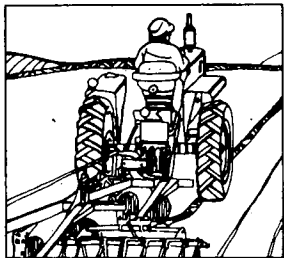
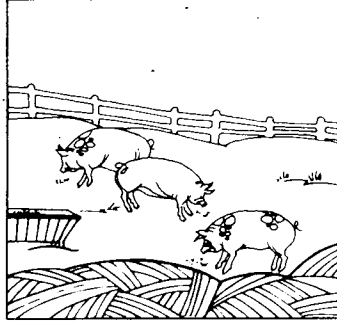


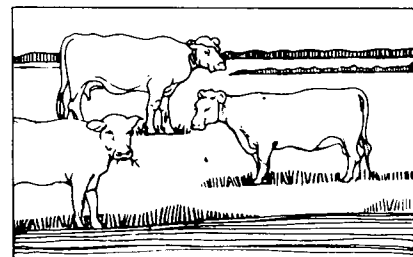
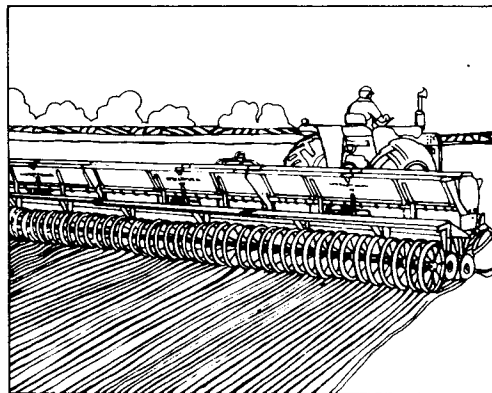
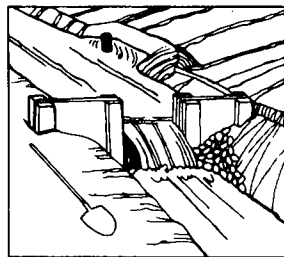
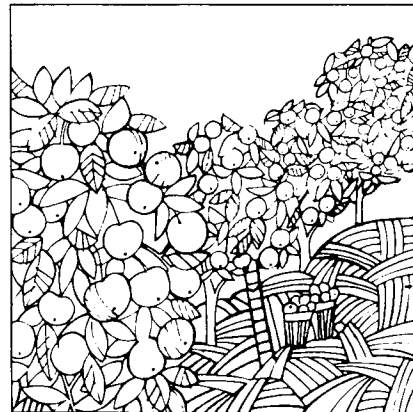
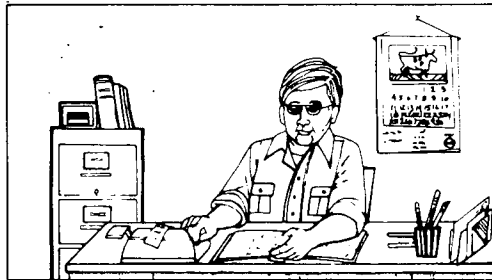
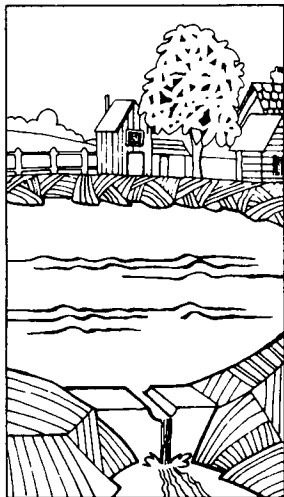
part 11

FARM FINANCE

VOLUME V
SPECIAL REPORTS



1969 CENSUS OF AGRICULTURE



Issued August 1974



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REPORTS OF THE 1969 CENSUS OF AGRICULTURE

Individual County Reports

Eight-page reports have been issued for each county and State.

Volume I. Area Reports

A separate report has been published for each State, American Samoa, Guam, Puerto Rico, Trust Territory, and the Virgin Islands. The report consists of two sections. Section 1 contains State summary data, county summary of selected data, and miscellaneous items by counties; Section 2 contains the detailed county reports.

Volume II. General Report

Statistics by subject are presented in separate chapters with totals for the United States, regions, geographic divisions, and States. The nine chapters are being issued as individual reports as follows:

- Chapter 1 General Information; Procedures for Collection, Processing, Classification*
- Chapter 2 Farms: Number, Use of Land, Size of Farm*
- Chapter 3 Farm Management, Farm Operators*
- Chapter 4 Equipment, Labor, Expenditures, Chemicals*
- Chapter 5 Livestock, Poultry, Livestock and Poultry Products*
- Chapter 6 Crops, Nursery and Greenhouse Products, Forest Products*
- Chapter 7 Value of Products, Economic Class, Contracts*
- Chapter 8 Type of Farm*
- Chapter 9 Irrigation and Drainage on Farms*

Volume III. Agricultural Services

This new report contains data relating to agricultural services for the United States by State and county.

Volume IV. Irrigation

Data will be included on drainage basins, land irrigated, crop production on irrigated land, water conveyed, users, and types of organizations.

Volume V. Special Reports

Reports may contain data obtained from supplemental surveys, such as type of farm, horticulture, and farm finance; in addition to information obtained in the census.

- Parts 1 to 9. Type-of-Farm Operations.*—One for each of nine major type-of-farm classifications.
- Part 10. Horticultural Specialties.*
- Part 11. Farm Finance.*
- Part 12. Ranking Agricultural Counties.*
- Part 13. Forms and Procedures.*
- Part 14. Procedural History.*
- Part 15. Graphic Summary.*
- Part 16. Evaluation of Coverage.*

Volume VI. Drainage of Agricultural Lands

This report will include agricultural drainage statistics collected from individual farms and from publicly organized drainage projects.

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Introduction

GENERAL INFORMATION

Background

Elements of agricultural finance have been enumerated in the census in varying degrees since the first agricultural census in 1840. At first, primary consideration was given to the value of farmland and buildings, and sales of farm products. Then, in the 1890 census, data on farm mortgage debt were included. In many of the subsequent censuses of agriculture, data on farm mortgage debts and taxes were obtained. Beginning in 1960, various supplements in the form of special surveys were conducted in connection with the general census on selected aspects of agricultural finance. Some of these were taken in cooperation with the U.S. Department of Agriculture.

The 1970 Survey of Agricultural Finance continues the series of supplemental surveys, but instead of dealing with one or two elements of agricultural finance, it combined the following aspects in one survey: Land in farms, value of land and buildings, rent information, capital and operating expenditures, credit used during 1970 for purchasing specified items, debts outstanding at the end of 1970 by kind and source, taxes, value of farm products sold, construction of new buildings and other structures, and off-farm income. All of these items were collected from farm operators, and most of them from landlords. The report forms used in the survey are included in the appendix.

In addition to repeating many of the debt questions which were asked in previous surveys, the 1970 report form contained a new section on credit flow. The amount of debt outstanding at the end of the year, the one type of debt information secured in surveys in 1960 and 1965, did not provide information as to the total amount of credit used by agriculture during a given time period. To obtain the required data on credit flow, farm operators and landlords were asked to provide information concerning the total amount of credit used during 1970.

The primary purpose of the 1970 Survey of Agricultural Finance was to collect data which would provide better National and State statistics on the assets, debts, expenditures, taxes, income, and the construction of new buildings and structures.

The farm debt data are of interest to policy planners, legislators, lenders, and borrowers. They are used in preparing the annual Balance Sheet of the Farming Sector, a U.S. Department of Agriculture report that summarizes the assets and liabilities of agriculture as an industry or business. They are also used by the

U.S. Department of Agriculture in appraising and revising its farm debt statistics. Both debt and tax data are components of the parity index used by that department in computing parity prices for agricultural commodities.

The farm real estate tax series is one of the oldest statistical series published by the U.S. Department of Agriculture. Congress directed that the payment of taxes on real estate should be currently reflected in the computation of parity prices. The problem of making reliable estimates is a continuing one and census data are used to provide benchmarks to improve the accuracy of annual estimates.

Information was included on total value of sales of farm products in 1970 in order to relate the debt position of operators to the magnitude of their operations. Data were also included on total farm cash production expenses. Although these two items were obtained a year earlier in the general census (including a number of detailed income and expense questions), the totals were repeated for 1970 in order to relate in time to the other information collected.

Questions on off-farm income by source were also included. Data on the total income of farm operators, both farm and nonfarm, are required in order to present a complete picture of the farmer's financial position. The data in this report on sales, expenses, and off-farm income should provide a picture of the income situation on various types and sizes of farms across the country. Because farming today is increasingly mixed with nonfarm activities, this information should aid in making future farm policy decisions.

The data on farm buildings and other structures are used as one of the basic sources of information on the characteristics of buildings and expenditures for farm buildings, and for use in preparing estimates of the total national consumption of lumber.

Source of Data

Essentially all data shown in this report are from the 1970 Survey of Agricultural Finance, which was conducted early in 1971 to cover the calendar year 1970.

The principal items included in the report forms were suggested in the meetings of the Census Advisory Committee on Agriculture Statistics in April and October 1968, and in written suggestions received from various governmental agencies and

private organizations during 1968 and 1969. These suggestions were augmented and refined by staff research and consultations with the suggesting agencies and organizations.

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

In May 1969, a draft version of the operator report was field tested in a limited number of interviews conducted by professional staff members who also obtained the respondent's reactions to the purpose and content of the survey. In August 1969, a mail-out pretest was conducted on a small national sample.

Based on evaluation of the interviews, the pretest, and further research, data collection forms were developed for the operator report form (69-A9.1) and for the landlord report form (69-A9.2). Instructions for completing the forms were included on the forms. The report forms are shown in appendix A.

The data for the survey were collected principally by mail. Form 69-A9.1 was sent to a sample of farm operators to be completed for applicable items for the land which they operated. Form 69-A9.2 was sent to landlords to be completed for items relating to land rented to the specified farm operators. Thus, a combination of the requisite items from both reports made possible the determination of estimates of total expenditures, total credit used, total debt outstanding, and total taxes applicable to all land in the farm.

Presentation of Data

Data are presented geographically for the United States (excluding Alaska), the 4 regions, the 9 divisions, and for 43 States. Data for the six New England States have been combined and are published only as totals for the New England Division. Data were not collected for Alaska. In general, data are published in greater detail for the United States than for the lesser geographic areas.

