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Department of Agricultural and Consumer Economics, University of Illinois Urbana-Champaign

# Weekly Farm Economics: 2013 County Cash Rents: Levels, Variability, and 2014 Cash Rent Decisions

**Gary Schnitkey**

**Department of Agricultural and Consumer Economics**
**University of Illinois**

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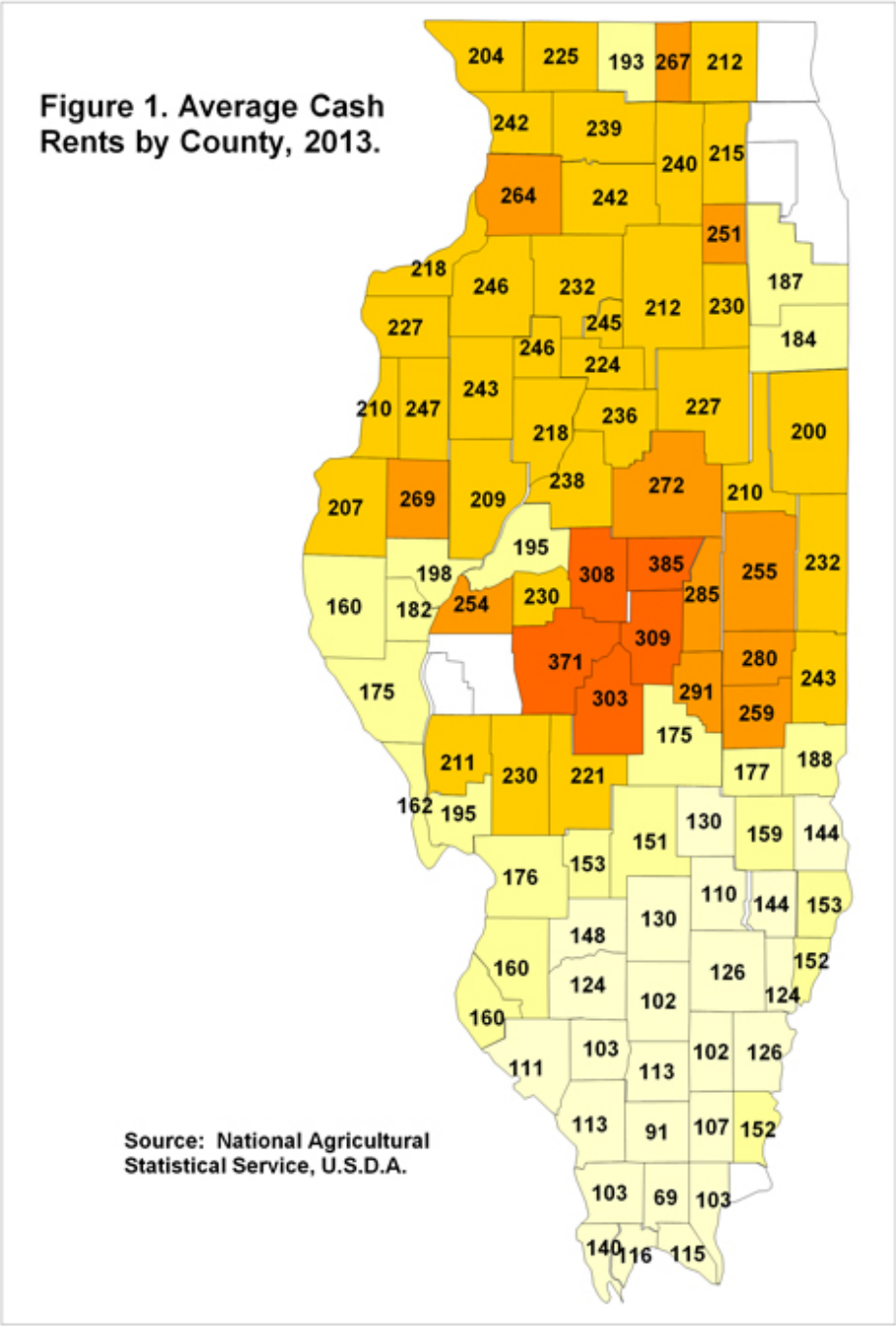
Average cash rents by county were released on September 6th by the National Agricultural Statistical Service (NASS), an agency of the U.S. Department of Agriculture. These county cash rents are used to develop a relationship between average rents and expected corn yields. A comparison to rents on professionally managed farmland illustrates many cash rents differ from averages by over $70 per acre. A process of above-average rents coming down and below-average rents coming up likely will leave average county cash rents in 2014 likely will be near 2013 levels.

