

2000 FINANCIAL BENCHMARKS on Selected WISCONSIN DAIRY FARMS

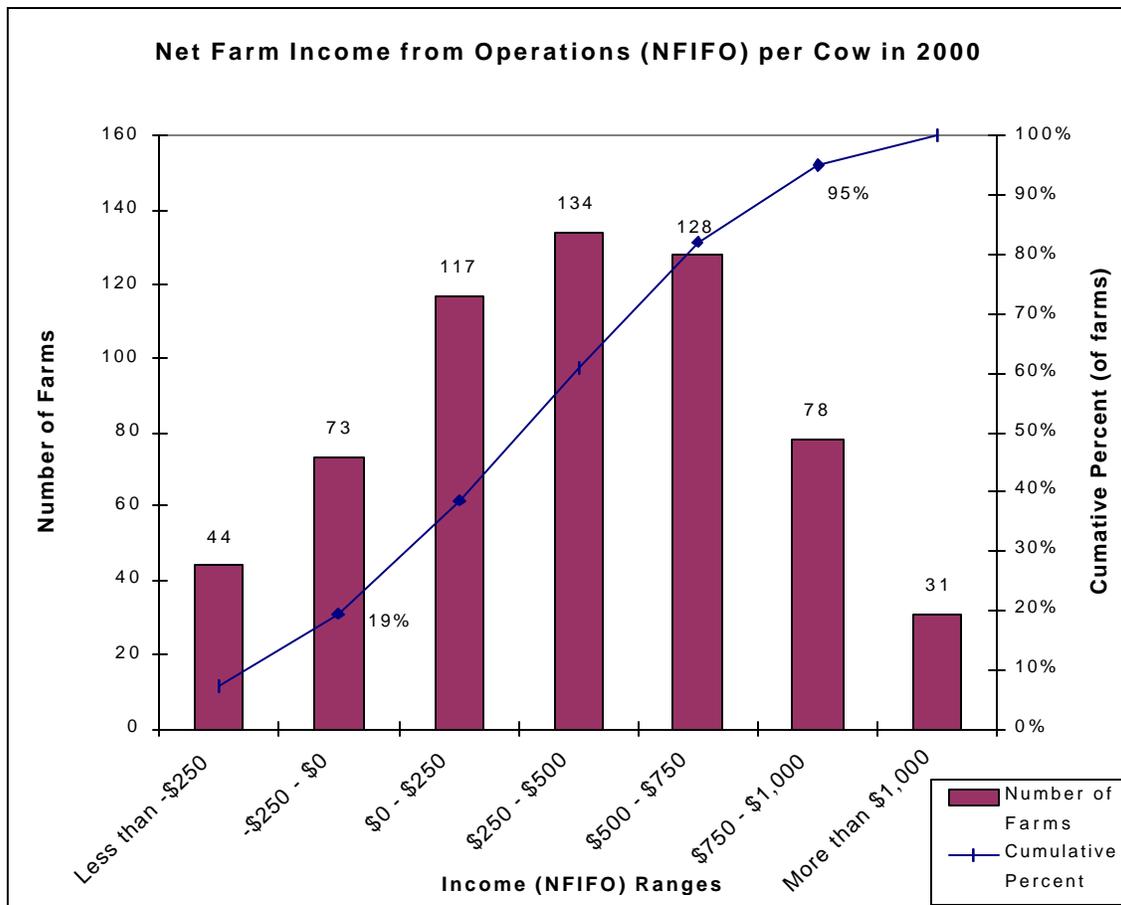
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Introduction

Mainly due to low milk prices, profit margins in 2000 were lower than they have been in several years. In this study of 605 dairy farms, Net Farm Income From Operations (NFIFO) averaged \$32,199 per farm while the NFIFO per cow averaged \$296. This is only 41 percent of the NFIFO earned per cow in 1998 (\$716). This paper presents profitability benchmarks plus benchmarks for liquidity, financial efficiency, and solvency and repayment capacity. NFIFO is the basis for the profitability benchmarks. **NFIFO is not the farm's profit.** It is the sum of the return to owner-operator-manager's (and the family's) unpaid labor and management, their equity capital and profit. When calculating opportunity costs the following criteria were used: \$9.00 per hour for unpaid labor, \$10.00 per hour for unpaid management and five percent opportunity interest on the fair market value of equity capital.

