computer edit specifications. Each individual landlord report was edited separately.

The final phase of edit review for the survey was a comparison of the responses of the landlord(s) renting to a particular operator with the responses of that operator. When there were two or more landlords renting to any operator, relevant

responses of all the landlords were added together for the comparison. This phase of review was called the reconciliation edit.

The task of reviewing and making corrections to individual reports was performed simultaneously with needed reconciliation corrections. Reconciliation comparisons between aggregated landlords values (all landlords renting to one operator) and their operators were restricted to data common to both landlord(s) and operator. Data compared were acres rented, their associated value of land and buildings, and share and cash rents. The reconciliation computer edit was designed such that these four essential responses were also imputed on non-response landlord reports based on the response obtained from the operator.

## LIMITATIONS OF THE DATA

The published data are subject to both sampling and non-sampling errors. Measurements of the sampling error for selected data are shown in this report. However, nonsampling errors such as underreporting and misclassifications by respondents and processing errors were not measured.

During the processing of the survey, most data were accepted as reported unless there were obvious reporting errors or gross inconsistencies among selected data. In general, only land values, the more significant operating expenditures and assets, and the value of agricultural products sold were imputed if the data were not reported by the respondent. Imputations for these data were based on the items reported in the matching 1978 census report. Nonresponses to debt items were reviewed, and to determine whether debt was required, comparison was made with adjacent reports of similar characteristics. This resulted either in telephone followup, or imputations based on the relationships of comparable adjacent reports.

For the most part, estimates from this survey should not be used as the absolute totals without making some comparisons with data from the 1978 Census of Agriculture and other benchmark sources.

## DEFINITIONS AND EXPLANATIONS

For an exact wording of the questions used in the survey forms, and the information sheets which accompanied these forms, see the appendix of this publication. The definitions and explanations in this section provide more detailed descriptions for selected items and terms than are available on the report forms or in the tables.

### Farm Definition

For this survey, the definition of a farm is the same as that for the 1978 Census of Agriculture. A farm is defined as any place from which \$1,000 or more of agricultural products were sold or normally would have been sold during 1979. The word "place" is defined as all land under the control or supervision of one person or partnership at the time of enumeration and on which agricultural operations were conducted at any time in 1979. It is made up of the sum of the land owned in 1979, plus the land rented from others, minus the land rented to others.

Control may have been exercised through ownership or management, or through a lease, rental, or cropping arrangement.

### Abnormal Farms

The term "abnormal farms" includes institutional farms, experimental and research farms, and Indian reservations. Institutional farms include those operated by hospitals, penitentiaries, schools, grazing associations, government agencies, etc. The 2,300 abnormal farms identified in the 1978 Census of Agriculture have been excluded from this survey.

### Operator

The term "operator" designates a person who operates a farm, either doing the work or directly supervising the work. The operator may be the owner, a member of the owner's household, a salaried manager, or a tenant. If he/she rents land to others or had land worked on shares by others, he/she is considered the operator only of the land which he/she retains for his/her own operation. For partnerships, only one partner is counted as an operator. If there is no clear-cut partner in charge, the senior or oldest active partner is considered to be the operator. For survey purposes, the number of operators is the same as the number of farms.

### Hired Farm Manager

A hired manager is a person who is paid a salary or wage (and sometimes a commission) to operate a farm or ranch for an individual or family, a partnership, a corporation, an institution, or other organizations. The hired manager is in charge of all day-to-day decisions relating to all aspects of the operation. Instructions accompanying the report pointed out that a hired manager should not be confused with a foreman, caretaker, share operator, or hired person who merely carries out the employer's instructions.

On the operator report form the respondent was asked:

Is this farm or ranch operated by a hired manager? . . . . . Yes ☐ No ☐

Reports indicating the presence of a hired manager were reviewed during processing. Obvious reporting errors were corrected.

Although the potential for having a hired farm manager is possible for most sizes or types of farms, the probability is greater for corporate or other large-scale farms and ranches. Follow-up telephone calls to a number of the smaller individual proprietorships reflected obvious confusion between the hired managers, caretakers, and foremen. In such cases, if the owner was actually responsible for purchasing, marketing, and making decisions involving the crop or livestock practices, the report was changed to a nonmanaged classification. This undoubtedly indicated the potential for an inflated count of hired managers.

The salary for hired managers was to be included as income from farm work—section 10, item 1, a, (2) of the report form. The data for personal assets, section 9, items 14 to 21; section 12, Off-Farm Work and Education, and section 13, Household

Characteristics, of the report form were to be reported for the hired manager and his/her family.

### Managed Farms

For uses of this survey, farms operated by hired managers are managed farms. Data for managed farms were collected and published in this report at the special request of data users, but managed farms are not shown as a separate tenure class in farms by tenure. In the tenure classification, these farms were distributed among full owners, part owners, and tenants according to the reported ownership.

### Farms or Farms Reporting

The term "farms" or "farms reporting" in the presentation of data denotes the number of farms reporting the item. The same applies to the term "landlords" or "landlords reporting."

### Land in Farms

The acreage designated in the tables as "land in farms" consists primarily of agricultural land used for crops, pasture, or grazing. It also may include considerable areas of land not actually under cultivation and not used for pasture or grazing. For example, the acreage of woodland and wasteland owned or rented by farm operators along with the land used for their agricultural operations is included as land in farms. Large acreages of land held for nonagricultural purposes were deleted in processing.

All grazing land except open range and grazing land used under government permit was to be included in farms, provided the place of which it was a part was a farm.

Land leased from the Government, Indian reservations, and institutions was considered to be debt free, and also not subject to property taxes. Land leased from corporations was also considered to be debt free unless an amount for mortgage debt was reported. However, data on taxes were requested from corporations.

### Capital Purchases

This refers to expenditures used for purchasing long-lasting items required for the production of agricultural income, such as land and buildings, land improvement, equipment and machinery, etc.

### Operator's Cash Operating Expenses

This represents the total operating expenditures, excluding depreciation and change in inventory values, made by the farm operator and members of his/her family for farming operations in 1979. To permit a more useful farm-to-farm comparison of cash operating expenditures, cash rent paid is not included, but is shown separately. Cash expenditures paid by landlords were not to be included by the operator, but were reported by landlords. The cost of items and services supplied by contractors is not included, but is shown separately.