## 2014 Cash Rents

Figure 1 shows a map of average cash rents by county (a table of cash rents is available here on the farmdoc website). As can be seen, there is considerable range in cash rents across Illinois. The county with the lowest cash rent is Johnson County, having a cash rent of $69 per acre. DeWitt county has the

highest cash rent of $385 per acre.

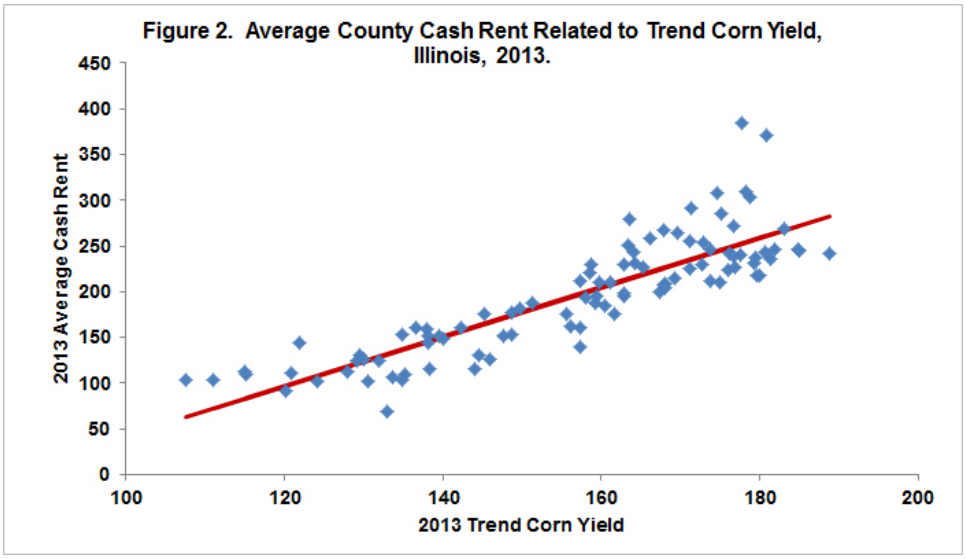



Overall, cash rents tend to be the highest in central Illinois. Five counties in central Illinois have rents over $300 per acre: DeWitt at $385 per acre, Sangamon at $371 per acre, Macon at $309 per acre, Logan at $308 per acre, and Christian at $303 per acre. The lowest cash rents are in southern Illinois. Two counties have rents below $100 per acre: Johnson County has a $69 per acre rent and Williamson County has a $91 per acre rent. Northern Illinois has rents between southern and central Illinois.

**Average Cash Rents and Expected Corn Yields**

Much of the variability in cash rents across counties is explained by farmland productivity. To mathematically state this relationship, 2013 trend corn yields were calculated for each county in Illinois using county-level yields reported by NASS for the years from 1975 through 2012. These trend yields

represent the expected corn yield in 2013 given normal weather conditions. Average cash rents then were plotted against expected corn yields, as illustrated in Figure 2.




As can be seen in Figure 2, average county cash rents increase with higher 2013 trend yields. The red line in Figure 2 shows a linear line through the data. Linear regression was use to place this line through the data points. This line was fit with data from 100 bushel per acre up to 200 bushels per acre. The equation relating 2013 expected corn yields to average cash rents is:

Average cash rent = -227 + 2.7 x 2013 trend corn yield

This equation can be used to find average rent for a given expected corn yield. Take a farm that has an expected corn yield of 180 bushels per acre. The above equation would indicate that the average cash rent is $259 per acre ($259 = -227 + 2.7 x 180 bushel expected corn yield).

