

Module 3

Leasing

Introduction



Outcomes

Upon completion of this module you will be able to:

- *differentiate* between an operating lease and a financial (or capital) lease.
- *differentiate* between lease and loan.
- *differentiate* between financial lease and hire purchase.
- *determine* circumstances when leasing an asset is more advantageous than purchasing an asset, which may involve borrowing or issuing new equity or using internally generated cash instead of issuing dividends.



Terminology

Leasing:	A means of delivering finance, with leasing broadly defined as “a contract between two parties where one party (the lessor) provides an asset for usage to another party (the lessee) for a specified period of time, in return for specified payments.
Operating lease:	A lease is of a relatively short-term nature and the lessee has no obligation to purchase.
Financial lease:	A long-term lease and gives the lessee significant rights over the item being leased which is very similar in effect to an outright purchase.

Introduction to leasing

The primary purpose of this module is to introduce you to leasing as a source of financing. In MS-4 you examined capital structure and other forms of financing that are available to organisations. In recent years, leasing has become an increasingly important source of funding for the acquisition of computer equipment, vehicles and aircraft. We will see in this module that one critical element of lease financing is the tax system, as applied to capital equipment. Understanding the tax rules regarding lease payments is



important to your lease versus buy decision. This is similar to understanding the tax rules related to other types of financing.

According to (International Finance Corporation,2005) leasing in its simplest form is a means of delivering finance, with leasing broadly defined as “a contract between two parties where one party (the lessor) provides an asset for usage to another party (the lessee) for a specified period of time, in return for specified payments.” Leasing, in effect, separates the legal ownership of an asset from the economic use of that asset.

Leasing is a medium-term financial instrument for the procurement of machinery, equipment, vehicles and/or properties. Leasing provides financing of assets equipment, vehicles more willingly than direct capital. Leasing institutions (lessors) banks, leasing companies, insurance companies, equipment producers or suppliers and non-bank financial institutions purchase the equipment, usually as selected by the lessee, providing the equipment for a set period of time to businesses. For the duration of the lease, the lessee makes periodic payments to the lessor at an agreed rate of interest. At the end of the lease period, the equipment is either transferred to the ownership of the business, returned to the lessor, discarded, or sold to a third party. Under financial leasing, the lessee in general acquires or retains the asset.

Leasing is based on the proposition that profits are earned through the use of assets, rather than from their ownership. It focuses on the lessee’s ability to generate cash flow from business operations to service the lease payment, rather than on the balance sheet or past credit history. This is why leasing is particularly advantageous for new, small and medium-size businesses that do not have a lengthy credit history or a significant asset base for collateral. In addition, the lack of a collateral requirement with leasing offers an important advantage in countries with weak business environments, particularly those with weak creditors’ rights and collateral laws and registries, for instance, in countries where secured lenders do not have priority in the case of default.

It should be noted that, to date, IFC has focused mainly on the development of financial leasing. This is the primary stage in leasing development in most emerging and transitional economies. Operating leases (or rent) can be equally important in the long term, but for a number of reasons are generally typical of a later stage of development.

A finance lease is a contract that allows the lessor, as owner, to retain ownership of an asset while transferring substantially all the risks and rewards of ownership to the lessee. A finance lease is also known as a full payout lease, because payments made during the term of the lease amortise the lessor’s costs of purchasing the asset (there may be a residual value that usually does not exceed 20 per cent of the cost). The payments also cover the lessor’s funding costs and provide a profit. Despite the legal form of the

transaction, the economic substance of a finance lease transaction is one of purchase financing rather than a mere rental.

In contrast, an operating lease is essentially a rental contract for, usually, the short term or temporary use of an asset by the lessee. The maintenance and insurance responsibilities (and most risks associated with the ownership of the asset) remain with the lessor, who recovers the costs and profits from multiple rentals and the final sale of the asset.

According to both the United Nations and the World Bank, “in 1994 an eighth of the world’s private investment was financed through leasing; a third of the OECD countries’ private investment is financed through leasing; in both middle and low-income countries, leasing doubled between 1988 and 1994.” (*Leasing – Lessons of Experiences*, the United Nations Economic Commission for Europe.)

Before you start studying different types of leases you need to have an understanding of the terminology used in leasing.

