



The Liquidity of Illinois Grain Farms: Working Capital to Gross Farm Returns Ratio by Region

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In this article, we continue our examination of the liquidity trends related to the working capital to gross farm returns ratio, using data obtained from the Illinois Farm Business Farm Management (FBFM) (see *farmdoc daily*, [December 9, 2024](#), and [November 14, 2024](#)). In our previous article, we discussed the median working capital to gross farm returns ratio across all grain farms in Illinois. Our analysis revealed substantial improvements in farm liquidity over the past two decades. Now, we will conduct a regional analysis of this ratio and provide additional insights into these liquidity trends. Liquidity refers to a farm business's ability to generate sufficient cash or quickly convert assets into cash to meet its financial obligations as they come due. These obligations include operational expenses, debt payments, family living expenses, and taxes.

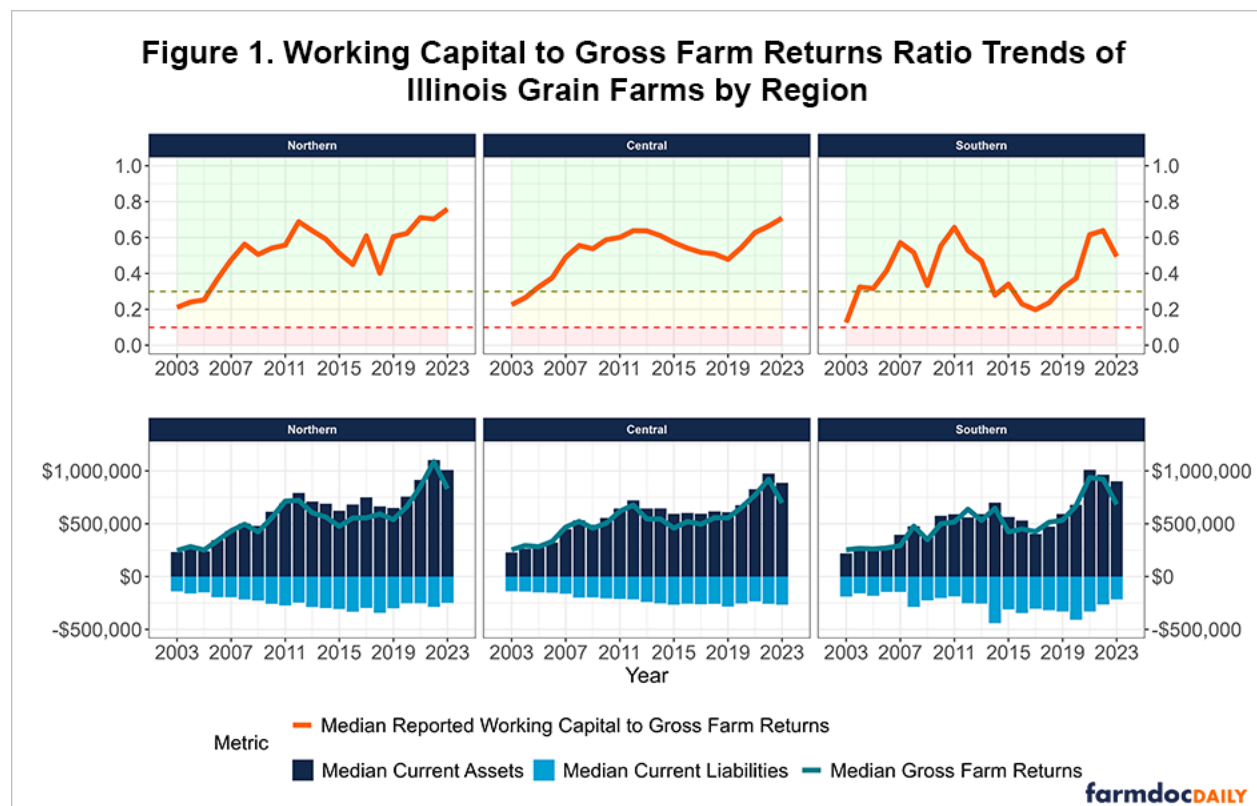
The working capital to gross farm returns ratio measures a farm's working capital relative to its size. Working capital is defined as the difference between current assets (i.e., cash and assets expected to be converted into cash within the next 12 months, including accounts receivable, inventory, and prepaid expenses) and current liabilities (i.e., obligations due within the next 12 months, such as accounts payable, short-term loans, current portion of term debt payments, and upcoming taxes). Gross farm returns are defined as the total value of agricultural output (accrual basis), including Government farm program payments. For instance, a farm with a working capital to gross farm returns ratio of 0.3 means that it has enough "cash" to cover 30% of its gross farm returns for that year.

