

Determining Cash Rental Rates for Agricultural Land



Background

There are a variety of agricultural land rental agreements that are used by producers and landowners across the Louisiana. The type of agreement and the amount of rent paid can vary depending on a host of factors – including the area of the state, the historical productivity of the land and the commodity or commodities that are grown.

Historically, share rental agreements have been the predominant arrangements used. Under the share rental agreement, the landlord receives a share of the crop as payment for the land. As such, the actual dollar amount received by the landlord for rent can and does vary from year to year as both yield and commodity prices change. The landlord is, therefore, subject to the same type of uncertainty and risk associated with fluctuating production and prices as the producer. Typical share rental rates have ranged from around 15 percent to as high as 40 percent, depending on the commodity to be grown and the amount of production expenses paid by the landlord. The upper end of the range generally is associated with those agreements in which the landlord not only shares in the crop revenue but also shares in many of the crop expenses. If the landlord pays a portion of the production expenses associated with the commodity, then he/she would not only face the uncertainty associated with production and prices but also face the uncertainty and risk associated with rising input costs.

Over the past several years, increased variability in production levels and particularly commodity prices have caused considerable variation in actual dollar values paid for rent under share rental agreements. As such, many landlords have looked for alternative rental agreements that helped to stabilize rental income for agricultural land. In addition, for those landlords with rental agreements that required paying a portion of production costs, sharply higher input costs have greatly increased the landlord's investment.

For those reasons, there has been a trend over the past several years toward cash rental agreements. Under a cash rental agreement, the landlord receives a fixed dollar amount for rent of the land and typically does not share in any of the production expenses. While cash rental agreements greatly reduce or eliminate the amount of uncertainty and risk faced by the landlord, the same is not true for the tenant. The producer has agreed to pay a fixed dollar amount in rent even if farm income is affected



adversely by lower-than-expected production or commodity prices.

Even more so than share rental rates, cash rental rates vary considerably across the state depending on a host of factors. Typical cash rental rates have been noted as low as \$10 per acre for pastureland to more than \$100 per acre for highly productive crop ground.

While there is certainly a great degree of variability in rental rates across the state and while each type of rental agreement has both its advantages and disadvantages, there are some generally accepted and recommended practices that are applicable to all rental arrangements. First, if possible, the agreement should be in writing. Second, the agreement should specify the length of the agreement, particularly if major capital improvements are to be made to the land. Finally, the tenant and landlord should consider special circumstances that could occur and how they will be handled. For example, determination of who will receive compensation should be included in the agreement if production disruptions such as right-of-ways should occur during the production year.

Determining Cash Rental Rates for Agricultural Land

One of the first issues that must be addressed when investigating cash rental agreements is developing a fair rental rate. From a landlord's perspective, the rental rate should reflect a fair return to the value of the land. From a tenant's perspective, the rental rate should realistically reflect the income generating ability of the land and the commodity being produced. Obviously, the landlord would like the rental rate to be as high as possible while the tenant would like it to be the low as possible.

A typical approach to establishing cash rental rates is to simply set the rate at levels being paid for comparable land in the area. While there are some pros and cons with using this method, setting cash land rents at current market levels is one of the simplest and most straightforward methods of establishing cash rental agreements. When available, information on typical cash rental rates in the area helps to remove both landlord and tenant expectations and perceptions about the value of the land to be rented. If a landlord thinks the productivity and the improvements on the land justify a rental rate of \$100 per acre but other landlords in the area are only receiving \$40 per acre for similar land, then it will be nearly impossible to find a tenant who will pay that rate. Likewise, if a tenant only wishes to pay \$10 per acre in cash rent when the vast majority of the landlords in the area are receiving \$60 per acre for similar land, then it will be nearly impossible to find a landlord willing to accept that rate.

According to the USDA's Economic Research Service, average cash rents for irrigated cropland in Louisiana ranged from \$81 to \$97 per acre over the past five years. Cash rents on nonirrigated cropland ranged from \$66 to \$67 during that same period, while rents on pastureland ranged from \$16 to \$27 per acre. Keep in mind, however, that these are average values that represent a wide range of land in terms of the commodities grown, the physical improvements on the land and land productivity. Cash rents in different locations of the state and on different quality and productivity of land could be expected to vary, and perhaps significantly vary, from the numbers reported by USDA.