Operating versus financial leases

Although lease agreements can be very complex, they fall into two categories. The first is an operating lease. Where a lease is of a relatively short-term nature and the lessee has no obligation to purchase, then, typically, it will be considered to be an operating lease. The second category is a financial or capital lease. A financial lease is a long-term lease and gives the lessee significant rights over the item being leased. Financial leases are leases in legal terms but are very similar in effect to an outright purchase.

Table of Differences between Finance and Operating Leases

Finance Lease	Operating Lease
Risks and rewards of ownership are transferred to, and borne by, the lessee. This includes the risks of accidental ruin or damage of the asset (although these risks may be insured or otherwise assigned). Thus damage that renders an asset unusable does not exempt the lessee from financial liabilities before the lessor.	Economic ownership with all corresponding rights and responsibilities are borne by the lessor. The lessor buys insurance and undertakes responsibility for maintenance.

Difference table is adapted from LeasingNotes
[https://classshares.student.usp.ac.fj/AF203\(DFL\)/](https://classshares.student.usp.ac.fj/AF203(DFL)/) date accessed/10/13/2009

This table is given here to differentiate between two main type of lease contract.



The distinction between the two types of leases is very important as the accounting varies significantly between the two lease types. The key differences in the two different accounting treatments are summarised in the table below:

Two Different Accounting Treatments

Lease type	Income Statement	Balance Sheet
Operating	Total lease payments are expensed.	No balance sheet obligation
Financial	Amounts Expensed are: a) Amortisation of the underlying asset based on its useful life and b) Interest component of the lease payment.	A liability is set up on the balance sheet for the unpaid capital portion of the lease. This liability is displayed with other long-term debt. In other words, the financial lease is treated like long-term debt.

For both operating and financial leases, total future commitments have to be disclosed (in the notes to the financial statements) along with the payments required for each of the next five years.

When you take a look at the previous table you can see that accounting for a financial lease will be very similar to an outright purchase of the asset. More to the point, a financial lease results in balance sheet debt just as if the cost of the asset had been borrowed. The criteria used in Canada (CICA handbook section 3065) to determine whether a lease is operating or financial, states that a capital lease exists if one of the four following conditions is met:

1. The lease transfers ownership of the property to the lessee at the end of the lease term.
2. A bargain purchase option exists in the lease. This is an option to purchase the leased asset below the fair market value of that asset.
3. The lease term is at least 75 per cent of the economic life of the asset being leased.
4. The present value of the minimum lease payments equals or exceeds 90 per cent of the fair value of the property.

If at least one of these criteria is met, then technically the lease is a financial lease. Major leasing companies such as GE Capital are very adept at working with accounting rules, such that many leases are structured as operating leases. The reason for this is that the asset base of a company will be lower

when operating leases cover some of its assets. If the asset base is lower, then the return on assets will, all else being equal, be higher as will the return on equity. More to the point, ratios such as debt to equity will be more favourable due to the impact of operating leases. As financial analysts and other users of financial information are aware of this, the practice of banks, debt rating agencies, and most analysts is to estimate the capitalised value of future payments and to add this number in to the balance sheet as a capital asset and debt. This ensures that realistic judgments are made concerning a company's debt levels and its capacity to increase its debt load. Hence, while there may be differences in the accounting treatment for operating and capital leases, most analysts will recognise this fact and take into account the liability and risk on all leasing undertaken by the enterprise.

Difference between financial leasing and loans

From the lessee's perspective, there is only one substantive difference between a loan and a lease:

With a loan, the asset belongs to the borrower, whereas with a lease, the asset belongs to the lessor.

The many similarities between a loan and a financial lease include:

- The lessee and borrower have the choice over the acquisition of the asset. The borrower and lessee (providing the terms of the lease are met) would be able to retain the asset once payments are complete.
- Over the period of both, a loan and a lease, interest and capital (equipment cost) are repaid.
- Should there be default on either a loan or a lease, as long as the loan is secured, both the lender and lessor have legal rights to reclaim/repossess assets.
- The risks and costs of ownership, including maintenance and obsolescence, remain with the borrower and lessee. Also, under both a loan and a financial lease, if the asset appreciates, neither the lender nor the lessor benefits.
- The agreements are non-cancellable until either the lessor or the lender has recovered its outlay.
- The borrower or lessee can either settle the agreement (in the case of the lease) or repay the loan early.

