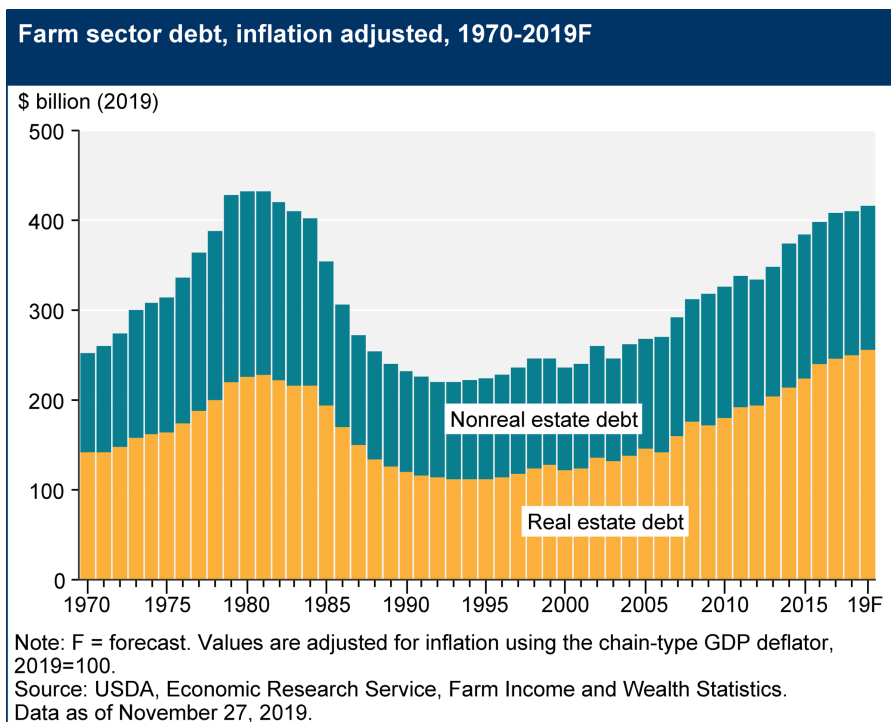


## The Changing Farm Debt Situation

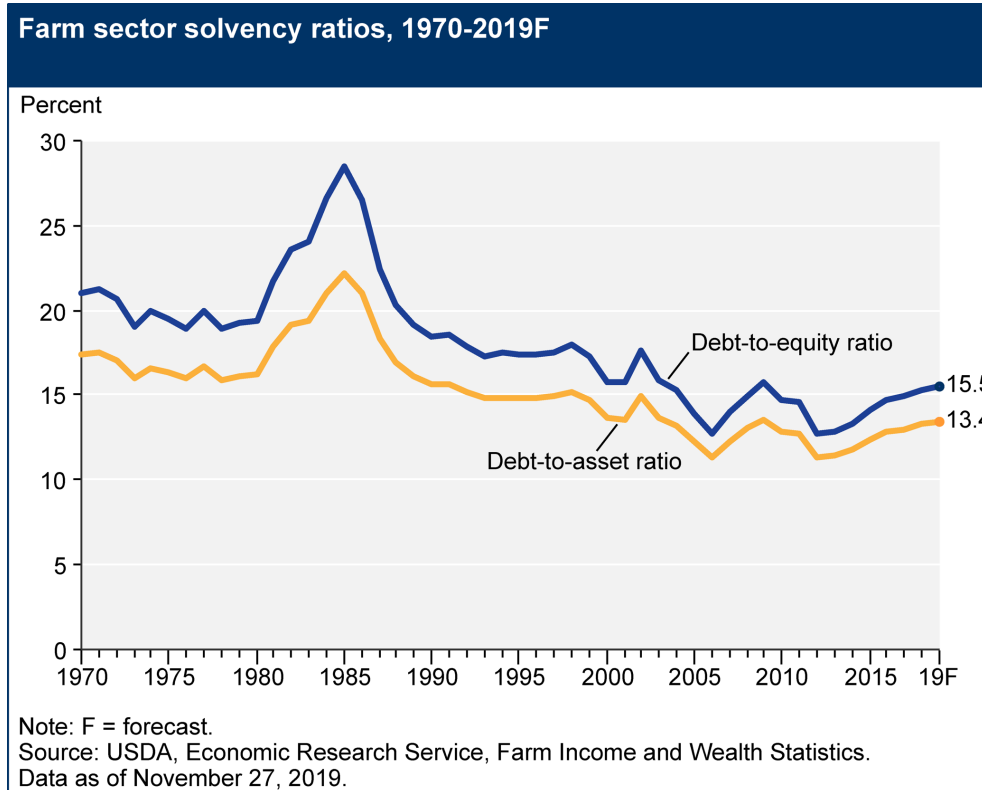
### Introduction

Just how serious is the farm debt situation? In the popular farm press, there have been numerous stories about increasing debt levels on farms. Looking at the U.S. farm balance sheet provided by the Economic Research Service (<https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/assets-debt-and-wealth/>), it is clear that debt has been steadily increasing since the early 2000's.



