

## The Oklahoma Cooperative Extension Service WE ARE OKLAHOMA

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources and environment; family and consumer sciences; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

- The federal, state, and local governments co-operatively share in its financial support and program direction.
- It is administered by the land-grant university as designated by the state legislature through an Extension director.
- Extension programs are nonpolitical, objective, and research-based information.
- It provides practical, problem-oriented education

for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.

- It utilizes research from university, government, and other sources to help people make their own decisions.
- More than a million volunteers help multiply the impact of the Extension professional staff.
- It dispenses no funds to the public.
- It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.
- Local programs are developed and carried out in full recognition of national problems and goals.
- The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
- Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.

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## Capital Leases

### EXTENSION

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Courtney Bir  
Assistant Professor

Rodney Jones  
Professor

Brent Ladd  
Extension Assistant

Oklahoma Cooperative Extension Fact Sheets  
are also available on our website at:  
[extension.okstate.edu](http://extension.okstate.edu)

**Bargain Purchase Option:** A bargain purchase option means that the leased asset can be purchased by the lessee at the end of the lease term for an amount significantly less than the fair market value of the asset at that time.

**Capitalizing the Lease:** An accounting procedure in which the present value of the future lease payments (or fair market value of the asset, if lower) is entered on the balance sheet as an asset, which is then depreciated in a manner consistent with the method used for similar assets. The capitalized lease liability is amortized over the life of the lease in much the same manner as if the asset were purchased with an equal payment amortized loan.

**Present Value:** The value of future lease payments, plus bargain purchase option if applicable, discounted by an appropriate interest rate to the date of acquisition. Present value is the best estimate of market value or cost at the time an asset is acquired by capital lease. Present value may be thought of as the principal amount which could be borrowed at a specified interest rate, in return for a specified number of payments (rentals) of a specified amount, to be repaid at a specified interval (single payment, annually, monthly, etc.), at some time in the future. When a loan is made, mathematical formulas are used to determine the appropriate amount for each payment, which will include a principal portion and interest earned, so that the entire loan will be repaid over the term agreed upon. Present value is the reverse process to determine the principal amount when only the other factors are known.

### Determining the Type of Lease

The Farm Financial Standards Council (FFSC) recommends the application of four rules established by GAAP in *determining if a capital lease exists*. If any of the four rules apply, a capital lease exists for the lessee and the asset must be capitalized and depreciated in the same manner as if it had been purchased.

1. The lease transfers ownership of the property to the lessee by the end of the lease term.
2. The lease agreement contains a bargain purchase option. In this case the lessee has the option to purchase the property at the end of the lease term for an amount which would be significantly less than the value of the property at that time.

A **lease** may be categorized as a rental of property or an acquisition of property by financing. If the lease agreement transfers essentially all ownership rights and risks to the lessee, there is an acquisition of property. If ownership rights and risks do not transfer to the lessee, the lessee is simply renting the property. The distinction must be made when accounting for the asset.

Leasing can be a less expensive way to gain the use of capital assets when compared to owning. Additionally, the kind of assets used can be more easily changed from year to year through the use of short term leases. Conversely, leasing can create uncertainty about the availability of assets and discourages making long-term improvements. The advantages and disadvantages of leasing should be carefully evaluated when considering leasing.

A **capital lease** is an arrangement that is termed a lease but has the qualities of a purchase. This is sometimes referred to as a **lease-purchase agreement**. The lessor may be a dealer who also sells assets of the same type or a lending institution which finances the lease. The lessee takes possession of the property and is usually responsible for repair expenses. The lessee is also required to make periodic lease payments which are similar in amount to loan payments that would be required to purchase the asset during the term of the lease. The lessee acquires an ownership interest in the property and also incurs a liability for the principal amount which was financed, plus any interest accrued to the date of the balance sheet. Generally Accepted Accounting Procedures (GAAP) should be used to identify and report capital leases.<sup>1</sup>

### Definitions

**Capital Lease:** A lease in which the lessee effectively acquires ownership interest in the asset being leased.

**Asset's Economic Life:** The economic life, or useful life, of an asset is an estimate of the length of time, usually number of years, that an asset will be used to produce revenues. This estimate may be revised when it becomes apparent that the original estimate is not correct.

<sup>1</sup> *Financial Guidelines for Agricultural Producers: Recommendations of the Farm Financial Standards Council (Revised)*, July 1995.

3. The lease term is equal to 75 percent or more of the estimated economic life of the property.
4. The present value of the lease payments at the beginning of the lease term is equal to or greater than 90 percent of the fair market value at that time.

If none of the above four rules apply, the agreement is an operating lease. The asset is rental property and the lease payments are treated as operating expenses.

The most significant difference between an operating lease and a capital lease is the balance sheet treatment. The lessee includes the cost of the asset less accumulated depreciation (book value) in the balance sheet if the asset is acquired by a capital lease. A liability equal to the principal portion of the remaining lease payments, plus accrued interest to the balance sheet date, is also entered. Although the FFSC does not require disclosure of the market value of an asset acquired by a capital lease when preparing the balance sheet or supporting schedules, this information may be useful when determining deferred taxes.