Financial leases and hire purchase

In some countries, a distinction is made between lease and hire-purchase transactions. A hire-purchase transaction is usually defined as one where the hirer (user) has, at the end of the fixed term of hire, an option to buy the asset



at a token value. In other words, financial leases with a bargain buyout option at the end of the term can be called a hire-purchase transaction.

Hire purchase is decisively a financial lease transaction, but in some cases it is necessary to provide the cancellation option in hire-purchase transactions by statute. That is, the hirer has to be provided with the option of returning the asset and walking away from the deal. If such an option is embedded, hire purchase becomes significantly different from a financial lease as the risk of obsolescence gets shifted to the hire vendor. Under these circumstances, if the asset were to become obsolete during the hire term, the hirer may off-hire the asset and close the contract, leaving the owner (the lessor) with less than a full payout from the lease.

Hire purchase is of British origin – the device originated long before leases became popular – and spread to countries that were then British dominions. The device is still popular in Australia, Britain, India, New Zealand, Pakistan and in several African countries. Most of these countries have enacted, in line with the United Kingdom, specific laws addressing hire-purchase transactions.

How leasing can help achieve stakeholder objectives

Following are different stakeholders of leasing sector in any developing or modern economy

1. Stakeholders of leasing
2. Government
3. Lessors (including banks)
4. Lessees/SMEs
5. Equipment manufacturers
6. Legal/accounting
7. Investors.

Leasing helps all its stakeholders in achieving their goals.

Stakeholder	Possible Objectives	How Leasing Can Help Achieve Stakeholder Objectives
<ul style="list-style-type: none"> • Government 	<ul style="list-style-type: none"> • Domestic production • Industrial diversification • Capital investment • Government budget 	<ul style="list-style-type: none"> • Leasing aids the development of local processing and production. • While manufacturing equipment may come from overseas; this

Stakeholder	Possible Objectives	How Leasing Can Help Achieve Stakeholder Objectives
	<ul style="list-style-type: none"> • SME development • Infrastructure improvements 	<p>equipment enables domestic processing of locally produced raw materials, thus replacing imported items.</p> <ul style="list-style-type: none"> • Leasing lowers the overall costs of economic development. • Leasing provides a diversified source of capital (equity, debt, tax revenue) • Leasing further contributes to the development of domestic financial markets. • As leasing develops, there will be increased domestic liquidity through access to global markets • For reasons listed below (see Lessees/SMEs), the development of leasing aids the growth of the domestic SME sector. • Leasing can help increase the levels of public transport and the depth of communications networks, and allow municipal authorities the means to acquire quality construction and maintenance equipment.
<ul style="list-style-type: none"> • Lessors (including banks) 	<ul style="list-style-type: none"> • Risk management/reduction • Leasing market 	<ul style="list-style-type: none"> • The lessor maintains legal ownership of the asset. • The lessor is able to



Stakeholder	Possible Objectives	How Leasing Can Help Achieve Stakeholder Objectives
	<p>development</p> <ul style="list-style-type: none"> • Product portfolio diversification • Customer base expansion 	<p>exert greater control over the investment.</p> <ul style="list-style-type: none"> • The lessor can monitor assets more easily. • Lessors can actively apply specialised knowledge, such as equipment specialisation. • Leasing provides not just an opportunity to extend product lines, but also to deepen the organisational structure. • In some cases, leasing may allow businesses to access both lease financing and additional bank financing without increasing their collateralised debt. • Leasing can provide additional marketing channels for financial services.
<ul style="list-style-type: none"> • Lessees/SMEs 	<ul style="list-style-type: none"> • Access to finance 	<ul style="list-style-type: none"> • No/low collateral required. • The cost of lease finance is competitive with traditional credit, given the increased security held by lessors and the low transaction costs of processing a lease. • Leasing also offers matched maturity of assets/liabilities, since debt in emerging countries is often limited to short-term maturities. • Islamic compliance: in

