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Abstract

It is widely accepted that net farm income reported on an accrual-adjusted income statement is a more appropriate profitability measure than net farm income reported on Schedule F of the federal tax return, which is prepared using cash basis accounting. However, a common practice among agricultural lenders is to use Schedule F net farm income, which uses the cash basis of accounting, as a proxy for accrual-adjusted net farm income. A study of 1,045 individual Illinois farms' records from 2002 through 2006 found the median absolute annual percentage difference between a three-year average cash and a three-year average accrual-adjusted net farm incomes is 57 percent for farms of stable size; 43 percent for farms with annual gross revenue increasing at rates of less than 5 percent, 50 percent at rates of 5-10 percent, and 58 percent at rates over 10 percent; and 61 percent for farms with a debt-to-asset ratio greater than 40 percent.

Measurement Issues in Assessing Farm Profitability through Cash Tax Returns

By Freddie L. Barnard, Paul N. Ellinger, and Christine Wilson

Introduction

An accrual-adjusted income statement provides a more appropriate measure of profitability than net farm income reported on Schedule F of the Federal income tax return, which is prepared using cash basis accounting. This intuitive conclusion is widely accepted among professionals who work in the agriculture industry, is supported by empirical studies, and is advocated by the Farm Financial Standards Council (FFSC) (FFSC, 1997).

The majority of agricultural producers prepare Schedule F using cash basis accounting, since cash revenue and expenses can be received and paid in different tax reporting periods, in order to reduce the income tax liability for a farm or ranch operation. However, the principle of matching revenue and expenditures in periods where they are incurred is violated when such cash reporting occurs, and any resulting measures of profitability likely possess some degree of inaccuracy when the data are used for financial analysis. Since all agricultural producers are required to complete and file income taxes, tax returns are more commonly available to agricultural lenders. Consequently, lenders use tax returns to measure farm profitability and credit examiners accept that practice (*Agricultural Lending*, 1998).



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However, income tax returns often reflect producers' strategies to reduce income tax liability and do not accurately reflect farm profitability. To account for the volatility of income, lenders often use a multi-year average of net farm income reported on Schedule F of the Federal income tax return (Durguner and Katchova, 2007). This average is then used as a proxy for accrual-adjusted net farm income.

The justification provided for this proxy in profitability practice is that variations in cash net farm income that arise from year-to-year operational, financial, and marketing changes will "average out" over a three-year period. Although users of the practice acknowledge that the two measures will not result in equal net farm income figures, they suggest that the difference will be within an acceptable range in order to calculate financial measures that are used to evaluate financial performance.

Yet before a decision-maker can make an informed decision as to whether the difference between the accrual-adjusted net farm income and a Schedule F net farm income is within an acceptable range, the decision-maker should know the extent of the difference that arises when using the two approaches. Hence, an estimate of the difference in the two methods is needed before an informed judgment can be made as to whether the measures are an acceptable proxy for accrual-adjusted net farm income and the resulting profitability, financial efficiency, and repayment capacity measures.

The purpose of this study is to determine an estimate of the difference in net farm income generated by the two approaches used in determining net farm income. The study uses individual farm records from 2002 through 2006 to calculate and compare the net cash farm income reported on Schedule F to the accrual-adjusted net farm income calculated per FFSC recommendations. The study analyzes operations that are stable in size, that are expanding in size, and that have various levels of financial leverage. The results provide users with an estimate of how much net farm income differs when calculated using the two approaches.

Background

Computer software programs are available for agricultural producers, lenders and financial advisors to use to prepare an accrual-adjusted income statement, including programs that are free of charge and that can be downloaded from the internet (Wilson, Barnard, and Boehlje, 2007; farmdoc, 2009). Such programs use information reported on Schedule F of the Federal income tax return, along with beginning

and end-of-year balance sheets prepared as of the ending date of the reporting period. Adjustments are made to net farm income reported on Schedule F to reflect changes in inventory, accounts receivable, accounts payable, accrued expenses, and more, which are needed to prepare an accrual-adjusted income statement.

