2009 FINANCIAL BENCHMARKS on Selected **WISCONSIN DAIRY FARMS**

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March 2011

Introduction

This paper presents profitability benchmarks plus benchmarks for liquidity, financial efficiency, and solvency and repayment capacity. Net Farm Income from Operations (NFIFO) is the basis for the profitability benchmarks; however **NFIFO is not the farm's profit.** It is the sum of the return from normal farm production operations to owner-operator-managers (and all other) unpaid labor and management, and the return to their equity capital and profit. Net Farm Income (NFI) considers the return from normal farm operations as well as the gain or loss from the sale of capital assets. When calculating opportunity costs the following criteria were used: $13.25 per hour for unpaid labor management and 4% percent opportunity interest on the fair market value of equity capital.

Net Farm Income from Operations (NFIFO) in 2009 did an "about face" as compared to the last several years. While NFIFO in 2008 registered the second highest since the late 1990's, in this study of 483 dairy farms, NFIFO averaged a negative $24,086 per farm while NFIFO per cow averaged -$137. Net Farm Income (NFI) was -$18,448 per farm and -$105 per cow in 2009. This is $910 less than the NFI earned per cow in 2008 of $805 and approximately $1062/cow less than that earned in 2007 of $957.

Data Source

Lakeshore Farm Management Association, Fox Valley Management Association, independent consultants, UW-Extension Agricultural Agents and Wisconsin Technical College System Instructors[2] originally collected this data. Personnel affiliated with these associations helped individual farm managers reconcile their financial data. Individual farm managers used a number of different manual and computerized record keeping systems to enter the initial financial records, including AAIMS©[3] and QuickBooks©. The Agricultural Financial Advisor (AgFA) data set was used for this study. AgFA, a real time database, is a sample of Wisconsin dairy farms from which financial and production data are collected annually.

[1] Center for Dairy Profitability, University of Wisconsin-Madison/Extension. Authors wish to think Dr. Gary Frank for his review and editorial comments.
[2] Authors with to Thank members of the farm associations, consultants, UW-Extension, and WTCS instructors.
3 Agricultural Accounting and Information System (AAIMS)