Data are presented separately for farm operators and for landlords. For items of data which were collected from both farm operators and landlords, data have been combined and presented as a total of both. Generally, two series of data appear in the report: "All farms" for all items and "Class 1-5 farms" for many of the items. Class 1-5 refers only to those farms with sales of farm products of \$2,500 and over in 1970. Table titles and descriptions at the top of the tables will identify the content of the tables. Small differences occur between tables in the totals for the same categories of items because of rounding figures to thousands.

Unpublished Data

An extensive amount of the tabulated data from this survey has not been published in this report because of space limitations. Essentially all data for the tables in this report were tabulated at

the State level. Thus, data at that level may be made available to individual users upon request, for a small fee. Inquiries should be directed to the Chief, Agriculture Division, Bureau of the Census, Social and Economic Statistics Administration, Washington, D.C. 20233.

Additional publication of selected data from this survey may be made by the U.S. Department of Agriculture and possibly other agencies involved in agricultural finance.

Historical Data

No comparative historical data from the 1960 and 1965 debt and tax surveys have been shown in this publication. Both surveys provided only total estimates for the United States and major regions. For a description and data from the 1965 survey, see "Volume III, Part 3, Sample Survey of Agriculture", and "Volume III, Part 4, Farm Debt", of the 1964 Census of Agriculture.

For information from the 1960 survey, see "Volume V, Part 5, 1960 Sample Survey of Agriculture", "Volume V, Part 4, Farm Mortgage Debt and Farm Taxes" of the 1959 Census of Agriculture; and "Farm Debt: Data from the 1960 Sample Survey of Agriculture," Board of Governors of the Federal Reserve System (Washington, 1964).

Sampling and Estimating Procedures

Description of the sample—The data collection for the Survey of Agricultural Finance is from a stratified sample. The sample was selected from the mailing list of the 1969 Census of Agriculture. All abnormal farms, all farms in the State of Alaska, and all other names on the list which, at the time of the sample selection had been identified as not qualifying as farms under the census definition, were omitted from the sample.

The sample size was originally designed to provide a mailing list of about 75,000 which would achieve a coefficient of variation of about 7 percent by State, except for the individual New England States. These States were consolidated with a sample size estimated to achieve a coefficient of variation of about 4 percent.

There were 12 effective strata (4 certainty and 8 noncertainty) for each State; stratification was based upon reported census value of sales or administrative-record size indicators. All multiunit farms in all States, single-unit operations with administrative size of \$500,000 and over, and single-unit operations with 1969 sales of \$400,000 and over in all States except Iowa, Nebraska, Texas, and California were classed as certainty and were all included in the sample. Single-unit farms in Iowa, Nebraska, Texas, and California were classed as certainty when 1969 sales were \$1 million and over.

The sample selection for each noncertainty stratum was systematic with a random start. Differential sampling rates were used for each State; however, average rates for the United States

and specified State groups by value of sales group or sampling strata were as follows:

	Average sampling rate
Multiunit farms	1 in 1
Census value of sales of \$400,000 and over (All States except Iowa, Nebraska, Texas, and California)	1 in 1
Census value of sales of \$1 million and over (Iowa, Nebraska, Texas, and California)	1 in 1
Census value of sales of \$400,000 to \$999,999 (Iowa, Nebraska, Texas, and California)	1 in 2
Census value of sales of \$100,000 to \$399,999	1 in 6
Census value of sales of \$10,000 and over (short form)	1 in 50
Administrative record indication of \$500,000 and over	1 in 1
Administrative record indication of \$100,000 to \$499,999	1 in 5
Administrative record indication of \$50,000 to \$99,999	1 in 12
Administrative record indication of \$10,000 to \$49,999	1 in 50
Administrative record indication of \$2,000 to \$9,999	1 in 110
Administrative record indication of under \$2,000	1 in 130

After three followup mailings the nonrespondent sample units were subsampled for intensive followup purposes. Clusters of nonrespondent sample units were formed using the ZIP code in the address to form the groups. Within each State a 1-in-3 subsample of clusters was selected for telephone and field followup.

If a farm operator drawn from the 1969 Census of Agriculture continued to operate in 1970 any part of the farm he operated in 1969, he was eligible for inclusion in the survey regardless of the size of his 1970 operations. In the event that the 1969 operator did not operate in 1970 any part of the farm he operated in 1969, he was requested by correspondent to indicate who the 1970 operator was and whether the new operator operated a farm in 1969. In order 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 1969. By use of this "successor" procedure, the survey reflected consolidations and splitups of farms, permitted some "new" operators to fall into the sample, and at the same time prevented any one operator from having more than one chance of being selected in the sample. The survey sample may underrepresent "new" operators due to the operational and response problems growing out of the above procedures; however, previous census studies indicate that the proportion of "new" farm operators starting during a 1-year period are usually less than 5 percent.

The mailing list for the landlord portion of the survey was generated from the responses to the operator sample. Each

operator who leased land from others was asked to report the name and address of his landlord(s). More details on the sample design can be obtained by writing to the Chief, Agriculture Division, Bureau of the Census, Social and Economic Statistics Administration, Washington, D.C. 20233.

Sampling errors—Statistics presented in this report are subject to sampling errors. Sampling errors occur because observations are made only on a sample, not on the entire population.

Detailed sampling error tables have been provided for estimated totals at the U.S. level. In general the smaller the number of farms in the sample and/or the smaller the proportion of farms reporting an item, the greater the sampling error. Tables 151, 153, and 156 show the coefficient of variation (percent) for selected items for each State. These may be used to provide a guide to approximate the possible error for other items for the individual State.

Approximate measures of sampling errors for selected statistics may be obtained from tables 144 through 156. The reliability tables provide estimated coefficient of variations for selected statistics in percent. Roughly speaking, they may be used and interpreted in the following manner. The chances are approximately 2 out of 3 that differences between a statistic based wholly or in part on a sample from the mailing list and the figure that would have been obtained if the information had been collected for all units on the mailing list would be no more than the product of the statistic and its coefficient of variation (percent). The chances are approximately 95 out of 100 that the difference would be 2 times the product of the statistic and its coefficient of variation (percent). For example, the estimated total number of acres owned in the North Central Region in table 144 is "b". The estimated coefficient of variation in table 144 for this statistic is 2.1 percent. Then the chances are approximately 95 out of 100 that the difference between "b" and the total number of owned acres is no more than $\frac{2ab}{100}$.

Sampling errors were calculated in a straight forward manner. Such calculations paid specific attention to the three components of variation comprising the sampling error: (1) Variations among units having a mailing address in a State and actually located in that State, (2) among units having a mailing address in one State but located in another State, and (3) among clusters of ZIP codes used to obtain a subsample representing nonrespondents. The sum of these three components comprised the sampling error for the sampling design used. (For more detail concerning estimation of sampling error, write to the Chief, Agriculture Division, Bureau of the Census, Social and Economic Statistics Administration, Washington, D.C. 20233.

Nonsampling errors are discussed under "Limitations of the Survey Data," page 7.

Methods of estimation—Estimates were prepared by weighting the data for each farm by the reciprocals of the probabilities of selection. Weights were assigned separately to the farms in each State on the basis of the sampling rate for the stratum. The units subsampled for followup were weighted by an additional

factor of 3. The landlord units were assigned the same weights as their operators.

Weights assigned to individual farms ranged from 1 to 300.

Farms not included in the estimates—Abnormal farms and all farms in Alaska were excluded from the survey, and therefore, are not included in the estimates. In 1969, there were 2,111 abnormal farms which accounted for 55.3 million acres of land and \$153 million in the value of agricultural products sold. For Alaska in 1969, there were 332 farms accounting for 1.6 million acres of land and \$3.6 million in the value of agricultural products sold. Most of the land in the abnormal farms and also in Alaska represented Federal and Indian reservation lands.

Collection Procedures

Operator survey—On February 11, 1971, operator report forms (69-A9.1) were mailed to 71,900 potential farm operator respondents selected from the 1969 Census of Agriculture mailing list.

During the collection phase, 8,300 of the names initially selected were identified as nonfarm during the continued processing of the 1969 Census of Agriculture; thus, the actual mailing list was reduced to about 63,600.

After the original operator mailout, there were four mail followups. The mail collection activities resulted in receipts of 45,200 responses, or a mail response rate of about 71 percent. Following the mail closeout, field and telephone interviews were made to complete the enumeration of the nonrespondent operators in the certainty large farm group.

For the field enumeration of other nonrespondent operators, a subsample of nonrespondents clustered by geographic areas was selected from the noncertainty group. This was done in order to reduce enumeration costs. The subsample had a 1-in-3 systematic sampling rate of units clustered by ZIP code and was made up of 5,540 units. Field or telephone enumeration followups were conducted for all certainty nonrespondent units.

The telephone interviews were conducted by staff members of the Jeffersonville and Washington Bureau of the Census offices. The personal interviews were conducted by enumerators from the various Census Data Collection Centers. Field enumerators were trained for the interviews by means of a self-study manual of instruction.

The telephone and personal interviews resulted in receipts of 6,750 report forms, of which 5,250 were by personal field interviews and 1,500 by telephone.

From the revised mailout total of 63,600 operator report forms, about 52,000 responses were received by the end of the collection closeout. The difference between the 63,600 operator forms originally mailed out and the final receipts resulted primarily from the subsampling of nonrespondents selected for personal interview followup. These subsampled units, in effect,

represent the approximately 11,000 units not selected for followup in the subsample of noncertainty nonrespondents.

Landlord survey—On September 9, 1971, the landlord report forms were mailed to 43,400 landlords of farm operators in the sample. During the processing, additional units were added to the mailing list, bringing the total landlord forms mailed out to 44,800. The landlord mailing list was compiled from the reports of operators who were requested to list the names and addresses of landlords from whom they rented land. For landlords who were government agencies, Indian reservations, institutions, railroad companies, or oil companies, no report forms were mailed. During the processing operations, report forms were prepared for these landlords based on data obtained from the reports of their renters. Only the acres and value of the rented land and cash rent were estimated for these landlords. For the most part, these rented lands were free of debt and expenditures; therefore, no estimate was made for these items. After the original landlord mailout, there were three mail followups, the last dated October 27, 1971. The mail collection procedures generated receipts of 28,800 landlord report forms, or a response rate of 64 percent.

The objectives of the Survey of Agricultural Finance required that, to the extent feasible, a report should be completed for every landlord of the operators included in the survey. At the cut-off of mail receipts, there were approximately 16,000 landlords from whom no reports had been received. Since it was not economically feasible to interview each of the nonrespondent landlords, about 3,800 were selected for personal field interviews and 2,700 for telephone interviews, and reports for the remaining nonenumerated nonrespondent landlords were imputed or estimated, based on data derived from the enumerated and mail responding landlord reports.

