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Weekly Farm Economics: Farmer Returns Under Different Lease Designs

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October 1, 2024

***farmdoc daily* (14): 178**

Recommended citation format: Paulson, N., G. Schnitkey, and C. Zulauf. "Farmer Returns Under Different Lease Designs." *farmdoc daily* (14): 178, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, October 1, 2024.

Permalink: https://farmdocdaily.illinois.edu/2024/10/farmer-returns-under-different-lease-designs.html

Current projections suggest three consecutive years of negative farmer returns to corn and soybeans on cash rented farmland in Illinois from 2023 to 2025. Alternative lease arrangements, such as variable cash or share leases, provide more risk sharing to the farmer. However, today's article shows that the current environment of relatively low prices and high costs implies negative returns even for a typical variable cash lease and returns just under break-even for a standard 50/50 share lease.

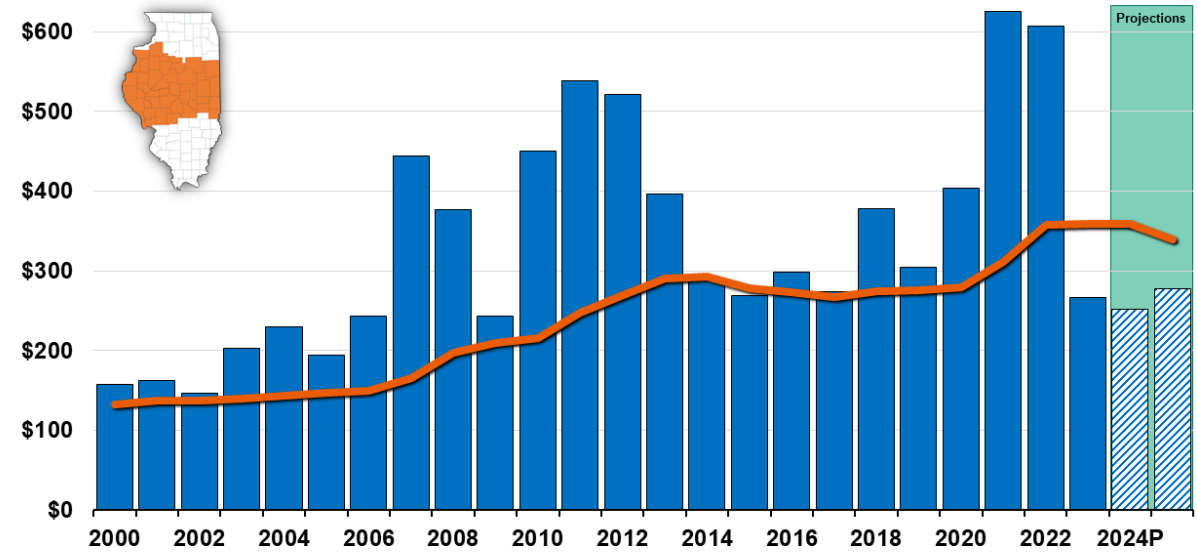
Cash Rent

Figure 1 illustrates average operator and land returns and cash rent levels for a 50-50 corn-soybean rotation on high-productivity farmland in central Illinois. Operator and land returns are the returns after all non-land costs are paid and what is available to be split between the landowner and farmer. Returns and rent levels are historical averages for the region from Illinois FBFM from 2000 to 2023 while 2024 and 2025 are *farmdoc* projections from the latest Illinois crop budgets (see *farmdoc daily* from September 24, 2024).

Central Illinois operator and land returns declined from more than $600 per acre in 2021 and 2022 to $266 per acre in 2023. Projected operator and land returns are $252 per acre for 2024 and $277 per acre for 2025. Average cash rents reached $359 per acre in 2023 and are projected at the same level for 2024, resulting in negative net operator returns on cash rented land. Negative returns are also projected for 2025 despite lower non-land costs and a fairly significant projected reduction, by historical standards, in average cash rent levels to $339 per acre.

The level of negative farmer returns since 2023 (-$93 in 2023, -$107 and -$62 projected for 2024 and 2025) is much more severe than the most recent multi-year period of lower returns from 2014 to 2019 when farmer returns averaged $25 per acre on cash rented land.

