

Agricultural ECONOMICS

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Figuring Rent for Existing Farm Buildings

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The question of how to determine the rental value of a farm building may come from the owner of a building or from the person desiring to rent the building. Each situation usually requires an evaluation of economic factors such as cost of ownership, building condition, potential returns from the use of the building, and evaluation of the demand for such a building.

There is no "right" answer to the question, "What is the correct, or fair rent for a building?" The value placed on the use of the building by the owner and prospective renter is generally only a point from which to start bargaining.

A building provides a service. To the user, that service is worth no more than what it will add to returns, or the amount it will reduce costs. For example, the estimated value of a place to store grain from harvest

until mid season might be 35 cents per bushel, or a cattle feeder might estimate that he could save \$20.00 in feed and labor costs per feeder animal if he could feed his cattle in a lot with mechanized feeding versus bunks in an open field. These estimates would establish the maximum amount a potential renter would be willing to offer for the building services.

For the building owner, the cost of providing the services of the building can serve as a guide in establishing an asking price. The cost is relevant in deciding whether to (1) rent the building, (2) continue ownership, or (3) tear it down.

If there is a going market rental rate (the rate charged by the commercial grain trade for grain storage, for example), it can be used as a starting point in bargaining. If a commercial rate is not available, then the building owner must develop a means of arriving at an asking price. The potential user must determine an offering price as well. It will be based on his added returns or reduced costs from using the building services.

IMPORTANT CONCEPTS

The costs of providing the services of a building, or the costs of obtaining those services from an alternative source are the primary considerations in determining how much rent to ask, or offer. What are those costs? In general, they are placed into two categories: fixed and variable.

The *fixed costs* are those that continue whether the building is used. For ease of remembering, they are referred to as the *DIRTY five* **D**epreciation, **I**nterest (on the capital investment), **R**epairs, **T**axes (property) and **I**nsurance. These costs are referred to as "fixed" because they continue even for an unused building. Note that three of these (repairs, taxes, and insurance) involve direct cash costs. Depreciation is a noncash cost. Interest may be a cash cost if outstanding debt exists, or a noncash cost if there is no debt.

The *variable costs* are those that are incurred because of use versus nonuse of the building. They may increase with the degree or intensity of the use of the building and decline as its use declines. The largest of these is often the added repairs caused by use, although they might also include variable cost items such as changes in the use of electricity or water (Electricity and water for the building may be metered separately and can then be paid directly by the renter and thus would not need to be part of the rent payment.), added depreciation (wear and tear), and changes in insurance premiums. In addition to these cash costs, there may be nuisance costs" such as increased noise and traffic, risk of accidents, risk of damage to other property, or odor concerns. A dollar value should be estimated for these costs.

THE OWNER'S POSITION

For the owner, collecting any significant rental income that exceeds the variable costs is better than leaving the building idle. The income exceeding the variable costs provides at least some contribution toward paying the fixed costs (which have to be paid in any event). Thus the lower limit asking price is an annual rental which just exceeds variable costs and nuisance costs.

If the building owner has decided that an alternative to renting is to tear down the building, then the cash fixed costs would have to be included in his minimum asking price. This is because cash fixed costs such as taxes, insurance, and minimal repairs would be eliminated if the building were torn down.

Prior to construction, all building costs are variable; that is, you have a choice as to whether to incur them. But in the case of an existing building, you no longer have a choice; capital has been committed and

the fixed costs go on whether the building is used.

If the going rental rate, or the estimated value of the building to potential users exceeds the total cost of providing the building services, the higher value would normally be used as the initial asking price by the owner. If total costs of providing the building service exceeds the estimated value to users or the going rate, the starting asking price then depends upon one's bargaining strategy.

If your choices are between an empty, nonused building and one that is rented, the extra or marginal cost of renting in the short run is the variable cost. As noted above, anything you can get above the variable costs is a gain which can be applied to the fixed costs that will occur anyway. An initial asking rent is at least enough to cover your variable costs, and as much above that as you can get. In the longer run, you want to cover all your costs. If your costs cannot be covered, consider selling the building or tearing it down.

In determining your own fixed costs of building ownership, you can fairly easily determine the annual cash costs for your property tax and your insurance. Further, by averaging your annual repair costs for the past several years and projecting any major repairs you can anticipate (painting, roof, foundation, e.g.), you can estimate your annual repair cost. That leaves the noncash fixed costs of depreciation and interest on investment. Their value is dependent primarily upon the estimated value of the building (The same value of the building can also be used as a basis for estimating property tax, insurance, and repairs if these are not readily available from the records.). But how can building values be estimated?