While doing a quick survey of the market for rented land in agricultural production generally is the most straightforward method of establishing cash rental rates, there can be times when there is a lack of market information in the area. In those cases, there are several approaches that have been suggested in farm management literature to determine cash rental rates. These approaches provide a good "starting" point for negotiating cash rental rates between the landlord and tenant. While there are several approaches and multiple variations of each approach, three of the most straightforward approaches are 1) landlord ownership costs and returns to equity, 2) share of expected net returns and 3) cash rent based on an equivalent share.

Landlord Ownership Costs and Returns to Equity Approach

Under the landlord ownership costs and returns to equity approach, the assumption is that the landlord would want to obtain a rent that covers his ownership cost in the land plus provide a return on his equity in the property. In using this approach, assumptions must be developed regarding ownership costs of the land, the appropriate rate of return and the market value of the land. In general, land ownership costs include property tax on the land plus any repairs, depreciation, taxes and insurance on any improvements on the land that would be used by the tenant.

While property taxes are fairly straightforward, there can be some confusion regarding other landlord ownership costs. For example, assume the land to be rented was equipped with an irrigation system. The repair and maintenance associated with that irrigation system, if paid by the landlord and not the tenant, would be included in the ownership costs under this approach. Also, if the landlord was making debt payments on a loan for the irrigation system, the interest expense associated with that loan also would be included in the ownership costs. It should be noted, however, that only improvements used by the tenant should be included in the ownership costs. For example, this same piece of property may also have a building or some other structure that will not be used by the tenant. In that case, the costs associated with the irrigation system would be included in the ownership costs but not the costs associated with the structures since they would not be used by the tenant.

Estimating a value for an appropriate return to equity requires making assumptions about both the rate of return to use as well as the market value of the land. The appropriate rate of return typically is viewed as the opportunity cost of money invested in the land. That simply means the rate of return would be set at a rate of return the landlord would be expected to receive if the cash equivalent of the land was invested in an alternative financial investment. If, however, the landowner is still making debt payments on the land, the rate of return typically would be set at the interest rate the landowner is paying on the land.

The market value of the land typically is set at the current level at which similar land in the area is being sold. In instances in which this information is not readily available, published information from the USDA or other sources on agricultural land values in Louisiana could be used. An important point to consider, however, is to use only agricultural land values. Information on land to be used for industrial, commercial, or residential purposes should not be included in estimating a market value. Doing so, would likely greatly overestimate the value of the land and would lead to an inflated estimate for cash rental rates.

Table I. Example of Developing a Cash Rental Rate Using the Landowner Costs and Returns to Equity Approach

Item	Value
Landlord Ownership Costs	
Property Taxes	\$10.00
Land Improvement Costs	
Repair & Maintenance	\$0.00
Interest Expense	\$0.00
Depreciation	\$0.00
Total Land Improvement Costs	\$0.00
Total Landlord Ownership Costs (<i>Property Taxes + Total Land Improvement Costs</i>)	\$10.00
Return To Equity	
Land Value	\$1,970.00
Rate of Return	4.00%
Total Return to Equity (<i>Land Value * Rate of Return</i>)	\$78.80
Estimated Cash Rental Rate (<i>Total Landlord Ownership Costs + Total Return to Equity</i>)	\$88.80

Table I shows an example of using the landlord ownership costs and return to equity approach in developing a cash rental rate. The annual property tax associated with the land was assumed to be \$10 per acre. The property was assumed to have an irrigation system that would be used by the tenant in crop production. The irrigation system was debt-free to the landlord, and the tenant was assumed to pay for all maintenance and repair for the system. As such, the only landlord ownership cost assumed for this property was the annual property tax. For the return to equity, the landlord was assumed to be making payments on a land note with an interest rate of 4 percent. The loan interest rate was therefore used as the appropriate rate of return. The market value of the land was set at \$1,970, which is the USDA's 2011 estimate for the value of cropland in Louisiana. Based on those assumptions, an appropriate cash rental rate was estimated at \$88.80.

Share of Expected Net Returns Approach

Under the share of expected net returns approach, a cash rental rate is based on the tenant's expected net returns from agricultural production. The expected net returns provide the upper bound of what the tenant would be able to pay toward land rent. In using this approach, assumptions have to be made regarding the income that is to be generated as well as the costs associated with crop production.

Total income is simply the sum of crop revenue, any government payments tied to the land received by the tenant and any other income generated from the land that is received by the tenant. Estimating crop revenue can be the most difficult item to accurately develop in projecting total income. Because production levels and prices can vary significantly from year to year, developing a reasonable projection for crop revenue that both the landlord and tenant can agree to can be difficult. If crop revenue is estimated at extremely high levels, there is a risk the resulting cash rental rate will be problematic for the tenant. Conversely, if the crop revenue is estimated at extremely low levels, the cash rental rate may be low, given the productivity of the land.