Figure 1
Net Farm Income from Operations (NFIFO) per Cow - 2009

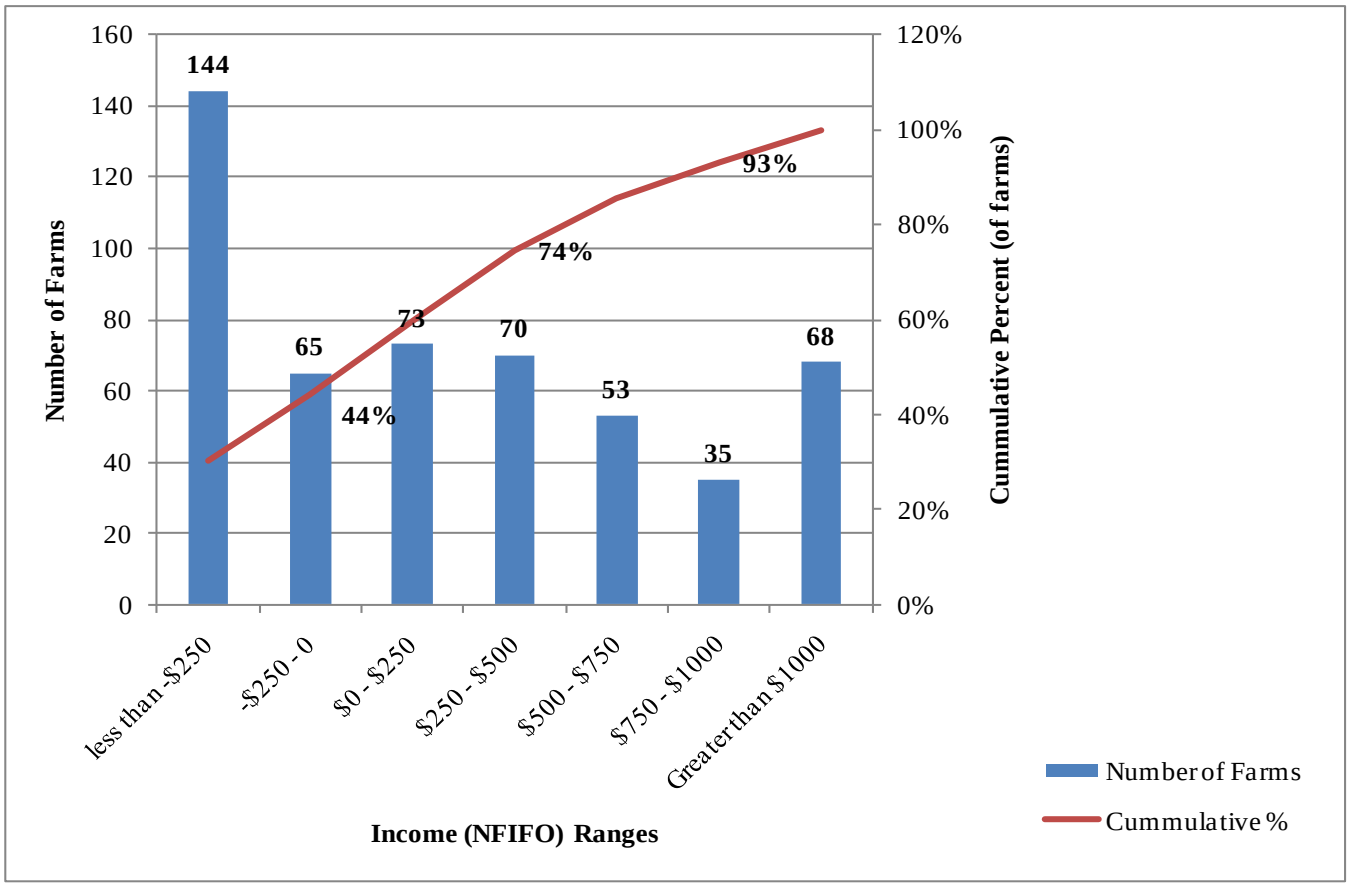

*Figure 1 based on 473 farms

Figure 1, shows a wide range of NFIFO per cow in 2009. In 2009, 44% of farms showed a negative NFIFO per cow compared to 9.9% in 2008, 5.5% in 2007, 16% in 2006, and 11% in 2005. In 2009, 70 farms had NFIFO per cow between $250 and $500 and 68 had NFIFO per cow of greater than $1,000. This wide range in NFIFO per cow is not due to herd size. Both large (greater than 250 cows) and small dairy farms are found in both the negative and the 'greater than $1,000' NFIFO per cow categories. In 2009, 7% had a NFIFO per cow of over $1,000 compared to 20% in 2008, 39% in 2007, 14% of the farms in 2006 and 24% in 2005.

Table 1
2009 Balance Sheet ($/Cow)
Report Basis: per Head

		Beg. Dollars	2009	End Dollars		Cost Basis	
Current Assets							
	Cash Accounts	178.03		180.57			
	Prepaid Expenses & Purchansed Inventories	178.30		122.40			
	Raised Feed Inventories	858.01		820.20			
	Basis in Resale Livestock Purchased	0.00		0.00			
	Accounts Receivable	7.12		3.41			
	Market Livestock & Etc.	2.31		2.29			
	Total Current Assets	**1,223.77**		**1,128.87**			
Non-Current Assets						**Beg. Dollars**	**End Dollars**
	Raised Breeding Livestock	1,813.75		1,946.31			
	Purchased Breeding Livestock	461.22		437.59		375.02	338.66
	Machinery & Equipment	1,573.68		1,575.97		828.67	835.22
	Buildings	2,342.50		2,481.84		1,712.03	1,829.07
	Land & House	2,823.29		2,874.56		1,178.54	1,297.17
	Other Non-Current Assets	219.97		268.01		178.76	224.04
	Total Non-Current Assets	**9,234.41**		**9,584.28**		**4,273.02**	**4,524.16**
Total Farm Assets		**10,458.18**		**10,713.15**			
Current Liabilities							
	Accounts Payable	47.75		85.80			
	Current Portion of Non-Current Liabilites	134.34		122.70			
	Other Current Liabilities	162.36		240.57			
	Total Current Liabilities	**344.45**		**449.07**			
Non-Current Liabilities							
	Intermediate Liabilities	1,221.14		1,422.96			
	Long-Term Liabilities	2,322.86		2,706.34			
	Total Non-Current Liabilities	**3,544.00**		**4,129.30**			
Total Farm Liabilities		**3,888.45**		**4,578.37**			
	Non-Farm Assets	1,620.55		1,706.81			
	Non-Farm Liabilities	58.05		62.78			
		Beginning		**Ending**		**Change**	
	Contributed Capital	8.06		8.99		0.93	
	Retained Earnings	3,414.21		3,011.97		-402.24	
	Valuation Adjustment	3,147.45		3,113.81		-33.64	
	Total Farm Equities	6,569.72		6,134.77		-434.95	
	Non-Farm Equities	1,562.49		1,644.04		81.55	
	Total Equities	**8,132.21**		**7,778.81**		**-353.40**	

Balance Sheet

Table 1 shows the assets, liabilities and equities per cow in 2009 for the average farm in the study based on the market value of assets and economic depreciation. The Balance Sheet, also referred to as the Net Worth Statement or Financial Position Statement, is referenced in Table 1. Being a challenged year financially, the cash on-hand for 2009 increased minimally by $3 per cow. Prepaid Expenses & Purchased Inventories decreased $56 per cow (32 percent). This is to be expected coming off of a below average financial year.