Estimating Building Value

Buildings may differ in market value (likely sales price) depending upon whether they are sold in place or removed, as demonstrated by the hypothetical figures at the top of the next column.

As a general rule, buildings tend to have a higher likely sales price or value in place (i.e., sold with land) than if removed to some other location. An exception illustrated above might be a sealed storage facility on good to excellent grain land on which there is also enough bin space to store average crops. This is a facility that does not fit the land base on which it is located. On a livestock farm, the sealed storage facility might be worth more in place. Grain storage in excess of that needed for the acreage on which it is located may be worth about as much removed as if sold in place. Most livestock facilities have relatively little value if they have to be moved. They may also add little value to land to which they are not suited. However, livestock buildings that are suited to the land and are of the kind typical of the area add value to the farm where they are located.

Kind of building	Possible sales price	
	In place	Removed
100,000 bu. grain storage on 160A	\$43,500 (10,000 bu. @ \$.75/bu. 90,000 bu. @ \$.40/bu.)	\$40,000
10,000 bu. grain storage on 160A	\$7,500	\$4,000
Hog facilities on enough land to grow all corn fed	\$100,000	\$30,000 (mostly crates, equipment)
Old general purpose barn	\$2,000	Minus \$500

		(cost of bull- dozing)
Sealed storage on grain farm with ample dry storage	\$5,000	\$8,000
Concrete silo and feedlot	0	Minus \$500
Poultry house	\$1,000	Minus \$200
Dwelling	\$30,000 (with 5 acres)	\$3,000

There are several methods of evaluating buildings, including the following:

1. Estimated value based on sales information of comparable farms with and without a similar building. This method requires more sales information than is generally available to landowners and may not give any better estimate than by other methods.
2. Recent initial cost or reproduction cost (the present cost of constructing an identical building) less an allowance for depreciation. This method is appropriate for modern facilities. Use reproduction cost rather than initial cost when there has been considerable change in costs since construction of the facility. This method is useful if the building fits the acreage on which it is located and is typical of the area. Some adjustment might be needed based on the short-run profitability of the enterprise for which the building is used. For example, when hog prices are low and little or no new construction is going on, a greater amount of economic depreciation should be assumed than in a period when hog production is expanding.
3. Replacement cost less an allowance for depreciation. In this case, the building provides the same functions but is not identical to the one that is replaced. This method is appropriate where the service provided by an existing building could be provided by a structure of different design and lower cost. An extreme example would be the sturdy old general purpose barn, which is typically useful for storage of supplies, tools, and small machinery. Reproduction cost might be \$75,000, but the same services could be obtained in a pole-frame structure costing \$20,000. If the estimated life of that building were 25 years, annual depreciation would be \$800, based upon replacement costs rather than reproduction costs. With an estimated useful remaining life 9 years, the old barn value estimate would be \$7,200. This figure might be lowered if the replacement structure provided more convenience, better lighting, more height, wider doors, etc.
4. Salvage or removal value. Grain bins and certain types of silos are occasionally sold to be removed. In this case, sale prices may be available. As a test of this estimate, salvage value plus moving and reconstruction costs should not exceed replacement value less depreciation.

Choosing a Method

Each of these ways to estimate the value of a building may be used depending upon the situation. Worksheet I is designed for use in estimating building value using the replacement cost less depreciation method. The *first* step is to estimate the replacement cost. Our example assumes that we have a 2-story, 30' x 60' older barn used for livestock housing below and hay storage above. The livestock housing would be replaced with a pole barn (30' x 60'). At \$5.00 per square foot, that would cost \$9,000. The hay storage could be replaced by a hay keeper of equal capacity--about 100 tons--which might cost \$7,200. Thus, the total replacement cost would be \$16,200. This assumes the barn typically would be used for

both hay and livestock; however, if the typical use were only for machinery storage, it might be replaced by a single building for equipment storage. The replacement cost should be for equivalent building(s) that would be built to perform the function(s) of the existing building.

The *second step* is to estimate the life of the new building. Continue with step *three* by dividing the new building value by the years of life to give the annual depreciation of the new building. Next, decide how much longer the existing building will last (perform its functions). In our example, the 10 years remaining life of the old building times the annual depreciation gives an estimated value of \$6,480.