As a result, projections should be based on historic production associated with the land. Taking an average of production over several years helps to limit the effect of extraordinarily high or low production years. If production history for the land is unavailable, using published parishwide or statewide production data can be a suitable replacement. Similarly, historic price information associated with production on the land or published parishwide or statewide data can be used to develop projections for expected prices.

As with projecting production levels and prices, historic data from crop production associated with the land can be used to develop projections for total costs. Total costs should include direct production costs and fixed

Table 2. Example of Developing a Cash Rental Rate Using the Share of Expected Net Returns Approach

	Corn	Cotton	Rice	Sorghum	Soybeans	Wheat
Expected Price and Yield						
Yield	142.8	806.4	6138	89.2	38.2	56
Price	\$5.30	\$0.89	\$13.75	\$5.10	\$13.00	\$6.00
Expected Tenant Income						
Crop Revenue (Price * Yield)	\$756.84	\$717.70	\$843.98	\$454.92	\$496.60	\$336.00
Government Payment	\$65.00	\$65.00	\$65.00	\$65.00	\$65.00	\$65.00
Other	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Expected Total Income	\$821.84	\$782.70	\$908.98	\$519.92	\$561.60	\$401.00
Expected Tenant Costs						
Direct	\$497.47	\$559.82	\$690.18	\$276.13	\$303.98	\$210.35
Fixed	\$54.21	\$128.74	\$79.71	\$28.49	\$39.19	\$26.93
Returns to Labor and Management	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Expected Total Costs	\$581.68	\$718.56	\$799.89	\$334.62	\$373.17	\$267.28
Expected Net Returns Above Costs <i>(Total Income - Total Costs)</i>	\$240.16	\$64.14	\$109.09	\$185.30	\$188.43	\$133.72
Percentage of Net Returns Shared by Landlord	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Estimated Cash Rental Rate <i>(Net Returns x Percent Shared)</i>	\$120.08	\$32.07	\$54.54	\$92.65	\$94.22	\$66.86

costs as well as some estimate for returns to labor and management. In a case where no information exists, LSU AgCenter enterprise budgets could be used to develop estimates for total costs. Each year, the LSU AgCenter develops enterprise budgets for a variety of commodities grown commercially in the state.

Table 2 shows an example of using the share of expected net returns approach in determining cash rental rates for a variety of commodities grown in the state. For each commodity, the five-year state average was used as the projection for expected yield, and 2012 futures prices were used as the basis for developing estimated prices. The land was assumed to have direct government payments of \$65 per acre and it was assumed the tenant would receive all of those payments. For cost estimates, 2012 LSU AgCenter enterprise budgets were used to develop statewide average cost estimates for each commodity. Returns to labor and management were set at \$30 per acre, which is the LSU AgCenter enterprise budget estimate for overhead costs.

Based on those assumptions, Table 2 shows expected net returns that range from a low of \$64.14 per acre for cotton to a high of \$240.16 per acre for corn. These expected net returns represent the total amount the tenant would be projected to have available for land rent. Given that the tenant bears all of the production and marketing risk associated with these projections, however, the

landlord and tenant may wish to share in these expected net returns. While the manner in which the expected net returns could or should be shared between the landlord and tenant will likely vary from situation to situation, sharing net returns equally can prove to be an equitable split. Having the landlord and tenant share equally in the expected net returns generates cash rental rates that range from a low of \$32.07 per acre to a high of \$120.08 per acre depending on the commodity grown.

If more than one commodity will be grown on the land being rented, the landlord and tenant may agree to have separate cash rental rates depending on the commodities grown. In such cases, estimating expected net returns and estimated cash rental rates for each commodity separately, as was done in Table 2, would be sufficient. If, however, the landlord and tenant prefer to have one rental rate for all of the land, some type of aggregate rental rate can be determined.

Table 3 shows an example of 600 acre farm to be rented. The breakdown of the land by commodity produced shows 200 acres of corn, 100 acres of cotton and 300 acres of soybeans are expected to be grown each year on the property. Based on this breakdown, 33.33 percent of the land will be in corn production, 16.67 percent in cotton production and 50 percent in soybean production. Using those percentages and the estimated cash rental rates from Table 2, the proportionate shares

of each commodity toward a single aggregated cash rental rate for the land can be determined. In this example, the single aggregated cash rental rate would be estimated at \$92.48 per acre.

