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# Commercial Hog Farms

## Financial and Structural Characteristics, 1987-91

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*Commercial hog farms in 1987-91 had an average inventory of 2,000 hogs and operated 400 acres, according to the USDA's Farm Costs and Returns Survey (FCRS). Average net farm income ranged from \$23,410 per farm in 1988 to \$48,162 in 1990. The average operation's equity position improved each year and 72 percent of all operations were profitable in 1991.*

**Keywords:** Hog farms, farm income, farm finance, structure, Farm Costs and Returns Survey

### Introduction

Hog production in the United States is characterized by large specialized operations. Operations specializing in hog production, that is, deriving more than half of their farm sales from hogs, made up approximately 68 percent of total U.S. hog production over 1987-91. Approximately 60 percent of U.S. hog production originated on commercial hog farms, specialized hog farms with annual sales greater than \$50,000.

### Hog Production Concentrated in North Central Region

Approximately 70 percent of total U.S. hog production originates in the North Central region (fig. 1), with 54 percent occurring on commercial hog farms. The remaining North Central hog production originates on commercial grain and diversified grain-livestock farms. The Southeast is the only other region with any significant hog production. Over 1987-91, the Southeast contributed 13 percent of U.S. hog production.

Corn and soybeans comprised a majority of remaining farm production on North Central hog farms, while soybeans contributed the most to remaining

production on Southeastern hog farms. Average gross cash incomes for Southeast and North Central hog farms were about the same. Because North Central farms produced more corn, they received more direct government payments. The Southeast received more "other farm-related" income (machine hire, custom work, contract fees, etc.).

### Hog Farms Average 400 Acres

According to USDA's 1991 Farm Costs and Returns Survey (FCRS), the average commercial hog operation was around 400 acres in both the Southeast and North Central regions. Landownership varied, with 50 percent of acres owned in the Southeast and 70 percent owned in the North Central region. Rented acres in the North Central region were about equally divided between cash and share rent. In the Southeast, 60 percent of rented acres were under a cash agreement.

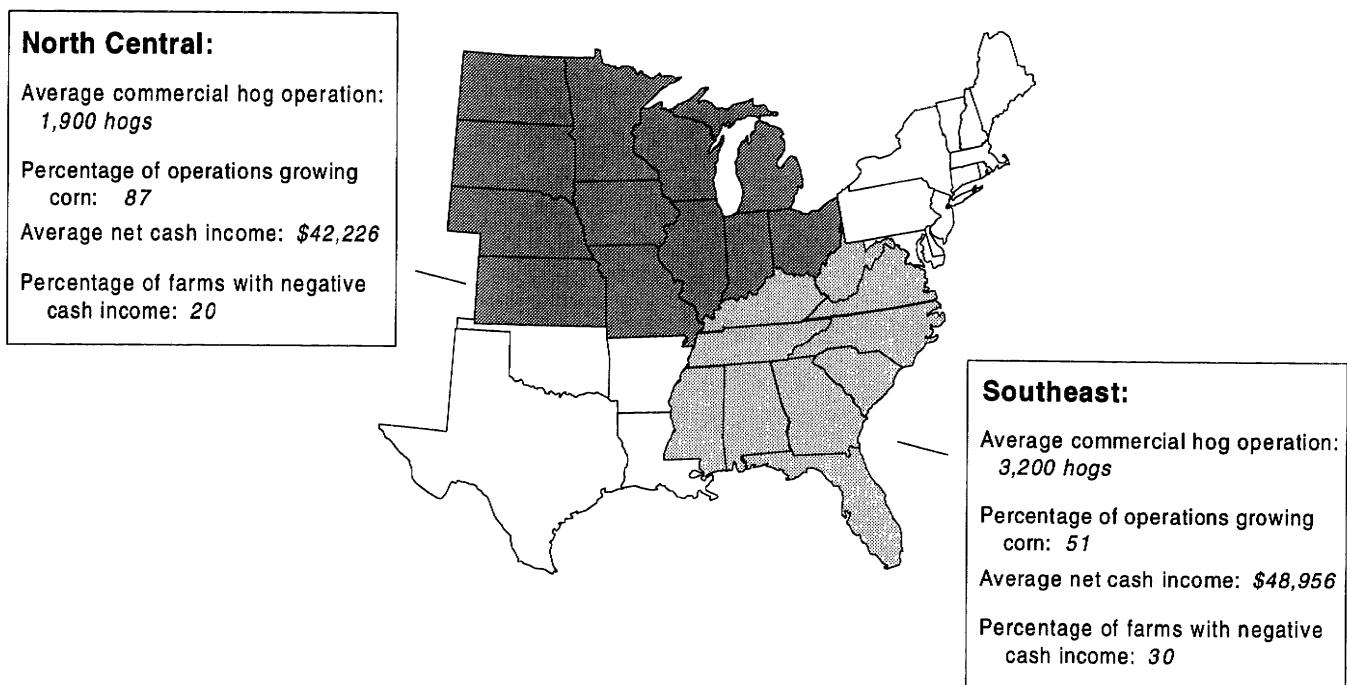
The average commercial hog operation produced around 2,000 hogs annually. Survey data did not report how many of these were sold as market hogs vs. feeder pigs. Southeastern producers averaged 3,200 hogs while North Central producers averaged 1,900. Livestock sales in the Southeast were slightly less than in the North Central, implying that many Southeastern hogs were sold as feeders. A common practice is to produce feeders in the Southeast and ship them to the North Central region, where feed costs are lower for finishing. This practice is becoming particularly popular among contractors.