A difference in net farm income reported on a Schedule F and accrual-adjusted net farm income can arise due to several reasons. Farmers can purchase inputs that will be used for an upcoming production period in order to reduce taxable income in the current income tax reporting period. Differences in production levels and/or commodity prices reflected in inventory values reported on the two balance sheet dates can result in wide swings in net farm income from year to year. Changes in marketing plans can shift sales from one tax reporting period to another and result in a difference in net farm income. Strategies designed to reduce financial stress, such as decreasing inventories to generate cash to make a loan payment, alter cash basis income but not accrual-adjusted income. Any of these reasons, along with others, can result in different net farm income figures when using the two approaches to report net farm income, even though a farm remains stable in size across multiple tax reporting periods. Another difference amplified in recent years is the use of accelerated and bonus depreciation methods employed by farm producers. For tax purposes producers can use an expense election to manage tax liabilities. However, this is not a reflection of the true economic depreciation that can be reflected through an accrual adjusted income statement.

Those same reasons, plus others, can result in differences in net farm income using the two approaches for farm and ranch operations that are either increasing or decreasing in size. For instance, a farm that is increasing in size may intentionally withhold market animals for breeding purposes in order to expand the breeding herd. Such a practice can make the farm appear less profitable than it actually is, because of the decrease in cash receipts from the sale of market animals. On the other hand, a farm can be decreasing in size due to financial stress, personnel changes, preparation for retirement, intergenerational transfer of assets, and more. Such strategies may include decreasing or liquidating inventories, which may make the farm more profitable on a cash basis than it is on an accrual-adjusted basis.

Agricultural lenders often use the three-year average of net farm income reported on Schedule F. This is due to the difficulty

convincing borrowers to prepare balance sheets “as of” the end of the tax reporting period. For the majority of farms that date would be the last day of the calendar year. Instead, the balance sheet that is prepared and used to analyze the financial condition of the loan is often prepared just prior to or at the time of the loan renewal. The loan renewal date is often scheduled after the income tax return is prepared for the previous calendar year. Consequently, the balance sheet is not prepared “as of” the end of the tax reporting period and the accrual adjustments needed to prepare an accrual-adjusted income statement are not available.

Hence, a three-year average of the net farm income figures taken from Schedule F is used as a proxy for accrual-adjusted net farm income. However, the extent of the difference between the net farm income calculated using the two approaches is needed in order to make an informed decision as to whether the three-year average is “close enough” to analyze the profitability, financial efficiency, and repayment capacity of the farm.

Previous Research

The benefit of including profitability and repayment capacity measures in financial and loan analyses was investigated in a 2007 study. Individual farm records were analyzed for farm record-keepers in the Illinois Farm Business and Farm Management record-keeping program. Profitability and repayment capacity measures were calculated using accrual-adjusted net farm income to assess credit risk for different producer age groups, in addition to solvency and liquidity measures. The most risky age group using solvency and liquidity measures was the under 30-year age group. However, the most risky age group when profitability and repayment capacity measures were included in the analysis was the 50-59 year age group (Ellinger, Barnard, and Wilson, 2007).

The improved accuracy of profitability measures calculated using accrual-adjusted net farm income compared to those same measures using cash basis of accounting was studied initially in 1992. A study of 369 producers enrolled in the Illinois Farm Business and Farm Management record-keeping program examined the difference between the two approaches on an annual basis. Over a seven-year time period (1984-1990), the average annual absolute difference between cash and accrual-adjusted net farm income was 69.7 percent. When considering only farms with a debt-to-asset ratio of more than 40 percent, the average difference between the two measures was more than 140 percent (Lins and Ellinger, 1992).

The practice of averaging the net farm income over a number of years to “average out” these differences was investigated in 1999 and the difference was less than found on an annual basis, but still substantial. Net farm income for 1,084 producers enrolled in the Illinois Farm Business and Farm Management record-keeping program from 1995 until 1997 were averaged using the cash basis and the accrual-adjusted basis of accounting. The median percentage difference when using the two approaches was 24 percent. When changes in inventory were included to partially convert net farm income from a cash basis to an accrual-adjusted basis, the median percentage difference decreased to seven percent (Ellinger, 1999).

