Should You Lease or Buy Equipment?

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Summary

Small businesses have difficulty raising capital—that’s no secret. This difficulty (among other reasons) has caused many to look at leasing as an alternative financing arrangement for acquiring assets. All types of equipment leasing—from motor vehicles to computers, from manufacturing machinery to office furniture—have become more and more attractive.

This publication describes various aspects of the lease/buy decision. It lists advantages and disadvantages of leasing and provides a format for comparing costs of the options.

What Is a Lease?

A lease is a long term agreement to rent equipment, land, buildings, or any other asset. In return for most—but not all—of the benefits of ownership, the user (lessee) makes periodic payments to the owner of the asset (lessor). The lease payment covers the original cost of the equipment or other asset and provides the lessor a profit.

Types of Leases

There are three major kinds of leases: the financial lease, the operating lease, and the sale and leaseback.

Financial leases are most common by far. A financial lease is usually written for a term not to exceed the economic life of the equipment. You will find that a financial lease usually provides that:

Periodic payments be made,

Ownership of the equipment reverts to the lessor at the end of the lease term,

The lease is noncancellable and the lessee has a legal obligation to continue payments to the end of the term, and

The lessee agrees to maintain the equipment.

The operating lease, or “maintenance lease,” can usually be cancelled under conditions spelled out in the lease agreement. Maintenance of the asset is usually the responsibility of the owner (lessor). Computer equipment is often leased under this kind of lease.

The sale and leaseback is similar to the financial lease. The owner of an asset sells it to another party and simultaneously leases it back to use it for a specified term. This arrangement lets you free the money tied up in an asset for use elsewhere. You’ll find that buildings are often leased this way.

You may also hear leases described as net leases or gross leases. Under a net lease the lessee is responsible for expenses such as those for maintenance, taxes, and insurance. The lessor pays these expenses under a gross lease. Financial leases are usually net leases.

Finally, you might run across the term full payout lease. Under a full payout lease the lessor recovers the original cost of the asset during the term of the lease.

Kinds of Lessors

As the use of leasing has increased as a method for businesses to acquire equipment and other assets, the number of companies in the leasing business has increased dramatically. Leasing is now a billion dollar industry.

Commercial banks, insurance companies, and finance companies do most of the leasing. Many of these organizations have formed subsidiaries primarily concerned with equipment leasing. These subsidiaries are usually capable of making lease arrangements for almost anything.

In addition to financial organizations, there are companies which specialize in leasing. Some are engaged in general leasing, while others specialize in particular equipment, such as trucks or computers, for example.

Equipment manufacturers are also occasionally in the leasing business. Of course, they usually lease only the equipment they manufacture.

Advantages of Leasing

The obvious advantage to leasing is acquiring the use of an asset without making a large initial cash outlay. Compared to a loan arrangement to purchase the same equipment, a lease usually:

Requires no downpayment, while a loan often requires 25 percent down;

Requires no restriction on a company's financial operations, while loans often do;
Spreads payments over a longer period (which means they’ll be lower) than loans permit; and

Provides protections against the risk of equipment obsolescence, since the lessee can get rid of the equipment at the end of the lease.

There may also be tax benefits in leasing. Lease payments are deductible as operating expenses if the arrangement is a true lease (and the Internal Revenue Service agrees it is). Ownership, however, usually has greater tax advantages through the investment tax credit and depreciation. Naturally, you need to have enough income and resulting tax liability to take advantage of those two benefits.

The investment tax credit may work to the benefit of the lessee as well as the lessor. The credit is a dollar for dollar reduction in federal income taxes, equal to 10 percent of the cost of the equipment in the year the equipment is put into use. While the lessor usually takes the tax credit, it may pass part of the benefit on to the lessee in the form of a reduced lease payment.

Leasing has the further advantage that the leasing firm has acquired considerable knowledge about the kinds of equipment it leases. Thus, it can provide expert technical advice based on experience with the leased equipment.

Finally, there is one further advantage of leasing that you probably hope won’t ever be of use to you. In the event of bankruptcy, claims of the lessor to the assets of a firm are more restricted than those of general creditors.