### Value of Agricultural Products Sold

This item represents the gross market value before taxes and production expenses of all agricultural products sold or removed from the place in 1979 regardless of who received the payment. It includes sales by the operator as well as the value of any shares received by partners, landlords, contractors, and others associated with the operation. It does not include income from farm-related sources, such as customwork or agricultural services, income from the sales of forest products, or income from other nonfarm sources.

**Operator's share**—For a share tenant, the operator's share is the total value of agricultural products sold minus the landlord's share. In the case of a part owner who share-rented land, it is the total value of the sales from the owned and rented land minus the landlord's share from the share-rented land. In the case of full owners and cash renters, it is the total value of sales from the farm. In the case of an operator with a contract, it is the value of agricultural products sold minus the contractor's share.

**Operator's share minus cash rent**—This total includes the operator's share of the value of agricultural products sold minus cash rent paid to the landlord.

**Landlord's share**—This total represents the landlord's share of the value of agricultural products sold from land rented to operators on a share rental basis.

**Contractor's share**—The contractor's share of the total is the total market value of products produced under contract minus the amount paid to the producer.

### Production Contract

Many farm products are produced under a contract or binding agreement between the farm operator (producer) and the person who buys or uses the farm product. A production contract usually specifies the kind and/or amount of farm products to be produced and may specify variety or breed, the operations to be performed during production, the price to be paid the producer, and the inputs and technical assistance to be supplied by the contractor.

### Operator's Income

**Net cash income from agricultural sales**—This income is the operator's share of the income from agricultural products sold minus the cash operating expenses and cash rent.

**Net cash farm-related income**—This income is the operator's share of income from customwork and other agricultural services, recreational services, payments from government farm programs, gross cash rent or share payments received, sales of forest products, and income from other business or source closely related to agriculture, minus expenses for the services. See section 6 of the operator's report form in the appendix.

**Net cash farm income**—This is the operator's income from the *net cash income from agricultural sales* plus the *net cash farm-related income*.

**Off-farm income**—This category covers cash wages, salaries, tips, Armed Forces pay, commissions, piece-rate payments, cash bonuses, income from a nonfarm-related business or professional services, retirements and/or disability payments, public assistance, interest, dividends, income from estates or trust, net cash rent from nonfarm property, net royalties, or lease payments from mineral rights, annuities, alimony, regular contributions from persons not living in the household, and any other money income from any other sources. See section 10 of the operator's report form in the appendix.

**Net cash income**—This is the operator's total income from *net cash farm income* plus the *off-farm income*.

## Cash Rent

Each farm operator renting from others was asked, "If you rented land from others, how much cash rent did you pay for the year 1979?" The cash rent reported includes, in addition to the amount paid for land rented and operated, any cash rent paid for rented lands the operator may have subrented to others.

## Total Rent

Total rent includes landlords' share of the value of agricultural products sold plus cash rent paid.

## Capital Purchases and Operating Expenses

This is the total expenditures for all capital items and all cash operating expenses.

## Funds Borrowed for Unspecified Purposes

These are the funds borrowed in 1979 for general farming operations, and which were not used for or could not be readily allocated to a specific use or purpose. Some part of these funds may not have been used during 1979. Such loans for general operating expenses were most often borrowed from commercial banks or production credit associations and generally paid back when the agricultural products were sold.

## Farm Taxes

Farm operators were requested to complete the tax section of the report form if they were owners of farmland.

Both operators and landlords were requested to report taxes on farmland and ranch land, buildings and other improvements, as reported on their tax bills for 1979.

## Taxable Land in Farms

This is the total of all taxable farmland as reported in the 1979 Farm Finance Survey. Land in abnormal farms and land rented from public agencies (Federal, State, and Indian lands) were excluded.

## Real Estate

This consists of land and any structures or other improvements on it.

## Real Estate Taxes

These are taxes levied on real estate. Practically all privately owned real estate is legally subject to the general property tax in the United States. The estimates for the acres of privately owned land in farms in the United States were calculated from the acres in farms reported in the following manner: From the total acres of land in farms in 1979, the acres rented from government agencies, Indian reservations, and institutions were deducted to arrive at the acres of privately owned taxable lands. No adjustments were necessary for operated abnormal farms since they were not included in the survey sample. Similar adjustments were made to arrive at the value of the taxable land and buildings. The total amount of real estate tax was estimated by applying the tax rate per \$100 of market value of land and buildings for farms reporting in the survey to the market value of taxable owned land and buildings from the 1979 Farm Finance Survey. To get the tax rate per \$100 of market value of land and buildings for the survey farms, the tax rate was calculated for farms reporting taxes by tenure. These rates were then applied to all survey farms broken down by tenure. It is possible that taxes reported by small farms might have been affected by residential rates. No attempts were made to correct for this influence.

## Assessed Value

The "assessed value" as applied to this survey is "an official valuation of property . . . for taxation." Because of low and often erroneous responses to the question on assessed value of real estate, no data were published for this item.

## Total Farm Debt

Farm operators were instructed to report as debt the unpaid principal of the loans, sales contracts, and other bills owed by the farm operator and spouse as of December 31, 1979. In case an indebted farm operator (or spouse) owned farmland that was rented or leased to others, or owned a nonfarm business, the operator was asked to prorate the debt so the amount reported would relate only to the farmland operated. Debts owed for less than 30 days, such as charge accounts, were not to be reported.

The report form contained separate inquiries about debts owed to each of 12 different sources of credit (see section 3 of the operator's report form in the appendix). The inquiry about debts owed to merchants and dealers included an itemization by six purposes. Debts owed to previous owners from whom part or all of the farm was purchased were subdivided into mortgage and land-purchase-contract categories. The use of separate inquiries for different types of debts probably resulted in more complete reporting.

The instructions and procedures for reporting landlord debt were the same as those for reporting farm operator debt. Each

landlord listed by a farm operator was asked to report only debt relating to the acreage rented to the farm operator in the sample.

### Real Estate Farm Debt

Farm operators (and landlords) were instructed to report each source of debt as of December 31, 1979, the amount of debt that was secured by all or part of the real estate in his/her place. Secured debts were to include those secured entirely by mortgages (first, second, or third), deeds of trust, and land purchase contracts, and also, debts secured in part by the real estate in his/her place and in part by chattel mortgages or liens on livestock, poultry, equipment, or crops.