Procedure

While previous work has looked at this issue, it is important to investigate it further using current data and additional operational scenarios. The current study builds on the findings of the previous studies and further investigates the differences between net farm income calculated using the two approaches. The study measures the amount of the difference, both in absolute and percentage terms, between net farm income calculated using cash basis and the accrual-adjusted approaches when using three-year and five-year averages of both measures of profitability.

The absolute value of the difference is calculated by taking three-year average of net farm income reported on Schedule F of the Federal income tax return and subtracting it from three-year average net farm income calculated using the accrual-adjusted approach. That difference is then divided by the three-year average accrual-adjusted net farm income amount to determine the percentage difference. The absolute value is used to capture the variation between the two amounts, regardless of whether the difference is positive or negative. This is the focus of the paper and hence the reason for the study. The differences partially reflect the continued ability of farmers to employ tax methods that reduce tax liability. This is demonstrated by the fact that average income taxes paid have not changed more than \$3,400 from 2002-2007 for FBFM farms where as the range of net income was more than \$160,000. (<http://fbfm.ace.uiuc.edu/results.htm>). The percentage difference allows the differences to be examined regardless of the size of the operations studied.

Farm growth is certainly one justification that simply using a three-year average of Schedule F will result in an appropriate proxy for profitability. As farms grow, inventory holdings often grow and will not be accounted for in cash measures of profitability. The annual

percentage difference in gross farm revenue was used to create three categories of increasing farm size of operation, which was not investigated in previous studies. Those categories were less than five percent, five to ten percent, and more than ten percent. The median percentage difference between net farm incomes using the two approaches was calculated to investigate the difference between the two approaches for farming operations going through a period of transition, such as increasing in size and consequently increasing inventories from period to period.

The differences between net farm incomes using the two approaches were also investigated for firms with different levels of financial leverage. One measure of financial leverage is the debt-to-asset ratio. The measure is calculated by dividing total farm liabilities by total farm assets, and then the result is multiplied by 100 to convert it to a percent. Increasing percentages represent increasing levels of financial leverage. The debt-to-asset ratio was used to group farms into three categories of financial leverage: less than 20 percent, 20-40 percent, and more than 40 percent leverage. The assets were valued using the market value approach.

Data

Annual income statement data used in the analysis are taken from the Illinois Farm Business and Farm Management (FBFM) record-keeping program from 2002 through 2006. That period was used in the study to include the most recent data available, while excluding the dramatic commodity price increases and decreases experienced in 2007 and 2008. During the period used, there were years in which commodity prices increased from the previous year and years in which those prices decreased from the previous year. That is also true of the corn and soybeans yields during the period studied (Table 1).

The FBFM field staff work with individual producers to document production and financial data for farming operations. While over 6,500 farm operators participate in the record-keeping only 1,045 records satisfied reconciliation and completeness criteria with sufficient detail to compute the financial performance measures suggested by the FFSC over the 2002 to 2006 time horizons. Those records were then verified for accuracy before being certified as usable for inclusion in the study.

Using the FBFM data, net farm income calculated using the cash basis of accounting is converted to an accrual-adjusted net farm income figure by adjusting the cash number by changes in inventory, accounts

receivable, prepaid expenses, and accounts payable and accrued expenses. To categorize the farms by the growth rate and leverage metrics for this study, annual percentage changes in gross farm revenue are used for the growth rate, and market values of assets are used to calculate the debt-to-asset ratio.