In conducting the landlord telephone and field enumeration, the telephone interviews were done by the Jeffersonville Census Office, and the field enumeration by the Census Data Collection Centers. The telephone and personal interviews generated receipts of 6,500. From the original mailout of 44,800 landlord report forms, 35,300 were received by the end of the collection closeout. Reports for the remaining 9,500 nonresponse cases were imputed based on the characteristics of the cases enumerated during the field followup. In addition, 4,200 cases which represented reports of land rented from Federal, State, and local agencies; schools; railroad companies; etc., were also imputed.

Processing

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

Records for large agricultural operations, including all places of 50,000 acres and over, or having sales of agricultural products of \$100,000 and over in 1970, as well as all multiunit operations, were reviewed by a professional employee (agricultural statistician or economist). Omissions, inconsistencies, and other

problems which could not be resolved by reference to other information on the report form or to the matching 1969 census report form, were resolved by contact, usually telephone, with the respondent.

Reports for smaller operations were subjected to a clerical editing review, during which significant problems were referred to the professional analysts for solution.

In editing the tax section of the report forms, adjustments were made for misplaced entries, but no imputations were made for missing data. Estimates of unreported real estate taxes were calculated during the preparation of the tables by applying the tax per \$100 of land values calculated from completed reports to the land values of the reports with missing tax entries. No estimates were made for unreported personal property taxes. The amount of personal property tax is shown for farms reporting this item.

Following the edit review, the data for 41,000 operator reports and 49,000 landlord reports were keyed to tape, and used in the preparation of the results of this survey. The difference between the 52,000 operator report forms collected and the 41,000

forms keyed and included in the survey was due to the elimination of about 11,000 report forms which failed for a variety of reasons to meet the census definition of a farm. The unexpanded and expanded counts by States, and the number of farms reported in the 1969 Census of Agriculture are shown in table A.

After the data were placed on computer tapes, computer consistency checks were made of the data for each report to determine if all required entries were made, that the relationship between the entries were reasonable, and that the sum of component parts were in agreement with totals. Lists were made of data items that exceeded prescribed amounts. When the consistency check indicated a possible error, the data were listed. These individual record listings were reviewed by professional analysts, corrections were made and verified. All tabulations were reviewed by an agricultural statistician, and corrections were made when errors were found.

At the table review stage, adjustments were made in several of the operator and landlord tables to correct minor discrepancies. These adjustments had no significant effect on the validity of the data.

Table A. Counts of Farms in the Survey and in the 1969 Census of Agriculture

	Original sample selection counts				Final processed counts			
	Total ¹	Certainty	Non- certainty	Number of 1969 census farm operators	Farm operators		Landlords	
					Un- expanded	Expanded	Un- expanded	Expanded
United States	71,863	8,145	63,718	2,727,813	41,058	2,409,416	48,812	1,854,894
The Northeast	8,776	415	8,361	151,636	4,682	137,563	4,350	86,965
The North Central	20,862	1,918	18,944	1,151,440	12,764	1,043,686	15,084	903,211
The South	25,103	2,583	22,520	1,160,834	13,490	983,118	14,743	669,372
The West	16,254	3,226	13,028	263,903	10,122	245,049	14,635	195,346
Geographic divisions:								
New England	4,270	148	4,122	28,546	2,231	26,959	2,107	16,758
Middle Atlantic	4,506	267	4,239	123,090	2,451	110,604	2,243	70,207
East North Central	8,922	676	8,246	513,095	5,215	460,721	5,622	364,309
West North Central	11,940	1,242	10,698	638,345	7,549	582,965	9,462	538,902
South Atlantic	11,200	1,039	10,161	370,316	6,075	306,532	6,501	204,319
East South Central	6,490	403	6,087	391,414	3,333	323,898	2,894	174,531
West South Central	7,413	1,141	6,272	399,104	4,082	352,688	5,348	290,522
Mountain	9,365	1,134	8,231	119,228	5,654	109,778	6,999	100,860
Pacific	6,889	2,092	4,797	144,675	4,468	135,271	7,636	94,486
New England	4,270	148	4,122	28,546	2,231	26,959	2,107	16,758
Middle Atlantic:								
New York	1,628	125	1,503	51,866	910	48,831	867	32,279
New Jersey	1,230	28	1,202	8,469	625	7,647	638	5,518
Pennsylvania	1,648	114	1,534	62,755	916	54,126	738	32,410

See footnote at end of table.

Table A. Counts of Farms in the Survey and in the 1969 Census of Agriculture—Continued

	Original sample selection counts			Number of 1969 census farm operators	Final processed counts			
	Total ¹	Certainty	Non- certainty		Farm operators		Landlords	
					Un- expanded	Expanded	Un- expanded	Expanded
East North Central:								
Ohio	1,757	107	1,650	111,268	956	97,778	919	72,119
Indiana	1,718	131	1,587	101,434	1,021	90,258	1,109	72,610
Illinois	2,025	248	1,777	123,543	1,239	115,552	1,839	137,684
Michigan	1,746	87	1,659	77,928	881	65,330	747	40,926
Wisconsin	1,676	103	1,573	98,922	1,118	91,803	1,008	40,970
West North Central:								
Minnesota	1,755	159	1,596	110,719	1,080	100,161	1,115	69,996
Iowa	2,129	278	1,851	140,292	1,394	133,387	1,359	111,416
Missouri	1,845	142	1,703	137,038	1,024	115,540	830	68,244
North Dakota	1,537	45	1,492	46,349	980	44,298	1,571	54,783
South Dakota	1,438	85	1,353	45,670	928	43,537	1,282	51,662
Nebraska	1,621	295	1,326	72,239	1,093	66,851	1,373	72,932
Kansas	1,615	238	1,377	86,038	1,050	79,191	1,932	109,869
South Atlantic:								
Delaware	832	22	810	3,708	430	3,121	712	3,526
Maryland	1,284	43	1,241	17,166	727	15,498	1,017	10,944
Virginia	1,511	80	1,431	64,518	896	57,600	1,156	41,298
West Virginia	1,421	14	1,407	23,122	802	16,992	416	5,838
North Carolina	1,604	105	1,499	119,340	752	92,554	874	74,012
South Carolina	1,508	72	1,436	39,535	617	30,480	823	23,834
Georgia	1,535	163	1,372	67,383	774	60,017	653	34,553
Florida	1,505	540	965	35,544	1,077	30,270	850	10,314
East South Central:								
Kentucky	1,595	71	1,524	125,039	893	103,511	494	52,924
Tennessee	1,629	76	1,553	121,366	868	101,123	708	48,970
Alabama	1,630	108	1,522	72,460	738	61,478	758	38,272
Mississippi	1,636	148	1,488	72,549	834	57,786	934	34,365
West South Central:								
Arkansas	1,504	198	1,306	60,402	847	54,322	965	40,639
Louisiana	1,437	93	1,344	42,235	713	36,002	1,118	34,381
Oklahoma	1,668	93	1,575	82,997	865	73,553	1,128	73,173
Texas	2,804	757	2,047	213,470	1,657	188,811	2,137	142,329
Mountain:								
Montana	1,284	126	1,158	24,858	825	23,793	1,312	29,392
Idaho	1,293	177	1,116	25,346	774	23,057	792	15,680
Wyoming	1,104	91	1,013	8,785	709	8,014	1,088	8,374
Colorado	1,403	235	1,168	27,891	887	25,813	1,224	26,857
New Mexico	1,201	150	1,051	11,580	729	11,376	804	7,993
Arizona	1,005	259	746	5,808	590	4,866	952	4,852
Utah	1,312	55	1,257	12,880	738	10,987	638	6,948
Nevada	763	41	722	2,080	402	1,872	189	764
Pacific:								
Washington	1,457	190	1,267	34,005	957	33,081	1,272	22,358
Oregon	1,357	143	1,214	29,008	857	27,875	965	16,223
California	3,135	1,712	1,423	77,777	2,142	70,548	4,562	52,493
Hawaii	940	47	893	3,885	512	3,767	837	3,412

¹ Includes 868 cases which were not identified by State.

Landlord report forms—The landlord reports were processed in the same way as the operator reports, but in accordance with separate landlord specifications. The processing procedures resulted in 49,000 landlord reports being placed on tape.

After the landlord reports were keyed, computer consistency checks were performed, and data requiring corrections were listed. In addition, a special computer check was made to correct discrepancies between operator and landlord reports for acres and value of rented land and for the amount of share and cash rent. Because of the nature of these inquiries, estimates and/or rounding of figures by operators and landlords resulted in frequent and often sizable discrepancies. Operator and landlord reports with discrepancies exceeding specified limits were listed for review. The remaining discrepancies for these items resulted in different totals being shown in some tables depending on whether the data were tabulated from operator reports or landlord reports. In most instances, these differences do not affect the usefulness of the data.

Limitations of the Survey Data

As in any sample survey, the published data are subject to both sampling and nonsampling errors. Measurements of the sampling error for selected data have been shown in this report. However, nonsampling errors such as underreporting and misclassifications by respondents and processing errors were not measured.

The subject matter content of this survey which centered on the sensitive areas of expenditures, debt, and income, along with some complex concepts and definitions have made complete and accurate reporting of this data difficult. Since it was a mail survey, the interpretation of the instructions and questions was left to each respondent, thus there was some lack of uniformity in responses.

During the processing of the survey, most data were accepted as reported unless there were obvious reporting errors or gross inconsistencies among the data. In general only land values, the more significant operating expenditures, and the value of agricultural products sold were imputed if the data were not reported by the respondent. Most of the data imputed were based on the items reported on the matching 1969 census report. In contrast, there were no imputations of data for capital purchases, debt, farm buildings, taxes, and income from other sources unless there were specific indications on the report form.

The report form design also was a factor in reporting. For one example, it was apparent during the processing that some respondents who did not work off the farm in 1970 had a tendency to skip the other income inquiries in that section of the report form.

These factors may partly explain some of the underreporting of debts and income from other sources along with other reporting problems. In most part, estimates from this survey should not be used as the absolute totals without making some comparisons with data from the 1969 Census of Agriculture and other bench-mark sources. However, this limitation does not apply to

financial characteristics and averages which are compiled from the data.

Abbreviations and Symbols

The following abbreviations and symbols are used throughout the published tables:

- Represents zero
- X Not applicable
- NA Not available
- Z Less than half of one unit reported
- D Data withheld to avoid disclosure of information for individual farms
- S Items with expanded totals of 1,000 farms or less are not shown because of the small number of farms in the sample

Definitions and Explanations

For exact wording of the questions and instructions in the two survey forms (A9.1 and A9.2), see the reproductions of these items in the appendix.