### Non-Real Estate Farm Debt

Farm operators (and landlords) were instructed to report for each source of debt as of December 31, 1979, the amount of debt arising from the operation of his/her place that was not secured by farm real estate; to include unsecured debts and debts secured entirely by chattel mortgages and crop liens; and also, unpaid bills and accounts which were owed for a period of more than 30 days as of December 31, 1979.

### Nonfarm Debt

These are debts related to nonfarm assets such as off-farm dwellings, cotton gins, motels, and stores; and machinery, vehicles, and equipment for nonfarm uses. Nonfarm debt was requested only from operators.

### Farm Assets

**Operator's**—These assets included the physical resources used in the operation of the farm, and the financial resources resulting from or relating to the farm business.

The physical farm assets were farmland and buildings, livestock, machinery, equipment, and crop inventories.

The financial farm assets were deposits, securities, cash value of life insurance, accounts receivable, and cash on hand.

For a family or individual operation, all farm assets owned by the operator and related members of the household engaged in the farm business were to be reported.

For a partnership or family corporation operation, all physical farm assets owned by the partnership or family corporation were to be reported, but the financial farm assets were to be reported only by the senior partner (or person in charge of the partnership), or by the person in charge of the family corporation.

For large corporations, including managed operations, all physical farm assets managed for the farm owner were to be reported. However, only the financial farm assets owned by the hired manager and related members of the household engaged in the farm business were to be reported.

The type of assets excluded from the operator's report were land and buildings rented to others; the landlord's share of any assets; poultry, livestock, and other assets owned by contractors, investors, etc.; and machinery, equipment, and other assets rented from others.

**Landlord's**—The landlords were requested to report only the physical farm assets pertaining to the land rented to specified renter—operators included in the survey sample.

### Operator's Worth

**Farm net worth**—This category includes the operator's total farm assets minus the total farm debts.

**Nonfarm assets**—This category includes the market value of nonfarm property, such as off-farm dwellings, cotton gins, stocks of cooperative organizations, motels, stores, and vehicles, machinery, and equipment for nonfarm uses.

**Nonfarm net worth**—This category includes the operator's nonfarm assets minus the nonfarm debts.

### Farm Data

**Residence of operator**—Farms were classified as to whether the operator lived on the farm operated or not on the farm operated. This classification was obtained from the matched reports of the 1978 Census of Agriculture. No adjustment was made for nonresponse.

**Value of land and buildings**—Farms were classified by value of land and buildings as established for each farm from the 1979 report. The respondent was asked to give his best estimate of the current market value of the land, including all permanent buildings and permanently attached equipment.

**Weeks worked at off-farm job by operator**—This classification was based on the data from the 1979 Farm Finance Survey. No adjustment was made for nonresponse.

**Sex of operator**—The sex classification was based on the matching reports of the 1978 Census of Agriculture. If sex was not reported in 1978, it was derived based on reports with similar acreage, size, tenure, and sales size.

**Operators of Spanish origin**—The Spanish origin classification was obtained from matching reports of the 1978 Census of Agriculture. No adjustment was made for nonresponse. In the 1978 Census of Agriculture extensive verification and recontacting were done to verify responses.

### Landlord

The owner or holder of land which he/she leases to others.

**Multiple or duplicate landlords**—Since the mail list for landlords was prepared from the names reported by operators, it was possible for the same landlord to appear on two or more different operator reports, or for the same landlord to appear two or more times on the same operator report. Whenever this occurred, one landlord would have submitted multiple reports. During data processing, a special effort was made to locate multiple cases, and to correct items which would have been duplicated on the reports.

**Landlords' land sales**—Because of the small amounts involved, no adjustments were made for possible duplications resulting from operating landlords reporting both as operators and as landlords.

**Landlord by renters**—The number of renters reported represents renter-operators included in the survey sample as well as those not included. A landlord may report several renters, at least one of which will be a specified renter-operator included in the survey sample, but the other renters might not have been selected as operators in the survey.

**Landlord by acres owned**—This represents the total amount of land owned by landlords included in the survey sample. This total may include possible duplications of owned acres whenever the sample included two or more tenant operators with the same landlord. An attempt was made to eliminate duplication during processing.

**Landlord by value of land and buildings owned**—This is the value of all owned agricultural land reported by landlords.

**Landlords by type of ownership organization**—The data on ownership organization was obtained from responses to items on the landlord report form. The type of ownership organization is the same as that used for operators. This is the first time that this type of classification was used for landlords.

Family or individual and partnership landlords were further classified as to residence, distances of residence from land rented, two racial groups (White or Black and other races), Spanish origin, age, sex, citizenship, occupation, and percent of income from agricultural rent and sales of products. These classifications were based on the landlords reporting these items.

Corporate landlords were further classified as to whether they had business other than that of a landlord, and whether the business was related to agricultural or nonagricultural activities. All of these data were tabulated only for the landlords reporting the items.

### "See Text" Reference

Items in the tables which carry the note "See Text" are explained or defined in this section. Also, additional explanations for some items are provided.

**Farms with sales of less than \$2,500**—These data include some farms with sales of less than \$1,000, if they qualified as farms based on the farm definition criteria used to measure potential sales in the 1978 Census of Agriculture.

**Ownership**—Acceptable entries for "Other" as ways acres owned were obtained by operators and landlords were: Law suit judgement, divorce, title dispute, foreclosure, through incorporation, homestead, suit for repossession, and through marriage.

**Occupation**—Acceptable entries for "Other" as type of occupations of landlords were: Housewife, student, prisoner, and widow.

## CLASSIFICATION OF FARMS

The tables present data classified by specified characteristics of the farm or the operator.

### Farms by Value of Agricultural Products Sold

Data are shown for farms with sales ranging from less than \$2,500 to farms with \$500,000 or more. The sales values are based on 1979 sales reported in the survey. The survey sample includes farms, which in the 1978 census had sales of \$1,000 or more, or had potential for such sales. Thus, the sales class of "less than \$2,500" includes those farms in the survey reporting sales of less than \$1,000, since these were classified as farms in accordance with census farm definition.

### Farms by Standard Industrial Classification

The standard industrial classification (SIC) used in the survey was based on the matching 1978 Census of Agriculture report form. These classifications, found in the 1972 SIC Manual, are used to promote uniformity and comparability in the presentation of statistical data collected by various agencies. The farms were classified into selected 3- and 4-digit industry groups.