In addition, adjustments for obsolescence and design peculiarities should be made if they are appropriate. Note that all of these estimates are by their nature highly subjective. Even though they are approximate, they are also essential and useful. You may consider it useful to make more than one estimate: one "most likely," one high, and one low, for example. In our example, the building value was estimated at \$4,980 after adjustments were made.

If the building is to be rented for less than a full year, divide by 12 and charge at a monthly rate for the months it will be used. Do not calculate monthly rent for single purpose, seasonal use structures. For these, the annual cost should be collected as rent even though actual use may be only a few months. An example is a grain bin used from harvest until March. After March, there is little or no use for the bin until next harvest, thus the appropriate rent would be the annual cost.

Cost of Providing Building Service

When you have an approximate value of a building, the cost of providing building services can be calculated by using Worksheet II.

Estimates of depreciation used for income-tax purposes may not have much relationship to the loss in value of an asset and will be of little value here. In considering investment costs and returns, the relevant depreciation is the "real" or actual change in value that is expected. On Worksheet II, use the expected decline in value rather than the income tax depreciation value. If the building value had been estimated using replacement less depreciation, use the same depreciation rate used to calculate building value. In the Worksheet I example, depreciation would be \$498 per year (10% of \$4,980).

Interest should be calculated or imputed using the interest rate you could make on the money if it were available for other investments. If a loan exists on the building, use the current interest for the outstanding debt and calculate interest on the equity portion of the building value.

As discussed earlier, annual or maintenance repairs, taxes, and insurance should be estimated from records of past expenses. Where there are no records that let you identify these expenses for the particular building, guidelines are available on Worksheet II.

Variable costs for utilities, repairs and other costs not included above, should be entered. After the fixed noncash costs, fixed cash costs, and variable costs are totaled, you will want to evaluate the rent you must have to cover the different types of costs. This is provided at the bottom part of Worksheet II.

Using Value and Cost Estimates to Arrive at Rental Rates

By estimating both the onsite (in place) and salvage or removed values one can decide the minimum costs to be recovered as rent. Here are some guidelines:

1. If the salvage or removed value is about equal to, or in excess of the in-place value, the rent payment should cover both fixed and variable costs. Otherwise, better returns can be realized by selling the building.
2. If the in-place value is considerably greater than the removal value, the tendency of most owners is to keep and maintain the building regardless of whether they can rent it. In that case, if the rent covers variable costs plus anything additional, the owner is better off to rent than to leave the facility idle.
3. Often the in-place value should be modified (discounted) for the uncertainty of the estimate. For example, an owner has checked on farm sales with and without barns similar to his own and estimates his barn to be worth \$5,000 if sold with the farm but reduces this estimate to \$4,000 because of the wide variation in sales data and the uncertainty of finding a buyer who places "full value" on the farm.
4. The in-place value should be discounted if it is to be sold at some future date. For example, a farmer is age 50 and doesn't plan to sell the farm until age 65.

WORKSHEET I. Building Value Worksheet--Estimation of Remaining Value of a Building.

(Example: 30'x 60' older barn used for livestock below and hay storage above with 10 years of useful life remaining).

	Example	Your figures
1. Calculate the replacement cost Bldg. #1 Livestock pole barn 1,800 sq. ft. x \$5.00 = \$9,000 Bldg. #2 Hay storage 1,600 sq. ft. x \$4.50 = \$7,200		
Estimated value of new buildings	\$16,200	\$ _____
2. Estimated life of the new building	25 years	_____
3. Calculation of remaining value		
a. Annual depreciation of new building \$16,200 ÷ 25 =	\$648	_____
b. Estimated remaining years life, old building	10	_____
c. Estimated value adjusted for age (a x b) or \$648 x 10 =	\$6,480	_____
d. Less adjustment for obsolescence	\$500	_____
e. Less adjustment for design problems	\$1,000	_____
f. Equals estimated remaining value	\$4,980	_____

He has to ask, "What will the farm be worth 15 years from now and how much will I need to spend to preserve that value?" Using the example above of the \$4,000 building, he estimates that in 15 years it would be worth \$2,000. He also estimates his taxes, insurance, and maintenance at \$100 per year. This

\$100 per year compounded at 8 percent would amount to \$2,715 in 15 years. If he gets no rent, he would be better off to raze the building. If he could get enough rent to recover about \$27 per year fixed costs plus all the variable costs for the 15 years prior to selling the farm, he would break even.