Figure 1. Operator and Land Return and Cash Rent ($/acre), 2000 to 2025P
Central Illinois, 50-50 Corn-Soy Rotation

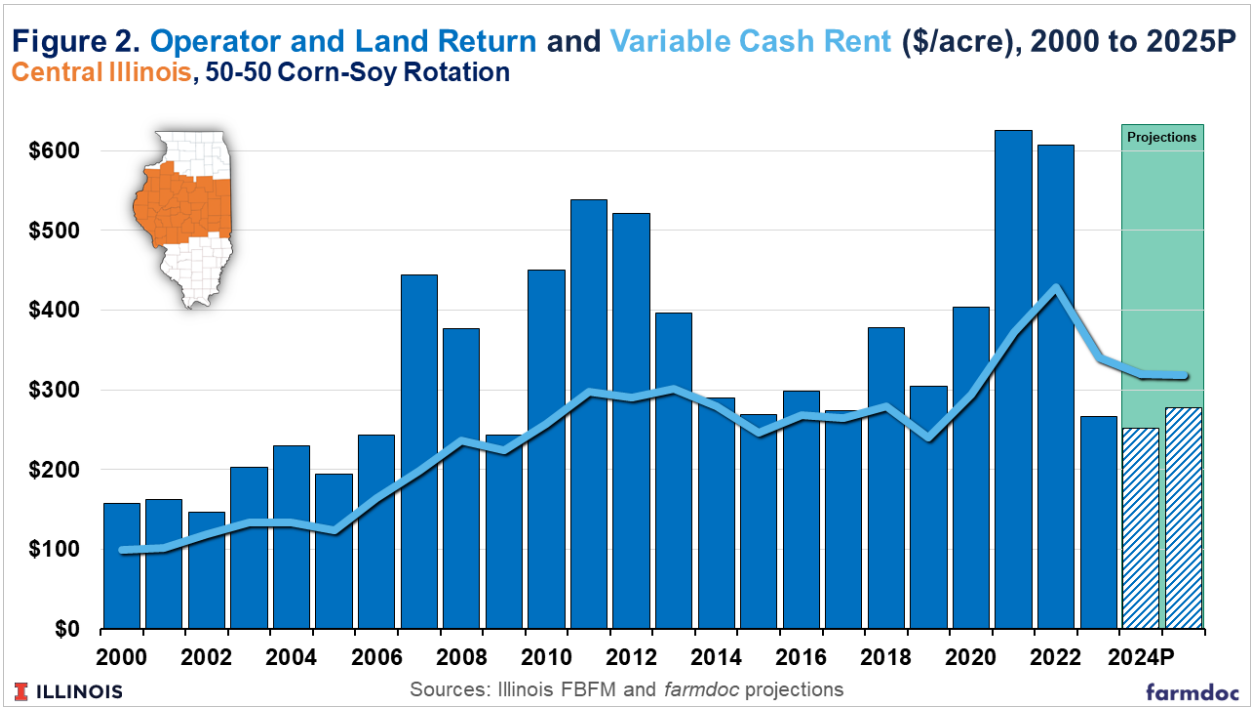


Variable Cash Rent

A relatively simple design for a variable cash lease has been covered in previous articles (*farmdoc daily* August 10, 2021; September 20, 2022; and January 21, 2023). Variable lease parameters include a minimum base rent level, crop-specific rent factors, and an optional maximum rent level. The variable rent is calculated by multiplying the rent factor times gross crop revenue (price x yield). If this calculated percentage of gross crop revenue falls below the minimum base rent, the minimum base is used. If the calculated value exceeds the maximum, the maximum rent level is used.

Suggested values for the minimum and maximum rent levels are $100 below and $100 above typical fixed cash rent levels for the area. The minimum rent provides the landowner with a floor on rent received for the year, while the maximum rent provides the farmer with a ceiling on rent paid for the year.

Suggested rent sharing factors have been previously established by crop and region so that they will lead to roughly equal average values for variable and fixed cash rent levels over time (see *farmdoc daily* from October 24, 2023). Figure 2 plots variable cash rent for high productivity land in central Illinois, using rent factors of 31% for corn and 41% for soybeans.