Grain farms were selected for the sample to create a more homogenous sample. A grain farm is defined by the FBFM records program as a farm in which the value of the feed fed to all livestock enterprises was less than 40 percent of the crop returns. Characteristics for the farms included in the sample are provided below:

| | 2002 | 2006 |
|---------------------------|--------|--------|
| Tillable Acres | 914 | 968 |
| Percent Land Owned | 18% | 20% |
| Total Assets (\$millions) | 1.17 | 1.69 |
| Age | 50 | 54 |
| Net Farm Income | 32,145 | 96,340 |

Distribution of Farm Size, 2006

| Acres | Percent |
|--------------------|---------|
| 0-300 | 5.5% |
| 301-600 | 23.1% |
| 601-900 | 24.3% |
| 901-1,200 | 18.8% |
| Greater than 1,200 | 28.3% |

Results

Differences from calculating net farm income using a three-year average of Schedule F net farm income and three-year average accrual-adjusted net farm income are reported and discussed in this section. The two approaches to reporting profitability will be used to measure profitability for farms classified in three ways: (1) for all farms; (2) for farms increasing in size, analyzed in three categories; and (3) for farms with financial leverage, analyzed in three categories. A five-year difference is also calculated using five-year average measures of cash and accrual-adjusted income.

Absolute measures for each category are used to demonstrate magnitude of the errors not necessarily directional effects. When the difference in net farm income across farms is averaged it offsets the magnitudes of these differences.

Multiple-year Averages

Table 2 shows the median amounts each year from 2002 through 2006 for net farm income calculated using cash basis accounting reported on Schedule F of the Federal income tax return and the accrual-adjusted net farm income, along with the median amounts for the accounts used to adjust cash income to convert it to accrual-adjusted income. For the period studied, the accrual-adjusted net farm income was higher than the cash net farm income because the positive adjustments resulting from increasing inventory values, accounts receivable and pre-paid expenses outweighed the negative adjustments arising from increases in accounts payable and accrued interest. As can be seen from reviewing the numbers reported in Table 2, the revenue adjustment due to changes in inventory is the largest adjustment for each of the five years. Of course, during periods of decreasing inventory values and/or high net cash incomes, cash net farm income could be higher than accrual-adjusted net farm income. Also, in response to higher cash net farm incomes producers often use accelerated depreciation methods to reduce taxable income. Consequently, differences in depreciation can also be large as producers seek to decrease taxable income during years of higher cash net farm income. Hence, differences in depreciation had the second largest differences in Table 2. The large impact of changes in inventory was also found in the 1999 study. Again, it should be noted that these differences are averages across the entire sample and individual farm variability is substantially higher and across both directions.

Table 3 shows the median absolute amounts and percentage differences between cash and accrual-adjusted net farm income are reported for each year of the period studied. The median absolute percentage difference exceeds 50 percent every year during the period, with the smallest difference being 52 percent in 2005. The difference for 2006, 63 percent, was the first year of the recent increase in commodity prices and illustrates the impact of increasing price volatility on the difference. The average annual percentage difference for the five-year period was 52 percent, which is about 18 percentage points lower than the 70 percent average annual percentage difference found in the 1992 study.

The median absolute percentage difference when comparing the median for three-year average cash and three-year average accrual-adjusted net farm incomes is reported in Table 3. The smallest difference was 52 percent, so averaging the amounts over a three-year period reduced the difference slightly, but still did not result in a

difference of less than 50 percent. When the averages using five-year averages were compared, the median percentage difference was 52 percent. Thus, no accuracy was gained by adding two additional years into the averaging period.

Given the common practice among some lenders to use the three-year average for cash net farm income as a proxy for the accrual-adjusted net farm income for the farming operation, this study assessed the difference between that average cash and accrual-adjusted income levels. As can be seen by reviewing the results reported in Table 4, when the three-year and five-year averages for cash net farm income are compared to the accrual-adjusted net farm income for the last year of the period averaged, the percentage difference exceeded 62 percent for every period, except 2003-2005 when it was 41 percent.

Impact of Increases in Size of Operation

When farming operations undergo changes, it is often difficult for producers and lenders to track the income for each period and the impact on repayment capacity as inventories, accounts receivable, accounts payable, accrued expenses, and more fluctuate during the transition period. Farms exhibiting high growth are expected to have larger differences between cash and accrual levels of income. Cash measures do not capture buildups in inventory and receivables. To analyze periods of change in the study, farms were sorted into three levels of growth using annual percentage change in gross farm income: less than five percent, five to ten percent, and over ten percent. The results are shown in Table 5.