Figure 1



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Figure 1 shows a wide range of NFIFO per cow in 2000. 134 farms had NFIFO per cow between \$250 and \$500. Nineteen percent of the farms showed a negative NFIFO per cow compared to 4.5 percent in 1998. This nineteen percent produced **twenty-three** percent of the total milk sold by farms in the entire study. This means that farms, getting a negative return on their assets, produced almost a quarter of the milk marketed. These farms **cannot** continue producing milk indefinitely with their current cost and income structure. Also, only 5 percent of the farms had NFIFO per cow of greater than \$1000 compared to only 29.5 percent in 1998.

Table 1 - 2000 Balance Sheet (\$/Cow)

	<u>Beg Dollars</u>	<u>End Dollars</u>		
Current Assets				
Cash Accounts	93.59	124.68		
Prepaid Expenses & Purchased Inventories	121.21	97.57		
Raised Feed Inventories	587.10	571.41		
Basis in Resale Livestock Purchased	0.01	1.01		
Accounts Receivable	3.54	4.00		
Market Livestock & Etc.	0.86	0.73		
Total	Current Assets	806.30	799.39	
Non-Current Assets				
			<u>Basis</u>	
			<u>Beg. Dollars</u>	<u>End Dollars</u>
Raised Breeding Livestock	1,531.77	1,582.78		
Purchased Breeding Livestock	391.10	391.17	320.45	326.26
Machinery & Equipment	1,253.43	1,293.68	658.23	671.41
Buildings	1,562.81	1,632.11	1,216.93	1,261.33
Land & House	2,006.21	2,043.66	1,049.38	1,094.76
Other Non-Current Assets	157.22	168.67	91.40	107.15
Total	Non-Current Assets	6,902.54	3,336.39	3,460.92
Total Farm Assets		7,708.84		7,911.47
Current Liabilities				
Accounts Payable	15.45	21.47		
Current Portion of Non-Current Liabilities	154.69	160.39		
Other Current Liabilities	71.20	84.60		
Total	Current Liabilities	241.33	266.46	
Non-Current Liabilities				
Intermediate Liabilities	972.12	1,055.80		
Long-Term Liabilities	1,405.61	1,455.95		
Contingent Liabilities	0.00	0.00		
Total	Non-Current Liabilities	2,377.74	2,511.75	
Total Farm Liabilities		2,619.07		2,778.20
Non-Farm Assets	335.14	367.71		
Non-Farm Liabilities	23.21	22.69		

Statement of Equities (Net Worth)

	<u>Beginning</u>	<u>Ending</u>	<u>Change</u>
Contributed Capital	1.02	1.68	0.66
Retained Earnings ¹	3,054.36	3,063.20	8.84
Valuation Adjustment	2,034.38	2,068.38	34.00
Total Farm Equities	5,089.77	5,133.26	43.49
Non-Farm Equities	311.93	345.02	33.10
Total Equities	5,401.69	5,478.28	76.59

1 All current assets and raised breeding livestock are included in retained earnings.

Balance Sheet

Table 1 shows the assets, liabilities and equities per cow in 2000 for the average farm in the study. The cash on-hand increased in 2000 even though 2000 was not a good year financially. This is likely due to the Market Loss Payment dairy farmers received in late December 2000. Prepaid Expenses & Purchased Inventories were down almost \$24 (20 percent). This is expected in a below average financial year. However, it appears that farm managers could have kept their “Prepaid Expenses & Purchased Inventories” at the same level as they were at the end of 1999 if they had been prepared to spend the Market Loss Payment they received in late December 2000.

