



Agricultural Debt Continues to Increase

Brandy Krapf, Dwight Raab and Bradley Zwilling

Illinois FBFM Association and Department of Agricultural and Consumer Economics
University of Illinois

February 17, 2017

farmdoc daily (7):30

Recommended citation format: Krapf, B., D. Raab, and B. Zwilling. "[Agricultural Debt Continues to Increase](#)." *farmdoc daily* (7):30, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, January 20, 2017.

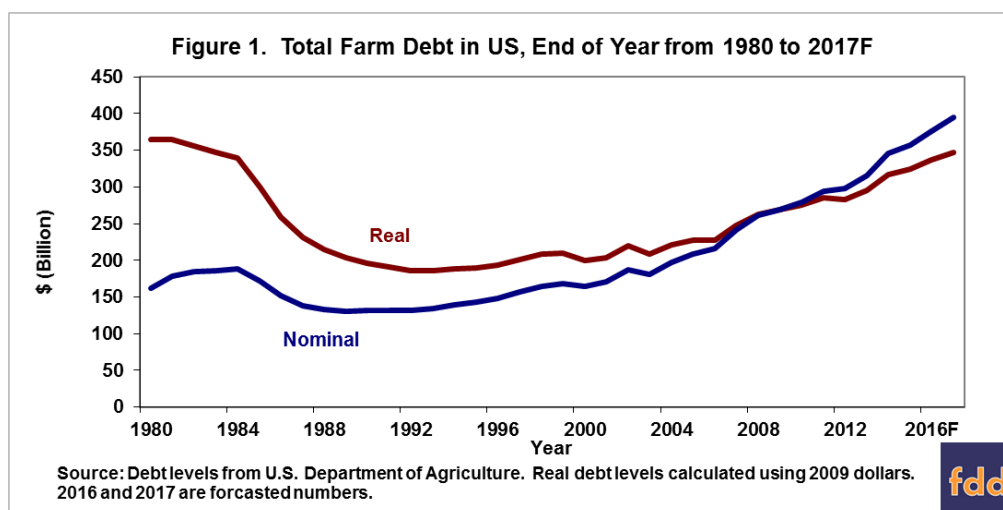
Permalink: <http://farmdocdaily.illinois.edu/2017/02/agricultural-debt-continues-to-increase.html>

Agricultural debt on a nominal basis in Illinois has been increasing since 1991. Data from the U.S. Department of Agriculture (USDA) and Illinois Farm Business Farm Management (FBFM) are shown to see if increasing debt levels pose problems for the financial health of Illinois farms. With the continued downturn in the farm economy, increasing debt levels need to be monitored closely.

Overall Agricultural Debt Levels

USDA publishes estimates of total agricultural debt outstanding in the United States (see Economic Reporting Service, USDA [website](#)). This series is available from 1960 onwards and gives the amount of debt outstanding as of the year-end.

Nominally, agricultural debt reached a peak in 1984 of \$188.8 billion (see the nominal line in Figure 1). From 1984 through 1989, agricultural producers retired debt and agricultural lenders wrote off some debt, resulting in a decline in total debt. By 1989, agricultural debt had declined by 31%, reaching a level of \$131 billion.



We request all readers, electronic media and others follow our citation guidelines when re-posting articles from *farmdoc daily*. Guidelines are available [here](#). The *farmdoc daily* website falls under University of Illinois copyright and intellectual property rights. For a detailed statement, please see the University of Illinois Copyright Information and Policies [here](#).

Since 1990, agricultural debt increased an average of 4.1% per year. The rate of increase varied from year-to-year but exhibited no escalating or decreasing trends. The highest rate increases occurred between 2006-2007 and 2007-2008 when increases were 11.6 and 8.4%, respectively. Increases of less than 3% occurred 6 times in this period while decreases happened in 3 years with the greatest at negative 3.2% in 2002-2003.

At the end of 2004, agricultural debt reached \$197.6 billion, surpassing the previous high set in 1984. Increasing debt levels may cause concerns that financial stress occurring during the 1980s may repeat. However, the above debt levels are stated in nominal terms and do not take into consideration inflation's devaluing impacts on the dollar.

Using the gross national product – implicit price deflator to state nominal debt levels in terms of 2009 dollars gives a different picture of debt levels (see the real line in Figure 1). In terms of 2009 dollars, agricultural debt started at \$365 billion in 1980 before declining until 1994. Since 1993, agricultural debt in real terms increased all but three years 2000, 2003 and 2012. Since 1990, the rate of increase averaged 2.1% for real debt levels, much lower than the 4.1% nominal rate increase. The forecasted numbers for 2016 and 2017 are the highest levels in real terms since 1985.

