

Farm Debt-to-Asset Ratios by Age

Gregg Ibendahl (ibendahl@ksu.edu)

Kansas State University Department of Agricultural Economics – June 2015

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With potentially lower grain prices forecast for 2015 and beyond, crop farms may earn lower net farm income compared to the last several years. The period from 2006 to 2012 was very profitable for most grain farms. As a result most farms did not have any problems meeting operating expenses and paying debt. However, a period of lower grain prices could result in some farms facing problems with too much debt.

This article examines the debt to asset ratios and the interest expense ratios for the period of 2002 through 2013. All the analysis shown is based on data from the Kansas Farm Management Association. Specifically, these ratios are examined for farmers based on age ranges. Debt to asset ratios under 30% are considered optimal, with ratios from 30% to 70% considered acceptable. Interest expense ratios under 10% are considered optimal, with ratios from 10% to 20% considered acceptable. As debt levels rise, farms will have a more difficult time making interest and principle payments. This becomes even more of a concern as net farm income levels decline. Farms that are in the acceptable range or higher for both of these measures are probably most at risk from a drop in grain prices.

Table 1 lists the average net farm income for the years 2002 through 2013 based on the age range of the farm operator. As this table illustrates, farmers in their forties tend to earn the greatest income while farmers in their eighties tend to earn the lowest. There is a strong correlation with age and net farm income as farmers in their thirties earn less than those in their forties while farmers in their twenties earn less than those in their thirties. The age trend reverses as farmers enter their fifties.

Operator age range	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Twenties	26,825	34,206	55,325	59,806	28,734	103,020	102,507	121,481	138,389	97,734	94,705	86,735
Thirties	22,551	62,709	70,238	53,138	55,228	143,609	134,627	110,892	161,170	199,573	157,590	124,981
Sixties	14,880	53,495	71,951	59,769	53,546	110,839	106,750	96,025	128,725	137,769	151,477	143,097
Seventies	8,087	32,510	43,591	39,812	36,460	64,892	69,188	69,854	115,189	98,334	111,047	97,324
Forties	22,704	56,434	70,848	60,103	47,381	134,636	163,558	133,435	212,633	233,340	211,453	170,038
Fifties	23,975	54,983	72,539	60,572	48,073	126,595	141,801	118,906	176,183	196,521	182,597	150,069
Eighties	-10,899	22,541	19,721	10,898	15,985	29,226	37,704	37,451	56,278	49,473	66,672	56,238

Table 1: Average Net Farm Income by Operator Age

These trends are probably not unexpected, as younger farmers tend to have a higher tolerance for risk that should increase average profitability. However, younger farmers likely have higher debt levels that lead to more interest expense and thus lower profits. Farm experience may have some influence on profitability as well. Together, risk tolerance, debt levels, and experience likely contribute to where net farm income increases as farm age through their forties but then starts to gradually decrease from that point on.

Figure 1 shows that the youngest farmers do indeed have the highest level of debt. Farmers in their twenties and thirties have debt to asset ratios around 40% while farmers in their seventies and eighties have very little debt. While these younger farmers have fairly high levels of debt, the ratio has been declining during the last 10 years.

