



Trends in Working Capital and Financial Solvency

Bradley Zwilling, Dwight Raab and Brandy Krapf

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

January 20, 2017

farmdoc daily (7):10

Recommended citation format: Zwilling, B., D. Raab, and B. Krapf. "Trends in Working Capital and Financial Solvency." *farmdoc daily* (7):10, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, January 20, 2017.

Permalink: <http://farmdocdaily.illinois.edu/2017/01/trends-in-working-capital-and-financial-solvency.html>

Many of you are in the midst of preparing financial statements for 2016. It is important to take the time to prepare a complete and accurate set of financial documents that include an accrual income statement and a balance sheet. Those two documents...or better yet, a series of those two documents from several years provide valuable financial facts about your farm business. The accrual income statement measures the net revenue income that results from the fruits of your management skills and the local/global economic environment in which your farm operates. Your balance sheet (at fair market value or FMV) is a 'stock' measure at a point in time (usually 31Dec20xx) of the assets in your farm business and the claims of ownership (via debt or equity) on those assets. There is no substitute for a good set of financial records that can be used to make decisions.

This article reviews trends in working capital as they relate to the debt/asset ratio. This data, from a ten year period (2015-2006) is provided by farm operations participating in the Illinois Farm Business Farm Management Association. Working capital is derived by subtracting current liabilities from current assets. The observations are separated into one of four groups by debt/asset ratio. The four debt/asset ratio groups are: 1) less than .20, 2) .21 to .40, 3) .41 to .70 and 4) greater than .71. Recall that the debt/asset ratio reveals the percentage of your assets that your lender owns. The calculation takes total farm debt and divides by total farm assets. For example, a debt/asset ratio of .25 tells that for every \$1,000 of assets there is an obligation to a lender of \$250 on those assets. Debt/asset ratios tend to be greater for younger farm operators who are at the outset of their farming career. Likewise, debt/asset ratios tend to be lesser for older farm operators as the seasoned farm operator has had a lifetime to pay down debt initially acquired at a younger age.

Table 1 shows the median working capital for each of the four debt/asset groups for the ten-year period. For three of the four groups, working capital was at its greatest level in 2012. The same three groups show the least amount of working capital in 2006. It is easy to note from the table the trend of greater debt/asset ratios being associated with lesser amounts of working capital. Further, each one of the ten years shows a declining amount of working capital as the debt/asset ratio increases with the greatest debt/asset ratio group showing negative working capital in three of the ten years.

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](#).

	D/A = <.2		D/A = .21-.4		D/A = .41-.7		D/A = .71-1	
2015	\$	879,592	\$	686,711	\$	338,533	\$	(5,116)
2014	\$	896,094	\$	750,156	\$	407,620	\$	34,455
2013	\$	905,829	\$	726,192	\$	450,184	\$	50,958
2012	\$	939,537	\$	796,708	\$	506,800	\$	22,531
2011	\$	806,601	\$	700,206	\$	422,240	\$	144,679
2010	\$	720,286	\$	583,476	\$	357,064	\$	(37,125)
2009	\$	644,800	\$	524,567	\$	329,504	\$	(1,338)
2008	\$	647,616	\$	553,457	\$	381,037	\$	107,732
2007	\$	565,460	\$	479,128	\$	300,318	\$	78,814
2006	\$	436,698	\$	328,389	\$	207,996	\$	33,962

Source: Illinois FBFM Association

Working capital is the short-term reserve of cash or near cash that permits a farm business to respond to ordinary financial needs or take advantage of opportunities to expand one's farming business. It is necessary to maintain an adequate level of working capital to weather the ups and downs of financial cycles and economic conditions. Adequate amounts of working capital depend on many factors including the size of farm operation and the financial and operational risk associated with the farm. As an absolute dollar amount it is difficult to compare working capital between farms. Table 2 is presented to evaluate working capital from a relative perspective. Table 2 shows working capital relative to the number of acres and working capital relative to gross farm revenue. Many would suggest that working capital relative to gross farm returns should be at .15 to .25 if not higher. Table 2 indicates that the farms in the this dataset maintain working capital relative to gross farm returns at a level that exceeds the .15 to .25 level. This measure was at its greatest in 2012 (0.520) and at its least in 2006 (0.325). Working capital per operator acre reached a peak in 2012 (\$540/operator acre) and had diminished considerably since then to the 2015 level of \$305 per operator acre.

	Median Debt/Asset	Median Working Capital	Working Capital Per OprAc	Working Capital as % of GFR
2015	0.202	\$ 232,173	\$ 305	0.433
2014	0.187	\$ 293,067	\$ 393	0.461
2013	0.185	\$ 329,910	\$ 452	0.512
2012	0.182	\$ 396,050	\$ 540	0.520
2011	0.198	\$ 340,554	\$ 403	0.487
2010	0.213	\$ 269,069	\$ 374	0.469
2009	0.225	\$ 222,698	\$ 299	0.433
2008	0.227	\$ 253,535	\$ 340	0.433
2007	0.236	\$ 207,713	\$ 288	0.414
2006	0.258	\$ 119,841	\$ 167	0.325

Source: Illinois FBFM Association

Table 2 also shows the median debt/asset ratio for each year with the lowest ratio in 2012 and the highest in 2006. The median amount of working capital is present in this table as well showing the greatest amount of working capital in 2012 and the least in 2006.

The authors 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 5,700 plus farmers and 64 professional field staff, is a not-for-profit organization available to all farm operators in Illinois. FBFM staff provide counsel along with 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.

References

Langemeier, M., and A. Featherstone. "Examining Trends in Liquidity for a Sample of Kansas Farms." *farmdoc daily* (6):124, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, July 1, 2016.

Schnitkey, G. "Working Capital Buffers Gone at End of 2016." *farmdoc daily* (6):178, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, September 20, 2016.

Schnitkey, G. "Working Capital Changes Projected for Grain Farms in 2016: Before and After Recent Price Changes." *farmdoc daily* (6):117, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 21, 2016.