Forty-eight percent of hog farms also had beef cattle. Those with beef cattle had an average of 75 head. Beef cattle were less common in the Southeast, although herd size for those with beef cattle did not vary much between the two regions.

Figure 1

## Major U.S. hog production regions, 1991

The North Central region accounts for 70 percent of U.S. hog production; the Southeast, 13 percent.



Crops, particularly feed grains, can provide home-grown feed for hog producers. In the Southeast, 51 percent of 1991 operations reported growing corn on an average 155 acres; 74 percent of corn production was fed. In the North Central, 87 percent reported corn on an average 174 acres, feeding 69 percent. Sixty-five percent of North Central commercial hog farms reported growing soybeans in 1991 compared with only 35 percent in the Southeast. An average 7 percent of soybeans was used for feed in each region.

## Income from Hogs

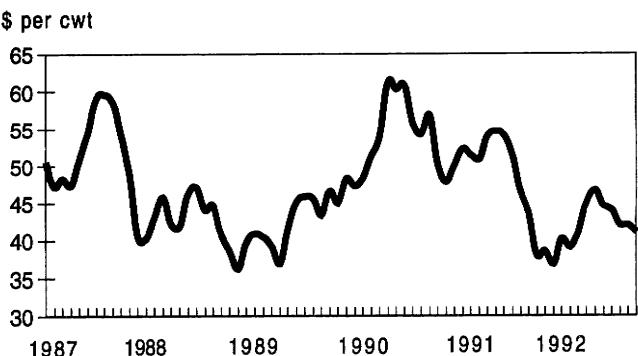
Average gross cash incomes have risen over 1987-91. Hog prices were near or above \$50 per hundredweight in 1990-91, resulting in 6-8 percent higher livestock sales than in the 3 previous years (fig. 2). Crop sales were also up, offsetting lower direct government program payments. Input expenses were down, largely due to lower feed expenses more than making up for slightly higher purchased livestock expenses. Thus, 1990-91 net cash incomes of commercial hog producers recovered to the \$40,000-\$50,000 range after 2 years of net cash incomes around \$30,000 (table 1).

Net farm incomes were highest in 1990 (\$48,162 per operation) but fell to \$28,258 in 1991 due to a drop in the value of inventories. Net inventory adjustments allocate all of a given year's output (both crops and livestock) to that year, rather than allowing it to be sold in other years, for consistency with national income accounting.

## Highlights from the Income Statement

- Gross cash income ranged from \$183,651 per commercial hog operation in 1987 to \$194,307 in 1990. This 6-percent variance implies relative stability over 1987-91. Higher average hog prices in 1990 and most of 1991 were reflected in much higher livestock receipts for those years. Crop receipts were also higher for those years, offsetting the general trend of lower government payments.
- Cash expenses rose 15 percent between 1987 and 1989, fell 6 percent in 1990, then rose by 4 percent, settling at \$149,981 in 1991 (table 1). Feed expenses are the largest component, averaging 38 percent of the total. Following the general prices-paid index for feed grains and hay, feed expenses were highest in 1988-89. Feeder livestock account for the next highest percentage of the total, averaging 11 percent. Prices for feeders follow hog prices, which generally rose over the 5 years.

Figure 2  
**Monthly hog prices**



Prices are averages for sows and barrows and gilts.

- Net cash income (gross cash income less cash expenses) ranged from \$29,714 per operation in 1989 to \$49,600 in 1990. The high feed prices of 1988 and 1989 combined with lower hog prices to give relatively low net returns for those 2 years. In 1990 and 1991, feed prices moderated and hog prices rose, leaving higher net incomes.
- Cash farm income varies widely among hog farms. Despite average cash farm income levels ranging from \$30,000 to \$50,000 per farm, a sizable share of hog farms lost money. In the North Central region, approximately 20 percent of the farms had negative cash income; in the Southeast, 30 percent of hog farms had negative cash income.
- Net farm income measures costs and returns for a given year's production, and includes additional non-cash components of income and expenses. Depreciation is the largest noncash expense and the value of inventory change is the largest noncash income component. Depreciation expenses were lower in 1989-91 than in 1987-88, but were still over \$15,000. The value of inventory change for 1989 and 1990 was over twice the value in 1987 and 1988, reflecting the high production levels for the 2 later years. For 1991, the inventory value was negative, reflecting drawdown of large beginning-year inventories.

### 1991 Income by Size of Operation

Gross sales of all commodities plus direct government payments were used to classify commercial hog operations by size (table 2). In 1991, 75 percent of commercial hog farms had annual sales less than \$250,000 (fig. 3). Only 8 percent were in the largest size class (\$500,000 or over).