Raised Feed Inventories declined by $38 per cow, which in percentage terms is 4.4 percent less than in 2008. Overall, Current Assets decreased by $95 from the beginning to the end of 2009.

Non-Current Assets increased by $350 per cow to $9,584 at the end of 2009. 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 Non-Current Assets in this study filed solid gains ($350) with Buildings ($140 per cow) having the largest gain.

Total Farm Liabilities increased $690 to $4578.37 per cow by the end of 2009. Note: this Balance Sheet does not include Contingent Liabilities. Contingent Liabilities are selling costs and taxes that would occur if the farm business was sold. In a different analysis of the data, Contingent Liabilities are shown to be approximately $1,130 per cow.

A "Statement of Equities" is not calculated on all Balance Sheets. The Statement of Equities splits the farm manager's equity into three Farm categories: Contributed Capital, Retained Earnings, Valuation Adjustment (Farm Equities) and a fourth category of Non-Farm Equities. Most Balance Sheets only split the equity into two categories, farm and non-farm.

The three Farm Equity categories assist 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 are paid.

The Statement of Equities for 2009 shows a decrease of $435 per cow in farm equity. The three categories of farm equity decreased in 2009 except for a very modest gain for Contributed Capital: Contributed Capital increased by less than a dollar, Retained Earnings declined by $402, and Valuation Adjustment by $34 per cow. Non-Farm Equity increased by $82.

Financial Measures

The average Rate of Return on Assets (ROROA) was a negative 1.65 percent in 2009. The average Rate of Return on Assets was 6.49% in 2008, 8.39% in 2007, 3.25% in 2006, and 6.77% in 2005. These are just the averages in those years; 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
Rate of Return on Assets - 2009