**Figure 1. U.S. Farm Sector Debt**

However, asset values have also increased since the early 2000's resulting in D/A ratios that are near historical lows.



**Figure 2. Historical U.S. Debt-to-Asset Ratios**

Thus, it may be difficult to judge whether the level of debt is a real problem for farmers. Part of this difficulty in assessing farm debt is that the popular press stories are based on average values provided by the USDA. While using averages is useful, a lot of the interesting stories are in the margins. This paper uses actual farm data from the Kansas Farm Management Association (KFMA) to see if some farms have may have taken on too much debt.

## Methods

This paper uses a 10-year panel dataset of 476 farms from the KFMA program. The KFMA has been helping farmers since the 1930's and actually has computerized farm records

back to the early 1970's. There are currently around 2,500 farms in the KFMA system and in any given year about 1,500 of those farms will have records that are useable for research, teaching, and Extension analysis. This is one of the best systems in the country and the data provided by the KFMA can help answer those questions of farmer profitability.

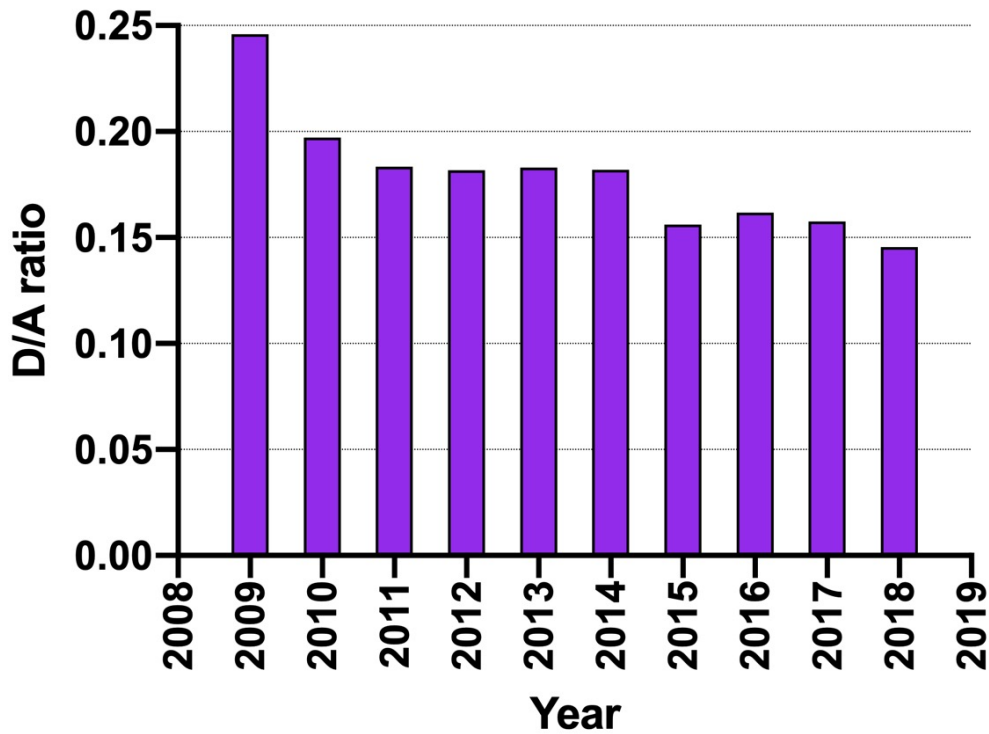
A panel dataset is used since it is based on the same set of farms. That is, these 476 are in the dataset each year. This helps keep the results from being distorted as farms either enter or leave the program.

For the analysis in this paper, frequency distributions are produced for the farm debt across Kansas at both the beginning and end of the 10-year window. These frequency distributions will show how all the farms are handling farm debt rather than just the average of all the farms.

## **Results**

Figure 3 is included to show how just using average or median values can mask what is happening on some farms.

## KFMA Median D/A Ratio



**Figure 3. Median KFMA Debt-to-Asset Ratios from 2009-18.**

As this figure indicates, the median Debt-to-Asset ratio has declined over the last 10 years. This ratio is about as good as it has ever been in the history of the KFMA. Given that these are the same farms, it might be expected that the Debt-to-Asset ratio would decline. As farmers age, they tend to pay down debt while at the same time asset values increase, resulting in a lower Debt-to-Asset ratio value.