Disadvantages of Leasing

In the first place, leasing usually costs more because you lose certain tax advantages that go with ownership of an asset. Leasing may not, however, cost more if you couldn’t take advantage of those benefits because you don’t have enough tax liability for them to come into play.

Obviously, you also lose the economic value of the asset at the end of the lease term, since you don’t own the asset. Lessees have been known to grossly underestimate the salvage value of an asset. If they had known this value from the outset, they might have decided to buy instead of lease.

Further, you must never forget that a lease is a long-term legal obligation. Usually you can’t cancel a lease agreement. So, if you were to end an operation that used leased equipment, you might find you’d still have to pay as much as if you had used the equipment for the full term of the lease.

Federal Tax Treatment of Leases

Full lease payments are deductible as operating costs. You can make these deductions only if the Internal Revenue Service finds that you have a true lease. You cannot take a full deduction for a “lease” that’s really an installment purchase.

Although each lease arrangement may be different, there are some general guidelines to meet:

In no way should any portion of the payment be construed as interest.

Lease payments must not be large compared to those that would be required to achieve ownership.

Any renewal option at lease end must be on terms equivalent to what a third party would offer.

Purchase options must be at amounts comparable with fair market value.

Accounting Treatment of Leases

Historically, financial leases were “off the balance sheet” financing. That is, lease obligations often were not recorded directly on the balance sheet, but listed in footnotes, instead. Not explicitly accounting for leases frequently resulted in a failure to state operational assets and liabilities fairly.

In 1977 the Financial Accounting Standards Board (FASB), the rule-making body of the accounting profession, required that capital leases be recorded on the balance sheet as both an asset and a liability. This was in recognition of the long-term nature of a lease obligation.

Cost Analysis of Lease v. Loan/Purchase

You can analyze the costs of the lease versus purchase problem through discounted cash flow analysis. This analysis compares the cost of each alternative by considering: the timing of the payments, tax benefits, the in-
Interest rate on a loan, the lease rate, and other financial arrangements.

To make the analysis you must first make certain assumptions about the economic life of the equipment, salvage value, and depreciation. The assumptions for the sample problem in this publication are shown in Figure 1. Figure 2 is the analysis of the lease alternative, and Figure 4 is an analysis of the borrow and buy option.*

* A straight cash purchase using a firm’s existing funds will almost always be more expensive than the lease or loan/buy options because of the loss of use of the funds. Besides, most small firms don’t have the large amounts of cash needed for major capital asset acquisitions in the first place.

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**Figure 2**  
**Evaluation of Lease Cost**

<table>
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<tr>
<th>(1) End of Year</th>
<th>(2) Lease Payment</th>
<th>(3) (0.50x2) Tax Saving</th>
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**Net Present Value of Costs of Leasing**

To evaluate a lease you must first find the net cash outlay (not cash flow) in each year of the lease term. You find these amounts by subtracting the tax savings (which in the example are 50 percent of the payment) from the lease payment (see column 3 of Figure 2). This calculation gives you the net cash outlay for each year of the leases (column 4, Figure 2).

Each year's net cash outlay must next be discounted to take into account the time value of money. This discounting gives you the present value of each of the amounts.

The present value of an amount of money is the sum you would have to invest today at a stated rate of interest to have that amount of money at a specified future date. Say someone offered to give you $100 five years from now. How much could you take today and be as well off?

Common sense tells you you could take less than $100, because you’d have the use of the money for the five year period. Naturally, how much less you could take depends on the interest rate you thought you could get if you invested the lesser amount. For example, to have $100 five years from now at six percent compounded annually, you’d have to invest $74.70 today. At 10 percent, you could take $62.10 now and have the $100 at the end of five years.

Thus, the present value of the net outlay under the lease ($5,181.97 after tax savings) at the end of year six of the
lease term, for example, is something less than $5,181.97. For the example in this publication the appropriate interest rate for discounting the lease payment is the after tax cost (50 percent tax rate, remember) of the loan (set at 10 percent)—or five percent (.50 × 10% = 5%).