Census definition of a farm—For this survey, the definition of a farm is the same as that for the 1969 Census of Agriculture and is based primarily on a combination of "acres in the place" and the quantity of agricultural resources on the place or the quantity of agricultural products produced. Places of less than 10 acres were counted as farms if the sales of agricultural products in 1970 amounted to at least \$250. Places of 10 acres and over were counted as farms if the sales of agricultural products in 1970 amounted to at least \$50. The word "place" is defined to include 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 1970. It is made up of the sum of the land owned in 1970, 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. Abnormal farms have been excluded from this survey.

Farm operator—The term "farm operator" is used to designate a person who operated a farm, either doing the work himself or directly supervising the work. He may be the owner, a member of the owner's household, a salaried manager, or a tenant, renter, or sharecropper. If he rents land to others or had land worked on shares by others, he is considered as operator only of the land which he retains for his own operation. In the case of a partnership, only one partner is counted as an operator. For

census purposes, the number of farm operators is the same as the number of farms.

Landlord—The owner or holder of land which he leases to others.

Farm landlord—A farm landlord is a landlord who, in addition to renting out some of his land, also operated a farm in 1970.

Nonfarm landlord—A nonfarm landlord is a landlord who rented out land, but did not operate a farm in 1970.

Land in farms—The acreage designated in the tables as "land in farms" consists primarily of "agricultural" land—that is, land used for crops or 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 the processing steps if identified as such.

All grazing land except for 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 Government, Indian reservations, and from institutions was considered to be debt free, and also not subject to property taxes. Corporation owned land 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., as grouped on the report form.

Operator's cash operating expenditure—This represents the total operating expenditures, excluding depreciation and change in inventory values, made by the farm operator and members of his family for farming operations on the farm in 1970. It includes operating expenditures paid or provided by contractors. In order 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, but were to be reported by landlords on the landlords' reports.

Operator's share of value of farm products sold—For a share tenant, the operator's share is the total value of farm products sold minus the value of 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 value of 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.

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

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

Operator's net cash farm income—This was calculated for each farm by subtracting the farm operator's cash operating expenses and cash rent paid from the operator's share of the value of farm products sold. It does not include any deductions for depreciation of farm buildings and machinery nor for changes in the value of the inventory of crops and livestock.

Operator's total net cash income—This represents the total of net cash farm income and off-farm income.

Cash rent—Each farm operator renting from others was asked, "Do you pay your landlord any cash as rent?" and "If 'Yes,' how much for the year?". 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 landlord's share of the value of farm products sold plus cash rent paid.

Total capital purchases and operating expenditures—This is the total of expenditures for all capital items and all items of cash operating expenses.

Funds borrowed for unspecified purposes—This is the total of funds borrowed in 1970 for general farming operations, and which was 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 1970. 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.

Acres owned by landlords—This is the total of all land owned by landlords. It includes land rented out, as well as land owned but not rented out. This total may include possible duplications of owned acres whenever the sample included two or more tenant operators with the same landlord.

Farm taxes—Farm operators were requested to complete the tax section of the report form if they were owners of farm land.

Both operators and landlords were requested to report taxes on farm and ranch land, buildings and other improvements, and on personal property as reported on their tax bills for the year 1970.

Taxable land in farms—This is the total of all taxable farmland. This total was based on the farmland statistics of the 1969 Census of Agriculture. From the total land in farms for each State in 1969, the land in abnormal farms and the land rented from public agencies (Federal, State, and Indian lands) were subtracted, and the remainder was considered taxable land in farms.

This was done by tenure and by size of farm to permit the deduction of the tax free land from its respective tenure groups and from the larger size of farms.

Real estate or real property—This consists of land and any structures or other improvements on it.

Tangible personal property—This consists of tangible property such as farm machinery and equipment, livestock, and furniture. Intangible personal property is in most States legally exempt from general property taxes, and was therefore not included in this survey.

Real estate taxes—These are taxes levied on real estate or real property. Practically all privately owned real property is legally subject to the "general" property tax in the United States.

Tangible personal property taxes—These are taxes levied on tangible personal property. The following States were considered exempt from tangible personal property tax in 1970: New Hampshire, New York, New Jersey, Pennsylvania, Michigan, Minnesota, North Dakota, Delaware, Louisiana, and Hawaii.

Assessed value—The meaning of "assessed value" as applied to this survey is "an official valuation of property ... for taxation." Two levels of "assessed value" must be recognized — the gross value before deduction of exemptions and the net amount of assessed value actually subject to tax.

Special tax assessments—Some of the charges or burdens laid upon real property are in the nature of special assessments. These may be for the construction of drainage and irrigation facilities and for other purposes. During the editing of the tax section whenever special assessments were reported, they were deleted.

Total 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 his wife as of December 31, 1970. In case an indebted farm operator (or his wife) owned

farmland that was rented or leased to others, or owned a nonfarm business, he was asked to prorate his debt so the amount reported would relate only to the farmland he 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 10 different sources of credit. The inquiry about debts owed to merchants and dealers included an itemization by six purposes. In addition, debts owed to individuals 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 different sources of credit as listed on the report form are as follows:

1. Federal land banks
2. Farmers Home Administration
3. Insurance companies
4. Commercial and savings banks
5. Individuals from whom you bought part or all of this farm under—
 - a. A mortgage or deed of trust
 - b. A land purchase contract
6. Production credit associations
7. Other lending institutions
8. Merchants and dealers, for purchases of —
 - a. Tractors and farm machinery, including repairs
 - b. Autos and trucks, including repairs
 - c. Gasoline, oil, and other fuel
 - d. Feed, seed, and fertilizer
 - e. Livestock and poultry
 - f. Other purchases, including building supplies, fencing, hardware, customwork, and similar purchases
9. Other individuals (relatives, friends, estates, etc.)
10. Unpaid bills for veterinary services, utilities, past due taxes or insurance premiums, and debts for other purposes relating to this place.

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 debt—Farm operators (and landlords) were instructed, "For each source, report as of December 31, 1970, the amount of debt that was secured by all or part of the real estate in this place. Include debts secured entirely by real estate mortgages (first, second, or third), deeds of trust, and land purchase contracts. Also include debts secured in part by the real estate in this place and in part by chattel mortgages or liens on livestock, poultry, equipment, or crops."

Non-real estate debt—Farm operators (and landlords) were instructed, "For each source, report as of December 31, 1970, the amount of debt arising from the operation of this place that was not secured by real estate. Include unsecured debts and debts secured entirely by chattel mortgages and crop liens. Also

include unpaid bills and accounts which you owed for a period of more than 30 days, as of December 31, 1970."

Buildings and other structures—The inquiries for buildings and other structures ask that all construction on the farm or ranch during the 3-year period, 1968 to 1970, be reported. Separate data for construction by year are not available. Reports of buildings for nonfarm purposes such as stores, service stations, etc., were deleted during the processing. The report form listed 12 various types of building categories in addition to 4 types of silos and 3 types of paving.

Other income from other sources—The report form contained six inquiries regarding the amount of incomes received by the farm operator and members of his family from sources other than the sale of agricultural products from the farm operated. Special instructions were provided on the report form for hired managers working for corporations and for partnership operations. For brevity, the term off-farm income is used in the published tables to describe this category of income.

Classification of Farms

Farms by value-of-sales class—Data from the 1970 survey are shown for "All farms" and for "Farms with sales of \$2,500 and over (value-of-sales classes 1 to 5)."

The value-of-sales classes used in this report which are based on the value of 1970 agricultural sales are defined as follows:

Class 0	\$100,000 or more of agricultural product sales
Class 1	\$40,000 to \$99,999 of agricultural product sales
Class 2	\$20,000 to \$39,999 of agricultural product sales
Class 3	\$10,000 to \$19,999 of agricultural product sales
Class 4	\$5,000 to \$9,999 of agricultural product sales
Class 5	\$2,500 to \$4,999 of agricultural product sales
Class 6	\$50 to \$2,499 of agricultural product sales and a farm operator who is under 65 years of age and did not work off the farm 100 days or more in the census year.
Part time	\$50 to \$2,499 of agricultural product sales and a farm operator who is under 65 years of age and worked off the farm 100 days or more in the census year.
Part retirement	\$50 to \$2,499 of agricultural product sales and a farm operator who is 65 years old or over.

Farms by tenure of operator—The classification of farms by tenure of operator was based on data reported for 1970 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 of operator as used in this report are as follows:

1. Full owners, who operate only land they own;
2. Part owners, who operate land they own and also land they rent from others; and
3. Tenants, who operate only land they rent from others, or work on shares for others.

In 1969, the term "manager" was dropped as a tenure concept because it was no longer descriptive of a distinct type of farm management. Information regarding managers was not obtained separately as the concept has become increasingly difficult to define and identify, especially with the change to enumeration by mail. Farms of the kind that would have qualified as managed according to the 1964 definition were distributed among full owners, part owners, and tenants according to the reported ownership of the land in the place.

Farms by type of organization—The information published in this report on type of organization has been taken from the matching 1969 census reports for the farms included in the survey. This information was collected only for class 1-5 farms in the 1969 census. Farms with sales under \$2,500 and farms that did not have a matching 1969 report are shown separately.

The classifications by type of organization used in this report are as follows:

1. Individual or family farms, excluding partnership and corporation,
2. Partnership,
3. Corporation, including family owned—
 - a. With 10 or fewer shareholders,
 - b. With more than 10 shareholders,
4. Other, includes estates, trusts, cooperatives.

Farms by type—The type of farm information shown in this report is based on the classifications of the matching report from the 1969 census for farms included in this survey. This information was collected only for class 1-5 farms in the 1969 census. Farms with sales under \$2,500 and farms that did not have a matching 1969 report are shown separately. The type of farm represents a description of the major source of income from agricultural sales. To be classified as a particular type, a farm must have sales of a particular product or group of products amounting in value to 50 percent or more of the total value of all agricultural products sold during the year.

The types of farms, together with the products on which type classification is based, are as follows:

1. Cash-grain—Corn, sorghums, small grains, soybeans for beans, cowpeas for peas, dry field and seed beans and peas.
2. Tobacco—Tobacco.
3. Cotton—Cotton and cottonseed.
4. Other field crops—Peanuts, potatoes (Irish and sweet), sugarcane for sugar or sirup, sweet sorghums for sirup, broomcorn, popcorn, sugar beets, mint, hops, sugar beet seed, and pineapples.