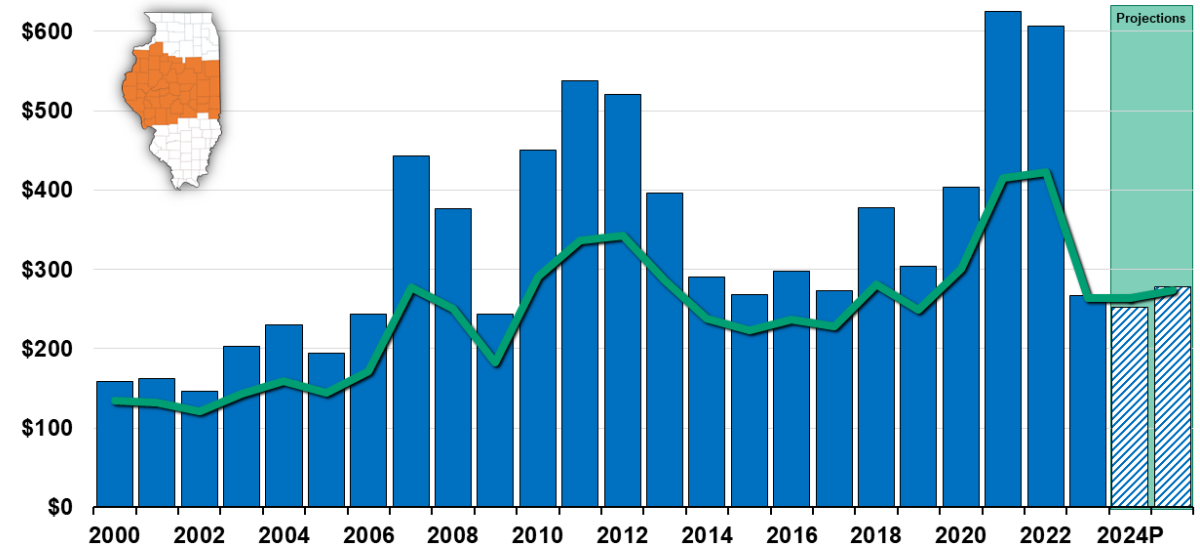
The variable cash lease results in lower rent levels for 2023 to 2025 than average fixed cash rent, but farmer returns remain negative. In 2023, variable cash rents would have averaged $341 per acre compared to the $359 per acre average cash rent, improving farmer returns to -$75 per acre compared with -$93 per acre under cash rent. Variable cash rents would be projected at $319 per acre for 2024 and $318 per acre for 2025, reducing projected operator losses to -$67 and -$41 per acre, respectively.

Share Rent

Figure 3 compares average share rent to operator and land returns. The share lease is assumed to follow a 50/50 design where the landowner receives 50% of total gross revenue (gross crop revenue plus government payments and crop insurance proceeds) and pays 50% of direct costs (seed, fertilizer, and pesticide inputs, storage, drying, crop insurance premiums).

By design, the share rent lease follows operator and land returns most closely over time – adjusting to changes in both revenues and the direct cost portion of all nonland costs. For 2023, the typical 50/50 share rent resulted in an average farmer return of $2 per acre. Projected farmer returns on share rented land are -$12 for 2024 and $4 for 2025. Thus, even with the partial cost sharing in a share lease, farmer returns are projected just below break-even levels on average from 2023 to 2025.

Figure 3. Operator and Land Return and Share Rent ($/acre), 2000 to 2025P
Central Illinois, 50-50 Corn-Soy Rotation