- Livestock represented the primary source of income on larger farms. For operations with annual sales of \$500,000 or more, livestock sales accounted for 86 percent of total gross cash income. Livestock sales on operations with annual sales of \$50,000-\$99,999, by comparison, comprised 74 percent of total gross cash income.

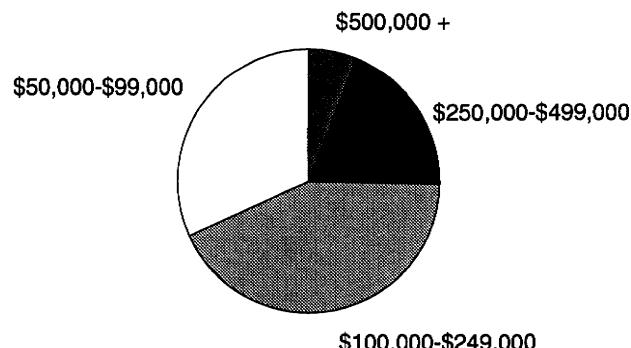
- Feed was the largest single expense for all size classes. Feed's share of total expenses did not vary much among size classes. Hired labor's share of expenses varied among size classes, reflecting its importance on larger farms. Hired labor accounted for 13 percent of total cash expenses on the largest farms but 1 percent of expenses on the smallest farms.

### Regional Incomes

Sales of both livestock and crops in the North Central region remained stable between 1990 and 1991. Average gross cash income was down 1 percent, primarily due to lower crop sales (table 3). Southeast livestock sales were down 24 percent and crop sales were up 83 percent, resulting in a 12-percent decline in gross cash income from 1990 to 1991. The Southeast suffered from drought in 1990, leaving little corn for sale in that year and less corn for feed in 1991.

Feed expenses contributed to variability of North Central producers' average net cash income. North Central net incomes were down 21 percent in 1991 to \$42,226. Net cash income to Southeast producers varied due to changes in feeder livestock and feed expenses. Southeast net incomes were up 46 percent in 1991 to \$48,956.

Figure 3  
**Commercial hog farms, by sales class**



## Balance Sheet Shows Steady Improvement

Balance sheets for commercial hog operations followed national trends for general agriculture, with the ratio of equity to assets increasing. Total assets increased 13 percent over 1987-91, with a slight dip in 1988. Among current assets, livestock inventories more than doubled between 1987 and 1990, then dropped 10 percent in 1991. Crop inventories were relatively steady, while the value of purchased input supplies declined.

Noncurrent assets followed the general agricultural economy. The values of land and buildings were rising as was the value of farm equipment (table 4). The value of the breeding stock tended to decrease as fewer animals were kept.

Debt levels also followed the sector trend. Average debt fell from \$139,073 in 1987 to \$113,793 in 1990, then rose slightly to \$117,907 in 1991. Net worth rose 24 percent over 5 years.

Financial ratios also indicated commercial hog operations' continued improvement. Debt-to-asset ratios, while higher than the U.S. average for all farms, fell each year between 1987 and 1990, then rose one-half point in 1991 (table 9). Debt-to-equity ratios also fell through 1990 then rose slightly.

### 1991 Balance Sheet Highlights

- The largest size class reported an average asset base of \$1,669,272 per operation with an average net worth of \$1,290,712 (table 5).
- Livestock inventories ranged from 13 percent of total assets for the largest operations to only 5 percent for the smallest operations. Commercial hog operations have less investment in land and buildings compared with the U.S. average for all farms (75 percent of assets). Land and buildings accounted for an average 60 percent of total assets for each of the 2 larger size farm classes and 67 percent of assets for the smaller size classes.
- The debt-to-asset and the debt-to-equity ratios were highest for the \$100,000-\$249,999 sales class (24.4 and 32.3 percent). They were lowest for the \$250,000-\$499,999 class (18.5 and 22.7 percent).

- North Central producers saw a 2-percent decline in equity from 1990 to 1991 (table 6). Southeast producers saw a 53-percent improvement. Average asset values increased 28 percent and average debt fell 34 percent in the Southeast.

### Financial Positions of Hog Operations

The 1991 FCRS showed 75 percent of commercial hog operations with low debt (debt-to-asset ratio less than 40 percent), 77 percent of which had positive net farm incomes. These latter "favorable" farms returned an average \$64,630 in net cash income and \$54,609 in net farm income (table 7).

At the other extreme, 11 percent of commercial hog operations were classified as "vulnerable" with high debt and negative net farm income. Livestock sales for these operations were only 66 percent the level of the favorable farms and cash expenses were 7 percent higher. They paid twice as much per operation for feeder livestock but bought less feed. Over \$18,000, on average, in negative inventory change pushed these operations into a negative net farm income situation.

### Analysis by Size of Operation, Equity Position, and Region

Ratio analysis (see box, "Financial Ratios") indicates that over 1987-91, hog farms in the largest sales classes tended to be more profitable and more efficient and to carry greater debt (table 8). Also, hog farms with greater levels of production and higher owned assets displayed higher profitability.