### Farms by Tenure of Operator

This classification of farms was based on 1979 data reported in the farm finance survey for land owned, land rented from others or worked on shares for others, and land rented to others or worked on shares by others.

The classifications of tenure used in this report are:

*Full owners*, who operate only land they own.

*Part owners*, who operate land they own and also land they rent from others.

*Tenants*, who operate only land they rent from others or work on shares for others.

The subclasses of tenants are:

- a. Cash tenants pay only cash rent, either on a per acre basis or for the farm as a whole. Cash payments representing a share of the crops or livestock are not considered as cash rent.
- b. Share cash tenants pay part of the rent in cash and part in a share of the crops and/or of the livestock and livestock products.
- c. Share tenants pay a share of the crops and/or a share of the livestock or livestock products.
- d. Other tenants are those who do not qualify for inclusion in any of the foregoing subclassifications. They may have had the use of land rent free or in return for a fixed quantity of product, payment of taxes, maintenance of buildings, etc.

### Farms by Size

Farms were classified by size according to the total land area (acres in place) established for each farm. Acres owned plus



acres rented from others minus acres rented to others was designated as acres in the place.

### Farms by Type of Organization

The type of organization classification used was based on information taken from matched 1978 Census of Agriculture reports.

The classifications used are:

- Individual or family operation* (sole proprietorship), excluding partnership and corporation.
- Partnership operation*, including family partnership.
- Corporation*, including family corporation.
- Other*, such as cooperative, estate or trust, etc.

Corporations were subclassified:

- a. Family held
- b. Other than family held

### Farms by Age of Operator

The age classification was based on the matching report of the 1978 Census of Agriculture. If age was not reported in 1978, it was derived based on reports with similar acreage size, tenure, and sales size.

### Farms by Race of Operator

The race classification was obtained from matching reports of the 1978 Census of Agriculture. If race was not reported in 1978, it was derived based on reports with similar acreage, size, tenure, and sales size. Data for the following racial classifications are presented in the tables:

- White
- Black and other races

The classification "Black and other races" includes Blacks, American Indians, Asian or Pacific Islanders, and any other separate racial group, except White.

### Farms by Principal Occupation of Operator

Farms were classified as to whether the principal occupation of the operator was:

- Farming—The operator spent 50 percent or more of the worktime in farming or ranching.
- Other—The operator spent 50 percent or more of the worktime in occupations other than farming.

The classification was obtained from matching reports of the 1978 Census of Agriculture.

## SAMPLING AND ESTIMATING PROCEDURES

The estimates from this survey are based on a probability sample of farms identified in the 1978 Census of Agriculture.

### Sample Selection

All farms in the 1978 Census of Agriculture were divided into strata based on: (1) The State in which they were enumer-

ated, (2) whether they were enumerated from the mail list or from the direct enumeration area sample<sup>1</sup>, and (3) their value of agricultural sales. The level of sales used to define strata varied from State-to-State. All large farms and farms from the direct enumeration area sample with a large expansion factor were included in the sample with certainty. The size of the large or certainty farms varied from \$250,000 in West Virginia to \$5,000,000 in California.

Within each noncertainty strata, a systematic sample of farms was selected. Farms in a stratum were sorted by State, county, and approximately by ZIP code within a county. Counties were arranged geographically within each State. Samples were selected independently from each State and within each stratum of a State. A different integer sampling interval was used for each stratum.

### Whole Farm Nonresponse

Each farm selected into the sample was mailed a series of report forms and letters to encourage response. All nonrespondent farms among farms in certainty strata were telephoned. When responses could not be obtained from certainty farms, information was imputed by Bureau of the Census subject matter analysts using 1978 census information and information from similar farms which did respond. Nonresponding farms among farms in noncertainty strata were enumerated on a sample basis. A sample of 1-in-6 nonresponding farms was initially selected to be enumerated.

In the nonresponse sample, an adjustment was made to the expansion factor of enumerated and imputed farms. The expansion factor was adjusted by stratum within a State, and was calculated by dividing the total of the enumerated and nonrespondent farms by the number of farms enumerated. This adjustment assumes that nonrespondents have the same characteristics as respondents and that all nonrespondents still operate farms.

### Method of Estimation

Estimates were prepared by weighting the data for each farm by the initial sampling interval adjusted for nonresponse. Initial weights assigned to individual farms range from 1 to 1,312. A final expansion factor was calculated by multiplying the adjustment factor by the original expansion factor and converting the product to an integer. For final tabulation, the average weight for all farms was 69.8. The landlord units were assigned the same weights as the operators with which they were associated.

## RELIABILITY

The statistics in this report are estimates derived from a sample survey. There are two types of errors possible in an estimate based on a sample survey—sampling and nonsampling. Sampling errors occur because observations are made only on a sample, not on the entire population. Nonsampling errors can

<sup>1</sup> Selected geographic areas completely canvassed by direct enumeration. See text of volume 1, *1978 Census of Agriculture*, for more detailed explanation.

be attributed to many sources, e.g., inability to obtain information about all cases in the sample, definitional difficulties, difference in the interpretation of questions, inability or unwillingness to provide correct information on the part of respondent, mistakes in recording or coding the data and other errors of collections, responses, processing, coverage, and estimation for missing data. Also, nonsampling errors occur in complete censuses. The "accuracy" of a survey result is determined by the joint effects of sampling and nonsampling errors.

### Coverage

The target population for this survey is all census farms included in the 1978 Census of Agriculture or their successors. The population of farms from which the sample was selected was different from the target population. This difference introduces a coverage error. This coverage error is caused by several factors: (1) The list of farms from which the sample was selected was a preliminary list which did not include all farms included in the census, (2) abnormal farms were excluded from the sample, and (3) farms which went out of business after the census were dropped from the sample. *Successor*

If a farm operator selected in the 1979 sample continued to operate any part of the farm he/she operated in 1978, he/she was eligible for inclusion in the survey regardless of the size of the 1978 operation. However, if the operator did not operate any part of the farm in 1979 he/she operated in 1978, the operator was requested to identify who the operator was in 1979. To avoid duplication in the sample, the "new" operator was eligible for inclusion in the survey only if he did not farm at all in 1978. By use of this successor procedure, survey estimates accounted for consolidations and splitups of farms. This permitted some "new" operators to fall into the sample, and prevented an operator from having more than one chance of being selected in the sample.