This low rate of interest is used because of the certain nature (you know exactly what they’ll be) of the payments under a lease contract. So, at an annually compounded five percent interest rate, you would have to invest $3,865.75 today to have $5,181.97 at the end of six years.

Fortunately there are tables (Figure 3 is a very modest example) which provide the discount factors for present value calculations. In Figure 3 you will note that the factor for the present value of $1 six years from now at five percent is .746. This factor (.746) times the after tax lease payment outlay ($5,181.97) equals $3,865.75, or exactly the amount you would have to invest today at five percent interest compounded annually to have $5,181.97 six years hence. There are also relatively inexpensive special purpose pocket calculators programmed to make these calculations.

**Figure 3**

**Present Value of $1**

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* Periods can be any time period; they do not have to be years.

Why bother with making these present value calculations? Well, you’ve got to make them to compare the actual cash flows over the time periods. You simply can’t realistically compare methods of financing without taking into account the time value of money. It may seem confusing and complex at first, but if you work through the example, you’ll begin to see that the technique isn’t difficult—just sophisticated.

Figure 2 shows you the present value calculations over the full term of the proposed lease. The sum of the discounted cash flows, $35,170.03, is called the **net present value of the cost of leasing**. It is this figure that will be compared with the final sum of the discounted cash flows for the loan and purchase alternative.

Evaluation of the borrow/buy option is a little more complicated because of the tax benefits that go with ownership through the investment tax credit, loan interest deductions, and depreciation. In Figure 4, the steps in the calculation are shown above each column head. The interest portion of each loan payment is found by multiplying the loan interest rate (10% here) by the outstanding loan balance for the preceding period.

Note that in the last three years of the analyzed period the cash flow is positive, coming from the tax saving on depreciation and, in the eighth year, from depreciation and the assumption that the asset could be sold for a salvage value of $12,000. Since these amounts in the last three years are coming in, they are subtracted after discounting from the amounts in the first five years (cash flowing out) to get the **net present value of costs of purchasing**.

As noted earlier, the salvage value is one of the advantages of ownership. It must be considered in making the comparison; however, it is discounted at a higher rate (the firm’s assumed average cost of capital, 9%). This rate is used because the salvage value is not known with any certainty, as are the loan payment, depreciation, and interest payments.

When you compare the two alternatives you see that, purely on the basis of the numbers, the buy option looks like the least costly approach. The major difference in cost, of course, comes from the salvage value. If you ignore that value (a highly conservative approach), the alternatives are very close in their net present value of costs. Naturally, it’s possible that salvage costs for real asset could be very high or be next to nothing. Salvage value assumptions need to be made carefully.

Thus, while this sort of analysis is useful, you can’t make a lease/buy decision solely on cost analysis figures. The advantages and disadvantages discussed earlier in this publication while tough to quantify, may outweigh differences in cost—especially if costs are reasonably close.

**Look Before You Lease**

A lease agreement is a legal document. It carries a long-term obligation. You must be thoroughly informed of just what you’re committing yourself to. Find out the lessor’s financial condition and reputation. Be reasonably sure that the lease arrangements are the best you can get, that the equipment is what you need, and that the term is what you want. Remember, once the
agreement is struck, it's just about impossible to change it.

The lease document will spell out the precise provisions of the agreement. Agreements may differ, but the major items will include:

The specific nature of the financing agreement,

Payment amount,

Term of agreement,

Disposition of the asset at the end of the term,

Schedule of the value of the equipment for insurance and settlement purposes in case of damage or destruction,

Who gets the investment tax credit,

Who is responsible for maintenance and taxes,

Renewal options,

Cancellation penalties, and

Special provisions.

![Table: Evaluation of Loan Cost](image)

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Net Present Value of Cost of Purchasing: $28,590.30

* Investment tax credit = 0.10 x $60,000 - $6,000.
**Salvage value = book value = $60,000 - 8 x $6,000 = $12,000.
***Discount factor using average after tax cost of capital.

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