- Hog farms with lower equity displayed reduced efficiency and lower debt coverage capacity. Farms in the Southeast were more profitable than farms in the North Central region in 1991.
- The amount of assets owned did not appear to be related to efficiency. Operators who owned less than \$250,000 in assets were only slightly less efficient than those who owned more than \$1 million in assets.
- Hog farms with greater than \$500,000 in annual sales displayed a distinct advantage in profitability, with returns on assets exceeding those of all other sales classes by as much 12 percent.
- An average debt/asset ratio of 0.93 in 1987 for hog farms with less than 40-percent equity reflects the financial stress low-equity farms faced. By 1991, the number of low-equity farms had declined as had the average debt/asset ratio of these low-equity farms.

## Financial Ratios

Ratio analysis provides a basis for monitoring and comparing the relative financial strength of farm businesses by repayment capacity, solvency, efficiency, and profitability.

Repayment capacity was evaluated using the times-interest-earned ratio, which measures the farm business's ability to service debt out of net income. Times interest earned is computed as:

$$\text{Times interest earned} = \frac{\text{Net farm income before interest and taxes}}{\text{Interest payments}}$$

Solvency measures overall financial risk and was evaluated using the debt-to-asset ratio. Profitability measures overall financial performance and efficiency in managing the farm business assets, debt, and equity and was evaluated using returns on assets. Returns on assets were estimated using the following equation:

$$\text{Returns on assets} = \frac{\text{Net farm income} - \text{management charge} - \text{unpaid family labor} + \text{interest paid}}{\text{Total assets}}$$

The imputed management charge, 5 percent of the net value of production, was consistent with other USDA studies using FCRS data (Morehart, Johnson, and Bunker, 1992). The FCRS provided information on the hours of unpaid labor supplied by family members. Unpaid family labor costs were subsequently estimated using farm wage rates provided by National Agricultural Statistics Service (NASS) surveys. Assets and debt are measured using end-of-year FCRS estimates. Farm-level net farm income was estimated using a method consistent with recommendations of the Farm Financial Standards Task Force.

Efficiency measures the degree to which operators use resources at their disposal to produce income without wasted effort or resources. Efficiency was evaluated using the gross ratio that measures the proportion of gross cash farm income absorbed by cash operating expenses.

$$\text{Gross ratio} = \frac{\text{Cash operating expenses}}{\text{Gross cash farm income}}$$

- The gross ratio increased as debt/asset ratios increased, reflecting the additional interest expense.
- Farms with debt/asset ratios less than 0.10 have substantial capacity for additional debt as indicated by a 5-year average times interest earned of 17.56.
- Hog farms in the North Central region displayed higher debt/asset ratios than farms in the Southeast. Farms in the Southeast also displayed greater debt coverage capacity.
- Hog farms in the North Central region were generally more efficient but less profitable than those in the Southeast. The peculiar occurrence may be due to a higher average depreciation expense in the North Central region.

## Comparison with Other Farm Types

Despite levels of indebtedness higher than for other farm types, commercial hog farms were more profitable and more efficient than the average livestock farm over 1987-91.

- Commercial hog farms carried more relative debt than other farm types as indicated by a debt/asset ratio for the 5-year period greater than other commercial farm types except poultry (table 9).
- Profitability, as measured using return on assets, exceeded the average for all commercial farms in 1987 and 1990. In all years except 1989, return on assets received by hog farms exceeded the average of all livestock farms. Average returns over the 5-year period exceeded returns received on other livestock farm types except poultry. Also, returns were comparable with returns received by corn-soybean farms.

- Hog farms were more efficient, as measured using the gross ratio, than the average for all farms in 1987, 1990, and 1991. Over 1987-91, hog farms operated more efficiently than commercial beef or sheep farms. Hog farms were typically less efficient than commercial crop farms with the exception of fruit/nut and vegetable farms.

In all years except 1987 and 1990, hog farms had less capacity for debt than the average for all farms, as indicated by the times-interest-earned ratio.

Typically, their capacity for debt exceeded that of beef, sheep, small grain, and fruit/tree nut farms.

Dairy, poultry, rice, tobacco, cotton, vegetable, and greenhouse/nursery farms all had greater capacity for debt.

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**Table 1--Farm operation income statement for commercial hog farms, 1987-91**