5. Vegetables—Vegetables.
6. Fruit and nut—Berries, other small fruits, tree fruits, grapes, nuts, and coffee.
7. Poultry—Chickens, chicken eggs, turkeys, and other poultry products.
8. Dairy—Dairy products, milk, cream, etc. The criterion of 50 percent of total sales was modified in the case of dairy farms. A farm having value of sales of dairy products amounting to less than 50 percent of the total value of farm products sold was classified as a dairy farm, if—
 - a. Dairy products sold accounted for more than 30 percent of the total value of products sold, and
 - b. Milk cows represented 50 percent or more of total cows, and
 - c. The value of dairy products sold plus the value of cattle and calves sold amounted to 50 percent or more of the total value of all agricultural products sold.
9. Livestock other than dairy and poultry—Cattle, calves, hogs, sheep, goats, wool, and mohair except for farms in the 17 Western States, Louisiana, Florida, and Hawaii that qualified as livestock ranches.
10. Livestock ranches—Farms in the 17 Western States, Louisiana, Florida, and Hawaii were classified as livestock ranches if the sales of livestock, wool, and mohair represented 50 percent or more of the total value of farm products sold, and if pastureland or grazing land amounted to 100 acres and over and was 10 times or more the acreage of cropland harvested.
11. General—Field seed crops, hay, grass, and silage. A farm was also classified as general if it had cash income from three or more sources and did not meet the criteria for any other type.
12. Miscellaneous—Nursery and greenhouse products, forest products, mules, horses, colts, ponies, fur-bearing animals, bees, honey, goat milk, and farms with no value of farm products sold.

Farms by age of operator—Data for age of operator were obtained from the matching 1969 census report when available. Cases with no matching 1969 census report are shown separately in the age classification.

The classifications of age of operator used in this report are as follows:

1. Under 35 years
2. 35 to 44 years
3. 45 to 54 years
4. 55 to 64 years
5. 65-years and over

Farms by size—Farms were classified by size according to the total land area (acres in place) established for each farm from the 1970 report. Acres owned plus acres rented from others minus acres rented to others was designated as "acres in the place".

Farms by years on farm—Data for years on farm were obtained from the matching 1969 census report when available. Cases

with no matching 1969 reports are shown separately. Years on farm are based on the year the operator began to operate any part of the farm or ranch.

1970 farms not classified because of missing 1969 census matching reports—In a number of the statistical tables in this report, several farm classifications are shown which were based on codes obtained from the 1969 census data record for that farm. During the computer process in which the records from the survey were matched to the 1969 census records, it was discovered that a larger than expected number of the 1970 records had no corresponding 1969 records. It had been assumed that less than 10 percent of the survey records would not match; however, almost 18 percent failed to match when the process was completed.

Data for the following classifications used in this report were based on data from the 1969 census records:

Type of farm
Age of operator
Years on farm
Type of organization

As the 1970 report form did not provide information by which these classifications could be made, data for those 1970 cases for which there were no 1969 reports were tabulated in a "No 1969 report" category for each of the above classifications.

There are several explanations which in part accounted for the differences. First, the survey sample was selected prior to the removal of most address duplications from the master file. The presence of duplicates in the file under ordinary circumstances could affect the survey estimates in two ways. The first would be an overestimate of characteristics and number of farms. The second relates directly to the match of 1970 survey farms to the 1969 census file. It is possible that many of these farms were included in the 1969 census under a nonselected name, address, and census identification number which could not be matched to the selected census identification number used for the sample. Such cases would be tabulated in the "No 1969 report" category.

Second, the sample used for the survey was selected from a list of addresses which included farm operators, and persons who were not farm operators, who had not responded in the 1969 census. In the 1969 census, the data for the nonrespondents were estimated by the use of an imputation process which replicated respondent farms corresponding in size indicator to the nonrespondent units. Of the nonresponse cases in 1969, data for about 240,000 farms were replicated to represent nonresponse farms and included in census figures. These farms represented 8.7 percent of the total farms in 1969 but accounted for only 4.5 percent of the total value of agricultural products sold. In the 1970 survey, many of these replicated nonrespondent 1969 farms were enumerated; thus, for these cases there were no matching 1969 records or classifications available.

Table B shows averages for selected characteristics for all farms in the survey and for farms with "No 1969 report". Similar data are shown for class 1-5 farms.

Table B. Averages for Selected Farm Characteristics

	All farms		Class 1-5 farms	
	Total	Farms with "No 1969 reports"	Total	Farms with "No 1969 reports"
Number of farms .. 1,000 ..	2,409	428	1,688	300
Land in farms acres per farm..	432	516	572	691
Value of land and buildings per farm dollars ..	91,047	109,215	118,166	142,896
Value of agricultural products sold per farm dollars ..	19,604	20,930	27,510	29,450
Cash operating expenses per farm dollars ..	13,095	13,443	18,235	18,750
Off-farm income per farm dollars ..	7,622	8,433	(NA)	(NA)
Total debt per farm dollars ..	27,517	30,978	32,916	37,141

Although the farms with "No 1969 report" are slightly larger than average, they do not appear to be radically different in most characteristics. Based on these and other data, if full classifications are needed for comparison purposes, it would appear that the "No 1969 report" categories could be allocated in the same relationship as the reported groupings without significantly affecting the data.

SUMMARY OF FINDINGS

Changes From 1969 to 1970 in Number and Characteristics of Farm

In comparing the results of the 1970 survey with the 1969 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 from 1969 to 1970 was in the number of farms, a decline of 12 percent. Most of the decline was in the part-retirement and part-time farms. While the number of farms with sales under \$2,500 declined 28 percent, farms with sales of \$40,000 and over increased by 20 percent.

The value of land and buildings in farms increased by 8 percent. Land in farms and value of agricultural products sold had increases of 3 and 4 percent, respectively. Table C shows the changes from 1969 to 1970.

The large estimated change in the number of farms was caused by a number of factors:

1. Sampling error.
2. Actual decreases in number of farms between 1969 and 1970.

3. No adequate survey procedure to add new farms (farm operators beginning operations in 1970).
4. Differences in screening procedures which may have resulted in some farms reporting that they had no operations in 1970.

The 13-percent increase in class 6 farms was the result of differences in the classification procedure used for 1970. Age of operator which is a critical factor in the classification between class 6 farms and part-retirement farms was not available from 1969 census records for about 128,000 farms with sales of under \$2,500. Therefore, a portion of the 128,000 farms which would have had operators 65 years old and older and should have been classified as part retirement were instead classified as class 6. As the result for 1970, the number of class 6 farms is overstated and the number of part-retirement farms is understated. In general, the large drop in number of farms has a more significant effect on farms reporting than on the actual data for most items due to small average size of the farms lost.

Table C. Changes in Number and Farm Characteristics From 1969 to 1970

	1970	1969	Percent change
Farms	2,409	2,728	-11.7
Land in farms million acres ..	1,042	1,007	3.5
Value of land and buildings million dollars ..	219,370	203,894	7.6
Value of products sold million dollars ..	47,234	45,453	3.9
Number of farms by value of sales class:			
.....1,000..			
Class 0	62	52	19.0
Class 1	203	170	19.8
Class 2	337	331	1.8
Class 3	378	395	-4.5
Class 4	359	390	-8.1
Class 5	349	395	-11.7
Class 6	218	193	13.4
Part time	371	574	-35.4
Part retirement	132	227	-41.9

Income and Expenditures

Total net cash income of all farm operators—The total net cash income of farm operators and their families according to the survey was \$26.2 billion in 1970. Net cash farm income represented 43 percent and off-farm income 57 percent of the total. Farms with value of agricultural products sold of \$10,000 and over accounted for 61 percent of the total net cash income, 92 percent of the total net cash farm income, and 38 percent of the total off-farm income. Off-farm income as a percent of total net cash income ranged from 24 percent for the class 0 farms to 101 percent for part-time farms. Table D shows total net cash income, net cash farm income, and off-farm income by value-of-sales class of farm for all farm operators.

Table D. Income by Value-of-Sales Class of Farm

	Total net cash income		Net cash farm income		Off-farm income	
	Amount (mil dol)	Percent	Amount (mil dol)	Percent	Amount (mil dol)	Percent
All farms	26,216	100	11,152	42.5	15,064	57.5
Value of sales class:						
Class 0	3,826	100	2,924	76.4	903	23.6
Class 1	4,366	100	3,089	70.7	1,278	29.3
Class 2	4,339	100	2,723	62.8	1,616	37.3
Class 3	3,424	100	1,481	43.3	1,943	56.7
Class 4	2,867	100	685	23.9	2,182	76.1
Class 5	2,521	100	273	10.8	2,248	89.2
Class 6	651	100	10	1.5	641	98.5
Part time	3,757	100	-52	-1.4	3,809	101.4
Part retirement	464	100	20	4.3	444	95.7

Income from off-farm sources—Eighty-two percent of the farm operators and members of their families received off-farm income in 1970. The percent of the farm operators' families receiving income from off-farm sources and the average off-farm income per farm operator reporting by value-of-sales class of farm are shown in table E.

Table E. Off-Farm Income Per Farm Operator

	Percent of farm operators' families reporting income from off-farm sources (percent)	Average amount per farm reporting (dollars)
All farms	82.0	7,622
Class 0	71.5	20,396
Class 1	71.1	8,847
Class 2	72.9	6,578
Class 3	77.7	6,621
Class 4	83.7	7,267
Class 5	87.4	7,373
Class 6	74.7	3,929
Part time	99.4	10,322
Part retirement	84.1	3,999

More than one-half of all farm-operator families reported income from wages and salaries. These families averaged almost \$7,000 per family, and accounted for \$8.8 billion of the total \$15 billion in income from all off-farm sources for all farm-operator families.

The proportion of farm-operator families receiving off-farm income from each of the six combinations of sources and the average amount of off-farm income received per farm-operator family reporting off-farm income from that source are shown in table F.

Table F. Off-Farm Income Per Farm-Operator Family

	Percent of farm-operator families reporting income from off-farm source (percent)	Average amount per farm reporting (dollars)
Total, all off-farm sources	82.0	7,622
Cash wages and salaries	52.6	6,969
Non-farm business or profession ...	9.8	6,981
Government farm payments	44.1	2,289
Customwork and rental of agricultural property	19.4	1,832
Social Security, pensions, etc.	18.0	1,746
Other sources	10.0	2,166

Combined operator and landlord capital purchases and operating expenditures—The total combined operator and landlord capital purchases and operating expenditures were \$42.9 billion in 1970 of which 76 percent was for operating expenditures. Farm operators accounted for 96 percent of the total capital purchases and operating expenditures, 94 percent of the capital purchases, and 96 percent of the operating expenditures. (See table G.)