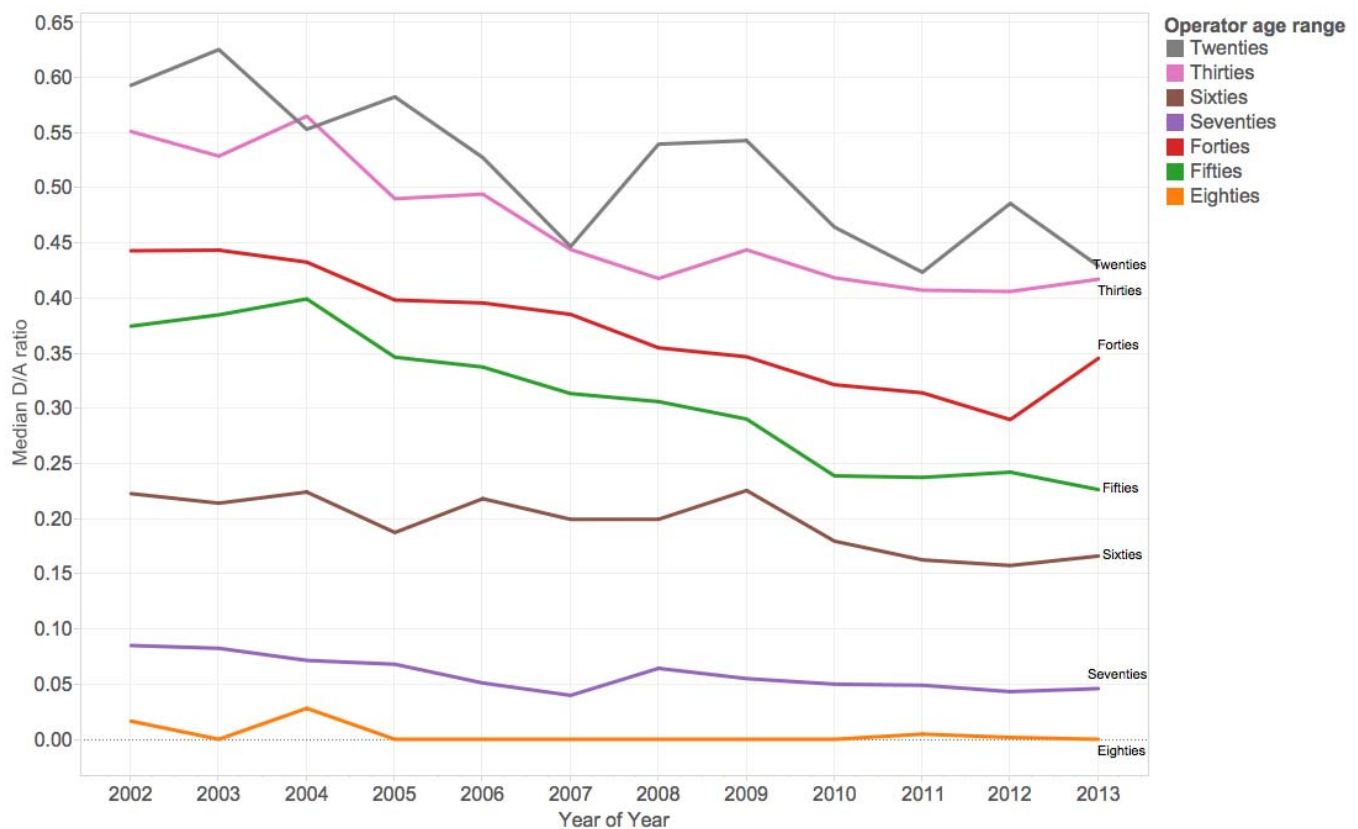


Figure 1. Historical Debt-to-Asset Ratio by Operator Age

Figures 2 and 3 provide a more detail look at the debt to asset ratios of farmers in their thirties (Figure 2) and farmers in their fifties (Figure 3). The following histograms show the percentage of farmers in 2013 with debt to asset ratios that fit one of the ratio’s ranges.

