

Ohio Farm Finances for 2020

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September 16, 2022

Highlights

- Ohio farms had financial improvements in 2020 in terms of both profitability and liquidity. The median net farm income reached \$172,066 in 2020, a 121% increase from \$78,019 in 2019. The current ratio for the average farm was 2.60 at the end of 2020, up from 1.70 in 2019.
- From the perspective of solvency and debt repayment capacity, Ohio farms also had improvements in 2020. The average net worth of Ohio farms at market values increased by over \$295,000 in 2020. Also, Ohio farms on average had better performance than US farms.

INTRODUCTION

Evaluating farm financial performance is one of the most important steps in farm management, providing guidance for farmers, market participants, and policy-makers. In this report, we focus on analyzing the profitability, liquidity, solvency, and debt repayment capacity of Ohio farms during the period from 2012 to 2020. The financial ratios typically used to evaluate farm financial performance including rate of return on equity (ROE), rate of return on assets (ROA), working capital, current ratio, net worth, and term debt coverage ratio (TDCR) as described below.

ROE is a measure of farm profitability in terms of how efficiently the farm generates profits from its equity: $ROE = \frac{\text{net farm income} - \text{value of operator labor management}}{\text{average farm net worth}}$.

ROA measures what the assets invested in the farm operation "earned":

$$ROA = \frac{\text{net farm income} + \text{farm interest} - \text{value of operator labor management}}{\text{average farm assets}}$$

Working capital measures the available operating capital for the farm: $\text{working capital} = \text{current assets} - \text{current liabilities}$.

Current ratio is the extent to which current farm assets would cover current farm liabilities: $\text{current ratio} = \frac{\text{current assets}}{\text{current liabilities}}$.

Net worth provides a snapshot of a farm's current financial position: $\text{net worth} = \text{total assets} - \text{total liabilities}$.

TDCR shows whether the farms generated enough income to cover all intermediate and long-term debt payments:

$$TDCR = \frac{\text{net farm income} + \text{net nonfarm income} + \text{interest (term debt)} - \text{family living and taxes}}{\text{scheduled principal and interest payments on term loans and leases}}$$

Working capital to gross income measures operating capital available against the size of the farm:

$$\text{working capital to gross return} = \frac{\text{current assets} - \text{current liabilities}}{\text{gross income}}$$

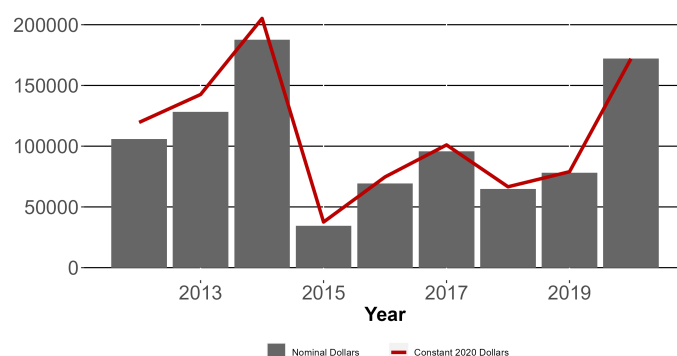
Debt-to-asset ratio is the proportion of total farm assets owed to creditors: $\text{debt to asset ratio} = \frac{\text{total farm debt}}{\text{total farm assets}}$.

All financial ratios for Ohio farms are calculated using FINBIN data from the Center for Farm Financial Management at the University of Minnesota with data contributions from the Ohio Farm Business Analysis and Benchmarking Program by the Ohio State University Extension. The FINBIN data provide financial summary statements for farm producers, educators, lenders, and other agricultural professionals. The database summarizes actual farm data from agricultural producers from several states including Ohio.

PROFITABILITY

Profitability can show the farm performance over the year and ensure farms can survive in the long term. Hence, profitability is an important ratio in the financial statement. ROE and ROA are two main measurements.