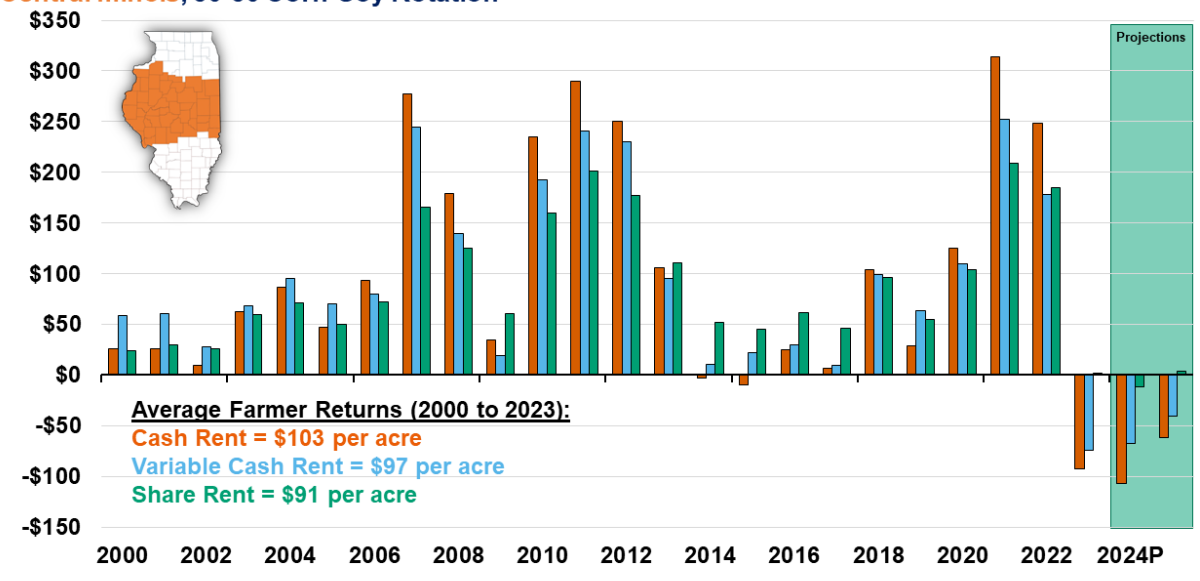


ILLINOIS Sources: Illinois FBFM and *farmdoc* projections farmdoc

Comparing Farmer Returns Under Different Leases

Figure 4 plots farmer returns (operator and land returns minus land rent) under the three different lease designs from 2000 to 2023, and projected returns for 2024 and 2025. Fixed cash rent results in the largest farmer returns in periods when prices are high relative to previous years and costs have yet to fully adjust to those higher prices. Examples include the majority of years from 2006 to 2012, and 2020 to 2022. The share rent results in larger farmer returns in years when prices may have declined and costs have remained relatively high. Examples include the 2014 to 2016, 2023, and – if projections play out – 2024 and 2025 crop years. The variable cash lease results in farmer returns that typically fall between the fixed cash and share lease designs.

Figure 4. Farmer Returns under Cash Rent, Variable Cash Rent, and Share Rent ($/acre), 2000 to 2025P
Central Illinois, 50-50 Corn-Soy Rotation



ILLINOIS Sources: Illinois FBFM and *farmdoc* projections farmdoc

Average farmer returns from 2000 to 2023 range from $91 per acre with the share lease to $103 per acre with fixed cash rent. Average farmer returns with the variable lease fall in the middle at $97 per acre. This pattern is consistent with the risk-sharing offered by each lease type. The farm operator takes on the most risk under a fixed cash lease, thus average operator returns should exceed those from the other lease designs.

Conclusions

Periods of low returns due to high costs and lower prices typically result in the need for cost adjustments. The majority of farmland in Illinois is operated under a lease with a landlord (see *farmdoc daily* from July 19, 2024). Thus, land rents are often a primary target for cost reductions. Fixed cash rent, the dominant lease design in Illinois, can be difficult to negotiate to lower levels with landlords. Alternative leases, such as the variable cash or share lease designs, offer more risk sharing where rent levels adjust to variability year to year.

There are, of course, motivations beyond risk-sharing that determine the lease agreement type used between a farm operator and farmland owner. Fixed cash rents provide a number of conveniences for both the farm operator and the landowner as they do not require coordination and agreement on a number of managerial decisions (input purchases and application, timing of field activities, etc.). Variable cash leases partially address these conveniences, but still require agreement on multiple lease terms including how to determine the revenue to which a rent factor is applied to calculate the rent level for the year.

Historically, both variable cash and share leases have resulted in modest positive farmer returns even in years when farmer returns to cash rented farmland were negative. However, current corn and soybean prices and production cost levels result in negative returns under a typical variable cash lease design. In fact, current price and cost expectations make it difficult to budget out positive returns to operators even under the share lease design.

Farm operators will need to identify areas for reductions across all cost categories, including both nonland and land costs. Seeking lower fixed cash rent levels is warranted in the current environment. Exploring options to reduce variable cash and share rent levels also seems warranted. Rather than modifying the terms or parameters of those leases, reductions in the final rent level could be considered for 2025. For example, reducing share rent payments by around $5 per acre would aid in achieving break-even farmer returns based on our projections for central Illinois. Larger reductions for cash and variable cash rent payments of over $50 per acre would be needed to get closer to break-even returns. Required rent adjustments in other regions of Illinois would need to be even larger. Rent reductions of that size are likely difficult to achieve in a single year, especially when one considers the landowner's perspective.

This further reinforces the serious nature of the current economic environment for row crop producers in Illinois and throughout the Midwest. While most operations entered into the current environment with very strong financial positions, the large negative margins since 2023 suggest that larger and more difficult cost adjustments will need to be made to achieve break-even or positive return outcomes, provided current expectations are realized.

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