No ownership of the asset or liability for payment is entered in the balance sheet if the agreement is an operating lease. The lease payments are included in the cash flow statement regardless of which type of lease exists. The income statement will reflect only the interest portion of the lease payments if the arrangement is deemed a capital lease; it will reflect the entire amount of the lease payment if the arrangement is an operating lease. Some financial ratios will be affected depending on which type of lease exists.

## Applications

The imputed cost of a capital lease is determined by discounting future payments (rents) to present value at the beginning of the lease term. The payments will usually be made in advance of each period over the term of the lease. Present value may be determined by the formula:

$$PV = [(R - (R \div (1 + i)^n)) \div i] (1 + i) \text{ where}$$

R = the rental payment amount  
i = the discount rate (interest rate)  
n = number of rental payments

When the payments are made at the end of each period rather than the beginning, the formula is modified to  $PV = [R - (R \div (1 + i)^n)] \div i$ . The amount to be paid for each rental period and the number of payments will be known. The discount rate is the interest rate which the lessor used to calculate the payment amount, if known. Otherwise, the interest rate which the lessee is normally charged for a loan to purchase a similar asset is used. The annual interest rate must be divided by the number of payments to be made each year, except when payments are made annually.

When a bargain purchase option is included in the agreement, the lessee may purchase the asset at the end of the lease term for an amount which is substantially less than the value of the asset. This amount is also discounted to present value using another formula:

$$PV = P \div (1 + I)^n \text{ where}$$

P = payment required to exercise the option  
I = discount rate (interest rate per period)  
n = number of periods in the term of the lease

This amount is added to the present value of the lease payments to determine the total imputed purchase price or cost.

For example, James and Dolly Madison have contracted to lease a combine in March 2018. The lease agreement requires annual rents of \$60,226 to be paid in advance. The first payment is due on March 2, 2018 and four annual payments are due on March 2 of each year 2019 - 2023. The equipment dealer is financing the lease at an interest rate of 6.3%. The term of the lease will end on March 1, 2024.<sup>2</sup> At that time, they may purchase the combine for \$150,000 or return it to the dealer. The cost of the combine may be determined by using the formulas which were given above.

Present value calculation of lease payments:

$$\begin{aligned} PV &= [(\$60,226 - (\$60,226 \div (1.063)^5)) \div 0.063] \times 1.063 \\ &= [(\$60,226 - (\$60,226 \div 1.3572702)) \div 0.063] \times 1.063 \\ &= [(\$60,226 - \$44,372.90) \div 0.063] \times 1.063 \\ &= \$267,489.90 \end{aligned}$$

Present value calculation of bargain purchase amount:

$$\begin{aligned} PV &= \$150,000 \div (1.063)^5 \\ &= \$150,000 \div 1.3572702 = \$110,515.94 \end{aligned}$$

The total cost of the asset is the sum of the present value of lease payments and the bargain purchase amount:

$$\begin{aligned} &\$267,489.90 + \$110,858.94 = \$378,005.84 \\ &\text{which is the imputed cost of the asset.} \end{aligned}$$

## Depreciating Capital Lease Assets

Capital lease assets are depreciated over their economic life, as are other depreciable assets. When rule 1 or rule 2 is used to determine that a capital lease exists, the economic life is the best estimate of the number of years that the asset will be used to produce revenues. If rule 3 or rule 4 is used to determine that a capital lease exists, the term of the lease is taken to be the economic life (GAAP).

The combine which James and Dolly Madison will lease in March 2018 is a capital lease according to rule 2 and has been determined to cost \$378,005.84. The Madisons estimate the useful life to be 10 years and the salvage value to be \$84,000. Annual depreciation expense is determined using the straight line method:  $(\text{cost} - \text{salvage}) \div \text{life} = (\$378,000 - \$84,000) \div 10 = \$29,400$  (rounded). Depreciation expense for the period March 2018 through January 2019 is calculated by dividing \$29,400 by 12 to determine the monthly depreciation expense, and multiplying the result by 11, the number of months remaining to the end of the period:  $\$29,400 \div 12 \times 11 = \$26,950$ . Original cost, \$378,000, less depreciation expense of \$26,950 = \$351,005, the value of the asset recorded in the balance sheet on January 31, 2019. The Madisons will subtract \$29,400 from the book value in each succeeding year.

James and Dolly also incurred a liability when they leased the combine. The initial payment of \$60,226, made in advance, is similar to a down payment for a purchase. The imputed cost of \$378,005 less the first payment of \$60,226 leaves a lease liability of \$317,779. The principal payment which will be due in March 2019, \$42,000, is included in the Current Portion of

Term Debt in the balance sheet for January 31, 2019. Accrued interest to January 31 is also included in the current liabilities section of the balance sheet. The non-current portion of the liability is included in that section of the Madison's ending balance sheet.

## Tax Depreciation of Capital Lease Assets

You may wish to refer to the following IRS publications to determine whether the asset was acquired by capital

lease, which the IRS calls a "conditional sales contract" or an operating lease and then apply the appropriate tax treatment for the payments. The rules are similar to those set by GAAP. Depreciation for tax purposes follows MACRS schedules as if the asset was purchased.

IRS Publication 225, Farmer's Tax Guide  
IRS Publication 535, Business Expenses

<sup>2</sup> The average of 2019 quarterly machinery/intermediate loans rates for Kansas City Federal Reserve district was used.