Figure 1: Median net farm income for Ohio farms, 2012-2020

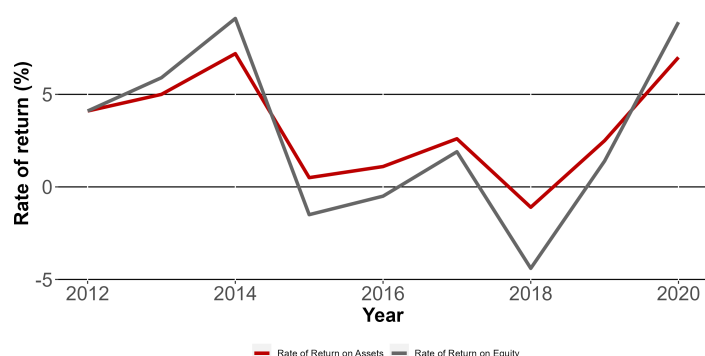


Source: FINBIN Database, Data as of June 15, 2022

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In 2020, after seven years of low profits (2012-2019), farms in Ohio experienced the most profitable year, as shown in Figure 1. The median net farm income reached \$172,066 in 2020, a 121% increase from \$78,019 in 2019. Additionally, there was a 133% increase in average net farm income from 2019 to 2020. The average net farm income in 2020 was \$159,684 more than the median net farm income in the same year, indicating that most profitable farms were so profitable that they could positively skew the average for all farms. Even though the pandemic brought many uncertainties to farms, the increased government payments relieved the financial budget to some extent. Government payments in 2020 were \$204,187, which were almost 4 times more than the government payments in 2018.

Figure 2: Rate of returns for Ohio farms, 2012-2020



Source: FINBIN Database, Data as of June 15, 2022

The recent historic relationship between ROE and ROA for Ohio farms (based on the adjusted cost or book value of assets) is presented in Figure 2. It can be seen that 2020 was a profitable year with both increasing ROE and ROA. The average Ohio had a ROE of 8.90%, which increased 7.5% from 2019. Ohio farms had a ROA of 7.90%, up from 1.4% in 2019. In 2020, ROE was greater than ROA. This indicates that borrowed capital brought more profits to farms than its cost (interest payments). When assets were valued at the estimated market value, ROA decreased to 5.4% and ROE decreased to 6.10%.

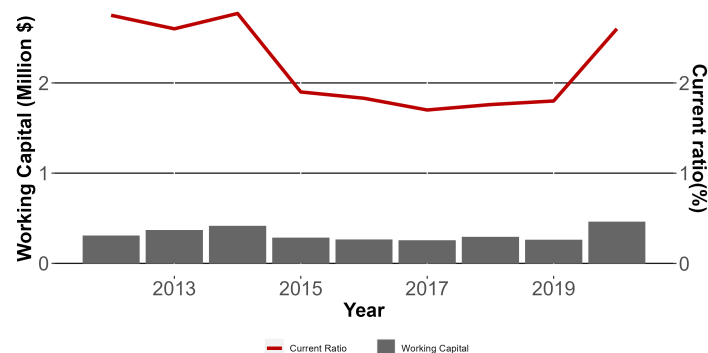
LIQUIDITY

Liquidity is the ability to convert an asset into cash easily and without losing money against the market price. The easier it is for an asset to turn into cash, the more liquid it is. Liquidity is important for learning how easily the farm can pay off its short term liabilities.

Working capital has been a main focus for agricultural producers and lenders in the past. It is a major financial resource farms rely on to survive a period of depressed financial conditions. The current ratio tells farmers how their farm can maximize the current assets on its balance sheet to satisfy its current debt and other payables. Figure 3 describes the current ratio and working capital for Ohio farms from 2012 to 2020. The average working capital in 2020 increased by 76% or \$199,247 as compared to 2019. The average working capital approached the highest level since 2012. The current ratio for the average farm was 2.60 at the end of 2020 (\$2.60 of current assets to cover each dollar of current debt), up from 1.70 in