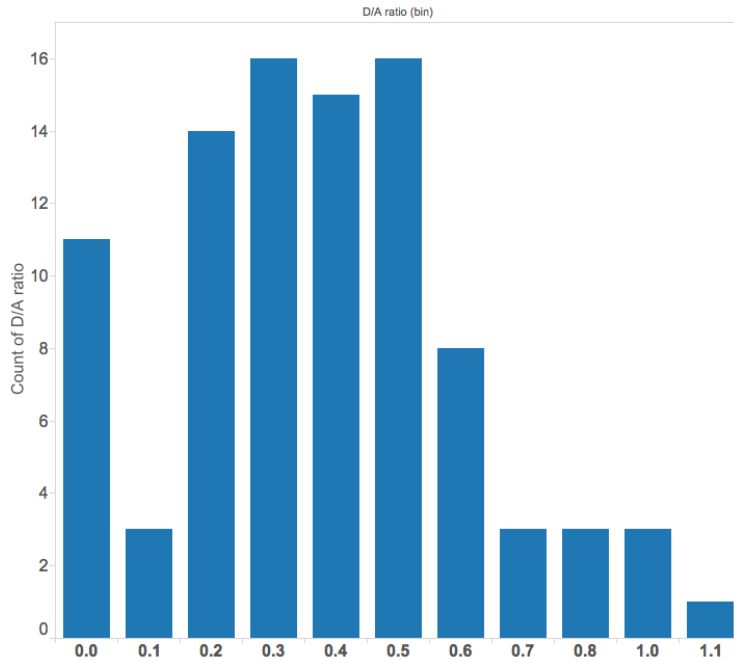


Figure 2. Debt-to-Asset Ratio Frequency by Operators in their 30's

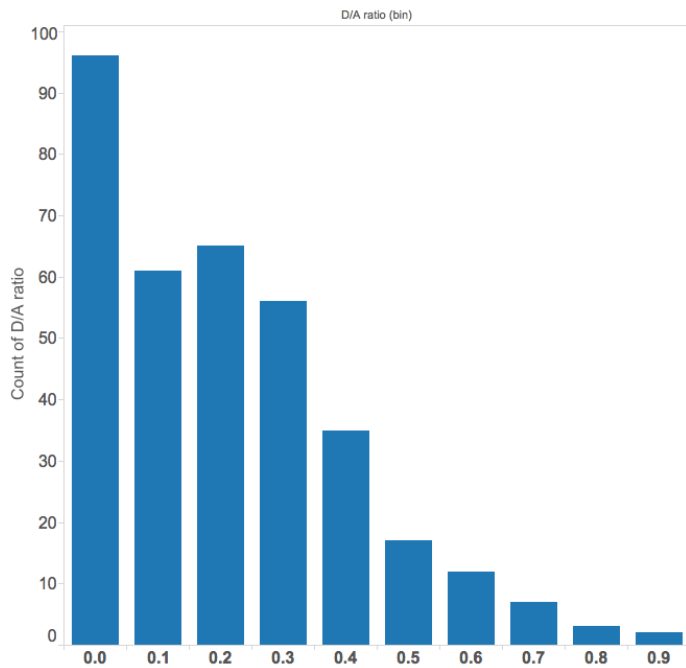


Figure 3. Debt-to-Asset Ratio Frequency by Operators in their 50's

As these figures illustrate, a farmer’s debt leverage position improves greatly as they age. Nearly 50% of farmers in their thirties have debt to asset ratios that are less than optimal. By the time these farmers are in their fifties, this percentage with non-optimal debt-to-asset ratios has dropped to 20%.

The last ratio to consider is the interest expense ratio. This ratio measures what percent of gross dollars actually produced on the farm are used to pay interest expense. If an interest expense ratio is 10%, it means that for every dollar the farm brings in, a dime goes toward just covering interest. That means that just 90 cents is available to cover operating expenses, family living, and debt repayment.

As shown in Figure 4, all age groups are in very good shape. The worst age groups are the twenty and thirty year old farmers with an interest expense ratio of 3%. This is well within the optimal range for this ratio.

