



## Linking the Price of Agricultural Land to Use Values and Amenities

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Given the recent decline in commodity prices and expectations of lower farm income levels, there is a growing concern that current conditions signal an eminent decline in agricultural land values. While agricultural returns play an important role in the determination of farmland prices, new research highlights the complex set of factors beyond agricultural profitability that inform farmland prices.

Economic theory suggests the value of a productive asset is determined by the discounted stream of its expected returns (also called the net present value). While agricultural production represents the primary source of expected returns for most parcels of farmland, previous research demonstrates that farmland values also reflect other sources of return, such as development potential, recreational activities, and farm program payments. [A recent study](#) published in the *American Journal of Agricultural Economics* suggests that farmland values are only partially explained by agricultural returns. The research demonstrates that multiple nonagricultural attributes of farmland also contribute to farmland prices – chief among them is the potential to develop crop and pastureland to other uses.

The study examined the results of a 2010 USDA National Agricultural Statistics Service (NASS) survey of farmer-reported land values and cash rental rates for crop and pastureland. The June Area Survey (JAS), conducted each June, collects farmland and cash rental rate information from all operators within selected land segments, averaging approximately one square mile in size. The survey serves as the basis for the

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agency's annual land value report. JAS is based on a geographic area framework, and as a result, the data were tied to other locational variables through geographic information systems (GIS). The result was a rich data system of 5,050 cropland segments and 1,749 pastureland segments with a number of associated characteristics describing the surrounding population and urban influence, recreational and natural amenities, and locational features.

The statistical analysis suggests that a 1% increase in rental rates is associated with a 0.25% increase in cropland values and a 0.14% increase in pastureland values. However, a 1% increase in the land area subject to immediate development potential is associated with a 0.43% increase in cropland values and a 0.74% increase in pastureland values. The results therefore demonstrate that both agricultural and nonagricultural factors play an important role in determining farmland prices. The results also highlight the fact that cropland and pastureland prices respond differently to agricultural and nonagricultural factors. For example, the analysis demonstrates that hunting opportunities play a statistically significant role in the determination of pastureland values but not cropland values. In addition, local population levels, county income, and distances to the nearest college and golf course are also shown to influence crop and pastureland values in some instances.

In sum, while farm profitability is expected to decline from its historic highs in coming years, the results suggest that nonagricultural characteristics of farmland are also likely to play an important role in the valuation process. The importance of nonagricultural factors and development pressure may also support efforts to preserve agricultural lands and inform important policy discussions on the taxation of agricultural land.

## Reference

Allison Borchers, Jennifer Ifft, and Todd Kuethe. "Linking the Price of Agricultural Land to Use Values and Amenities." *American Journal of Agricultural Economics* (2014) 96 (5): 1307-1320.  
<http://ajae.oxfordjournals.org/content/early/2014/06/04/ajae.aau041.abstract>

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