Unless directly related to a sample farm, farms starting into business after the census were not included in the survey. A total of 1,033 successors were deleted from the survey because their operators' names appeared on the 1978 census list. A total of 882 operators were included in the survey as "new" operators. Table A measures in part the coverage error associated with the survey.

### Nonresponse Adjustment

Budget restrictions that prevented the enumeration of all farms in the nonresponse adjustment sample introduced a potential bias of unknown size to the survey. If the estimates are to be unbiased, the adjustment procedure used requires that on the average, nonrespondent farms be the same as respondent farms and that all nonrespondents operate farms. Since it is unlikely that this is true, a bias of unknown size and direction has probably been introduced.

### Item Nonresponse and Processing Error

Respondent problems with understanding questions or lack of available records resulted in incorrect or missing responses

to questions. During processing, respondent data were examined for consistency and reasonableness. Information considered unreasonable or missing when not directly confirmable by telephone was estimated. Information was estimated in several ways: (1) from responses to related questions, (2) from data relationships of similar farms in the sample, and (3) by statistical estimation procedures. Processing errors, item non-response, and respondent problems introduced a nonsampling error. There is no measure of the size of this error.

### Sampling Error

The particular sample used is one of a large number of possible samples of the same sample size that could have been selected using the same sample design. Estimates derived from the different samples would differ from each other.

The standard or sampling error of a survey estimate is a measure of the variation among the estimates from all possible samples, and thus is a measure of the precision with which an estimate from a particular sample approximates the average result of all possible samples. The relative standard error is defined as the standard error of the estimate divided by the value being estimated times 100. Table 95 provides relative sampling errors for selected items. Additional measures of relative sampling errors will be available upon request. Please direct request to the Chief, Agriculture Division, Bureau of the Census, Washington, D.C. 20233.

The standard error also partially measures the effect of certain nonsample errors but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples, between the estimate and the true values. Obviously, the accuracy of the survey results depends on both the sampling and nonsampling errors measured by the standard error and the bias and other types of nonsampling error not measured by the standard error.

The sample estimate and an estimate of the standard error permit the construction of an interval estimate with prescribed confidence that the interval includes the average result of all possible samples (for a given sampling rate).

To illustrate, if all possible samples were selected, each of these was surveyed under essentially the same conditions, and an estimate and its estimated standard error were calculated from each sample, then:

1. Approximately two-thirds of the intervals from one standard error below the estimate to one standard error above the estimate would include the average value of all possible samples. We call an interval from one standard error below the estimate to one standard error above the estimate a 67-percent confidence interval.
2. Approximately 9/10 of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the average value of all possible samples. We call an interval from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate a 90-percent confidence interval.
3. Approximately 19/20 of the intervals from two standard errors below the estimate to two standard errors above the

Table A. Counts of Farm Operators in the Survey and in the 1978 Census of Agriculture

	Original sample survey count			1978 census count <sup>1</sup>	Final processed count			
	Total	Certainty	Noncertainty		Operators		Landlords	
					Unexpanded	Expanded	Unexpanded	Expanded
United States.....	44,968	5,736	39,232	2,476,340	33,130	2,354,225	40,701	1,874,584
REGIONS								
Northeast.....	6,416	723	5,693	148,950	4,944	149,486	5,991	107,173
North Central.....	10,019	1,108	8,911	1,027,167	7,330	978,723	10,740	922,888
South.....	16,552	2,495	14,057	1,014,688	12,285	961,045	14,658	682,744
West.....	11,981	1,410	10,571	285,535	8,571	264,971	9,312	161,779
DIVISIONS								
New England.....	3,638	422	3,216	29,970	2,813	31,227	3,214	20,435
Middle Atlantic.....	2,778	301	2,477	118,980	2,131	118,259	2,777	86,738
East North Central.....	4,647	478	4,169	452,277	3,490	425,913	5,564	399,080
West North Central.....	5,372	630	4,742	574,890	3,840	552,810	5,176	523,808
South Atlantic.....	8,549	1,305	7,244	325,025	6,389	308,308	7,432	227,355
East South Central.....	4,470	361	4,109	318,566	3,264	305,584	3,630	167,732
West South Central.....	3,533	829	2,704	371,097	2,632	347,153	3,596	287,657
Mountain.....	6,697	817	5,880	127,003	4,590	120,593	4,419	88,965
Pacific.....	5,284	593	4,691	158,532	3,981	144,378	4,893	72,814
NEW ENGLAND								
Maine.....	707	94	613	8,149	560	7,782	549	4,434
New Hampshire.....	447	44	403	3,276	352	3,341	468	2,523
Vermont.....	858	104	754	7,258	674	7,126	744	5,345
Massachusetts.....	787	79	708	5,871	598	7,561	672	4,014
Rhode Island.....	229	29	200	863	171	809	185	592
Connecticut.....	610	72	538	4,553	458	4,608	596	3,527
MIDDLE ATLANTIC								
New York.....	905	90	815	49,232	687	48,117	976	38,940
New Jersey.....	911	92	819	9,871	679	11,234	989	6,885
Pennsylvania.....	962	119	843	59,877	765	58,908	812	40,913
EAST NORTH CENTRAL								
Ohio.....	1,036	134	902	95,879	793	90,384	1,202	77,716
Indiana.....	783	82	701	88,382	559	83,377	958	75,878
Illinois.....	1,278	120	1,158	109,892	956	103,534	1,766	132,055
Michigan.....	875	76	799	68,211	652	63,670	1,028	53,494
Wisconsin.....	675	66	609	89,913	530	84,948	610	59,937
WEST NORTH CENTRAL								
Minnesota.....	758	222	536	102,945	558	99,424	705	74,982
Iowa.....	836	26	810	126,380	615	121,419	740	114,171
Missouri.....	1,082	135	947	121,910	817	117,515	816	66,999
North Dakota.....	517	58	459	41,137	355	38,847	768	57,620
South Dakota.....	536	72	464	39,555	369	38,618	570	49,300
Nebraska.....	810	63	747	65,872	586	63,151	761	69,406
Kansas.....	833	54	779	77,091	540	73,836	816	91,330
SOUTH ATLANTIC								
Delaware.....	775	77	698	3,629	571	3,450	894	4,133
Maryland.....	892	79	813	18,714	646	17,379	839	13,593
Virginia.....	982	82	900	56,830	767	55,121	975	37,539
West Virginia.....	1,486	109	1,377	20,506	1,221	19,204	577	5,749
North Carolina.....	1,046	131	915	89,315	750	83,484	1,119	83,435
South Carolina.....	978	138	840	33,412	677	31,382	1,303	25,483
Georgia.....	1,094	144	950	58,602	730	56,227	876	42,890
Florida.....	1,296	545	751	44,017	1,027	42,061	849	14,533
EAST SOUTH CENTRAL								
Kentucky.....	1,353	70	1,283	109,946	1,005	104,796	831	50,815
Tennessee.....	1,075	78	997	96,996	801	94,224	894	44,118
Alabama.....	1,078	89	989	57,469	758	55,503	833	34,607
Mississippi.....	964	124	840	54,155	700	51,061	1,072	38,192
WEST SOUTH CENTRAL								
Arkansas.....	734	150	584	58,739	560	53,527	611	34,405
Louisiana.....	1,015	111	904	38,876	687	36,725	1,055	32,512
Oklahoma.....	569	102	467	79,341	431	75,504	577	61,759
Texas.....	1,215	466	749	194,141	954	181,397	1,353	158,981
MOUNTAIN								
Montana.....	746	88	658	24,356	499	22,992	616	21,681
Idaho.....	981	126	855	26,355	685	24,116	650	17,081
Wyoming.....	672	57	615	8,444	462	7,839	558	7,148
Colorado.....	850	66	784	29,554	592	28,318	564	22,297
New Mexico.....	805	99	706	14,184	552	14,132	531	8,423
Arizona.....	998	222	776	7,568	689	7,609	724	4,014
Utah.....	1,044	95	949	13,696	702	13,032	593	7,427
Nevada.....	601	64	537	2,846	409	2,555	183	894
PACIFIC								
Washington.....	1,066	188	878	37,688	806	34,978	916	18,036
Oregon.....	754	98	656	34,581	545	33,034	712	18,269
California.....	2,654	198	2,456	81,594	2,071	71,997	2,644	33,162
Alaska.....	180	38	142	373	115	354	96	243
Hawaii.....	630	71	559	4,296	444	4,015	525	3,104