Raised Feed Inventories slipped by \$16 per cow, which in percentage terms is less than 3 percent. Overall, Current Assets remained constant from the beginning to the end of 2000.

Non-Current Assets increased by over \$200 per cow to \$7,112 at the end of 2000. All Non-Current Assets except Raised Breeding Livestock have basis. Basis is defined as the purchase price minus the accumulated depreciation on a specific asset. (Note: when you sell an asset you only pay taxes on the sale income in excess of the basis.) All of the Non-Current Assets in this study had small gains with Buildings having the largest.

Total Farm Liabilities increased by over \$160 per cow to \$2,778 by the end of 2000. Note: this Balance Sheet does not include Contingent Liabilities. Contingent Liabilities are selling costs and taxes that would occur if the farm business were sold. In a different analysis of the data, Contingent Liabilities were shown to be approximately \$1,100 per cow.

As “Statement of Equities” is not calculated on all Balance Sheets, some explanation may be helpful. The Statement of Equities splits the farm manager’s equity into four categories: Contributed Capital, Retained Earnings, Valuation Adjustment (Farm Equities) and Non-Farm Equities. Most Balance Sheets only split the equity into two categories, farm and non-farm.

Separating Farm Equity into 3 categories assists in understanding the factors underlying the change in equity.

Contributed capital is startup capital plus any non-farm money that was added in the years since startup. The “Change” column is the change that occurred between the beginning and end of the year.

Retained Earnings are the General Accepted Accounting Principles (GAAP) dollars that the business has earned and not paid to owners or others but “retained” in the business. As a matter of convention, all current assets and the value of raised breeding livestock are included in retained earnings. For non-agricultural businesses, this is the key variable in determining their potential.

Valuation Adjustment is the change (increase or decrease) in the market value for non-depreciable assets plus the difference between the market value of depreciable assets and their basis minus contingent liabilities. A farm that has most of its change in equity in the “Valuation Adjustment” category is not changing its equity by “profitable farming” but rather by wise investing or creative accounting. Non-farm businesses do not calculate a valuation adjustment because GAAP does not recognize the gain on in the value of an asset until it after it is sold and the selling costs and taxes paid.

The Statement of Equities of 2000 shows an increase of \$43.49 per cow in farm equity. Of this, only \$8.84 was Retained Earnings. Retained Earnings were \$367 per cow in 1998.

Financial Measures

The average Rate of Return on Assets (ROROA) was 3.51 percent in 2000. This is the lowest ROROA in several years. The average Rate of Return on Assets was 7.56 percent in 1999 and 9.20 percent in 1998. It was 5.42, 5.36, and 5.57 percent in 1997, 1996 and 1995, respectively. However, these are just the averages and the range in ROROA is equally important. The number of farms in selected ranges and the cumulative percentage of the ranges are shown in Figure 2.