Item	1987	1988	1989	1990	1991
Number of farms	32,257	39,542	24,735	34,276	33,900
<i>Dollars per operation</i>					
Gross cash income	183,651	186,987	183,863	194,307	193,444
Livestock sales	138,499	144,629	142,091	154,416	154,623
Crop sales (incl. net CCC loans)	24,056	19,999	23,193	27,591	27,823
Government payments	16,611	14,479	9,921	5,408	5,385
Other farm-related income 1/	4,485	7,880	8,657	6,891	5,614
Less: Cash expenses	134,478	153,803	154,149	144,707	149,981
Variable	109,606	129,168	129,555	121,249	125,387
Livestock purchases	12,904	15,832	14,547	18,074	17,361
Feed	49,051	61,347	62,323	53,616	53,957
Veterinary services and supplies	2,767	3,592	3,650	3,413	3,846
Other livestock-related expenses 2/	421	553	887	864	682
Seed and plants	3,769	3,871	4,068	4,177	4,089
Fertilizer and chemicals	11,623	11,341	12,315	12,434	12,531
Labor	7,001	8,713	8,502	5,724	9,033
Fuels and oils	5,095	5,190	5,431	5,900	5,440
Repairs and maintenance	9,029	8,962	8,412	8,673	9,327
Machine-hire and custom work	807	1,083	913	1,195	1,312
Utilities	3,674	4,347	4,031	3,555	4,008
Other variable expenses 3/	3,464	4,337	4,476	3,625	3,801
Fixed	24,872	24,634	24,593	23,458	24,595
Real estate and property taxes	2,671	2,646	2,455	2,244	2,642
Interest	12,413	12,285	10,600	11,018	11,889
Insurance premiums	3,186	2,779	3,123	2,804	3,238
Rent and lease payments	6,602	6,924	8,415	7,392	6,827
Equals: Net cash farm income	49,173	33,184	29,714	49,600	43,463
Less:					
Depreciation	16,235	17,437	15,379	15,107	15,258
Labor, noncash benefits	530	642	522	732	556
Plus:					
Value of inventory change	4,386	5,633	10,351	11,131	-2,535
Nonmoney income 4/	2,545	2,672	2,639	3,269	3,144
Equals: Net farm income	39,338	23,410	26,803	48,162	28,258

1/ Includes income from machine hire, custom work, livestock grazing, land rental, contract production fees, outdoor recreation, and any other farm-related source. 2/ Includes livestock leasing, custom feed processing, bedding, and grazing. 3/ Includes supplies, registration fees, transportation, storage, and general business expenses. 4/ Defined as the value of home consumption and imputed rental value of farm dwellings owned by the farm operation.

Source: Farm Costs and Returns Surveys, USDA

**Table 2--Farm operation income statement for commercial hog farms, 1991**

Item	Sales class					All classes
	\$500,000 or over	\$250,000 - \$499,999	\$100,000 - \$249,999	\$50,000 - \$99,999		
Number of farms	2,730	5,543	12,790	12,837	33,900	
<i>Dollars per operation</i>						
Gross cash income	797,247	297,970	150,439	62,769	193,444	
Livestock sales	685,453	229,657	117,103	46,731	154,623	
Crop sales (incl. net CCC loans)	76,562	52,790	23,822	10,666	27,823	
Government payments	11,888	10,405	5,403	1,817	5,385	
Other farm-related income 1/	23,344	5,118	4,111	3,555	5,614	
Less: Cash expenses	583,992	219,722	124,518	52,952	149,981	
Variable	506,613	185,467	101,265	42,416	125,387	
Livestock purchases	49,946	33,924	13,838	6,790	17,361	
Feed	235,842	70,949	43,523	18,340	53,957	
Veterinary services and supplies	16,003	5,322	3,570	898	3,846	
Other livestock-related expenses 2/	3,417	352	640	286	682	
Seed and plants	8,994	7,779	3,890	1,651	4,089	
Fertilizer and chemicals	40,923	23,019	10,612	3,877	12,531	
Labor	74,188	9,677	3,301	611	9,033	
Fuels and oils	14,743	8,239	5,071	2,621	5,440	
Repairs and maintenance	31,271	13,880	8,919	3,101	9,327	
Machine-hire and custom work	2,086	2,005	1,480	680	1,312	
Utilities	17,863	5,181	2,656	1,904	4,008	
Other variable expenses 3/	11,337	5,142	3,764	1,656	3,801	
Fixed	77,379	34,255	23,253	10,536	24,595	
Real estate and property taxes	7,013	4,565	2,093	1,428	2,642	
Interest	39,015	16,304	10,815	5,284	11,889	
Insurance premiums	11,097	4,256	2,629	1,734	3,238	
Rent and lease payments	20,254	9,129	7,716	2,091	6,827	
Equals: Net cash farm income	213,255	78,248	25,921	9,817	43,463	
Less:						
Depreciation	49,423	25,703	12,505	6,226	15,258	
Labor, noncash benefits	4,816	564	132	68	556	
Plus:						
Value of inventory change	7,328	-11,317	-6,788	3,396	-2,535	
Nonmoney income 4/	5,104	4,303	2,618	2,750	3,144	
Equals: Net farm income	171,447	44,966	9,113	9,670	28,258	

1/ Includes income from machine hire, custom work, livestock grazing, land rental, contract production fees, outdoor recreation, and any other farm-related source. 2/ Includes livestock leasing, custom feed processing, bedding, and grazing. 3/ Includes supplies, registration fees, transportation, storage, and general business expenses. 4/ Defined as the value of home consumption and imputed rental value of farm dwellings owned by the farm operation.