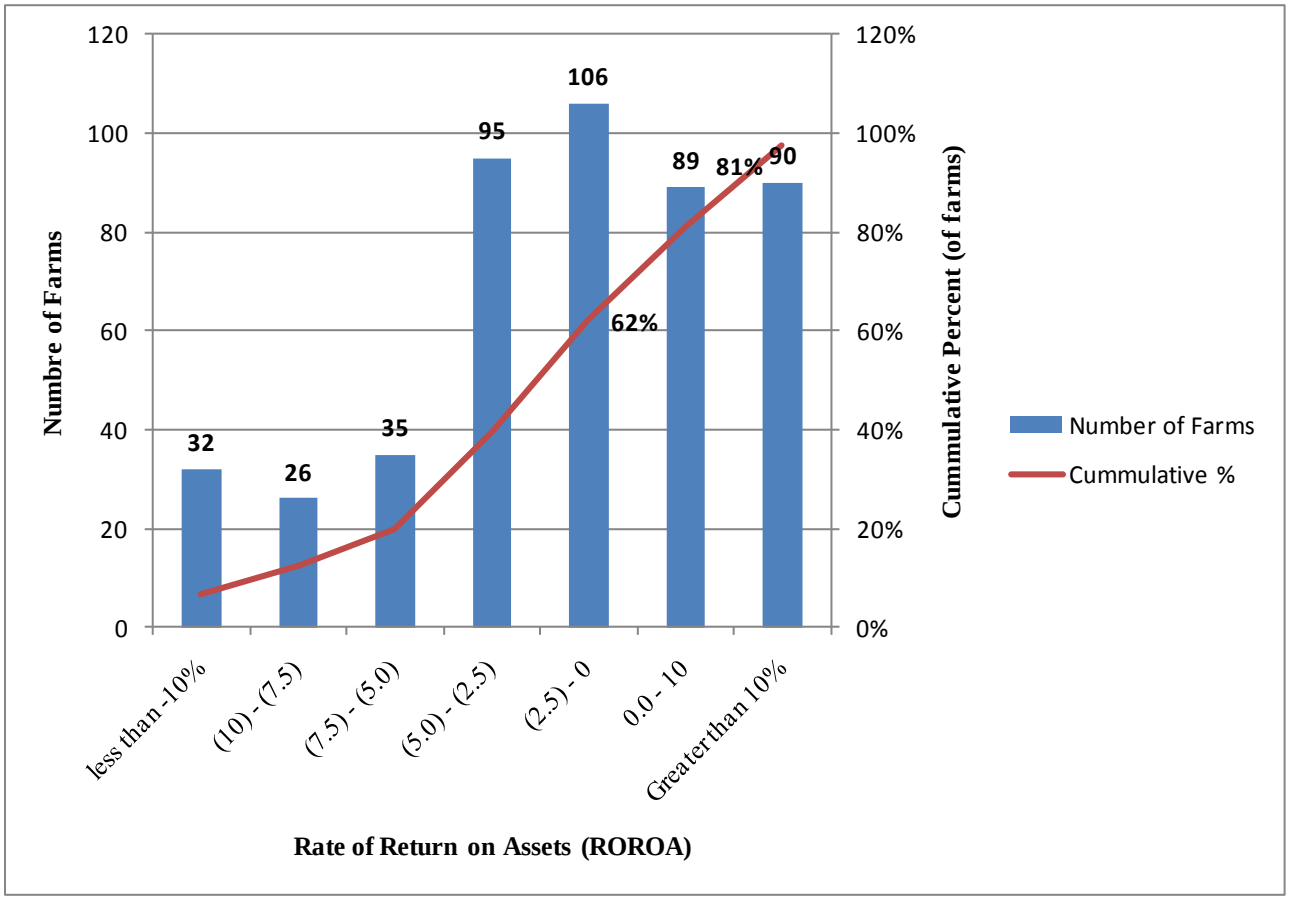

*Figure 2 based on 473 farms.

Figure 2 shows that in 2009, 62% (294 herds) in 2009 of the farms in this study had a negative ROROA. This is more than the 44 percent of farms that had a negative NFIFO per cow in 2009.

Looking on the positive side, 38 percent of the farms broke even or had a positive ROROA in 2009 and, 19 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.

Table 2
Financial Measures per Cow – 2009 – 2007
Report Basis: per Head (Market Value)

		2009	2008	2007
	Number of Farms	483	515	544
Profitability				
Net Farm Income From Operations		-$136.76	$787.76	$937.47
	Net Farm Income	-$104.74	$805.30	$950.68
Rate of Return on Assets (ROROA)		-1.65%	6.49%	8.39%
Economic Depreciation Claimed		$465.52	$447.99	$434.99
Rate of Return on Equity		-6.29%	6.78%	9.18%
	Net Profit Margin	-4.42%	0.1414	18.53%
Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)				
	Asset Turnover Ratio	0.374	0.459	0.453
Note: Some methods of calculating ratios combine the Basic Cost and Wages Paid Ratios into a single ratio (Operating Cost Ratio).	Basic Cost Ratio	0.754	0.631	0.587
	Wages Paid Ratio	0.13	0.101	0.099
	Interest Paid Ratio	0.057	0.041	0.049
	Depreciation Ratio	0.094	0.074	0.072
Net Farm Income from Operations Ratio		-0.035	0.154	0.193
Repayment Capacity				
Capital Replacement & Debt Repayment Capacity		$144.54	$950.07	$1,147.82
	Coverage Margin	-$219.00	$603.30	$827.46
Term Debt Coverage Ratio		1.03	3.43	3.88
		0	0	0
Liquidity				
	Net Cash Income	$350.78	$1,089.10	$1,091.42
	Working Capital	$679.80	$1,061.08	$850.92
	Current Ratio	2.51	3.77	3.65
Solvency (Assets at Market Value)				
Beginning Total Farm Assets		$10,458.17	$10,680.31	$10,315.12
Beginning Total Farm Liabilities		$3,888.45	$3,344.14	$3,439.38
Beginning Farm Net Worth		$6,569.72	$7,336.17	$6,875.74
Farm Debt to Asset Ratio - Beginning of Year		0.372	0.313	0.333
Ending Total Farm Assets		$10,713.14	$11,631.68	$11,114.28
Ending Total Farm Liabilities		$4,578.37	$3,794.67	$3,539.38
Ending Farm Net Worth		$6,134.77	$7,837.01	$7,574.90
Year Ending Farm Debt to Asset Ratio		0.427	0.326	0.318
Total Change in Farm Net Worth		-$434.95	$500.84	$699.16

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

There are two methods used by AgFA©[4] to calculate financial measures. The first method, the GAAP method, (Generally Accepted Accounting Principles) used by most businesses, bases the calculations on the cost basis of assets (initial cost minus accumulated depreciation) and the tax depreciation claimed by the business. This method will be called "Cost." The second method bases the calculations on the market basis of assets (an estimate of their value if sold today minus the selling costs and taxes) and economic depreciation. The method will be called "Market." There is a third method that uses market value of assets and tax depreciation however, AgFA© does not use this in any of the calculations.