Figure 2

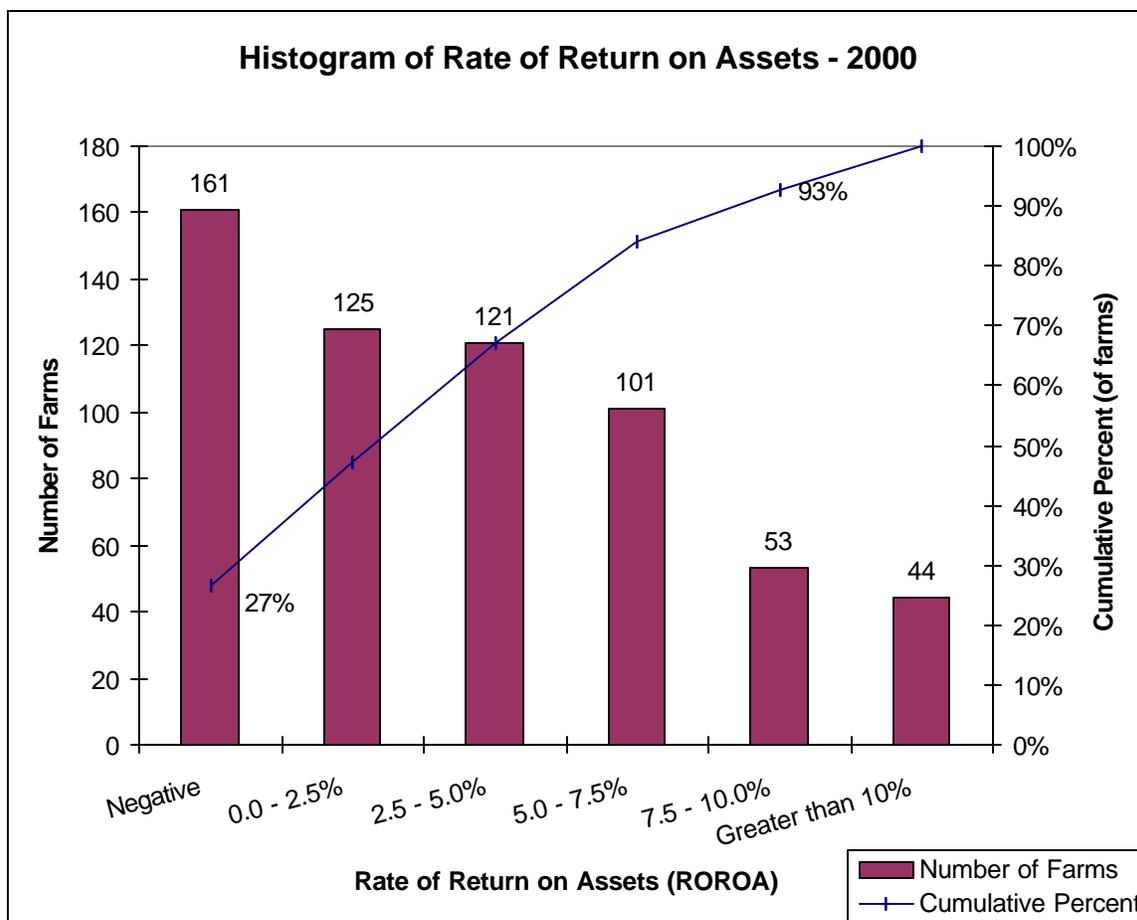


Figure 2 shows that 27 percent of the farms in the study had a negative ROROA. This is larger than the 19 percent of farms that had a negative NFIFO. This is expected as the value of unpaid labor and management is subtracted from farm incomes before ROROA is calculated.

Looking on the positive side, 73 percent of the farms had positive ROROA in 2000 and 7 percent had ROROA in excess of 10 percent. These results were obtained by calculating ROROA based on the market value of assets and economic depreciation.

If the ROROA were calculated the way a main street business would calculate it (using GAAP methods), the average ROROA would have been 5.8 percent. GAAP calculates ROROA based on the “cost value” of assets and tax depreciation claimed. The economic depreciation claimed in 2000 was \$383 per cow and the tax depreciation claimed in 2000 was \$417 per cow.

You may wonder how the ROROA (using GAAP) can be higher when the amount of depreciation claimed is also higher. This is because in almost all cases the “cost value” of the assets is lower than the estimated “market value” of the assets and in some cases much lower.

Table 2 shows the average values in 2000 for a number of financial measures. We have already discussed Net Farm Income from Operations and ROROA. The difference between NFIFO and Net Farm Income is the sale of capital assets such as machinery or land.

