

Farmland Value Data: Implications of Survey Accuracy and Reliability

ACCC Fact Sheet Series – Paper #2

Executive Summary and Implications of the Journal Article:

Zakrewicz, C., B.W. Brorsen, and B. Briggeman. “Comparisons of Alternative Sources of Farmland Values,” *Agricultural Finance Review*, 72(2012): pp. 68-86

July 26, 2012

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Farmland values reflect the financial health of U.S. agriculture. As a result, many lenders, producers, policymakers and media members examine publicly available farmland value data to glean insights into land value trends. Today's surging land values has elevated interest and even raised some concerns and questions of a potential land price bubble. In fact, a quick Internet search shows numerous reports that cite land value data from sources such as the U.S. Department of Agriculture (USDA), Federal Reserve Banks, and land-grant universities. The accuracy and reliability of these reports depends heavily on the data being cited because these data are often based on surveys and not based on actual land sales.

The objective of this fact sheet is to assess and draw implications of the accuracy and reliability of the available farmland data from three sources—U.S. Department of Agriculture (USDA), Federal Reserve Bank of Kansas City (KC Fed), and actual land sales. Results show that survey based data from the USDA and KC Fed track actual land sales closely. Furthermore, the KC Fed's Agricultural Credit Survey (Ag Credit Survey) provides more timely and frequent information on land values. As a result, the Ag Credit Survey can provide the timeliest insights into the path of land values, and these insights appear to be quite positive for land values in 2012.

Tracking Land Value Data

A challenge for publicly available data on farmland values is that they are typically collected via a survey, which opens them to criticism. Skeptics will question whether or not the land value reported in the survey actually tracks reality. However, results from Zakrewicz, Brorsen and Briggeman (2012) show that survey reported land values and actual land sale prices follow a similar path.

To illustrate this point, three data sources of Oklahoma farmland values are used. The study focused on Oklahoma due to the availability of data. The first data source is actual land value sales data, which are not easy to obtain. The second data source is from a survey of Oklahoma producers who report land values to the USDA. Finally, land value data reported by Oklahoma agricultural bankers in the Ag Credit Survey are used.

Even though survey farmland values do not match actual sales prices exactly, both types of data tend to move in the same direction. For example, since 1976, Oklahoma irrigated cropland values, regardless of the data source, tended to rise and fall in unison (Chart 1). On the other hand, it is fairly obvious that survey irrigated cropland values tend to be less than actual sales prices. The higher price of actual sales may be due to urban or development pressures. These results are consistent across non-irrigated cropland and pastureland (Charts 2 and 3).

Chart 1. Estimated Oklahoma irrigated cropland value

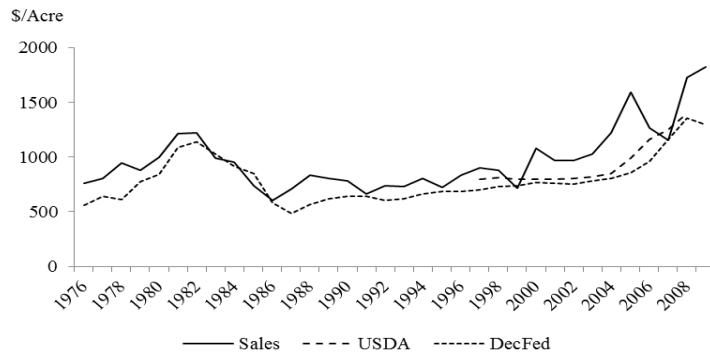


Chart 2. Estimated Oklahoma non-irrigated cropland value

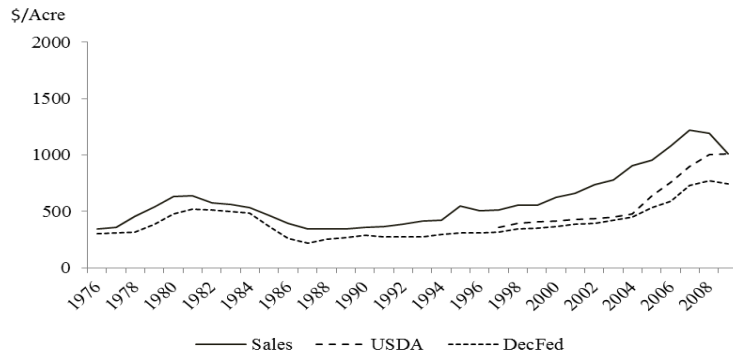
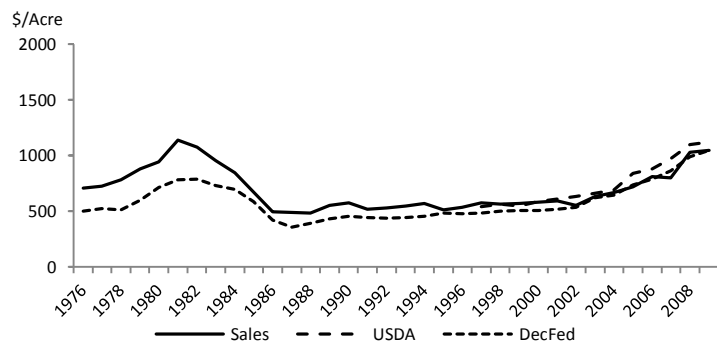


Chart 3. Estimated Oklahoma pastureland value



These findings are important because survey data are publicly available and easily accessible, while land sales prices are difficult to obtain. Therefore, ascertaining the direction of farmland values from the USDA and KC Fed's Ag Credit Survey data provides reliable information about the direction of farmland values, and by proxy, the direction of the financial health of agriculture.

Early Indication of Farmland Value Movements

One potential implication of having reliable and accurate data is the chance for an early indication of future farmland value movements, especially if the release dates of the land value data differ. The USDA land value data is arguably the most representative of actual land values because of its thorough, area-based sampling procedure, but it is only released in August of each year. The KC Fed data is timelier as it is released quarterly. So, is the KC Fed's land value data a leading indicator of USDA land values?

To answer this question, a statistical model was developed (see the full journal article for more details). Data for land value movements were for the entire Tenth Federal Reserve District, not just Oklahoma (Figure 1). Changes in land values as identified in the First Quarter of the KC Fed's Ag Credit Survey, which are released around late April, were an indication of how USDA land value estimates would change, which are released in August. So, if the KC Fed survey indicates a rise (fall) in Tenth District farmland values, then it is very likely the USDA survey will later indicate a rise (fall) in the same farmland values.



Figure 1. States in the Tenth Federal Reserve District

The implication drawn from this finding is that near-term farmland value movements in the states shown in figure 1 likely follow the KC Fed's Ag Credit Survey, which has lately been very positive. According to the 2012 First Quarter Ag Credit Survey, Tenth District farmland and ranchland values increased significantly.¹ Irrigated cropland, nonirrigated cropland and ranchland each rose approximately 30, 25 and 15 percent, respectively. Robust farm income gains helped support the rise in these land values as well as strong buyer demand. In sum, using the KC Fed's Ag Credit Survey to "look through the windshield" suggests the near-term farmland value trend will continue to be quite positive.

References

Zakrewicz, C., B.W. Brorsen, and B. Briggeman. "Comparisons of Alternative Sources of Farmland Values," *Agricultural Finance Review*, 72(2012): pp. 68-86

1. To access the 2012 First Quarter Ag Credit Survey, go here:
<http://www.kansascityfed.org/publicat/research/indicatorsdata/agcredit/AGCR1Q12.pdf>