Table 2 shows that the Rate of Return on Assets (ROROA) is -1.65% in 2009 using the Market method. Using the cost method, ROROA is -2.74%. Since the formula for calculation in both methods is the same (return to assets 'divided by' value of assets) this difference is mainly due to the value of the assets. The cost value of an asset is generally much less than the market value of an asset. Example: a 1990 JD 4955 tractor will likely have a zero "cost" value but a five digit "market" value.

The Rate of Return on Equity in the 2009 and 2008 years demonstrates the leverage principle. This principle states that a business is using credit wisely when the ROROA exceeds the cost of credit. In the best case a business will produce an ROROE equal to or exceeding the ROROA. In 2009 the ROROA -1.65% was less than the average interest rate of 4.2% and the Rate of Return on Equity -6.29%, was lower than the ROROA. In 2008, the ROROA of 6.49% was less than the interest rate of 6.69%, and the Rate of Return to Equity of 6.78% was greater than the ROROA. However, in 2007 the ROROA was 8.39% was less than the interest rate and the ROROE of 9.18% was greater than the ROROA.

The Asset Turnover Ratio (market value of assets) declined to 0.374 in 2009 compared to 0.459 in 2008 and 0.453 in 2007. This ratio is the dollars of income the farm has generated for each dollar of asset value. The goal is greater than greater than 0.40 for market asset values and 0.60 using cost asset values. The rest of the Financial Efficiency Ratios (basic cost, wages paid, interest paid, depreciation and NFIFO) must sum to one for each method (Cost and Market).

In 2009, the Interest Paid (0.057) and the Depreciation Ratio (0.094) were in the normal range (0.06 to 0.07 for interest paid and 0.09 to 0.11 for depreciation). The Basic Cost Ratio of 0.754 was significantly above the goal of ≤ 0.60. The Wages and Benefits Ratio (0.13 in 2009) was above the 2008 level as well as the previous four years.

The previous paragraph outlines reasons why the Net Farm Income from Operations Ratio (0.035 – Market, -0.042 – Cost; -) was the lowest since we started collecting data in 1992. Since 2005, this ratio peaked in 2007 at 0.193 on a Market basis, with a decline in the last two years. The goal for this value is 0.125 or more.

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 ($219) should be higher than the tax depreciation claimed $466 for 2009. The Term Debt Coverage Ratio was 1.03, less than the goal level of 1.5. Therefore, it appears that during the stressful price year of 2009, the average farm manager was challenged to keep current on long-term debts.

The Liquidity measures were all lower than normal at the end of 2009 with the exception of Working capital ($680) exceeding only 2005 and 2006 over the last five years. Net Cash income fell by $738 per cow under 2008. In addition to the Solvency measures discussed earlier, there is also a Debt to Asset ratio. The Debt to Asset ratio in 2009 was 0.427 (highest in the last 3 years), up from 0.326 in 2008 and 0.318 in 2007.

[4] AgFA@ (Agricultural Financial Advisor) – http://cdp.wisc.edu. AgFA@ is an interactive/real time database for collecting and analyzing data.

Summary

There is normally a wide range in both Net Farm Income from Operations and Rate of Return on Assets. The year 2009 was no different. NFIFO per cow averaged -$105 using the Market method, but ranged from 144 herds (30.4%) registering a minus $250 per cow or more, to 33 herds (6.98%) earning equal to or greater than a positive $1,000 per cow. The same was true of ROROA. It averaged -1.65 percent while 27.4 percent of the farms had a negative ROROA, 4 percent of the farms had a ROROA in excess of 8 percent.

The change in retained earnings in The Statement of Equities was -$402 in 2009 as compared to $133 per cow in 2008 and $453 in 2007. It was a -$15.01 per cow in 2006.

More details on the cost of production on the 483 farms studied in 2009 are published in the paper titled "*Milk Production Costs in 2009 on Selected Wisconsin Dairy Farms.*" This paper provides cost of production analysis per farm, per cow, per hundredweight equivalent and as a percentage of Gross Income. It is available on the Center for Dairy Profitability's website at http://cdp.wisc.edu.