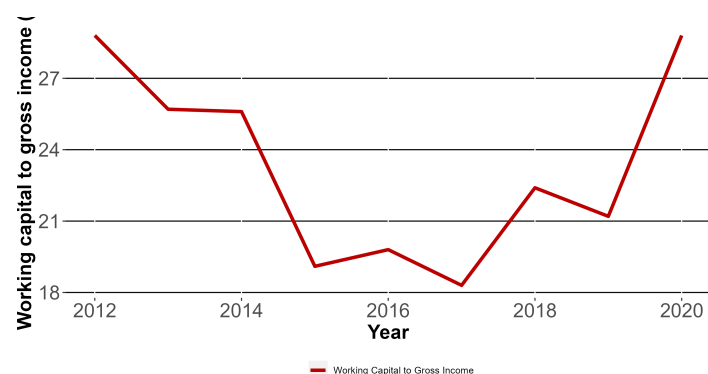
2019. The increase was beneficial as many farms have faced weaker liquidity positions for several years.

Figure 3: Current ratio and working capital for all farms in Ohio, 2012-2020



Source: FINBIN Database, Data as of June 15, 2022

Figure 4: Working capital as a percent of gross income, 2012-2020



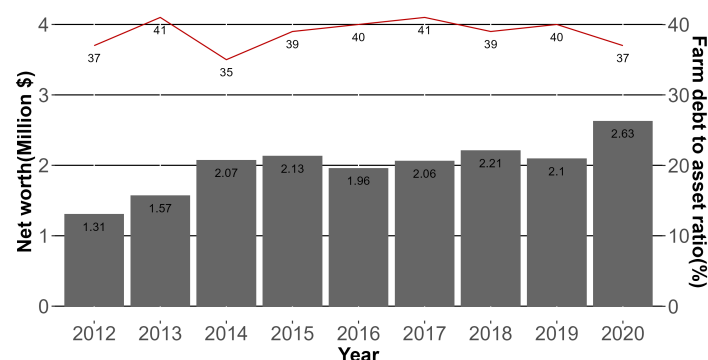
Source: FINBIN Database, Data as of June 15, 2022

Working capital to gross income (working capital/gross income) is a good measure of liquidity in that it relates the level of liquidity to business size. The liquidity position for Ohio farms improved to 27.6% in 2020 as depicted in Figure 4. The improvement represented a stronger liquidity position and put farms in Ohio on much stronger financial footing.

SOLVENCY

Solvency is a measure of whether the business can cover its total debts with its asset base. This is a longer-term measure of financial performance than liquidity.

Figure 5: Ohio average farm net worth and debt to asset ratio, 2012-2020



Net worth is what is owned minus what is owed. The average net worth at market values for Ohio farms increased by over \$295,000 in 2020. Of that, 86% was “earned net worth change,” resulting from farm and non-farm earnings exceeding owner withdrawals for family living and taxes. The other portion resulted from changes in the estimated market value of farm assets. The average debt-to-asset ratio for Ohio farms at market values went down from 30% to 26% in 2020 (the debt-to-asset ratio at market values in 2020 was 25%).

Table 1. Impact of financial leverage on Ohio farm, 2020

| | Low leverage | All |
|---------------------------------|--------------|--------|
| Number of farms | 30 | 39 |
| ROA | 6.90% | 7.00% |
| ROE | 8.00% | 8.90% |
| Current ratio | 3.5 | 2.6 |
| Working capital to gross income | 37.10% | 28.80% |
| Term debt coverage ratio | 2.87 | 2.72 |

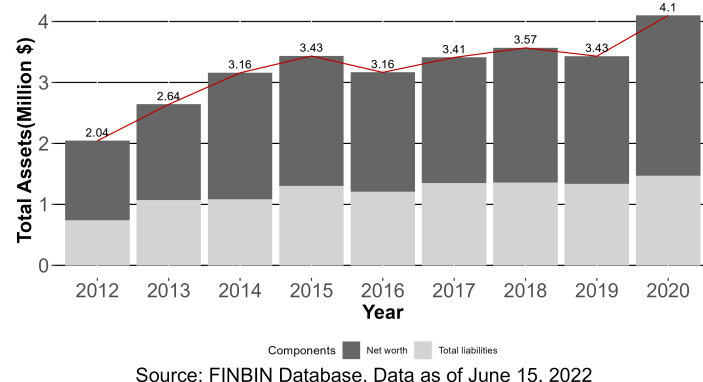
Source: FINBIN Database, Data as of June 15, 2022

Note: The low leverage group is defined as having debt to asset ratio smaller than 40%.