As mentioned, the one difficulty in using the share of expected net returns approach is being able to accurately project income and costs. Making projections based

strictly on an extremely high production or price year runs the risk of overestimating and having a rental rate that is not financially feasible for the tenant when prices begin to fall. Likewise, making projections strictly based on an extremely low production or commodity price year can result in underestimating an appropriate cash rental rate. To illustrate this point, Table 4 uses the same

Table 3. Example of Developing a Weighted Average Cash Rental Rate for Land Used for Multiple Commodities						
	Corn	Cotton	Rice	Sorghum	Soybeans	Wheat
Number of Acres Grown	200	100	0	0	300	0
Percentage of Total Acres	33.33%	16.67%	0.00%	0.00%	50.00%	0.00%
Estimated Cash Rental Rate	\$120.08	\$32.07	\$54.54	\$92.65	\$94.22	\$66.86
Proportionate Share of Rent <i>(Percent * Cash Rent)</i>	\$40.03	\$5.34	\$0.00	\$0.00	\$47.11	\$0.00
Estimated Aggregated Cash Rent <i>(Sum of all proportionate shares)</i>						\$92.48

Table 4. Example of Developing a Cash Rental Rate Using the Share of Expected Net Returns Approach						
	Corn	Cotton	Rice	Sorghum	Soybeans	Wheat
Expected Price and Yield						
Yield	142.8	806.4	6138	89.2	38.2	56
Price	\$4.85	\$0.79	\$12.87	\$4.26	\$10.69	\$5.52
Expected Tenant Income						
Crop Revenue (Price * Yield)	\$692.58	\$633.83	\$789.76	\$379.64	\$408.23	\$308.93
Government Payment	\$65.00	\$65.00	\$65.00	\$65.00	\$65.00	\$65.00
Other	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Expected Total Income	\$757.58	\$698.83	\$854.76	\$444.64	\$473.23	\$373.93
Expected Tenant Costs						
Direct	\$497.47	\$559.82	\$690.18	\$276.13	\$303.98	\$210.35
Fixed	\$54.21	\$128.74	\$79.71	\$28.49	\$39.19	\$26.93
Returns to Labor and Management	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00	\$30.00
Expected Total Costs	\$581.68	\$718.56	\$799.89	\$334.62	\$373.17	\$267.28
Expected Net Returns Above Costs <i>(Total Income - Total Costs)</i>	\$175.90	-\$19.73	\$54.87	\$110.02	\$100.06	\$106.65
Percentage of Net Returns Shared By Landlord	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Estimated Cash Rental Rate <i>(Net Returns x Percent Shared)</i>	\$87.95	-\$9.87	\$27.43	\$55.01	\$50.03	\$53.33

assumptions as those used to develop Table 2 with the exception of using a three-year state average price as the expected price versus current futures prices.

Using a three-year average for expected prices creates a very different picture of expected net returns and therefore estimated cash rental rates. The difference in estimated cash rental rates in tables 2 and 4 points to how important it is to develop estimates for both yields and prices when using this approach. This is particularly true in multiyear agreements in which rental rates may be fixed for several years at a time.

While there is no perfect method of developing these projections, using historic production and price averages can help to smooth out those high and low years and help to provide projections that may be more appropriate over a wider range of production and price scenarios. In general, including more years in developing historic averages is preferred to using fewer years. The one caveat is a situation in which there has been a significant and permanent shift in productivity and commodity price levels as in recent years. In that case, including periods prior to this shift would likely dampen the effect of changes in price and productivity and lead to estimates that are less representative of current and future production and market environments.

Cash Equivalent of a Share Agreement Approach

Under the cash equivalent of a share agreement approach, the cash rent is based on projections of what rent would have been under a comparable share rental agreement. Essentially, with this approach, the tenant would pay the landlord a cash rental rate that would be expected to roughly equal the net returns the landlord would have received under a share rental agreement. Since landlords are required to pay a portion of production expenses under some share rental agreements, the net returns a landlord would have received is the revenue from the sale of his share of the production minus any production costs that were paid. While there are similarities between this approach and the share of expected net returns approach discussed previously, the major difference is that under the previous approach the cash rental rate is based on an expected net return for the tenant and this approach bases it on an expected net return for the landlord.

While projections for total income must be developed under this approach, only that portion of total income that would be expected to be received by the landlord under a share rental agreement is considered. Also, while costs are considered, only those costs that would be expected to be paid by the landlord are included. Once the estimates for the landlord's share of income and costs are developed, a net return for the landlord can be calculated. The estimated net return needs to be adjusted downward since the amount of risk faced by the landlord

is decreased substantially going from a share rental agreement to a cash rental agreement. A common adjustment for this reduction in risk is a 10 to 15 percent reduction in the estimated net returns.