Figure 4 shows that Kansas farms have been behaving similarly to U.S. farms.

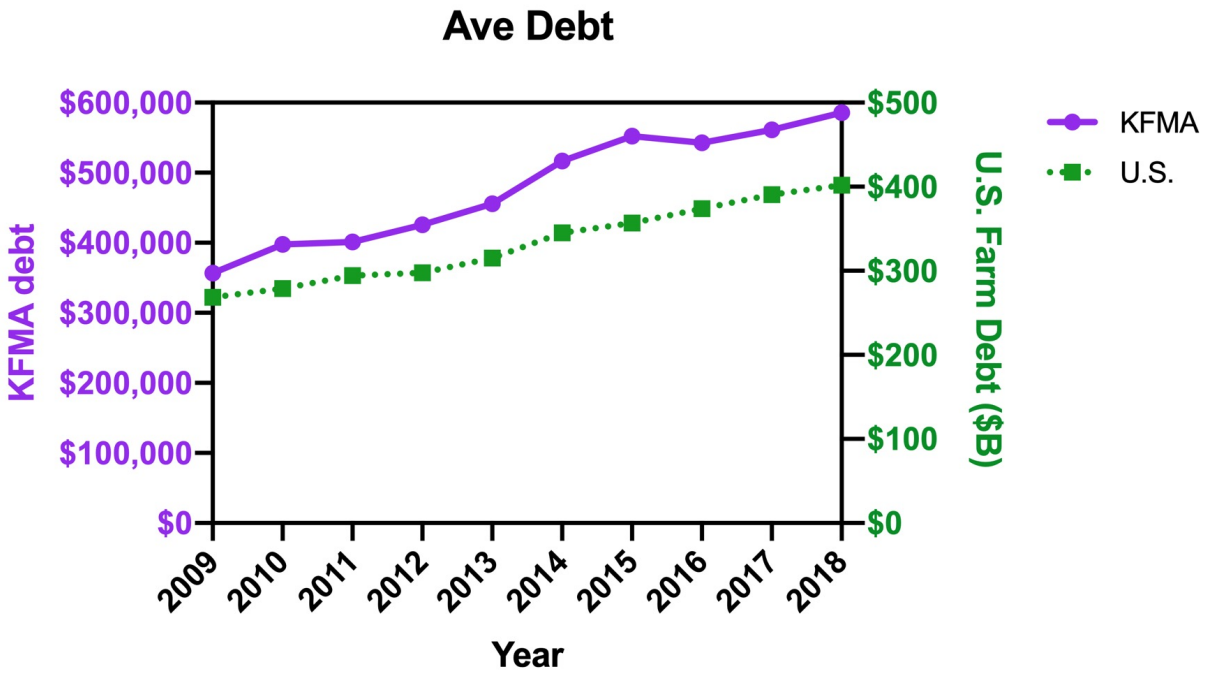


Figure 4. KFMA and U.S. Average Farm Debt

Again, just looking at the averages, we see that while KFMA farms have added debt, the rate of increase is only slightly faster than the U.S. average. Increasing land values at the beginning of this 10-year window have helped to keep Debt-to-Asset ratios low.

However, this is not the situation on all farms. Figures 5 and 6 show that some farms have added a lot of debt over the past 10 years.