Table G. Capital Purchases and Operating Expenditures

	Total	Capital purchases	Operating expenditures
Combined operators and landlords			
mil. dol. .	42,904	10,189	32,715
percent. .	100.0	23.7	76.3
Operators			
mil. dol. .	41,130	9,578	31,552
percent. .	100.0	23.3	76.7
Landlords			
mil. dol. .	1,775	611	1,163
percent. .	100.0	34.4	65.5

Purchases of land and buildings—Operators and landlords purchased 13.4 million acres of agricultural land and buildings valued at \$2.3 billion in 1970. Three percent of the operators and 1 percent of the landlords purchased land and buildings. Operators accounted for 93 percent of the acres and 90 percent of the value of land and buildings purchased. Farm operators with sales of agricultural products of \$10,000 and over accounted for 82 percent of the acres and 82 percent of the value of land and buildings purchased by operators. Data relating to the percent of farms reporting land purchased, acres purchased, and the value of land and buildings purchased are shown in table H.

Table H. Land Purchased, Value of Land and Buildings Purchased

	Percent of respondents reporting purchase of land	Acres purchased (1,000)	Value of land and buildings purchased		
			Total (mil dol)	Per farm (dollars)	Per acre (dollars)
Total	(X)	13,408	2,287	(X)	171
Operators	3.0	12,536	2,059	28,627	164
Landlords	1.0	872	228	(X)	262
All farm operators	3.0	12,536	2,059	28,627	164
Value-of-sales class:					
Class 0	9.4	1,957	469	80,725	240
Class 1	5.4	2,453	455	41,734	186
Class 2	4.6	3,873	466	30,135	120
Class 3	3.0	1,956	296	26,523	151
Class 4	2.5	1,006	182	20,073	181
Class 5	2.4	756	87	10,303	116
Class 6	1.1	84	25	9,891	296
Part time ...	2.0	350	66	9,003	188
Part retire-ment9	101	13	10,572	127

Total capital purchases and operating expenditures for all farm operators—The total of capital purchases and operating expenditures for all farm operators was \$41.1 billion. The farms with sales of \$100,000 and over (class 0) with 3 percent of the farms reporting purchases and expenditures accounted for 35 percent of the total and an average per farm reporting of \$230,000. The total of capital purchases and operating expenditures in 1970 for all farm operators by value-of-sales class of farm is shown in table I.

Part-owner operators accounted for 50 percent of the total capital purchases and operating expenditures. Total capital purchases and operating expenditures by tenure is shown in the table J.

Farm operators' capital purchases—Farm operators had capital purchases of \$9.6 billion in 1970. This was 23 percent of the total operator capital purchases and operating expenditures and 94 percent of the combined operator and landlord capital purchases. Farm operators with sales of farm products of \$10,000 and over accounted for 81 percent of the value of capital purchases. Table K shows the capital purchases of farm operators, by value-of-sales class of farms.

Table I. Capital Purchases and Operating Expenditures for All Farm Operators by Value-of-Sales Class of Farm

	Farms reporting (1,000)	Amount		Average per farm reporting (dollars)
		Total (mil dol)	Percent of total	
All farms	2,409	41,130	100.0	17,070
Value-of-sales class of farm:				
Class 0	62	14,219	34.6	229,720
Class 1	203	9,709	23.6	47,777
Class 2	337	7,536	18.3	22,363
Class 3	378	4,652	11.3	12,315
Class 4	359	2,336	5.7	6,508
Class 5	349	1,339	3.3	3,838
Class 6	218	363	.9	1,662
Part time	371	794	1.9	2,138
Part retirement	132	182	.4	1,379

Table J. Capital Purchases and Operating Expenditures by Tenure of Operator

	Farms reporting (1,000)	Amount		Average per farm reporting (dollars)
		Total (mil dol)	Percent of total	
All farms	2,409	41,130	100.0	17,070
Tenure of operator:				
Full owners	1,369	15,570	37.9	11,375
Part owners	694	20,431	49.7	29,432
Tenants	346	5,128	12.5	14,801
Cash	100	2,028	4.9	20,185
Share-cash	66	1,184	2.9	18,030
Share	155	1,735	4.2	11,201
Other	25	182	.4	7,149

Table K. Capital Purchases of Farm Operators by Value-of-Sales Class of Farm

	Farms reporting (1,000)	Amount		Average per farm reporting (dollars)
		Total (mil dol)	Percent of total	
All farms	1,365	9,578	100.0	7,017
Value of sales class of farm:				
Class 0	51	1,931	20.2	37,949
Class 1	164	2,253	23.5	13,738
Class 2	255	2,166	22.6	8,486
Class 3	251	1,422	14.8	5,661
Class 4	191	759	7.9	3,964
Class 5	169	487	5.1	2,875
Class 6	69	142	1.5	2,052
Part time	180	365	3.8	2,024
Part retirement	34	54	.6	1,616

Farm-operator capital purchases by items—Land and building purchases valued at \$2.1 billion accounted for 22 percent of the total capital purchases of farm operators. Land and buildings, new tractors and farm machinery, breeding livestock and dairy cattle, and other land improvements accounted for 70 percent of the total capital purchases of farm operators. Capital purchases by items are shown in table L.

Table L. Capital Purchases by Items

	Amount (mil dol)	Percent by items
All farm operators:		
Total capital purchases	9,578	100.0
Land and buildings	2,059	21.5
Irrigation improvements	276	2.9
Other land improvements	1,230	12.8
Moveable irrigation equipment and machinery:		
New	113	1.2
Used	32	.3
Tractors and farm machinery:		
New	1,867	19.5
Used	757	7.9
Trucks and autos:		
New	938	9.8
Used	368	3.8
Breeding livestock and dairy cows and heifers	1,514	15.8
All other capital purchases	424	4.4

Operating expenditures of all farm operators—Farm operators reported operating expenditures of \$31.6 billion. This was 76 percent of the total operator capital purchases and operating expenditures, and 96 percent of the combined operator and landlord operating expenditures. Farm operators with sales of agricultural products of \$10,000 and over accounted for 90 percent of the value of operating expenditures. Table M shows the operating expenditures of farm operators, by value-of-sales class of farm.

Table M. Operating Expenditures by Value-of-Sales Class of Farm

	Farms reporting (1,000)	Amount		Average per farm reporting (dollars)
		Total (mil dol)	Percent	
All farms	2,409	31,552	100.0	13,095
Value-of-sales class:				
Class 0	62	12,288	39.0	198,528
Class 1	203	7,456	23.6	36,691
Class 2	337	5,370	17.0	15,936
Class 3	378	3,230	10.2	8,550
Class 4	359	1,577	5.0	4,394
Class 5	349	853	2.7	2,443
Class 6	218	221	.7	1,012
Part time	371	429	1.4	1,156
Part retirement	132	128	.4	966

Feed, seed, fertilizer, pesticides, and fuel accounted for 40 percent of the total operating expenditures for farm operators. For farms producing crops or livestock under a contract, the contractor paid or provided an estimated \$1.5 billion input in terms of materials and services used in the agricultural production of the products under contract. Table N shows operating expenditures for farm operators by kind.

Table N. Operating Expenditures by Kind

	Amount (mil dol)	Percent
Total operating expenditures	31,552	100.0
Upkeep of farm buildings, fences, drains, and irrigation systems	1,003	3.2
Purchases of livestock and poultry other than breeding stock	5,956	18.9
Feed, seed, fertilizer, pesticides, and fuel ...	12,494	39.6
Other agricultural operating expenses	10,625	33.7
Expenditures paid by contractor	1,473	4.7

Credit Flow

The data on credit flow shows the amount of credit used by farm operators and landlords to finance purchases of capital and operating items during 1970.

The combined operator and landlord funds borrowed for agricultural operations during 1970 was \$17.1 billion of which 78 percent was for specified items or uses, and 22 percent for unspecified or general purposes. Of the total funds borrowed, 66 percent was for less than 12 months and 34 percent for 12 months or more. (See table O.)

Table O. Funds Borrowed for General Purposes

	Percent of expendi- tures paid in borrowed cash	Total funds in borrowed (mil dol)	Percent of expendi- tures borrowed—		
			Total	For less than 12 months	For 12 months or more
Total	(X)	17,105	100.0	66.1	33.9
Specified purchases	69.1	13,267	30.9	19.9	11.0
Unspecified purchases	(X)	3,837	100.0	71.9	28.1

Operating expenditures accounted for 63 percent of the funds borrowed for specified items. A larger proportion (48 percent) of capital purchases than of operating expenditures (26 percent) was financed. Farm operators accounted for 98 percent of the funds borrowed. (See table P.)

Table P. Funds Borrowed for Capital Purchases and Operating Expenditures

	Percent of expenditures paid in cash	Total funds borrowed (mil dol)	Percent of expenditures borrowed—		
			Total	For less than 12 months	For 12 months or more
Capital purchases ..	52.0	4,894	48.0	12.3	35.7
Operating expenditures	74.4	8,373	25.6	22.3	3.3

Farm operators financed 49 percent of the value of capital purchases in 1970, with 36 percent of the purchases for a period of 12 months or more.

Land purchases with 68 percent had the highest percentage of its purchase value financed for a period of 12 months or more. The percentages of purchased values borrowed by farm operators for specified capital items are shown in table Q.

Table Q. Funds Borrowed for Specified Capital Items

	Total purchases (mil dol)	Percent		
		Paid by cash	Bought on credit of less than 12 months	Bought on credit of 12 months or more
Total capital purchases	9,578	51.2	12.7	36.1
Land and buildings	2,059	26.5	5.5	68.0
Irrigation improvements ..	276	69.0	11.4	19.6
Other land improvements ..	1,230	55.4	12.4	32.2
Moveable irrigation equipment and machinery:				
New	113	56.1	14.0	29.9
Used	32	69.7	14.6	15.8
Tractor and farm machinery:				
New	1,867	48.3	16.8	34.9
Used	757	55.7	15.9	28.5
Trucks and autos:				
New	938	63.8	11.7	24.5
Used	368	67.3	14.0	18.7
Breeding livestock and dairy cows and heifers ...	1,514	63.3	16.4	20.3
All other capital purchases	424	63.7	12.7	23.6

Farm operators financed 26 percent of the value of operating expenditures in 1970, with 23 percent of the value of expenditures being financed for a period of less than 12 months. Expenditures for purchases of livestock and poultry other than

breeding stock, with 50 percent, had the highest percentage of its expenditures financed, most of it for a period of less than 12 months. The percentages of expenditures borrowed for specified items are shown in table R.