According to the Farm Financial Scorecard developed by the [Center for Farm Financial Management](#), a farm with a working capital to gross farm returns ratio that is less than 0.1 is categorized as *vulnerable*, a ratio between 0.1 and 0.3 is categorized as *cautionary*, and a ratio that is greater than 0.3 is categorized

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as *strong*.¹ Therefore, a higher ratio indicates greater liquidity for the farm. In our analysis, we will examine the trends in the working capital to gross farm returns ratio across three regions—Northern, Central, and Southern Illinois. In our figure below, we use the color-coding system of the Farm Financial Scorecard to indicate the category under which the median grain farm’s ratio belongs. The region shaded in red indicates a *vulnerable* ratio, while yellow indicates a *cautionary* ratio, and green indicates a *strong* ratio.

Figure 1 provides a clear illustration of the regional variation in the trends of the ratio over time. One piece of the variation is due to different soils and types of farms. Typically, Northern Illinois has more livestock operations. This has led to heavier corn rotations and a greater percentage of these operations being cash-rented. The rotation in Central Illinois has primarily been 50/50 corn and soybeans, with a higher percentage of crop share arrangements. Southern Illinois has most of the wheat acres in Illinois that are typically followed by double-crop soybeans, and those operations average more owned acres as a percentage of their operation. In addition, lower-quality soils lead to more variability in yields. Compared to the Northern and Southern regions of Illinois, the Central area of the state has demonstrated the least variation in median values over the past two decades. When looking at the individual components of the ratio across the entire period, Northern Illinois experienced the largest standard deviation in median gross farm returns (s.d. = \$207,870) and current assets (s.d. = \$236,930).² The standard deviation of the working capital to gross farm returns ratio (0.157) in this region was also the largest, although it was only slightly higher than that of Southern Illinois, which had a standard deviation of 0.155. In contrast, Southern Illinois displayed the largest standard deviation in median current liabilities (s.d. = \$83,651). Furthermore, in most years, Southern Illinois reported the lowest median values for both working capital and gross farm returns compared to the other two regions.



¹ The Farm Financial Scorecard adheres to the guidelines set by the [Farm Financial Standards Council](#).

² s.d. refers to the standard deviation.

Overall, the median reported working capital to farm returns ratio has improved since the early 2000s. In 2003, the median grain farm within each region had a *cautionary* ratio. In the following years, liquidity improved significantly and reached the *strong* range. However, Southern Illinois experienced a sharp decline in its ratio, falling by 41.78% from 2007 to 2009. In terms of the individual components of the ratio at the median, gross farm returns in the region increased by 19.15%, current assets declined by 1.96%, and current liabilities rose dramatically by 54.54%, which implies a substantial squeeze in working capital. At the farm level, the median reported working capital declined by 40.32%. The ratio quickly recovered from 2009 to 2011 as working capital improved.

In the 2010s, the median grain farm across all regions in Illinois experienced a prolonged period of declining liquidity. Lower grain prices translated to lower ending inventory values and, consequently, lower current asset values. Current liabilities trended higher. Southern Illinois experienced the largest deterioration in farm liquidity during this period, declining from a ratio of 0.656 (*strong*) in 2011 to 0.198 (*cautionary*) in 2017. By the end of the decade, however, farm liquidity began to improve. While all three regions reported *strong* working capital to gross farm returns ratios at the median in 2023, Southern Illinois saw a decrease from the previous year, whereas the ratios in Northern and Central Illinois increased.

Conclusion

Overall, over the past two decades, the median reported working capital to gross farm returns ratio in Illinois has improved. However, significant regional differences in trends have become more evident. Central Illinois has experienced the least variability in this ratio, maintaining greater stability compared to other areas. In contrast, Southern Illinois often struggles with liquidity challenges, consistently reporting lower median values for both working capital and gross returns.

These liquidity issues are largely driven by the region's greater crop yield variability, leading to more pronounced income swings. This yield variability stems from Southern Illinois's lower soil quality, making crops more vulnerable to extreme conditions such as excessive rainfall, elevated temperatures during the growing season, or drought. In our next article, we will examine the working capital to gross farm returns ratio by farm size.

Acknowledgment

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