Consider the Renter's Viewpoint

To be in as sound a bargaining position as possible, it is useful for the owner of a rentable building to have at least an idea of what the potential user might be willing to pay. The calculations that you need to make are the same as the ones he needs to make. For a guide, refer to the Worksheet III on "General Procedure for Estimating Potential Earnings From The Use of a Building." You will likely have to make some estimates for his situation but you should be able to get an idea of what your building might be worth to the prospective renter.

Again, recognize that the figure you arrive at as the potential earnings of your building is only a starting point for bargaining. The level of rent you get will depend upon the relative supply of and demand for building rental in your area (and that will change from time to time).

What if Rental Income Won't Cover Costs?

What if the available building rent (if any) will not cover all the costs? Should you rent it anyway? That depends.

First, over how long a time period is this expected to be true? Second, what costs aren't being covered? If the situation is expected to be temporary, of a one- or two-year duration, then any rental income above the variable costs will help pay the fixed costs. The building should be rented.

If the situation is expected to last for some time, and the rental income will not cover at least the fixed cash costs (repairs, insurance, and property tax) in addition to the variable costs, then you should consider either selling the building, or razing it. However, some building owners elect to continue to own and pay the fixed costs of an unused older building, mainly because the costs are so small. They prefer to pay the cost "in case they decide to use it" rather than take the chance of not having it when they might want it. In some cases the income tax savings, because of depreciation that may be taken, are enough to partially or totally offset the property tax and insurance costs.

Depreciation may be continued on an idle building (until it is fully depreciated) provided that it is ready to be used in the production of income. If the building is razed or abandoned (no longer useful) then the undepreciated amount would be recovered in the year it was abandoned or razed.

WORKSHEET II. Figuring the Cost of Providing Building Services.

This worksheet is not intended to set the rental rate. It is designed to provide an estimate of the rental price needed to cover costs. It may be used for an existing building or for a new building being considered. Given an approximate value for the building, the annual cost can be figured as follows:

Example

Your figures

a. Depreciation: (expected decline in value)		
Value (\$4,984) ¹ estimated years of life:		
(10) years =	\$498	_____
b. (1) Interest on equity		
(\$4,980) x (.07) interest rate ² =	349	_____
(2) Interest on loan		
\$_____ x _____ interest on loan =	0	_____
c. Repairs: (1) Records; or		
(2) Value* (\$4,980) x .02 =	100	_____
d. Taxes (property):		
(1) Assessed value \$_____ x tax rate \$_____ =		_____
or (2) Value* \$4,980 ÷ 3 = \$1,660 100 = \$16.60		
x tax rate \$ 6.00 =	100	_____
e. Insurance:		
(1) insured value \$_____ x Insured rate \$_____ =		_____
or (2) *Value \$4,980 x .0075 =	37	_____
f. Total fixed building costs (total a. through e.)	1,084	
g. Variable costs (operating repairs, utilities from farm records, or estimate)	200	_____
h. Total building ownership costs (f & g)	1,284	_____
i. Annual rent required to cover:		
(1) Variable costs only (operating repairs, utilities) (g)	200	_____
(2) All cash costs (variable costs plus long run repairs, maintenance, taxes and insurance = (b2,c,d,e, and g)	437	_____
(3) Total costs, All above costs (h)	1,284	_____

1 This value should be your best estimate of the current value of the building. See Worksheet I.

2 The rate you could earn with the money invested elsewhere--at least the savings account rate.

*This is an optional calculation for use if you cannot obtain this information from your records. It assumes that annual repairs equal 2 percent of the value of the building, that property taxes are assessed at one-third of the value times the local tax rate per \$100, and that insurance equals three quarters percent of the value. Average annual repairs may vary from 1 to 4 percent of the value of the building. Older buildings that have been devalued because of obsolescence may have a higher average repair rate. Insurance rates will often vary from .5 to 1 percent of the value of the building.

What if, over the longer pull, all cash costs are covered by the rental income, but not all of the non-cash costs (depreciation plus opportunity interest on investment)? If the building can be sold and the capital invested in a paving alternative, it would be economically desirable to do so in these circumstances. If the building cannot practically be sold, then in actual fact it has no real value. If it has no value, it cannot depreciate, and there is no present value on which to make an interest charge. Given that situation, any rental income above cash costs is a return to management, and therefore it is economically desirable to rent the building out.

THE RENTER'S POSITION

If you can use a building, you will want to know how much rent you can afford to pay. This depends upon the value of the building services to you.