Table R. Funds Borrowed for Operating Expenditures

	Total expenditures (mil dol)	Percent		
		Paid by cash	Bought on credit of less than 12 months	Bought on credit of 12 months or more
Total operating expenditures ..	31,552	73.8	22.8	3.4
Upkeep of farm buildings, fences, drains, and irrigation systems	1,003	85.0	12.5	2.5
Purchases of livestock and poultry other than breeding stock	5,956	49.7	43.3	7.1
Feed, seed, fertilizer, pesticides, and fuel	12,494	72.0	24.5	3.5
Other agricultural operating expenses	10,625	84.7	13.6	1.8
Expenditures paid by contractors	1,473	100.0	(X)	(X)

Farm Debt

Comparison of survey debt data to data from other sources—

Data on total debt for selected sources are published annually by the Economic Research Service of the U.S. Department of Agriculture. A comparison of the survey data and these other published data follows. In general, the problems of probable underreporting of debts and misclassifications as to source and type of debt by respondents and the definitional problems in other published statistics are similar in this survey to the earlier 1960 and 1965 surveys.

1. **Real estate debt to Federal land banks**—The estimates of Federal land bank loans from the survey was \$6,436 million or 10 percent less than the \$7,145 million reported by the Farm Credit Administration. The failure of some respondents to report debt and sampling error probably accounted for the differences.
2. **Real estate debt to life insurance companies**—Farm mortgage loans of life insurance companies were reported at \$5,610 million by the Institute of Life Insurance as of January 1, 1971. Life insurance loans as estimated by the survey totaled \$3,545 million or 37 percent less than reported by the Institute. Survey estimates were under the reported totals by 20 percent or more in 37 of the 48 contiguous States. In addition to the general problem of some respondents failing to report debt and sampling error, several other factors may have affected the reporting. One explanation may be that the size of loans of life insurance companies tends to be large in relation to loans

of other lenders and these loans are more frequently held by landlords. Thus, any problems in identifying landlord debts showed up to a greater extent for life insurance companies. Also, loan servicing arrangements are used at times by life insurance companies and these may have confused the borrowers as to the source of their loans.

3. **Real estate debt to the Farmers Home Administration**—The Farmers Home Administration reported \$2,440 million in direct and insured loans outstanding as of January 1, 1971 as compared to \$2,210 million reported in the survey. Most of the \$200 million difference could be attributed to sampling error; although, there have been some problems in past surveys in the reporting by respondents of FHA insured loans which have been sold to investors or other lending agencies.

4. **Real estate debt to commercial and savings banks**—The Federal Deposit Insurance Corporation reported that commercial banks (National and State), mutual and stock savings banks, and private banks had farm real estate loans outstanding of \$4,445 million as of January 1, 1971. Data from this survey showed banks with loans outstanding of \$4,200 million. However, banks held about \$672 million in insured Farmers Home Administration loans that were included in the F.D.I.C. figure. Thus, bank loans outstanding were actually about \$3,772 million or \$428 million below the survey estimate. Part of the difference may be caused by survey respondent difficulty in distinguishing between bank real estate and non-real estate loans. It is also likely that some respondent borrowers considered and reported loans serviced by banks as loans owed to banks.

5. **Non-real estate debt to commercial and savings banks**—The farm loans of commercial and savings banks not secured by farm real estate on January 1, 1971, were reported in this survey as \$6,426 million. Banks reported their farm loans to the supervisory agencies as \$11,102 million. The differences between the two reports are the results of several factors whose importance cannot be accurately measured, including some underreporting by survey respondents. Respondents were instructed to report only loans for the operation or ownership of the applicable farm and ranch lands; loans reported by banks included these loans as well as loans for farm family and living expenditures. Definitions of farm enterprises by banks probably differed, with loans to feed dealers, processors, and some other agricultural related enterprises not being uniformly included or excluded. Also, a situation evident in previous surveys probably reoccurred in 1970 when some respondents mistakenly reported non-real estate farm loans to be loans secured by farm real estate.

6. **Non-real estate debt to other sources**—Differences in reporting conditions applicable to commercial banks probably applied in similar ways to loans of production credit associations and the Farmers Home Administration. Overall, the loan amounts reported by survey respondents were approximately three-fifths of those reported by the three lender groups, or 64 percent, if all production credit

association loans are classified as non-real estate debt as is done in USDA statistics. In the census survey for 1965, the comparable figure was 60 percent, and in the 1960 survey, it was 56 percent.

In addition to the reporting lending institutions shown in the following table, farmers borrow from other sources which do not regularly report their loans, including merchants and dealers, individuals, and some lending institutions with small amounts of farm loans. These include both real estate secured and other loans. This survey indicated farm debt to such sources were much smaller than the amount indicated by the present U.S. Department of Agriculture estimates. A review and revision of the USDA estimates is now being made based largely on this survey data. (See table S.)

Table S. Lending Institutions Reporting Farm Loans

	1970 survey	Reported by institu- tions ¹	1970 survey as a percent of insti- tution's report
	Million dollars		
Total farm debt	27,683	36,159	76.6
Commercial and savings banks	10,626	14,874	71.4
Federal land banks	6,436	7,145	90.1
Insurance companies	² 3,774	5,610	67.3
Farmers Home Administration	2,648	3,235	81.9
Production credit associations	4,199	5,295	79.3
Farm real estate secured debt, total	16,890	18,967	89.0
Federal land banks	6,436	7,145	90.1
Commercial and savings banks	4,200	³ 3,772	111.3
Insurance companies	3,545	5,610	63.2
Farmers Home Administration	2,210	⁴ 2,440	90.6
Production credit associations	499	(X)	(X)
Farm non-real estate debt, total	10,564	17,192	61.4
Commercial and savings banks	6,426	11,102	57.9
Production credit associations	3,700	5,295	69.9
Farmers Home Administration	438	795	55.1

¹ U.S. Department of Agriculture, Agricultural Finance Statistics, AFS-1 Economic Research Service, May 1973.

² Includes \$229 million classified as non-real estate loans.

³ Excludes \$672 million of insured Farmers Home Administration loans purchased by banks.

⁴ Includes \$2,093 million insured Farmers Home Administration loans including the \$672 million of commercial and savings banks.

Combined Operator and Landlord Debts

The total combined operator and landlord debt amounted to \$39.8 billion in 1970. Commercial or savings banks with 27

percent of the debt was the largest lender. Total operator and landlord debt to lender specified is as follows:

	Amount (mil dol)	Percent
All farms by lender of debt	39,821	100.0
Federal land banks	6,436	16.2
Farmers Home Administration	2,648	6.6
Insurance companies	3,774	9.5
Commercial and savings banks	10,626	26.7
Individual from whom you bought part or all of this farm under—		
A mortgage or deed of trust	4,047	10.2
A land purchase contract	3,807	9.6
Production credit associations	4,199	10.5
Other lending institutions	1,511	3.8
Merchants and dealers, total	1,941	4.9
Any other individuals	730	1.8
Unpaid bills, etc.	103	.3

Percent of Farms With Operator Debt

Sixty percent of class 1 to 5 farm operators had debts which averaged \$33,000 per farm. Operators of farms in value-of-sales classes 0, 1, and 2 had larger debts per farm, and a higher proportion of these farm operators had debts than farm operators of farms in value-of-sales classes 3, 4, and 5. (See table T.)

Table T. Farms With Operator Debt by Class of Farm

	Percent of farms with operator debt	Average debt per farm (dollars)
Class 1 to 5 farms	60.4	32,916
Value-of-sales class:		
Class 0	81.3	168,271
Class 1	77.6	54,941
Class 2	72.1	30,630
Class 3	61.6	21,292
Class 4	51.0	13,791
Class 5	43.6	9,784

Class 1 to 5 farms operated by part owners represented a larger percentage of indebted operators than of debt free operators. Table U shows farm operators with sales of agricultural products of \$10,000 and over accounted for two-thirds of the farm operators with debt.

Farm Operator Real Estate Debt

About 832,000 farm operators had real estate debt in 1970. The total amount of real estate debt was \$22.0 billion and was

equivalent to 62 percent of the total debt of all farm operators. The data in table V indicates the relative importance of the various sources of farm real estate debt for farm operators.

Table U. Farms With Operator Debt by Tenure of Operator and Class of Farm

	All farm operators	Farm operators with operator debt	Farm operators with no operator debt
Number of class 1 to 5 farms	1,688	1,019	669
	Percent		
All class 1 to 5 farms	100.0	100.0	100.0
By tenure of operator:			
Full owners	47.0	41.4	55.6
Part owners	36.4	43.9	25.0
Tenants	16.6	14.8	19.4
Value-of-sales class:			
Class 0	3.7	4.9	1.7
Class 1	12.0	15.5	6.8
Class 2	20.0	23.9	14.0
Class 3	22.4	22.8	21.7
Class 4	21.3	18.0	26.3
Class 5	20.7	14.9	29.4

Table V. Sources of Farm Real Estate Debt

	Farms re- porting (1,000)	Amount (mil dol)	Percent of value
All farms real estate debt	832	22,022	100.0
By lenders of debt:			
Federal land banks	256	5,376	24.4
Farmers Home Administration	106	2,100	9.5
Insurance companies	89	2,811	12.8
Commercial and savings banks	204	3,612	16.4
Individuals from whom you bought part or all of this farm under—			
A mortgage or deed of trust	157	3,197	14.5
A land purchase contract	128	3,286	14.9
Production credit associations	20	479	2.2
Other lending institutions	51	859	3.9
Merchants and dealers, total	14	54	.2
Any other individuals	18	249	1.1

Farm Operator Non-Real Estate Debt

About 948 thousand farm operators had non-real estate debt in 1970. The amount of non-real estate debt was \$13.4 billion, and

was equivalent to 38 percent of the total debt of all farm operators. Commercial and savings banks were the largest lender of non-real estate debt. Almost 47 percent of non-real estate debt was owed to this lender. More farm operators had non-real estate debt from this lender than from any other lender.

Production credit associations were the second largest lender of non-real estate debt with 27 percent of non-real estate debt.

Merchants and dealers were the source of non-real estate debt for 419,000 farm operators. Non-real estate debt owed to merchants and dealers comprised 5.1 percent of all farm debt and 13.5 percent of all farm operator non-real estate debt. Table W shows the importance of the various sources.