Source: Farm Costs and Returns Surveys, USDA

**Table 3--Farm operation income statement for commercial hog farms by major production region, 1990-91**

Item	North Central		Southeast	
	1990	1991	1990	1991
Number of farms	29,085	30,204	2,727	2,628
<i>Dollars per operation</i>				
Gross cash income	193,904	191,406	214,325	187,582
Livestock sales	153,797	153,809	178,151	134,691
Crop sales (incl. net CCC loans)	30,633	28,171	17,163	31,479
Government payments	5,892	5,770	3,679	2,345
Other farm-related income 1/	3,581	3,656	15,332	19,066
Less: Cash expenses	140,622	149,181	180,709	138,626
Variable	116,770	123,886	162,140	120,388
Livestock purchases	14,909	17,686	33,139	8,278
Feed	51,109	52,638	78,653	56,788
Veterinary services and supplies	3,682	3,934	2,047	2,757
Other livestock-related expenses 2/	968	618	208	209
Seed and plants	4,417	4,198	4,405	3,783
Fertilizer and chemicals	13,093	12,850	11,877	11,592
Labor	5,050	8,141	10,056	14,359
Fuels and oils	6,154	5,358	4,628	6,175
Repairs and maintenance	8,904	9,519	9,464	8,008
Machine-hire and custom work	1,287	1,334	796	952
Utilities	3,528	3,828	3,751	4,476
Other variable expenses 3/	3,670	3,781	3,116	3,010
Fixed	23,852	25,294	18,569	18,238
Real estate and property taxes	2,353	2,747	1,288	1,656
Interest	10,475	12,112	10,694	10,081
Insurance premiums	2,920	3,313	2,057	2,296
Rent and lease payments	8,104	7,123	4,531	4,205
Equals: Net cash farm income	53,282	42,226	33,615	48,956
Less:				
Depreciation	14,818	15,580	10,890	9,322
Labor, noncash benefits	710	384	369	2,661
Plus:				
Value of inventory change	11,102	-4,674	11,626	15,230
Nonmoney income 4/	3,270	3,122	3,250	3,690
Equals: Net farm income	52,126	24,709	37,233	55,893

1/ Includes income from machine hire, custom work, livestock grazing, land rental, contract production fees, outdoor recreation, and any other farm-related source. 2/ Includes livestock leasing, custom feed processing, bedding, and grazing. 3/ Includes supplies, registration fees, transportation, storage, and general business expenses. 4/ Defined as the value of home consumption and imputed rental value of farm dwellings owned by the farm operation.

Source: Farm Costs and Returns Surveys, USDA

**Table 4--Farm operation balance sheet for commercial hog farms, December 31, 1987-91**

Item	1987	1988	1989	1990	1991
<i>Number of farms</i>					
	32,257	39,542	24,735	34,276	33,900
<i>Dollars per operation</i>					
Total assets	475,891	462,498	500,877	528,645	536,976
Current assets	121,741	81,021	99,431	128,276	112,910
Livestock inventory	22,030	24,203	45,826	50,257	45,490
Crop inventory	30,922	23,926	29,926	33,968	32,001
Purchased inputs	7,421	5,351	4,984	5,344	4,869
Other assets 1/	60,572	26,845	17,916	38,006	29,740
Noncurrent assets	354,150	381,477	401,446	400,369	424,065
Land and buildings 2/	241,623	265,345	303,367	295,722	318,307
Farm equipment	72,763	70,873	71,380	75,019	77,004
Breeding animals	37,371	42,629	24,785	27,057	26,453
Total debt	139,073	126,367	115,751	113,793	117,907
Less than one year	13,706	10,416	14,528	9,086	25,593
Noncurrent liabilities:					
Nonreal estate	n/a	42,669	42,308	18,809	15,001
Real estate	n/a	65,500	51,296	78,772	71,399
Net worth	336,817	336,131	385,126	414,852	419,069

1/ Includes accounts receivable, certificates of deposit, checking and savings balances, and any other financial assets of the farm business. 2/ The value of the operator's dwelling and any associated liabilities were included if the dwelling was located on the farm.

Source: Farm Costs and Returns Survey, USDA.

**Table 5--Farm operation balance sheet for commercial hog farms by sales class, December 31, 1991**

Item	Sales class					All classes
	\$500,000 or over	\$250,000 - \$499,999	\$100,000 - \$249,999	\$50,000 - \$99,999		
Number of farms	2,730	5,543	12,790	12,837	33,900	
<i>Dollars per operation</i>						
Total assets	1,669,272	822,627	445,347	264,164	536,976	
Current assets	395,179	168,410	105,592	36,217	112,910	
Livestock inventory	217,352	57,658	36,281	12,868	45,490	
Crop inventory	83,425	65,723	28,311	10,184	32,001	
Purchased inputs	18,455	10,514	2,905	1,498	4,869	
Other assets 1/	73,173	33,451	37,438	11,234	29,740	
Noncurrent assets	1,274,092	654,217	339,754	227,947	424,065	
Land and buildings 2/	994,801	494,613	239,152	177,201	318,307	
Farm equipment	174,866	129,382	73,156	37,413	77,004	
Breeding animals	94,394	25,541	26,816	12,038	26,453	
Total debt	378,560	151,919	108,809	56,861	117,907	
Less than one year	79,235	39,667	23,861	9,836	25,593	
Noncurrent liabilities:						
Nonreal estate	31,519	11,753	20,990	6,924	15,001	
Real estate	249,501	92,447	58,267	37,524	71,399	
Net worth	1,290,712	670,708	336,538	207,303	419,069	

1/ Includes accounts receivable, certificates of deposit, checking and savings balances, and any other financial assets of the farm business. 2/ The value of the operator's dwelling and any associated liabilities were included if the dwelling was located on the farm.