There are two possible situations that you might face: First, you have need for a building, but you do not have one. Second, you have a building that you are using, but it has limitations; you would rent a better one if it were available.

First consider having versus not having a building. As a potential renter, you will want to consider the returns which can be reasonably expected through the use of this building. For example, if you expect to improve returns by 25 cents per bushel, or \$25 per feeder steer, that is the maximum you can afford to offer. You might figure like this:

EXAMPLE #1 Corn Storage Rental		EXAMPLE #2 Cattle Feeding Barn and Facilities Rental	
Price of corn at harvest	\$2.25	Expected sale value of steer	\$682.50
Expected corn price 8 months (or less) later	2.75	(1,050# @ 65 cents)	
Total expected gain	+ .50	Estimated cost of feeder steer (450#@ 60 cents)	270.00
Estimated cost of storing (except building rent) interest, taxes and insurance on grain, shrink, handling.	.25	Left for feedlot expenses	412.50
Balance left to pay for risk, and building rent	.25	All costs (except building rent) feed, vet., marketing, power and fuel, labor, overhead on other equipment, interest, taxes, insurance on cattle, and feed.	387.50
		Balance available for risk, rent of building and facilities.	25.00 per head

To arrive at the value to you of renting a particular building, follow the procedure outlined in Worksheet III.

WORKSHEET III. General Procedure for Estimating Potential Earnings from the Use of a Building.

	Example		Your figures	
	Per unit (bu., head, etc.) head	Total	Per unit	Total
A. Expected gross income, or increase in gross income, from use of the building	\$682.50	\$34,125	-----	-----
B. Expected expenses, or increase in expenses, (except building rental) due to use of the building. (Example: purchased livestock, feed, veterinary, medicine, marketing, power* and fuel, owned equipment (DIRTI) interest, property taxes, insurance on inventory, shrink, miscellaneous, and labor)	\$642.50	\$32,125	-----	-----
C. Other considerations: distance, security, comfort, and management			-----	-----

required.	\$ 15.00	\$ 750	-----	-----
D. Balance available for risk, management, and building and facilities rent.	\$ 25.00	\$ 1250	-----	-----

*If electric power is involved, and not separately metered, kilowatt-hour usage may be estimated: (total light watts x hours of use, plus total motor horsepower x 75 watts/hr. of use ÷100) and multiplied times the local power rate per kilowatt hour (usually about 7.0 cents per kilowatt hour).

You Want to Rent a Better Building

The second situation that may be considered in valuing the services of a building is the gain expected from improved performance in a *different* building, i.e., you already can do the job, but a better building would allow some gains. Example: you are currently feeding cattle essentially in open fields. If you could rent a confinement lot, you believe you could save about 10 percent on feed and about 2 hours per head on labor (plus have more comfortable working conditions). If the feed savings would be worth \$20, and the labor saved worth \$10 (\$5.00 per hour), you could afford to offer up to \$30 per head of capacity and leave the fields empty. You might also have some gains from alternative use of the fields.

The same basic procedure can be followed as outlined in Worksheet III to determine the rental value you can afford to pay, except that instead of entering the total returns and costs, enter the changes in returns and costs.

This provides you with the basis for the maximum you can afford to pay. But, you will want to offer less because the calculations result in the return to risk and management being allocated to the building. If you pay all that to the building owner, there is none for you. Also, the owner of the building(s) may not have any other uses for it and may be willing to settle for much less rent than the maximum you could afford to pay. At that point it is strictly a matter of bargaining and your best judgment as to your best bargaining strategy.

Other Considerations

In arriving at what can be paid (or obtained) for a building in rental, allowance should also be made for any extra expenses or savings. *Travel distance* to and from the location and providing necessary *security* (or insurance) should be considered. Noise, smell, dust, and traffic may be a greater problem to the owner if the building is used rather than vacant. The appearance of the building may improve if it is properly maintained, grass mowed, etc. In addition, buildings such as hog confinement units may have an increased market value if they are operating rather than setting idle. However, the appearance could deteriorate if unsightly machinery, high weeds, or mud lots result from the rental of the building. Also, some subjective allowance may be needed for level of *comfort of the operator*, and level of *management skill required* to make use of the building.

Once an agreement is reached between the owner and renter, it is highly desirable to put the terms of your rental agreement in writing. Some advantages of a written agreement are: (1) it encourages a detailed statement of the agreement which assures a better understanding by both parties, (2) it serves as a reminder, and (3) it provides a valuable guide for the heirs if either the tenant or landlord dies.

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