<sup>1</sup>Excludes abnormal farms.

estimate would include the average value of all possible samples. We call an interval from two standard errors below the estimate to two standard errors above the estimate a 95-percent confidence interval.

4. Almost all intervals from three standard errors below the sample estimate to three standard errors above the sample estimate would include the average value of all possible samples.

The average value of all possible samples may or may not be contained in any particular computed interval. But for a particular sample, one can say with specified confidence that the average of all possible samples is included in the constructed interval.

For example, an approximate 95-percent confidence interval on the number of farms in Maine in 1979 can be constructed as follows:

1. The estimate of the number of farms is 7,782 from table 1.
2. The estimate of the relative standard error of the estimated total is 11.8 from table 95.
3. An estimate of the absolute standard error of the estimate can be calculated by multiplying the estimate times the relative error of the estimate divided by 100.

$$\text{Absolute standard error} = (7,782) \times (11.8/100) = 918.3.$$

4. A 95-percent confidence interval is constructed by adding and subtracting twice the absolute standard error from the estimate.

Confidence limit

$$\text{Upper} = 9,619 = 7,782 + 2 \times (918.3)$$

$$\text{Lower} = 5,945 = 7,782 - 2 \times (918.3)$$

The estimate and confidence interval can be interpreted in the following way. The best estimate of the total farms is given by 7,782. You can be 95-percent confident that the average of all possible samples lies in the interval of 5,945 to 9,618.

## Estimation of Sampling Error

Sampling error was estimated using a random group method of estimation within each stratum. When the sample was selected, each sample farm in a stratum was assigned to one of eight random groups. An estimate of the stratum total was made for each of the random groups within each stratum. The sampling error of the estimate was calculated using estimates from the random groups. The estimate of sampling error does not include adjustment for the nonresponse subsample.

## SUMMARY OF FINDINGS

### Changes in Farms From 1978 to 1979

In comparing the results of the 1979 survey to the 1978 census, a number of differences are apparent, some of which are due to actual changes taking place in agriculture; others to sampling error and bias which resulted from the sampling, enumeration, and processing procedures.

The greatest change was in the value of agricultural products sold, an increase of 14 percent. Farms with sales of \$200,000

or more had the highest increase, 27 percent. Farms with sales of \$20,000 to \$39,999 had the greatest decrease, 16 percent. All sales groups with less than \$40,000 had decreases.

The number of farms and land in farms decreased by 5 percent, but the value of land and buildings increased by 5 percent. A portion of this decrease resulted from the lack of ability to identify new farms starting in business in 1979. See **Sampling and Estimating Procedures**. Table B shows the survey results compared to totals from the 1978 Census of Agriculture.

## Assets

### Combined operator and landlord farm and nonfarm assets—

These assets amounted to \$908 billion. Farm assets of \$872 billion made up 96 percent of the total. Operators held 71 percent of the combined farm and nonfarm assets, and 69 percent of the combined farm assets. Landlords were requested to report only the value of physical farm assets. These amounted to \$266 billion. (See tables 14 and 21.)

**Combined operator and landlord physical farm assets—**These assets are real estate, machinery, crop stored, and livestock and poultry. (See table 12.)