The red line does not fit the county rent data perfectly. In particular, there are large deviations at high 2013 expected corn yields. These large positive deviations occur in central Illinois, indicating that cash rents are above that explained by farmland productivity in the remainder of the state. The largest four deviations are: 1) DeWitt County's $385 cash rent is $132 higher than the $253 average given by the above equation, 2) Sangamon County's $371 cash rent is $110 higher than the $261 rent from the above equation, 3) Douglas County's cash rent of $280 per acre is $65 higher than the $215 rent from the above equation, 4) Logan County's $308 cash rent is $63 higher than the $245 rent from the above equation. This suggests that more factors are influencing cash rents in central Illinois, with competition among farmers for farmland likely playing a role.

**Range in Cash Rents**

The above equation gives an average. There is a considerable range in cash rents within a county. To illustrate, average cash rents from NASS are compared to rents on professionally managed farmland, as reported by the Illinois Society of Professional Farm Managers and Rural Appraisers (see here for more detail). Table 1 shows these comparisons for farmland of different productivity: excellent (190 bushel and above expected corn yield), good (170 to 190 bushel per acre expected corn yield), average (150 to 170 expected corn yield), and fair (below 150 bushel expected corn yield). Herein the 2013 trend yield is a

close approximation to expected yield

**Table 1. Average NASS Cash Rents Compared to Cash Rents on Professionally Managed Farmland in Illinois, 2013.[1]**

| Productivity Class[1] | Average NASS Rent[2] | Professionally Managed Rent[3] | Difference[4] |
|---|---|---|---|
| | $/acre | $/acre | $/acre |
| Excellent | 313 | 388 | 75 |
| Good | 259 | 332 | 73 |
| Average | 205 | 278 | 73 |
| Fair | 151 | 224 | 73 |

[1] In a normal year, excellent quality farmland has expected corn yields over 190 bushels per acre, good quality farmland has expected yields between 170 and 190 bushels per acre, average quality has expected corn yields between 150 and 170 bushels acre, and fair quality farmland has expected yields less than 150 bushels per acre.

[2] Calculated using the following equation: -227 + 2.7 x 2013 trend yield. The 2013 trend yield is 200 bushels for excellent quality farmland, 180 for good quality farmland, 160 for average quality farmland, and 140 for fair quality farmland

[3] Tabulated from a mid-year survey of members of the Illinois Society of Professional Farm Managers and Rural Appraisers in August 2013.

[4] Professionally managed rent minus average NASS rent.

Comparisons are illustrated for excellent productivity farmland. The Illinois Society reports an average rent of $388 per acre for 2013, with considerable range around this average. This professionally managed farmland would be part of the NASS average. The above equation fit through 2013 county cash rent has an average rent of $313 per acre at a 200 bushel trend yield ($313 = -227 + 2.7 x 200 bushel trend yield). For excellent productivity farmland, professionally farm managed farmland has an average rent that is $75 higher than all rents in a county ($75 = $388 professionally managed rent – $313 average NASS rent). Differences are consistent across productivity classes. Professionally managed farmland has average cash rents that are $73 higher on good, average, and fair productivity classes (see Table 1).

To offset higher rents on professionally managed farmland, there are also rents below the NASS average as well. There are many cash rents that are $70 or more below the average. Various reasons can be given for these differences. Many non-market factor and relationship issue likely play a role in below average cash rents. Some of this difference likely is due to slowness in adjusting cash rents up to reflect higher returns in recent years.

**What about 2014 Rents?**

The 2014 cash rent negotiating season will begin soon in earnest. The outlook for 2014 agricultural returns is lower compared to the outlook last fall when many of the 2013 cash rents were set. Given current 2014 return projections, cash rents above NASS averages will result in negative returns for many farmers.

Lower projected agricultural returns likely will put downward pressure on cash rents that are above the NASS average. The Illinois Society reports that 2014 expected cash rents are below 2013 levels Appraisers (see here for more detail). However, the process of lowering cash rents likely will be “sticky”, resulting in slow downward movement in above-average rents.

What will happen to below-average cash rents is an open question. I suspect that these below average cash rents will continue to rise. The process of above rents coming down and below-average rents coming up likely will leave 2014 average rents close to 2013 levels. There may be slightly less variability in cash rents in 2014 as compared to 2013.