Stakeholder	Possible Objectives	How Leasing Can Help Achieve Stakeholder Objectives
		<p>Muslim countries, leasing is seen as an interest-free product and considered the same as a rental. In Islamic finance, "Ijara" is a kind of leasing, and especially relevant within the Middle East and North Africa.</p>
	<ul style="list-style-type: none"> • Access to equipment and production assets 	<ul style="list-style-type: none"> • Leasing increases flexibility and diversification of financing sources. • Leasing enables investment in equipment that can modernise production and improve productivity and profitability. • Leasing reduces maintenance cost, since equipment is newer. • Due to reduced upfront costs, leasing frees up capital for other business needs.
	<ul style="list-style-type: none"> • Ability to plan • Timeliness and flexibility • Negotiability 	<ul style="list-style-type: none"> • Leasing enables companies to match income and expenditure. • Leasing also has advantages of a quick decision-making process, flexibility, and negotiability. This is in large part because the lessors operate in a less-regulated, more proprietary environment than bankers or traditional lenders. It



Stakeholder	Possible Objectives	How Leasing Can Help Achieve Stakeholder Objectives
		<p>may also owe something to the fact that, since leasing is a comparatively new development, lessors have to be fast and flexible to claim this as their unique selling proposition.</p> <ul style="list-style-type: none"> • Leasing deals may make less use of the restrictive covenants that appear in more traditional forms of lending. • Where lessors have asset knowledge or relations with suppliers, lessees may “outsource” certain tasks (such as negotiating with suppliers), reducing costs and risks. • Independence from bank borrowing: through leasing, SMEs have alternative funding opportunities and are able to use a mix of funding options to finance their businesses.
<ul style="list-style-type: none"> • Equipment manufacturers 	<ul style="list-style-type: none"> • Expanded market base for products • Increased purchase options for clients 	<ul style="list-style-type: none"> • Leasing allows access to new equipment, by providing businesses with a mechanism to purchase equipment without incurring significant upfront costs. • Development of the leasing sector opens up significant after-market products and services

Stakeholder	Possible Objectives	How Leasing Can Help Achieve Stakeholder Objectives
		<p>for equipment manufacturers.</p> <ul style="list-style-type: none"> Leasing often provides an effective marketing channel for equipment, as leasing companies are also interested in increasing sales. Effective leasing companies may bear some of the burden of dealing with inexperienced equipment purchasers, thus reducing costs and improving efficiency.
<ul style="list-style-type: none"> Legal/ accounting 	<ul style="list-style-type: none"> Lessors/banks may be clients of professional services companies Tax planning and accounting opportunities Systems development opportunities 	<ul style="list-style-type: none"> In terms of compliance, professional advisors should be contracted by lessors to ensure that all agreements comply with local legislation and permit the lessor to utilise tax or other benefits. Lessors, in order to reduce transaction costs and because of the nature of leasing, will aim to utilise credit management systems for the monitoring and control of their lease portfolios. Professional advisors have an excellent opportunity to assist in the development of business processes and systems.
<ul style="list-style-type: none"> Investors 	<ul style="list-style-type: none"> Increased ability to invest within a country Development of financial sector 	<ul style="list-style-type: none"> Improved credit scoring and processing systems can be applied across all elements of the finance sector, from



Stakeholder	Possible Objectives	How Leasing Can Help Achieve Stakeholder Objectives
	<ul style="list-style-type: none"> Growth in investee company opportunities 	<p>leasing through to banking, there-by allowing the whole sector to take a more prudent and controlled approach to finance.</p> <ul style="list-style-type: none"> Leasing improves the local investment climate for all companies, increasing opportunities for investment and reducing/allocating risks more efficiently. The development of non-bank lessors increases competition within the financial sector, introducing the need for finance companies to reduce transaction costs, improve business and credit management, and source funding at cheaper levels. This has the effect of reducing the cost of finance throughout the sector at the same time as increasing its level of sophistication and ability to optimise risk. As lessors develop, they may expand to issuing commercial paper and to securitising lease receivables, which can assist in deepening the securities market and creating new investment products.

Different parties get different benefits from lease contract. To elaborate the advantages of leasing for different stakeholders of leasing contract this table is formulated and some parts are adapted from LeasingNotes



[https://classshares.student.usp.ac.fj/AF203\(DFL\)/](https://classshares.student.usp.ac.fj/AF203(DFL)/) date accessed /10/13/2009, Ross, Stephen A., Randolph W. Sesterfield & Bradford D. Jordan (1993) Fundamentals of Corporate Finance (2nd Edition) and Horne, James C. Van and John M. Wachowicz, JR (2000): Fundamental of Financial Management (11th Edition) Indian, Prentice-Hall of India.