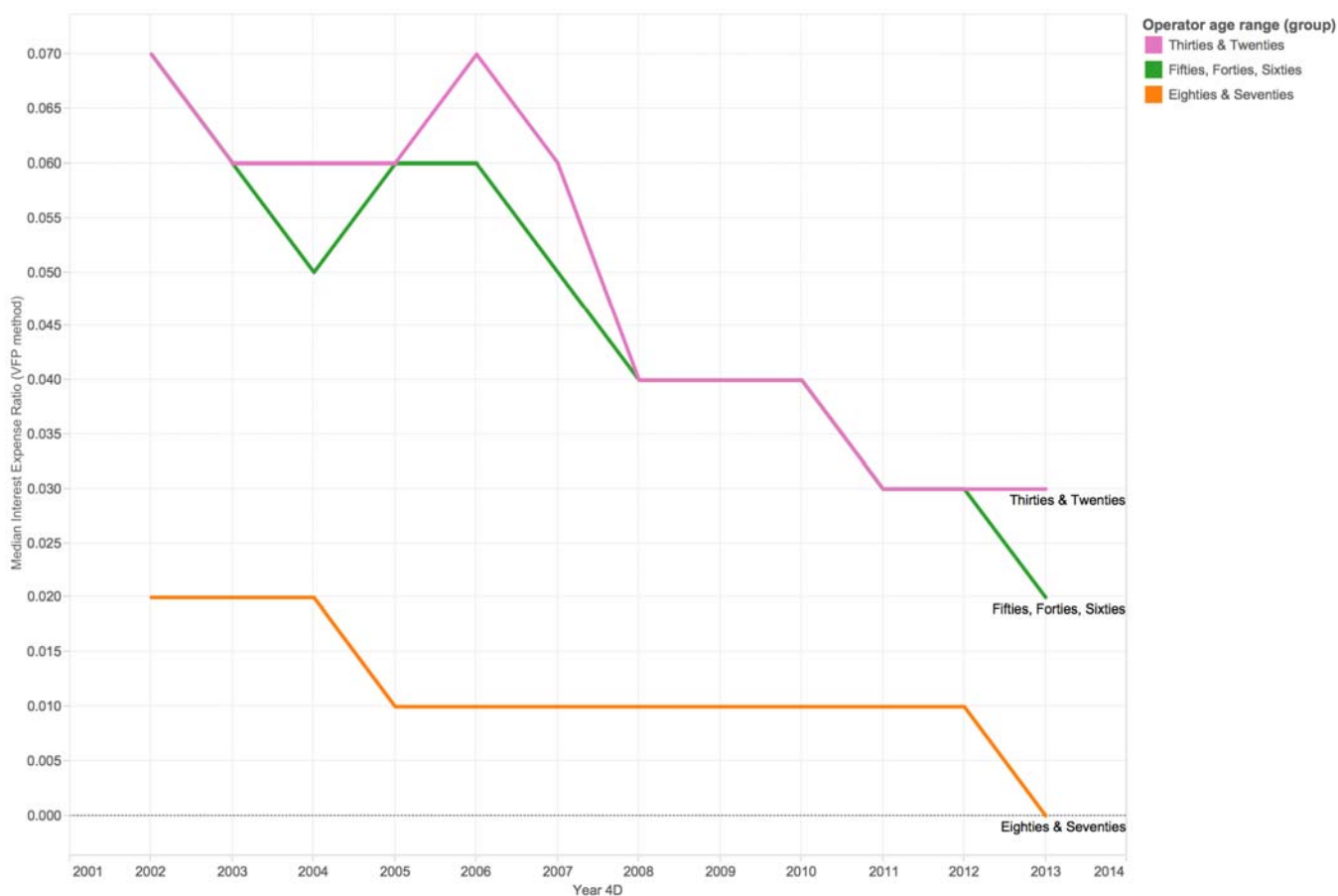


Figure 4. Historical Interest Expense Ratio by Operator Age

Overall, most farms based of farmer age look to be doing well managing debt. There are concerns with the high debt to asset ratios for some of the younger farmers but the ratio is not out of line with historical numbers. With current interest rates, the interest expense ratio is very low. However, this ratio is only low because interest rates are historically low. Certainly as rates increase, the interest expense ratio will increase too.

Going forward, a period of lower crop prices will lead to lower value of farm production and lower net farm income for many crop farms. If farmland buyers see lower land profitability as long lasting, land prices are likely to fall. This would make debt to asset ratios worse as land represents the largest asset on most farms. Less value of farm production will also make the interest expense ratio worse as well. However, all farms already have very good interest expense ratios. A bigger problem for crop farmers would likely occur if interest rates started to quickly rise while grain prices were still low.

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K-State Agricultural Economics | 342 Waters Hall, Manhattan, KS 66506-4011 | (785) 532-1504 | fax: (785) 532-6925

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