As expected, the median absolute percentage difference in the income approaches increases across increasing levels of firm growth, from less than five percent increase in gross farm revenue to greater than ten percent increase in gross farm revenue. However, even with a change in gross farm revenue of less than five percent, the smallest percentage difference for any of the three-year periods was forty-one percent, and it only decreased to thirty-nine percent for the five-year period.

Impact of Financial Leverage

In order to determine the effect of leverage on the two different types of accounting, the debt-to-asset ratio was used to represent levels of financial leverage. Table 6 shows the median absolute differences in income for each of the three-year and the five-year periods. For farms with a debt-to-asset ratio of less than 20 percent, the median percentage difference ranged from 44 percent to 47 percent. When the ratio increased to 20-40 percent, the median percentage difference

was in the mid-50s for every period. The median percentage difference for those farms with a debt-to-asset ratio over 40 percent was 60 percent or greater for every time period averaged. Hence, with increasing levels of financial leverage, the percentage difference between net farm incomes using the two different approaches increased. This illustrates the importance of understanding these differences, especially for more highly leveraged farms.

The common belief that the differences between cash net farm income and accrual-adjusted net farm income will “average out” over time is not supported when put to an empirical test using individual farm records. Even for farms that experience little change, with an increase in gross farm revenue of less than five percent, the median percentage difference was forty-one percent or greater for every period evaluated in this study. It appears that even farms that have lower levels of leverage, classified here as debt-to-asset ratios of less than 20 percent, the median percentage difference was 44 percent or greater for every period averaged.

The answer to the question, “Is the average of cash net farm income close enough to accrual-adjusted net farm income to use it as a reliable proxy for profitability and repayment capacity measures?” will have to be addressed by each agricultural producer and loan officer. It could be deemed adequate for an operation that depends primarily on non-farm income for its repayment capacity. On the other hand, it could be found to be totally inadequate for an operation with a large level of debt, that is undergoing major changes, is highly leveraged, and that relies solely on the farm for its repayment capacity.

Final Comments

Differences between net farm income calculated using Schedule F of the Federal income tax return compared to net farm income calculated using the accrual-adjusted accounting approach recommended by the Farm Financial Standards Council are evaluated for 1,045 farms enrolled in the Illinois Farm Business and Farm Management record-keeping program. The average annual percentage difference between net farm incomes using the two approaches was 59 percent. When both a three-year average and a five-year average were used, the average percentage differences were

both approximately 52 percent. The differences were also studied by classifying the farm operations into three levels of increase in size of the operation. The analysis shows that the percentage difference increased as the change in the size of the operation increased. The difference was also evaluated over three levels of financial leverage as measured using the debt-to-asset ratio. The results show that as operations are more highly leveraged, the percentage difference between net farm incomes calculated using the two approaches increases.

Agricultural producers and lenders often use the average of net farm income reported on a cash basis as a proxy for an accrual-adjusted net farm income. The percentage difference between the two approaches averaged greater than 50 percent regardless of whether annual, three-year, or five-year averages were used. Likewise, the differences increased as farming operations went through increasing levels of both size of operation and levels of leverage. The results of this study provide a measure of the magnitude of the difference between the two approaches. Given the magnitude of the difference, cash measures have substantial shortfalls when used as a proxy for accrual-adjusted net income. However, on average, the majority of the discrepancies can be reduced by capturing the inventory change, prepaid expenses, and depreciation.

It is not the purpose of this study is to recommend who should and who should not use accrual-adjusted net farm income when analyzing creditworthiness for a farming operation. Instead, it is to present the magnitude of the difference between net farm incomes using the two approaches. Each decision-maker will have to decide whether or not a three-year average of net farm income reported on Schedule F of the Federal income tax return using the cash basis of accounting is adequate. If the goal of the measure is to provide a true measure of profitability, there appears to be some deficiencies and discrepancies with cash measures derived from tax returns. Consequently, most farm managers who understand the magnitude of the difference between the two approaches report net farm income both ways to maximize the advantages of cash accounting for income tax purposes and to maximize the benefits of accrual-adjusted accounting for purposes of business analysis.