Examples of accounting for operating and financial leases

Operating lease

Suppose a discount airline leases a Boeing 737 to cope with anticipated additional package holiday business to Mexico. The lease payment is \$100,000 per month and the term is 12 months. The estimated remaining useful life of the aircraft is 15 years. Under CICA rules this clearly ranks as an operating lease. The lease payments will be recorded as expenses in the books of the airline. There will be no asset to capitalise and no special obligation to record on the balance sheet.

Financial Lease

Let us take a look at the effect of a manufacturing concern (Triangle corporation) leasing processing equipment. Let us make the following assumptions about the equipment to be leased:

Triangle Corporation leasing assumptions

Fair market value of equipment	\$375,000
First lease payment due	January 1, 1998
Economic life of the equipment	10 years
Lease term	6 years
Annual lease payments (at beginning of each year)	\$79,500
Bargain purchase price at end of lease	\$3,120

We will further assume that the interest rate implicit in the lease is 11 per cent and that Triangle amortises capital assets using the straight-line method. Notice in the data the presence of a bargain purchase option. Furthermore, if you were to discount all the lease payments and the final payment to buy the equipment, the result would be very close to the fair market value of the asset to be acquired. Therefore, this clearly has to be treated as a capital lease. Managers need to understand the accounting treatment of such leases. This is because the effect on reported earnings is radically different from what we would see with an operating lease such as in the above airline example.

In this case there will be two items to report in the income statement:



1. Amortisation of \$37,500 per year (\$375,000 x 10 per cent since the economic life is ten years and assuming use of the straight line method of amortisation).
2. Interest expense – this will vary over the term of the lease as set out in the table below.

The CICA treatment effectively treats a financial lease as a long-term loan and allocates the lease payments between principal and interest:

CICA treatment of a financial lease

Date	Balance at beginning	Payment	Interest	Reduction of principal	Balance at end
1/1/98	375,000	79,500	-	79,500	295,500
12/31/98	295,500	79,500	32,505	46,995	248,505
12/31/99	248,505	79,500	27,336	52,164	196,341
12/31/00	196,341	79,500	21,597	57,903	138,438
12/31/01	138,438	79,500	15,228	64,272	74,166
12/31/02	74,166	79,500	8,158	71,342	2,824
12/31/03	2,824	3,120	296	2,824	-

On the first day of 1998 there is no interest as the payment is made on the first day of the lease. Therefore, the entire payment (\$79,500) is applied to reducing the value of the effective loan represented by the lease. In the first year, interest at 11% = $0.11 \times 295,500 = \$32,505$. Therefore, the principal paid back in year 1 (over and above the first payment) is $79,500 - 32,505 = \$46,995$, leaving an outstanding balance at the end of 1998 of \$248,505. Notice that interest diminishes each year, while amortisation (using the straight line method) will be constant at \$37,500 per year. Therefore, all things being equal, reported earnings should increase over time. In the final year, we calculate interest (\$296) by taking the difference between the capital outstanding at the end of the fifth year (\$2,824) and the final payment of \$3,120.

As mentioned earlier in this module, the effective amount owed to the leasing company (the principal) will be displayed on the lessee's balance sheet. Based on the Triangle example, the following shows an extract from the balance sheet at December 31, 1998.

Triangle Corporation balance sheet extract

Current liabilities (12/31/98):	
Short term portion of long term debt	52,164
Long term debt	196,341

Notice that \$52,164 is shown under current liabilities because this is the amount of principal to be repaid during the coming year (i.e., 1999). Total lease debt is \$248,505 ($52,164 + 196,341$).

Determining the magnitude of lease payments

The math of leases is very similar to the math of determining the blended repayments on a loan or mortgage. As is the case with mortgages, some are fully amortised (or paid off) during the loan term and some are only partially amortised (indeed in Canada almost all residential mortgages are partially amortised). Leases can be the same: some leases continue until the asset is worthless, others continue for less time and the asset has value at the end of the lease. In this case, either the lessee can purchase the remaining asset value or return it to the lessor, a point that should be made clear in the lease. The only difference is that unlike a loan, there is usually an amount outstanding at the conclusion of the lease term. Let's demonstrate this with an example.