### Frequency distribution: Histogram of Total debt

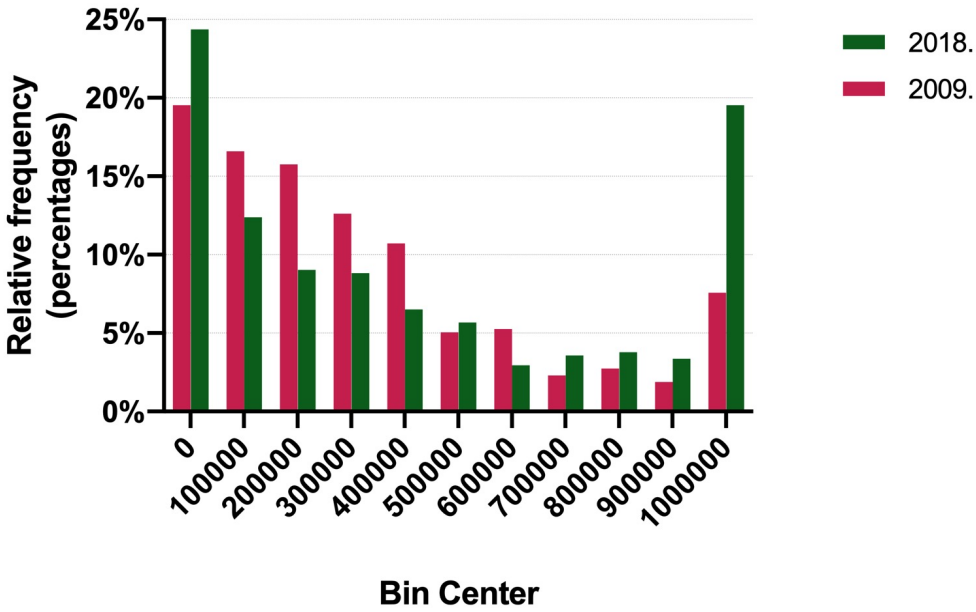


Figure 5. KFMA Frequency Distribution of Farm Debt

### Cumulative Distribution of Total debt

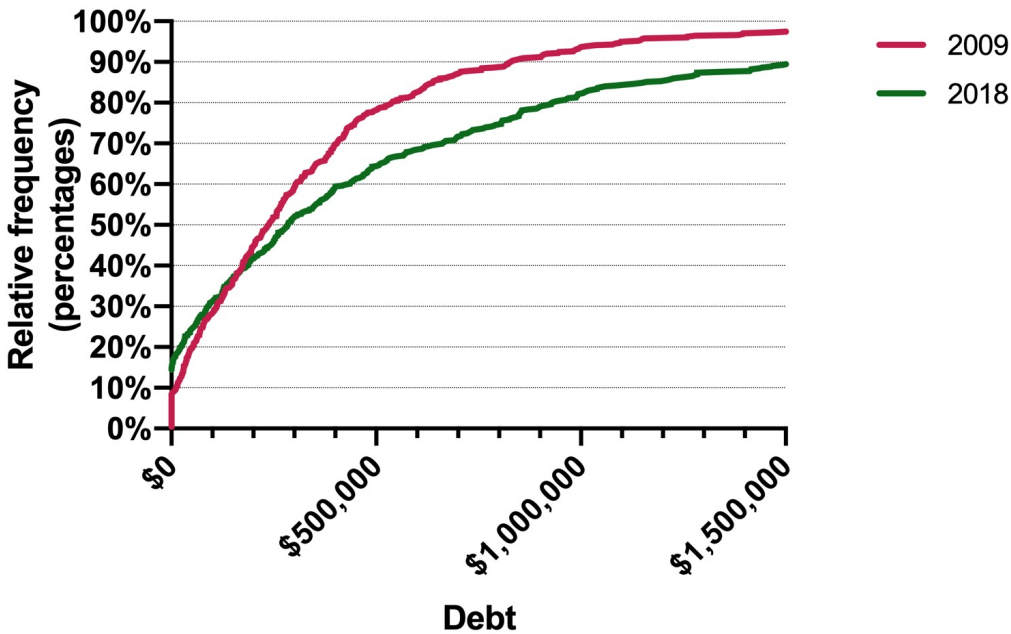


Figure 6. KFMA Cumulative Distribution of Farm Debt

Figures 5 and 6 both show the same thing. Figure 5 is a frequency distribution or histogram that shows the percentage of farms that fit within each bin. Figure 6 is a cumulative distribution function that shows the percent of farms that have a specific level of debt or lower. Thus, in Figure 6, both the lines would eventually become horizontal at 100% if the entire range of farm debt levels was shown.

## **Discussion**

Figures 5 and 6 show how debt levels have changed from 2009 through 2018. While the average debt level has risen slightly over time, that is not the case at the margins. The percentage of farms with little to no debt has actually improved over this 10-year period (from 20% to 25%). However, those farms with \$100,000 to \$600,000 of debt has decreased while farms with debt over \$1 million has increased significantly.

This last bin of farms with debt over \$1 million is concerning. In 2009, this category accounted for 8% of the KFMA farms. Now, this category represents nearly 20% of KFMA farms. Part of this can be explained by farms becoming larger (2,200 acres operated in 2009 to 2,400 acres operated today). However, those additional acres operated would not explain all of the increase in farm debt. Certainly, the slower farm economy has caused many farms to take on more debt to survive.

There is some evidence to indicate that the current farm situation looks a lot like the farm situation prior to the 1980s's farm crisis. Debt levels have increased but asset values have risen faster resulting in acceptable Debt-to-Asset ratios. For these KFMA farms, total asset values have doubled over the 10-year period used here resulting in the 15% Debt-to-Asset ratio shown in Figure 3.

Farmers should keep a close eye on their debt levels and not just rely on watching their Debt-to-Asset ratio. The Debt-to-Asset ratio is usually a trailing indicator of a farm crisis resulting in a downturn when land values decline. By then, it may be too late to make a change.

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