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*Table 1. Illinois farm prices and yields per acre for corn and soybeans: 2000-2008**

| Year | Corn | | Soybeans | |
|------|--------------------------|-----------------------------|--------------------------|-----------------------------|
| | Price (\$ per bushel) | Yield (bushels per acre) | Price (\$ per bushel) | Yield (bushels per acre) |
| 2000 | 1.91 | 151 | 4.62 | 44 |
| 2001 | 2.04 | 152 | 4.55 | 45 |
| 2002 | 2.35 | 135 | 5.66 | 43 |
| 2003 | 2.42 | 164 | 7.51 | 37 |
| 2004 | 2.14 | 180 | 5.84 | 50 |
| 2005 | 2.08 | 143 | 5.76 | 46.5 |
| 2006 | 3.07 | 163 | 6.68 | 48 |
| 2007 | 4.09 | 175 | 10.40 | 43.5 |
| 2008 | 3.80 | 179 | 9.35 | 47 |

*Source: United States Department of Agriculture, National Agricultural Statistics Service. www.nass.usda.gov

Table 2. Five-year analysis of cash to accrual adjustments for 1,045 farm business farm management grain farms: 2002-2006

| | 2002 | 2003 | 2004 | 2005 | 2006 | 5-Year Average |
|-----------------------------------|-----------|------------|------------|------------|------------|-------------------|
| | | | Average | | | |
| Value of Farm Production | 244,500.4 | 279,214.7 | 323,683.5 | 315,105.6 | 373,315.0 | 307,164 |
| Total Operating Expenses | 214,006.0 | 213,875.7 | 236,651.5 | 260,350.5 | 279,413.9 | 240,860 |
| Accrual Income | 30,494.4 | 65,339.0 | 87,032.0 | 54,755.1 | 93,901.1 | 66,304 |
| Schedule F Cash Income | 237,647.6 | 267,835.4 | 301,361.0 | 316,841.9 | 329,981.8 | 290,734 |
| Schedule F Cash Expenses | 214,217.9 | 239,851.7 | 269,276.5 | 283,980.1 | 293,483.4 | 260,162 |
| Schedule F Net Income | 23,429.7 | 27,983.7 | 32,084.5 | 32,861.9 | 36,498.4 | 30,572 |
| Average Change in Accruals | | | | | | |
| Crop Inventory Change | 8,950.4 | 16,796.5 | 19,543.1 | (3,347.7) | 65,038.4 | 21,396 |
| Livestock Inventory Change | (936.2) | 201.9 | 1,292.9 | (293.6) | (513.6) | (50) |
| Accts Receivable Change | 1,537.7 | (1,763.4) | 6,731.3 | 5,716.3 | (14,191.2) | (394) |
| Other Adjustments from Schedule F | 2,699.1 | 3,855.7 | 5,244.8 | 3,811.4 | 7,000.4 | 4,522 |
| Total Accrual Change Revenue | 6,852.8 | 11,379.3 | 22,322.5 | (1,736.3) | 43,333.2 | 16,430 |
| Prepaid Expenses Change | (3,284.4) | 3,692.5 | 5,192.8 | 4,071.8 | (2,792.7) | 1,376 |
| Accts Payable Change | 432.2 | 207.6 | 525.5 | (39.7) | 599.1 | 345 |
| Accrued Interest Change | (95.4) | (276.3) | (276.1) | 674.8 | 1,478.0 | 301 |
| Difference in Depreciation | NA | (18,069.8) | (22,920.0) | (16,270.9) | (15,953.6) | (18,304) |
| Other Adjustments from Schedule F | 3,833.1 | 4,145.0 | 4,761.7 | 3,922.0 | 2,985.7 | 3,929 |
| Total Accrual Change Expenses | (211.9) | (25,976.0) | (32,625.0) | (23,629.6) | (14,069.5) | (19,302) |
| Absolute Change in Accruals | | | | | | |
| Crop Inventory Change | 27,380 | 30,113 | 31,950 | 30,590 | 70,591 | 38,125 |
| Livestock Inventory Change | 3,486 | 3,330 | 3,425 | 2,652 | 2,607 | 3,100 |
| Accts Receivable Change | 4,500 | 4,569 | 7,949 | 9,149 | 14,420 | 8,117 |
| Prepaid Expenses Change | 10,733 | 10,488 | 13,465 | 14,419 | 16,335 | 13,088 |
| Accts Payable Change | 2,577 | 2,260 | 2,702 | 2,567 | 2,942 | 2,610 |
| Accrued Interest Change | 2,733 | 2,253 | 2,219 | 2,485 | 3,330 | 2,604 |
| Difference in Depreciation | NA | 18,739 | 23,608 | 18,001 | 18,420 | 19,692 |