Table W. Sources of Non-Real Estate Debt

	Farms re- porting (1,000)	Amount (mil dol)	Percent of value
All farms with non-real estate debt	948	13,415	100.0
By lenders of non-real estate debt:			
Farmers Home Administration	58	433	3.2
Insurance companies	64	212	1.6
Commercial and savings banks	502	6,256	46.6
Production credit association	170	3,659	27.3
Other lending institutions	72	520	3.9
Merchants and dealers	419	1,810	13.5
Any other individuals	65	429	3.2
Unpaid bills, etc.	75	96	.7

Farm Taxes

The data on real estate taxes refer to taxes levied in 1970 on privately owned farm and ranch lands. The estimates for the acreages of privately owned land in farms in the United States were calculated from the acreage in farms reported in the 1969 Census of Agriculture in the following manner: From the total acres of land in farms in 1969, the acreages in abnormal farms and in Federal, State, and other public lands were deducted to arrive at the acreages of privately owned taxable lands. Similar adjustments were made to arrive at the value of the privately owned 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 building for farms in the survey to the market value of privately owned land and buildings from the 1969 Census of Agriculture. To get the tax rate per \$100 of market value of land and buildings for the survey farms, the tax rate was determined for farms reporting taxes by tenure and by size groups. Then, these rates were applied to all the survey farms broken down by size by tenure. The rate per \$100 of market value of land and buildings obtained for the tenure groups for all the survey farms were applied to the value of private land and buildings of the same tenure groups of the 1969 Census of Agriculture.

The application of the survey rates to the census values was believed to give a more reliable estimate of the total taxes than the use of the survey estimate which was based on a sample of farms. Also, the necessary information was not available from the survey for calculating the acreages of privately owned land.

In arriving at the assessment values, the assessment rates were first calculated by size of farm and tenure for farms reporting assessment values in the survey. The assessment rates thus derived were then applied to the value of privately owned lands estimated from the 1969 Census of Agriculture.

Data on personal property taxes and the comparison of personal and real estate taxes are for full and part owners reporting taxes in the 1970 survey.

Total real estate taxes on farmlands—Real estate taxes on taxable farmland and buildings in the United States (Alaska excluded) for 1970 were estimated at \$2,169 million. This was the estimated tax bill for 955.9 million acres of privately owned land used for agricultural operations. This acreage, including buildings, had an estimated market value of \$199,777 million and an estimated assessed value of \$51,361 million. Real estate taxes were equivalent to a tax of \$2.27 per acre or \$1.09 for each \$100 of market value.

The average tax per acre was highest in the New England States, \$6.11, and lowest in the Mountain States, \$0.72, reflecting in part, differences in land values. Land and buildings in the New England States had an average value of \$319 per acre compared with \$80 in the Mountain States. For individual States, the highest tax per acre, \$15.56, was reported in New Jersey, and the lowest, \$0.25, in New Mexico. Three other States, all in New England, (Massachusetts, Rhode Island, and Connecticut), reported taxes in excess of \$10.00 per acre. Nine States, mostly in the South and West, reported taxes below \$1.00 per acre, with 3 of the 9 below the \$0.50 per acre level.

Taxes per \$100 of the estimated market value of farmland and buildings ranged from a high of \$1.91 in New England to a low of \$0.46 in the East South Central Division. The spread among the States in the tax per \$100 of estimated value was less than the spread in the tax per acre. While the range for the tax per acre was from \$15.56 to \$0.25, the range for the tax per \$100 of estimated value was from \$2.26 to \$0.25, reported in Massachusetts and Alabama, respectively.

Taxes per acre in practically all divisions were higher on land operated by tenants than on land operated by full owners and part owners. This was due, in part, to the fact that land operated by tenants, of which a high proportion was cropland, generally had a higher value than that operated by full owners or part owners. Taxes per \$100 of value also were generally higher on land operated by tenants than on land operated by full owners and part owners. The tax per \$100 of value in the United States averaged \$1.06 for land owned and operated by full owners, \$1.05 for land owned and operated by part owners, \$1.11 for land rented by part owners, and \$1.18 for land operated by tenants. With few exceptions, taxes paid per \$100 of market value on rented land were higher than corresponding rates on operator-owned land in all divisions.

Real estate and personal property taxes for full owner and part owner farms—Total property taxes and the distribution of this total between real estate and personal property taxes were compiled from the 1970 Survey of Agricultural Finance only for full-owner and part-owner farms reporting these taxes. These

data appear in table 140. Tangible personal agricultural property was not subjected to general property taxation in New Hampshire, New York, New Jersey, Pennsylvania, Michigan, Minnesota, North Dakota, Delaware, Louisiana, and Hawaii. Because of their practical nonexistence for farmers and ranchers, no data on intangible personal property taxes were requested in this survey.

For the 49 States included in the survey, 82 percent of the 1970 levy on farm property operated by full owners and part owners represented taxes on land and buildings.

For the 39 States having personal property taxes, the ratio of taxes on real estate to the total of real estate and personal property taxes varied from 63 percent in New Mexico to 95 percent in Tennessee.

Assessed value of farm real estate—The estimated assessed value of taxable farm real estate in the United States in 1970 was \$51,361 million. This was equivalent to 26 percent of the estimated market value of all taxable farmland and buildings used for estimating the total real estate taxes in 1970.

Wide variations in the ratio of estimated assessed value to estimated market value of farm real estate were evident among geographic divisions and States. New England, with an estimated average ratio of 37 percent, ranked highest while the Mountain Division, with 15 percent, ranked lowest. The highest and lowest ratios in the individual States, 78 percent and 9 percent, respectively, were found in Kentucky and Oklahoma.

Government owned and privately owned farmlands—A by-product of the 1970 Survey of Agricultural Finance was the estimated amount of acreage of land in census farms owned by the Federal Government (including land in Indian reservations), States, or by other government agencies. For this study, government-owned or controlled lands were assumed to be both tax and mortgage free. The estimated government-owned or controlled farmland area, and the area of other farmland designated privately owned, are shown in table 138.

The total land in farms for the 49 surveyed States, as recorded in the 1969 Census of Agriculture, was 1,061.7 million acres. Of the 1969 total land in farms, 105.8 million acres, or 10 percent, were estimated to be government owned. The estimated value of all farmland and buildings was \$206,730 million at the time of the 1969 enumeration. Privately owned farmlands, with an area of 955.9 million acres, were estimated to have a value of \$199,777 million for purposes of the 1970 tax estimates. These privately owned farmlands had an assessed value of \$51,361 million which was equivalent to 26 percent of the estimated market value.

Buildings and Other Structures

Buildings—The data shown for farm buildings are subject to certain limitations due to the design of the report form and tabulation procedures.

The instructions on the report form and for the processing procedures were that if more than one structure of the same kind was built, but of different size, material, or year built, the second should be reported in the "All Other Buildings" category. As a result, the published totals for the "All Other Buildings" category are overstated, and the totals for the specified items understated.

Based on the dimensions, the square and cubic feet in buildings and structures were calculated during the computer tabulation process. The procedure used for the calculations for round grain storage buildings resulted in an understatement of about 5 percent in the figures for square and cubic feet.

In reporting the data for construction materials, respondents often reported more than one type of material. In these cases, generally the first material reported was accepted as being the primary material used.

The expenditure figures for construction represent only the costs to the respondent. Costs vary greatly from one report to another depending on whether the respondent furnished his own labor or in some cases, used lumber or other materials taken from other buildings on the place. In some cases, the cost of stationary types of machinery or other equipment such as feed grinding or mixing equipment, etc. may be included.

During the period 1968 to 1970, expenditures for constructing farm buildings amounted to \$2.1 billion. The expenditure for constructing operator dwellings was 27 percent of the total, and was greater than for any other kind of building. Expenditure for building construction in the North Central region was highest, accounting for almost 44 percent of the total. Data on farms reporting buildings constructed, number of buildings, and expenditures are shown in table X.

Silos—For the period 1968 to 1970, expenditures for the construction of silos amounted to \$255 million. Upright silos of concrete stave or masonry accounted for 61 percent of the total expenditures for silos, and all upright silos accounted for 93 percent. Table Y shows number of farms constructing silos, total cubic feet, and expenditures, by kind of silos.

Pavings—Expenditures for paving constructions amounted to \$59 million for the period 1968 to 1970. The paving of barnyards and feeding floors accounted for 73 percent of the total. Concrete accounted for 96 percent of the material used for paving barnyards and feeding floors. Asphalt accounted for 48 percent of the material used for paving drive ways. Table Z shows farms reporting paving construction, total cubic feet, and expenditures by kind of paving.

Table X. Farm Buildings Constructed: 1968 to 1970

	Farms reporting buildings construc- ted (1,000)	Number of buildings (1,000)	Expenditures for materials and labor	
			Amount (mil dol)	Percent
United States, total	(X)	(X)	2,083	100.0
Operator dwelling	31	32	568	27.3
Storage for corn and other grain	(X)	123	256	12.3
Round	68	108	222	(X)
Other	13	15	34	(X)
Shops and storage for machinery	69	71	199	9.5
Poultry and turkey houses	13	18	160	7.7
Hog houses—Stationary	34	48	145	6.9
Barns or shelters for beef and other cattle except dairy cows and sheep	49	53	131	6.3
Other dairy barns—Free-Stall ..	10	10	117	5.6
Dairy milking parlors	10	11	76	3.7
Other dairy barns—Stall type ..	7	7	68	3.4
Storage for hay and bedding ...	24	25	50	2.5
Other dwellings or bunkhouses	6	7	40	1.9
Other dairy barns—Loose housing	8	10	26	1.3
Storage for fruits and vegetables	2	2	22	1.0
Hog houses—Moveable	10	34	9	(Z)
All other buildings	49	52	216	10.4

Table Y. Silos Constructed: 1968 to 1970

	Farms reporting construc- tion (1,000)	Total cubic feet (millions)	Expenditures for materials and labor	
			Amount (mil dol)	Percent
United States:				
Silos, total	(NA)	1,004	255	100.0
Trench or bunker silos ..	9	321	17	6.7
Upright silos	(NA)	683	238	93.3
Concrete stave of masonry	27	521	156	61.2
Steel	6	151	79	31.0
Wood	1	11	3	1.2

Table Z. Pavings Constructed: 1968 to 1970

	Farms reporting (1,000)	Total cubic feet (millions)	Expenditures for materials and labor	
			Amount (mil dol)	Percent
United States, total	(X)	76	59	100.0
Barnyard paving and feeding floors	38	53	43	72.9
Driveway paving	13	15	12	20.3
Other pavings	5	7	4	6.8