Table B. **Comparison of 1979 Farm Finance Survey to 1978 Census of Agriculture for Selected Farm Characteristics**

	1979 Farm Finance Survey <sup>1</sup>	1978 Census of Agriculture <sup>1</sup>	Percent change
Farms.....1,000..	2,354	2,476	-4.9
Land in farms.....million acres..	928	974	-4.7
Farms by size:			
1 to 49 acres.....1,000..	655	690	-5.1
50 to 499 acres.....1,000..	1,348	1,410	-4.4
500 to 999 acres.....1,000..	198	215	-7.7
1,000 acres or more.....1,000..	154	161	-4.7
Value of agricultural products sold.....million dollars..	122,751	107,869	13.8
Farms by value of agricultural products sold:			
\$200,000 or more.....1,000..	103	81	27.0
\$100,000 to \$199,999.....1,000..	174	142	22.4
\$40,000 to \$99,999.....1,000..	374	363	2.8
\$20,000 to \$39,999.....1,000..	258	306	-15.7
\$10,000 to \$19,999.....1,000..	271	310	-12.5
\$5,000 to \$9,999.....1,000..	303	331	-8.6
\$2,500 to \$4,999.....1,000..	326	332	-1.7
Less than \$2,500.....1,000..	547	612	-10.6
Value of land and buildings.....million dollars..	<sup>2</sup> 674,436	<sup>3</sup> 641,698	5.1
Average per farm.....dollars..	<sup>2</sup> 286,479	<sup>3</sup> 259,133	10.6
Farms by type of organization:			
Individual or family.....1,000..	2,079	2,175	-4.4
Partnerships.....1,000..	217	241	-10.3
Corporations.....1,000..	52	51	1.6
Other.....1,000..	7	8	-17.4
Farms by tenure of operator:			
Full owners.....1,000..	1,424	1,450	-1.8
Part owners.....1,000..	647	713	-9.3
Tenants.....1,000..	283	313	-9.7
Principal occupation of operator:			
Farming.....1,000..	1,273	1,325	-3.9
Other.....1,000..	1,081	1,151	-6.1

<sup>1</sup>Excludes abnormal farms.

<sup>2</sup>Owned and rented land reported by operators.

<sup>3</sup>Based on a sample of farms.

**Real estate**—The value of farm real estate reported was \$676 billion, and was 78 percent of the total value of farm assets. The value of land was 86 percent of real estate value, and 67 percent of the total farm asset value. For the survey, respondents were asked to report the estimated current market value of land including buildings. In addition, they were asked to report the value of different categories of buildings. The value of land was obtained by subtracting the value of buildings from the combined value of land and buildings.

**Machinery**—The value of machinery reported was \$73 billion, and was 8 percent of the total farm asset value. Survey respondents were asked to report only the value of machinery and equipment that they owned. Therefore, items rented or borrowed would not be included.

**Crops stored**—The value of crops stored reported was \$15 billion, and was 2 percent of the total farm asset value.

**Livestock and poultry**—The value of livestock and poultry reported was \$48 billion, and was 6 percent of the total farm asset value.

Assets for livestock and poultry included only those owned by operators and landlords. Assets owned by integrators and investors not participating as operators or landlords were not included. Also, operator-owned livestock in a separate feedlot on a custom feeding basis were not included as assets by either the operator or the custom feedlot.

**Financial farm assets**—The survey collected financial assets only from operators. These amounted to \$60 billion. (See table 14.)

**Operator farm assets**—These assets of \$605 billion were 94 percent of the value of operator farm and nonfarm assets. The average value per farm was \$257,000. The value per farm ranged from \$2.6 million for farms with sales of \$500,000 or more to \$93,000 for farms with sales of less than \$2,500. Farms with sales of \$100,000 or more accounted for 40 percent of the value of operator farm assets. (See table 20.)

## Debts

**Combined operator and landlord farm debt**—The combined operator and landlord farm debt was \$111.6 billion. Commercial or savings banks were the largest lender with 24 percent of the debt and federal land banks were second with 20 percent. (See table 55.)

**Operator farm debt**—Operator farm debt was \$100.9 billion. Nearly 4 out of 5 farms with sales of \$40,000 or more reported debt. For all farms, 54 percent of operators reported debt averaging \$80,000 per farm and a debt to asset ratio of 24. Operators in the higher sales classes had larger debt per farm, a higher proportion of farms with debt, and higher debt to asset ratios. (See tables 2, 58, and 76.)

**Real estate debt**—About 858,000 operators had real estate debt of \$65.1 billion, equivalent to 65 percent of the total

operator farm debt. Federal land banks were the largest lenders with 30 percent and commercial banks were second with 17 percent. (See table 62.)

**Non-real estate debt**—About 903,000 operators had non-real estate debt of \$35.8 billion, equivalent to 35 percent of the total operator farm debt. Commercial and savings banks were the largest lender with 40 percent and production credit associations were second with 24 percent.

Merchants and dealers were the source of non-real estate debt for 416,000 operators. Non-real estate debt owed to merchants and dealers comprised 5 percent of total operator debt and 14 percent of non-real estate debt. (See table 63.)

**Operator nonfarm debt**—About 215,000 (9 percent) of farm operators reported nonfarm debt of \$8.9 billion, equivalent to 8 percent of the total operator farm and nonfarm debt. The nonfarm debt per farm reporting was \$41,000. For farms with sales of \$500,000 or more, the average was \$132,000, and for farms with sales of less than \$2,500, it was \$25,000. (See table 58.)

## Balance Sheet

Of the combined operator and landlord farm assets of \$872 billion, real estate with 78 percent accounted for the major portion. The total debt-to-asset ratio and real estate debt-to-asset ratio were 13 and 11, respectively. The net worth-to-assets ratio for the survey was 87. (See table C.)

## Net Worth

Of the combined operator and landlord farm and nonfarm net worth of \$787 billion, farm net worth with \$759 billion accounted for 96 percent. Operators had 66 percent of the combined farm net worth. The farm net worth of \$255 billion for landlords was based on the value of physical farm assets and farm debt reported by landlords. No data on financial farm assets, nonfarm assets, and nonfarm debt were obtained from landlords. (See tables 21, 64, 79, and 80.)

Table C. **Balance Sheet for Combined Operators and Landlords: December 31, 1979**

	Billions of dollars	Percent
<b>ASSETS</b>		
Total farm assets.....	872	100.0
Land and buildings.....	676	77.5
Livestock and poultry.....	48	5.5
Machinery and equipment.....	73	8.4
Crops stored.....	15	1.7
Financial assets <sup>1</sup> .....	60	6.9
<b>CLAIMS</b>		
Total farm debt.....	112	100.0
Real estate.....	75	67.1
Non-real estate.....	37	32.9
Net worth (equity) (percentage of assets)	760	87.2

<sup>1</sup>Operators only.