Source: Farm Costs and Returns Survey, USDA.

**Table 6--Farm operation balance sheet for commercial hog farms by major production region, December 31, 1990-91**

Item	North Central		Southeast	
	1990	1991	1990	1991
Number of farms	29,085	30,204	2,727	2,628
<i>Dollars per operation</i>				
Total assets	528,797	535,139	443,685	566,951
Current assets	131,562	111,914	100,537	122,225
Livestock inventory	47,819	44,515	49,610	44,806
Crop inventory	37,960	33,994	7,019	18,830
Purchased inputs	5,382	4,681	6,871	8,272
Other assets 1/	39,671	27,895	36,522	49,743
Noncurrent assets	397,235	423,224	343,148	444,727
Land and buildings 2/	285,669	316,193	275,604	358,124
Farm equipment	80,840	78,448	46,833	64,564
Breeding animals	27,913	26,053	20,397	21,566
Total debt	103,715	119,322	128,970	85,066
Less than one year	10,042	26,065	4,056	15,802
Noncurrent liabilities:				
Nonreal estate	16,813	14,337	24,787	21,152
Real estate	69,726	72,904	94,338	43,727
Net worth	425,082	415,817	314,716	481,885

1/ Includes accounts receivable, certificates of deposit, checking and savings balances, and any other financial assets of the farm business. 2/ The value of the operator's dwelling and any associated liabilities were included if the dwelling was located on the farm.

Source: Farm Costs and Returns Survey, USDA.

**Table 7--Farm operation income statement for commercial hog farms by financial position, 1991**

Item	Financial position				All farms
	Favorable	Marginal income	Marginal solvency	Vulnerable	
Number of farms	19,730	5,848	4,606	3,717	33,900
<i>Dollars per operation</i>					
Gross cash income	207,194	167,661	202,163	150,219	193,444
Livestock sales	165,715	138,786	163,548	109,599	154,623
Crop sales (incl. net CCC loans)	30,214	20,265	25,138	30,352	27,823
Government payments	5,620	4,994	5,293	4,866	5,385
Other farm-related income 1/	5,646	3,616	8,184	5,401	5,614
Less: Cash expenses	142,564	168,006	156,992	152,309	149,981
Variable	119,945	145,921	130,015	116,233	125,387
Livestock purchases	12,935	27,561	16,466	25,914	17,361
Feed	53,369	58,761	59,321	42,873	53,957
Veterinary services and supplies	3,514	4,650	4,895	3,042	3,846
Other livestock-related expenses 2/	647	878	781	443	682
Seed and plants	4,320	3,752	3,630	3,963	4,089
Fertilizer and chemicals	12,211	16,290	9,463	12,117	12,531
Labor	9,530	8,963	11,326	3,664	9,033
Fuels and oils	5,395	5,338	5,558	5,694	5,440
Repairs and maintenance	9,287	9,751	8,846	9,468	9,327
Machine-hire and custom work	999	1,744	1,282	2,327	1,312
Utilities	4,139	3,990	4,075	3,261	4,008
Other variable expenses 3/	3,600	4,242	4,371	3,468	3,801
Fixed	22,619	22,085	26,978	36,076	24,595
Real estate and property taxes	2,984	2,435	2,106	1,811	2,642
Interest	10,171	9,570	15,398	20,304	11,889
Insurance premiums	3,350	2,934	3,193	3,177	3,238
Rent and lease payments	6,114	7,145	6,281	10,784	6,827
Equals: Net cash farm income	64,630	-345	45,171	-2,090	43,463
Less:					
Depreciation	15,637	15,622	13,214	15,202	15,258
Labor, noncash benefits	679	649	298	73	556
Plus:					
Value of inventory change	2,888	-20,359	9,756	-18,514	-2,535
Nonmoney income 4/	3,408	2,941	2,684	2,629	3,144
Equals: Net farm income	54,609	-34,033	44,099	-33,249	28,258

**Favorable farms** have positive net farm income and low debt (debt/asset ratio < 0.4); **marginal income farms** have negative net farm income and low debt; **marginal solvency farms** have positive net farm income and high debt; **vulnerable farms** have negative net farm income and high debt.

1/ Includes income from machine hire, custom work, livestock grazing, land rental, contract production fees, outdoor recreation, and any other farm-related source. 2/ Includes livestock leasing, custom feed processing, bedding, and grazing. 3/ Includes supplies, registration fees, transportation, storage, and general business expenses. 4/ Defined as the value of home consumption and imputed rental value of farm dwellings owned by the farm operation.