Table 2 - Financial Measures per Cow - 2000

Profitability	2000
Net Farm Income From Operations	\$296.07
Net Farm Income	\$316.55
Rate of Return on Assets (ROROA)	3.51 %
<i>Economic Depreciation Claimed</i>	\$382.83
Rate of Return on Equity	1.40 %
Net Profit Margin	9.05 %

Financial Efficiency Ratios (based on Total Farm Income)

Asset Turnover	0.388
Basic Cost*	0.591
Wages & Benefits Paid*	0.113
Interest Paid	0.069
Depreciation	0.126
Net Farm Income from Operations	0.101

Repayment Capacity

Capital Replacement & Debt Repayment Capacity	\$445.34
Coverage Margin	\$201.09
Term Debt Coverage Ratio	1.80

Liquidity

Net Cash Income	\$722.06
Working Capital	\$531.60
Current Ratio	2.98

Solvency

Beginning Total Farm Assets	\$7,708.84
Beginning Total Farm Liabilities	\$2,377.74
Ending Total Farm Assets	\$7,911.47
Ending Total Farm Liabilities	\$2,778.20
Ending Farm Net Worth	\$5,133.26
Change in Farm Net Worth	\$43.49
Farm Debt to Asset Ratio	0.351
Farm Equity to Asset Ratio	0.649

* Basic Cost and Wages Paid ratios are combined into an Operating Cost ratio on some financial analysis reports.

The Rate of Return on Equity is 1.40 percent. This is well below the 5 percent opportunity cost that was assigned to equity. The Net Profit Margin is also low. It is the portion of income that can be used to service assets. The goal is 15 percent or more.

The Asset Turnover Financial Efficiency Ratio also decreased in 2000. This ratio is the dollars of income the farm has generated for each dollar of market value and had been near 0.50. If both Net Profit Margin and Asset Turnover Ratio had at their goals (15% and 0.50) the ROROA would be 7.5 percent as Net Profit Margin times Asset Turnover equal ROROA.²

The rest of the Financial Efficiency Ratios must sum to one. In 2000, the Interest Paid and the Depreciation Ratios were in the normal range (0.06 to 0.07 for interest paid and 0.11 to 0.13 for depreciation) however, they were both towards the top of their range. The Basic Cost Ratio of 0.591 was also higher than the goal of 0.55 or lower. The Wages and Benefits Ratio (0.113 in 2000) has been increasing as more farm managers pay their workers, whether they are dependents or non-dependents. This value was only 0.083 in 1995.

The previous paragraph outlines reasons why the Net Farm Income from Operations Ratio was the lowest since we started collecting farm financial data in 1992. The goal for this value is 0.15 or more. The highest it has been is 0.194 in 1998.

Repayment Capacity measures include non-farm incomes. The Coverage Margin is the dollars available after adding depreciation to and subtracting family living from Net Farm Income plus non-farm incomes. This value should be close to the depreciation claimed (383). The Term Debt Coverage Ratio should be greater than 1.25. Therefore, it appears that even in the low price year of 2000, most farm managers were able to keep current on their long-term debts.

The Liquidity measures were normal at the end of 2000. It is assumed this is largely doing to the Market Loss Payment they received at the end of December. The Solvency measures were discussed earlier.

Summary

There is normally a wide range in both Net Farm Income from Operation and Rate of Return on Assets. The 2000-year was no different. NFIFO per cow averaged \$296, but ranged from less than a **minus** \$250 per cow to more than a **positive** \$1,000 per cow. The same was true of ROROA. It averaged 3.51 percent while 27 percent of the farms had a negative ROROA, 7 percent of the farms had a ROROA in excess of 10 percent.

The retained earnings increase in equity was only \$9 per cow in 2000. It was \$367 per cow just 2 years ago in 1998.

More details on the cost of production on the 605 farms studied in 2000 are published in the paper titled "Milk Production Costs in 2000 on Selected Wisconsin Dairy Farms." This paper provides cost of production analysis per farm, per cow and per hundredweight equivalent. It is available on the Center for Dairy Profitability's website at <http://cdp.wisc.edu>.

² Frank, Gary. Profitability, Liquidity, Solvency, Financial Efficiency, and Repayment Capacity (The Pentagon of Financial Analysis. – Managing the Farm, Volume 25:2, May 1992.