Table 3. Difference between accrual-adjusted net farm income – Schedule F net farm income

| Year(s) | Actual (\$) ¹ | Absolute (\$) ¹ | Actual (%) ² | Absolute (%) ² |
|--------------------------|--------------------------|----------------------------|-------------------------|---------------------------|
| 2002 | 7,065 | 24,688 | 38% | 56% |
| 2003 | 37,355 | 41,937 | 56% | 61% |
| 2004 | 54,947 | 57,594 | 61% | 63% |
| 2005 | 21,893 | 36,208 | 52% | 52% |
| 2006 | 57,403 | 62,648 | 10% | 63% |
| 3 Year Average (2002-04) | 33,122 | 34,186 | 51% | 52% |
| 3 Year Average (2003-05) | 38,065 | 39,364 | 52% | 52% |
| 3 Year Average (2004-06) | 44,748 | 45,799 | 53% | 54% |
| 5 Year Average (2002-06) | 35,733 | 36,394 | 52% | 52% |

1. Average difference

2. Median difference

Median Absolute Percentage Difference: (Accrual-adjusted – Schedule F)/ Accrual-adjusted

All differences for each year 2002, 2003, 2004, 2005, 2006, 2002-2004, 2003-2005, and 2004-2006 are significant at the 99 percent level of confidence.

Table 4. Median absolute differences between cash and accrual-based net farm income: 3- and 5-year averages compared to the last year of the accrual-adjusted average period

| Years Averaged | 3 and 5-Year Average Schedule F Amount | Last Year of the Accrual-adjusted Averaged Period Amount | Percentage Difference |
|----------------|--|--|-----------------------|
| 2002-04 | \$24,650 | \$73,839 | 67% |
| 2003-05 | \$27,159 | \$45,813 | 41% |
| 2004-06 | \$29,065 | \$78,798 | 63% |
| 5-Year | | | |
| 2002-06 | \$26,501 | \$78,798 | 66% |

Table 5. Median absolute difference between cash and accrual-adjusted net farm income: three levels of annual percentage increase in gross revenue

| Years Averaged | Less than 5% | 5-10% | Greater than 10% |
|----------------|--------------|-------|------------------|
| 2002-04 | 46% | 51% | 54% |
| 2003-05 | 41% | 49% | 58% |
| 2004-06 | 41% | 50% | 61% |
| 5-Year | | | |
| 2002-06 | 39% | 52% | 55% |

Table 6. Median absolute differences between cash and accrual-adjusted net farm income: three levels of financial leverage, measured by debt-to-asset levels

| Years Averaged | Debt-to-Asset Less than 20% | Debt-to-Asset 20-40% | Debt-to-Asset Greater than 40% |
|----------------|-----------------------------|----------------------|--------------------------------|
| 2002-04 | 44% | 56% | 60% |
| 2003-05 | 45% | 56% | 61% |
| 2004-06 | 47% | 57% | 63% |
| 5-Year | | | |
| 2002-06 | 44% | 55% | 60% |