Consider a lessor who is leasing an asset that costs \$20,000 today. The term of the lease is three years and payments are to be made on a monthly basis. Let's assume that the lessor needs to charge 10 per cent interest to cover the cost of funds and to make a profit and that the fair market value of the asset is 70 per cent of the original cost at the conclusion of the lease term. We can determine the lease payment with either Excel or a financial calculator by using the PMT function. The table below shows the entries that you would need to make:



Determining lease payments

		Lease - value of asset =	Lease - value of asset =
Item	Function	70% of cost	60% of cost
Cost	PV	20,000.00	20,000.00
Term	n	36.00	36.00
BV %		70%	60%
BV in 3 years	FV	(14,000.00)	(12,000.00)
Monthly interest rate	i	0.83%	0.83%
Monthly payment (Excel)	PMT	\$(310.27)	\$(358.14)
Monthly payment (calculator)	PMT	\$(309.69)	\$(357.59)

This table was derived using Excel functions. To get the result of \$310.27 monthly payment made by the lessee, notice that you need to enter the value at the end of the three-year period as a negative value; the logic here is that the \$20,000 cost is a loan (cash inflow) and when you return the asset to the lessor you are effectively repaying the balance (\$14,000), which is a cash outflow. The value for i is $0.1/12 = 0.0083$. Excel requires that interest rates be entered as decimals; many calculators use the same logic. Notice in the right hand column, the effect of a lower value after three years – 60 per cent of the cost. The lower this value, the higher the payment required under the lease. Incidentally, the logic in this section explains why you can get lower payments by leasing a new vehicle for yourself as opposed to a direct purchase financed by a loan. The results are slightly different when you use a calculator as indicated. Many websites, for example Dell Computer, have calculators that allow you to determine the lease payment based on given parameters.

Tax treatment of leases

In general, the tax treatment in Canada of leases is as summarised in the table below:

Tax treatment of leases

Lessee	Lease payments are fully deductible in the year they are made irrespective of whether the lease is operating or financial.
Lessor	The lease payments are income in the hands of the lessor; the lessor is entitled to claim Capital Cost Allowance (CCA), which is the equivalent of amortisation for tax purposes, on the related asset since the lessor is the legal owner.

Legal, tax and accounting treatment of leasing

Structure		Operating Lease	Finance Lease	Hire Purchase / Lease Purchase	Conditional Sale
Legal Title		Lessor	Lessor	Passes to lessee on payment of bargain purchase option price	Passes to lessee on payment of final installment
Profit & Loss	Lessor	Full lease rent on straight-line basis less interest expense and depreciation of fixed asset	Actuarial rate of return after-tax investment in lease	Interest received less interest payable	Interest received less interest payable
	Lessee	Full lease rent on straight-line basis over lease period	Finance charge at implicit rate in lease & depreciation of fixed asset	Finance charge at implicit rate, depreciation of fixed asset	Finance charge at implicit rate and depreciation of fixed asset
Balance Sheet Asset	Lessor	Fixed asset	Lease receivables	Hire Purchase receivables	Receivables
	Lessee	No asset	Fixed asset	Fixed asset	Fixed asset



Structure		Operating Lease	Finance Lease	Hire Purchase / Lease Purchase	Conditional Sale
Tax	Lessor	Taxed on rent on straight-line basis less interest expense & capital allowance	Taxed on accrued rent less interest expense and capital allowances	Taxed on finance charge less interest expense	Taxed on finance charge less interest expense
	Lessee	Full rent deduction on straight-line basis over lease period	Rent deduction, as per P & L.	Finance charge expensed, capital allowances	Finance charge expensed, capital allowances

- It is possible to have asymmetrical treatment, – finance lease for lessor and operating lease for lessee, for instance where the lessor removes its risk in the asset by taking a residual value guarantee from a third party; or operating lease for lessor and finance lease for lessee, where the perception of risk is different for the two parties.
- Any sale to a lessee contemplated at the outset could result in loss of lessor's right to capital allowances and is usually restricted in documentation. Therefore, on expiry of a fully amortised lease, the lessor typically grants a secondary period to the lessee at low or peppercorn rentals, for all or the majority of the asset's remaining useful life.
- Assuming that assets qualify for allowances.