The Ohio farms’ average net worth at cost values increased from \$2.1 million in 2019 to \$2.63 million in 2020 as depicted in Figure 5. Meanwhile, the average debt-to-asset ratio at cost values went down slightly to 37%. Generally, the average farm net worth at cost values depicted in Figure 5 reveals an increasing trend in recent years. The average debt-to-asset ratios at cost values for Ohio farms remain moderate in recent years, which are slightly lower than the debt-to-asset ratios for all US farms.

The impact of financial leverage on the financial performance of Ohio farms is presented in Table 1. Low leveraged farms (about 77% of Ohio farms) showed lower profitability based on ROA and ROE. However, higher leveraged farms are more vulnerable financially with poorer liquidity and repayment capacity: lower current ratio, working capital to gross income, and TDCR.

Figure 6: Average total assets and their components for Ohio farms, 2012-2020

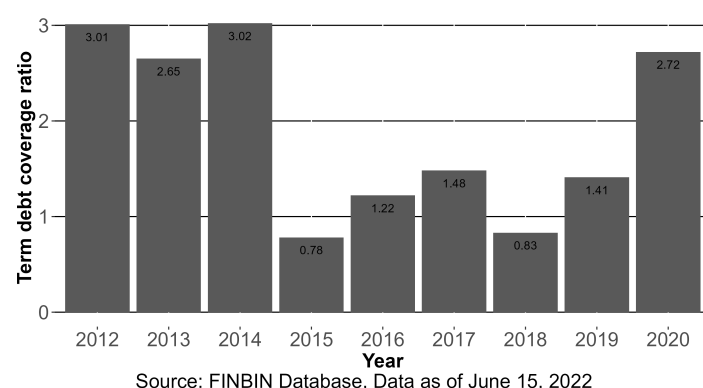


While debt-to-asset ratios have not changed much in recent years, there have been major changes in the balance sheets of Ohio farms. The average farm has grown rapidly (Figure 6): the total assets have doubled from 2012 to 2020 (increased by over \$2 million). Also, the average farm has gained over \$1 million of net worth over the past 8 years in today’s dollars. This equates to over 14% net worth growth per year.

DEBT REPAYMENT CAPACITY

TDCR is one of the most important measures used by lenders when extending credit to farm businesses. It measures whether a farm has the capability to pay all of its intermediate and long-term debt on time (by comparing dollars available for debt repayment after family living and income taxes versus scheduled payments on term debt).

Figure 7: Average farm debt coverage ratio for Ohio farms, 2012-2020



Debt coverage significantly improved for the average farm in 2020, averaging 2.72 for all farms, up from 1.41 in 2020, the highest average debt coverage ratio since 2015. This increase was partially due to the COVID relief and other government payments which provided a major share of the cash needed to make payments. Also, Ohio farms’ TDCR is higher than the national level (2.59 in 2020), suggesting a better performance for Ohio farms in comparison to all US farms.

DISCUSSION

Farm profitability for Ohio farms was generally lower than the average for US farms. Though it has been three consecutive years of an increase in Ohio farm profitability as shown above, participants should take this positive signal cautiously as farm cash receipts are decreasing and being projected downward. However, liquidity and solvency for Ohio farms remained at a high level which provides strong support to the overall farm financial performance.

REFERENCE

Shoemaker, D. "2020 Ohio Farm Business Summary." Ohio State University Extension, September, 2021.

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