Table 5 shows an example of using the cash equivalent of a share agreement approach in determining a cash rental rate. This example shows the cash equivalent of a share rental agreement in which the landlord gets 15 percent of the crop and government program payments and pays for repair and maintenance associated with the irrigation system on the farm. This example uses the same assumptions about prices, yields and government program payments as those used in Table 2. Projected yields were set at the five-year state average, projected prices were based on current futures prices and government program payments were assumed to be \$65 per acre. It also was assumed the landlord would have been responsible for paying for repair and maintenance costs associated with the irrigation system, and those costs were set at \$15.00 per acre. Finally, it was assumed the landlord was not responsible for any of the other production expenses associated with crop production.

With those assumptions, the landlord's expected net returns would have ranged from \$45.15 per acre to \$121.35 per acre under a 15 percent share rent, depending on the commodity grown. This expected net return forms the basis of determining an equivalent cash rental rate. As mentioned previously, the expected net return should be adjusted downward to reflect the reduction in risk faced by the landlord when transitioning from a share rental agreement to a cash agreement. Using a risk adjustment factor of 15 percent generates cash rental rates that range from \$38.38 to \$103.14 per acre.

As with the share of expected net returns approach, this approach can be used to develop estimates for cash rental rates for specific commodities. As with the previous approach, assumptions made regarding expected prices and yields can significantly alter the results found in Table 5. If, for example, a three-year state average was used as the expected price for corn rather than current futures prices, the expected net returns would have been \$98.64 per acre versus the \$108.28 shown in Table 5. Again, attempting to identify price and yield projections that are reflective of current and future market conditions is critical in being able to provide cash rental rate estimates under this approach that are fair and equitable to both the tenant and landlord.

Another similarity between this approach and the share of expected net returns approach is that a cash rental rate estimate is developed for a specific commodity. If the landlord and tenant agree they would rather have a single aggregated cash rental rate across all acres and all commodities, the approach outlined in Table 3 could also be used to develop a single aggregated cash rent based on the individual estimates developed under this approach for each commodity.

Table 5. Example of Developing a Cash Rental Rate Using the Cash Equivalent of a Share Agreement Approach

	Corn	Cotton	Rice	Sorghum	Soybeans	Wheat
Expected Price and Yield						
Yield	142.8	806.4	6138	89.2	38.2	56
Price	\$5.30	\$0.89	\$13.75	\$5.10	\$13.00	\$6.00
Landlord's Share of Crop Revenue & Government Payments	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Expected Tenant Income						
Crop Revenue <i>(Price x Yield x Landlord Share)</i>	\$113.53	\$107.65	\$126.60	\$68.24	\$74.49	\$50.40
Government Payment <i>(Total Payment x Landlord Share)</i>	\$9.75	\$9.75	\$9.75	\$9.75	\$9.75	\$9.75
Other	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Expected Total Income	\$123.28	\$117.40	\$136.35	\$77.99	\$84.24	\$60.15
Expected Tenant Costs						
Fuel	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Chemical	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Repair & Maintenance	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00
Other	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Expected Total Costs	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00
Expected Net Returns Above Costs <i>(Total Income - Total Costs)</i>	\$108.28	\$102.40	\$121.35	\$62.99	\$69.24	\$45.15
Adjustment for Reduced Risk	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Estimated Cash Rental Rate <i>(Net Returns x (1 - Adjustment))</i>	\$92.03	\$87.04	\$103.14	\$53.54	\$58.85	\$38.38

Summary

Establishing a fair cash rental rate can be a difficult task. Given differences in local supply and demand, productivity of land and the commodities that will be grown, it is nearly impossible to establish a rental rate that will be appropriate for every situation. There are, however, several generally accepted approaches that can be used to develop estimates for cash rental rates.

Unfortunately, the values generated by these approaches can vary substantially – leaving a wide range of potential cash rental rates. In fact, estimates can vary significantly even when using the same approach, depending on the assumptions made in using that approach. Also, these approaches do not consider the costs of general

farm upkeep such as maintaining roads. Depending on whether the landlord or tenant is expected to cover those expenses likely will require some adjustments to any rental rate developed through one or all of these approaches.

As such, the estimates developed with these approaches should be viewed as starting points for negotiations between the landlord and the tenant rather than providing an absolute and final fixed value for cash rental rates. Ultimately, the cash rental rate agreed to by the landlord and the tenant will be more a function of negotiations between the two rather than what any one or all of these approaches suggests as an appropriate cash rental rate.



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