Source: Farm Costs and Returns Surveys, USDA

**Table 8--Financial ratios for commercial hog farms, 1991**

Item	Share of farms	Debt/asset ratio	Return on assets	Gross ratio	Times interest earned
<i>Percent</i>					
<b>Sales class:</b>					
\$500,000 or over	8	22.68	9.67	73.25	5.57
\$250,000 - \$499,999	16	18.47	3.22	73.74	4.04
\$100,000 - \$249,999	38	24.43	-1.86	82.77	2.04
\$50,000 - \$99,999	38	21.53	-2.44	84.36	3.10
<b>Total assets:</b>					
\$1,000,000 or more	11	19.25	6.41	71.76	4.76
\$750,000 - \$999,999	10	17.07	3.57	75.32	4.37
\$500,000 - \$749,999	17	20.06	1.14	81.56	3.41
\$250,000 - \$499,999	33	26.98	-1.53	81.06	2.58
Less than \$250,000	29	35.71	-7.13	84.94	1.98
<b>Debt-to-asset ratio:</b>					
0-10 %	33	3.32	2.31	72.40	12.36
11-40 %	43	24.66	2.84	76.58	3.17
41-60 %	15	46.79	0.85	86.01	1.92
Over 60 %	9	82.56	-1.72	87.50	1.22
<b>Annual hog production:</b>					
4,000 or more	12	21.02	7.75	74.11	5.44
2,500 - 3,999	8	19.99	2.79	73.82	3.89
1,500 - 2,499	20	21.64	3.11	74.41	3.94
1,000 - 1,499	23	22.97	-2.20	85.57	2.05
Less than 1,000	38	23.62	-2.93	84.68	2.09
<b>Region:</b>					
North Central	89	22.30	1.42	77.94	3.27
Southeast	8	15.00	8.00	73.90	6.71

**Table 9--Financial ratios for selected commercial farm types by year, 1987-91**

Item	Net cash farm income	Debt/asset ratio	Return on assets	Gross ratio	Times interest earned
<i>\$ per farm</i>		<i>Ratio</i>			
<b>1987:</b>					
<b>Hogs</b>	<b>49,173</b>	<b>29.22</b>	<b>5.96</b>	<b>73.22</b>	<b>4.17</b>
Beef	33,578	17.90	3.51	83.68	3.60
All livestock	40,393	22.66	3.60	79.37	3.80
Corn-soybean	36,938	25.88	3.74	72.37	3.34
Small grain	29,261	28.28	3.55	78.03	2.45
All crop	47,314	25.35	4.57	74.44	3.53
All farms	43,710	23.77	4.03	77.09	3.66
<b>1988:</b>					
<b>Hogs</b>	<b>33,184</b>	<b>27.32</b>	<b>2.63</b>	<b>82.25</b>	<b>2.91</b>
Beef	33,973	15.86	2.95	85.67	3.44
All livestock	37,768	19.05	2.33	81.23	3.35
Corn-soybean	31,581	22.23	3.87	76.17	3.57
Small grain	27,557	24.85	2.71	76.43	2.64
All crop	46,860	19.84	4.66	74.29	4.35
All farms	41,735	19.46	3.28	78.26	3.79
<b>1989:</b>					
<b>Hogs</b>	<b>29,714</b>	<b>23.11</b>	<b>2.09</b>	<b>83.84</b>	<b>3.53</b>
Beef	50,033	13.12	3.14	80.49	4.21
All livestock	44,396	17.12	3.33	79.42	4.44
Corn-soybean	47,646	18.97	4.46	69.41	4.29
Small grain	35,001	20.35	3.16	75.58	3.26
All crop	60,579	17.98	5.24	72.08	4.63
All farms	52,291	16.22	3.97	75.71	4.56
<b>1990:</b>					
<b>Hogs</b>	<b>49,600</b>	<b>21.53</b>	<b>6.29</b>	<b>74.47</b>	<b>5.37</b>
Beef	42,459	11.43	2.51	82.73	3.92
All livestock	45,688	16.00	3.08	79.36	4.22
Corn-soybean	37,117	20.21	3.80	74.59	3.69
Small grain	29,954	21.51	2.57	78.00	2.73
All crop	50,999	18.99	4.94	76.35	4.21
All farms	48,170	17.17	3.86	77.86	4.22
<b>1991:</b>					
<b>Hogs</b>	<b>43,463</b>	<b>21.96</b>	<b>2.19</b>	<b>77.53</b>	<b>3.38</b>
Beef	24,955	12.73	0.81	87.23	2.71
All livestock	36,369	16.60	1.04	87.60	3.20
Corn-soybean	36,177	19.64	2.67	76.79	3.39
Small grain	29,454	20.77	1.81	77.06	2.48
All crop	50,415	17.36	3.65	77.30	3.96
All farms	42,976	16.91	2.32	79.91	3.59
<b>1987-91 average:</b>					
<b>Hogs</b>	<b>41,326</b>	<b>24.58</b>	<b>3.88</b>	<b>78.10</b>	<b>3.83</b>
Beef	37,199	13.82	2.54	83.78	3.59
All livestock	40,933	18.12	2.66	80.37	3.80
Corn-soybean	37,971	21.25	3.71	73.78	3.65
Small grain	30,126	23.22	2.77	76.99	2.69
All crop	51,204	19.69	4.60	74.97	4.13
All farms	45,734	18.49	3.49	77.78	3.96

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