## Income

The total net cash income of operators and their families was \$60 billion. Net cash farm income of \$27 billion represented 45 percent, and off-farm income of \$33 billion represented 55 percent of the total. Farms with sales of \$40,000 or more accounted for 87 percent of the total net cash farm income and 19 percent of the total off-farm income. Off-farm income as a percent of total net cash income ranged from 21 percent for farms with sales of \$40,000 or more to 94 percent for farms with sales of less than \$20,000. (See table 31.)

Off-farm income was received by 92 percent of farm operators and members of their families. The average per farm was \$15,138.

Wages and salaries from nonfarm jobs were received by 53 percent of operator families averaging \$16,934 per family, and 6 percent received wages and salaries from farmwork averaging \$8,283 per family. Income from wages and salaries amounted to \$22.3 billion and was 68 percent of total off-farm income. (See table 33.)

## Expenditures

**Combined operator and landlord capital purchases and operating expenses**—Combined operator and landlord capital purchases and operating expenses were \$112.2 billion of which 72 percent was for operating expenses. Operators accounted for 96 percent of the total capital purchases and operating expenses, 95 percent of the capital purchases, and 96 percent of the operating expenses. (See tables 35, 40, and 48.)

**Capital purchases of operators**—Operators had capital purchases of \$30.2 billion. This was 28 percent of the total operator capital purchases and operating expenses and 95 percent of the combined operator and landlord capital purchases. Operators with sales of \$40,000 or more accounted for 74 percent of the value of capital purchases. (See table 41.)

**Operating expenses of operators**—Operators reported operating expenses of \$77.3 billion. This was 72 percent of the total operator capital purchases and operating expenses and 96 percent of the combined operator and landlord operating expenses. Operators with sales of \$40,000 or more accounted for 86 percent of the operating expenses. (See table 41.)

## Credit Flow

The data on credit flow measures the amount of credit used by farm operators and landlords to finance capital purchases and operating items.

The combined operator and landlord funds borrowed for agricultural operations was \$41.3 billion of which \$33.2 billion (98 percent) was for specified items and \$8.0 billion (2 percent) for unspecified or general purposes.

For operators and landlords combined, 52 percent of the specified capital purchases and 21 percent of operating expenses were financed. Funds borrowed for operating expenses accounted for 50 percent of the total funds borrowed for specified purposes.

Farm operators accounted for 98 percent of funds borrowed for specified purposes. They financed 52 percent of capital purchases and 21 percent of the operating expenses. Landlords financed 40 percent of capital purchases and 5 percent of operating expenses. (See tables 35, 41, and 48.)

## Farm and Ranch Land Sold

Operators and landlords combined sold 9.2 million acres for \$8.1 billion. Land sold for farm and ranch use was 86 percent of the total acreage sold and other uses was 14 percent. Operators sold 66 percent of the acreage. The combined acreage sold for an average of \$881 per acre. (See tables 1 and 10.)

## Land Acquisition

For operators reporting, 39 percent acquired 40 percent of their land prior to 1960. The second largest number (27 percent) acquired 17 percent of their land during 1970 through 1974. However, from 1970 to 1978, 32 percent of owned land in farms was acquired. During both 1970 to 1974 and 1975 to 1978, nearly 1 in 4 owner-operator acquired land. (See table 4.)

For operators reporting, 67 percent purchased 59 percent of their land from nonrelatives. The second largest number (31 percent) purchased 22 percent of their land from relatives. (See table 6.)

For landlords reporting, 82 percent purchased 75 percent of their land. The second largest number (24 percent) acquired 25 percent of their land by inheritance or gift. (See table 10.)

## Real Estate Taxes

The data on real estate taxes refer to taxes levied in 1979 on privately owned farm and ranch land reported in the survey.

The total real estate tax was estimated by applying the tax rate per \$100 of market value of land and buildings for farms reporting taxes to the market value of taxable owned land and buildings for all farms. To get the tax rate per \$100 of market value of land and buildings, the rate was determined for farms reporting taxes by tenure. Then, these rates were applied to all farms broken down by tenure.

Real estate taxes on taxable land and buildings in the United States for 1979 were estimated at \$4,367 million. This was the estimated tax bill for 903.6 million acres of privately owned land used for agricultural operations. This acreage, including buildings, had an estimated market value of \$670.9 billion. Real estate taxes were equivalent to a tax of \$4.83 per acre or \$0.65 for each \$100 of market value. (See table 85.)

## Off-Farm Work

To the question of off-farm work for operator and/or spouse, 2.2 million (94 percent) of the 2.4 million farm operators responded. Of these, 55 percent reported either operator and/or spouse worked off the farm.

For farms with sales of less than \$20,000, 67 percent reported either operator and/or spouse worked off the farm, compared to 34 percent for farms with sales of \$40,000 or more.

The most frequently reported off-farm employment was as an employee of private business, 51 percent for operators and 56 percent for spouses. The most prevalent off-farm occupation for operators was craftsmen and kindred workers, 21 percent. However, for farms with sales of \$40,000 or more, the most frequently reported occupation for operators was managers and administrators (except farm), 21 percent.

For spouses, the most frequently reported occupation was clerical and kindred workers, 26 percent, followed by service workers, 17 percent. (See table 90.)

### Household Characteristics of Operators

A total of 6.9 million persons were reported in farm operator households. Persons under 16 years of age accounted for 22.8 percent of the total. There was an average of 2.9 persons per household. About 51 percent of households had an average of 1.7 persons, and 16 percent an average of 5.8 persons.

Farms with sales of less than \$20,000 had an average of

2.8 persons per household, and accounted for 58 percent of persons in all households. Farms with sales of \$40,000 or more had an average of 3.3 persons per household, and accounted for 31 percent of persons in all households.

For all households, 66 percent of operators and 76 percent of spouses completed 12 years or more of school. For farms with sales of less than \$20,000, 61 percent of operators and 71 percent of spouses completed 12 years or more of school. The corresponding percentages for farms with sales of \$40,000 or more was 77 for operators and 86 for spouses.

Total net cash income per farm was \$25,000 for all farms, \$17,000 for farms with sales of less than \$20,000, and \$46,000 for farms with sales of \$40,000 or more. Net cash farm income per farm was \$12,000 for all farms, \$1,000 for farms with sales of less than \$20,000, and \$36,000 for farms with sales of \$40,000 or more. Off-farm income per farm was \$15,000 for all farms, \$17,000 for farms with sales of less than \$20,000, and \$12,000 for farms with sales of \$40,000 or more. (See table 91.)



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