Debt Levels on FBFM Grain Farms

Additional perspective on debt can be obtained by analyzing farm level data from FBFM. Table 1 presents average data for grain farms enrolled in FBFM who have certified-useable balance sheets. The data is stated in nominal terms and debt levels are stated as of year-end 1991 through 2015. Three measures of debt level are presented in Table 1: debt-to-asset ratio, debt per tillable acre, and interest expense per tillable acre.

Table 1. Debt Measures for Grain Farms Enrolled in Illinois FBFM, 1991 - 2015

Year	Debt-to-Asset Ratio	Debt per Tillable Acre	Interest Expense per Tillable Acre
	%	\$ per acre	
1991	33.4	\$258	\$20.72
1992	32.1	267	18.63
1993	30.7	271	17.27
1994	30.3	277	15.95
1995	30.1	270	17.57
1996	29.5	288	17.17
1997	29.2	316	18.79
1998	29.5	329	19.97
1999	29.8	329	20.33
2000	29.5	337	20.18
2001	30.4	349	19.76
2002	30.7	354	17.25
2003	29.2	357	16.02
2004	28.5	372	15.20
2005	27.4	388	16.98
2006	26.1	406	20.20
2007	23.6	431	22.58
2008	22.7	468	20.64
2009	22.5	496	19.57
2010	21.2	504	18.75
2011	20.1	556	19.11
2012	18.0	603	18.44
2013	18.4	635	17.49
2014	19.0	674	18.50
2015	20.4	685	20.20

The debt-to-asset ratio had a very slight downward trend from 1991 to 2003. In 1991 and 2003, the debt-to-asset ratio was 33.4% and 29.2%, respectively. From 2004 to 2012, the debt-to-asset ratio decreased at a faster pace, averaging 5.2%. In 2004 and 2012, the debt-to-asset ratios were 28.5% and 18%, respectively. Since 2012, the debt-to-asset ratio has increased 4.3% annually. Since 1991, both asset and liability levels rose, with asset levels increasing slightly faster than debt levels.

Increases in debt can be seen by examining debt per tillable acre. Debt levels were \$258 per tillable acre in 1991 compared to \$372 in 2004, an increase of over \$100 per acre (see Table 1). Since 2005, debt levels per tillable acre increased almost \$300 per acre. Between 1991 and 2004, debt per tillable acre increased an average of 2.9%, which is about equal to the 3% for all U.S. agricultural debt. However since 2005, Illinois FBFM grain farms debt per tillable acre increased 5.7%, slightly higher than the national average of 5.6%.

While debt levels have increased, interest expense per tillable acre declined from 1999 to 2013, except for 2006, 2007 and 2008 which saw double-digit increases of 11.7%, 18.9% and 11.8%, respectively as well as 2.0% in 2011. Interest per tillable acre has been increasing since 2014. Interest expense was \$20.72 per tillable acre in 1991 and \$18.63 in 1992, while in 2014 and 2015 interest expense was \$18.50 and \$20.20, respectively. Lower interest rates in the late 90s and early 2000s caused the reduction in interest expense per tillable acre in the face of rising debt levels per acre. However, an interest rate increase in the mid-2000s caused an increase in interest expense per tillable acre during that period. From the mid-2000s until 2013, interest rates have decreased, but the amount of debt has increased more rapidly. Interest rates as well as debt has begun to increase since 2013, leading to interest expense per tillable acre to increase on average 7.5%.

Summary

The importance a farmer puts on monitoring their debt level is becoming increasingly important in this period of lower farm returns. With lower crop prices and higher inputs, we will continue to see the increase in debt per acre. With interest rates moving higher, this mean a rising interest expense as well. In addition, with some farm assets decreasing in value, this can also lead to higher debt-to-asset ratios even without any additional debt. Finally, as debt levels increase, farmers need to monitor their term debt and capital lease ratio. The greater the number, the greater the margin to meet all term debt and capital lease payments. A ratio of one means that income available is equal to the term debt and lease payments. In 2015, the average for the 2,601 IL farms enrolled in FBFM with useable data was 0.42 compared to 1.48 in 2014. Establishing or maintaining good recordkeeping during these times will help farmers identify areas of concern faster and be able to make better farm financial decisions.

The author would like to acknowledge that data used in this study comes from the local Farm Business Farm Management (FBFM) Associations across the State of Illinois. Without their cooperation, information as comprehensive and accurate as this would not be available for educational purposes. FBFM, which consists of 5,500 plus farmers and 60 professional field staff, is a not-for-profit organization available to all farm operators in Illinois. FBFM field staff provide on-farm counsel with computerized recordkeeping, farm financial management, business entity planning and income tax management. For more information, please contact the State FBFM Office located at the University of Illinois Department of Agricultural and Consumer Economics at 217-333-5511 or visit the FBFM website at www.fbfm.org.