The tax deductibility of lease payments is a significant element in the decision on whether or not to lease. This differs from the treatment of loan payments for tax purposes, where only the interest portion is tax deductible. We will see the effect of this when we look at the lease/buy comparison in the next section.

The effect of leasing is to generate more tax deductions (in total \$) for the parties to the lease. There are occasions when it is not feasible for a company to use (in the foreseeable future) the tax amortisation (CCA in Canada) generated by capital additions. Large tax losses carried forward may be present or losses may be being incurred. In such cases, the after-tax cost of borrowing is equal to the full interest rate. Since the lessor can utilise the tax amortisation by owning assets, this may result in a cheaper financing cost being available from a lease. By the same token, not-for-profit organisations

that are not subject to taxes may benefit from leasing since the lessor receives the tax amortisation, which is not available to the not for profit.

Lease or buy?

You need to understand this process but don't need to be able to reproduce it. We will use Lancelot Distribution to show the calculations involved in lease versus buy decisions. Assume the company wants to invest \$50,000 in trucks, but wishes to evaluate whether leasing is worthwhile. We make a further assumption: Lancelot drivers are very hard on their trucks such that they are worn out and have no residual value at the end of seven years. Ajax Leasing has offered to lease the vehicles over a seven-year term for \$10,000 per year. The company may also borrow the necessary funds using a seven-year term loan with an interest rate of 10 per cent. We will ignore the issue of insurance, maintenance, and other costs of ownership as these are typically borne by the user in either case and, therefore, they are not relevant to the lease/buy decision. If Lancelot buys the trucks outright, they will be able to claim CCA each year (and obtain a corresponding tax shield) in accordance with the table below:

CCA Claim

Year	Purchase	UCC for CCAA	CCA @ 30% $B = 0.3 \times A$	Tax shield @40% $C = 0.4 \times B$
1	50000	25000	7500	3000
2	-	42500	12750	5100
3	-	29750	8925	3570
4	-	20825	6248	2499
5	-	14578	4373	1749
6	-	10204	3061	1224
7	-	7143	-	2857

Note that UCC is the un-depreciated capital cost, which is similar to net book value for accounting purposes. It represents the amount on which tax amortisation – CCA may be claimed. In the first year it is 50 per cent of the purchase price due to the fact that under Canadian tax laws a company can only take 50 per cent of the normal CCA in the first year of purchase of an asset.



In year seven, \$7,143 remains in the asset pool but the assets are scrapped without obtaining any value. In this situation, provided Lancelot was not going to buy any more trucks, they could claim what is called a terminal loss (the value of any remaining UCC (\$7,143)). This loss would generate a tax shield of $7,143 \times 40\% = \$2,857$.

Now that we have established the CCA arising from ownership, we can compare the cash flows arising from ownership to the cash flows arising if we lease. If we buy a truck, then we would have a \$50,000 cash outflow and cash inflows derived from the tax savings in the above table. If we lease, we will have outflows equal to the lease payments and tax savings achieved from the lease, i.e., $10,000 \times 40\% = \$4,000$. In the table below, we examine the differential cash flow of leasing versus an outright purchase.

Differential cash flow – lease versus buy

Year	Truck Purchase	Payment shield from CCA	Lease payment	Payment shield from lease	Net Cash Flow
1	50,000	(3,000)	(10,000)	4,000	41,000
2		(5,100)	(10,000)	4,000	(11,100)
3		(3,570)	(10,000)	4,000	(9,570)
4		(2,499)	(10,000)	4,000	(8,499)
5		(1,749)	(10,000)	4,000	(7,749)
6		(1,224)	(10,000)	4,000	(7,224)
7		(2,857)	(10,000)	4,000	(8,857)

Per the table in year 1, we would be \$41,000 to the good if we decided to lease as opposed to an outright purchase.

We can complete our analysis by calculating the so-called net advantage of leasing (NAL) by determining the NPV of the above cash flows and using the after tax cost of borrowing as the discount rate (for example, 6 per cent). If we do this, we can determine that the NAL in the above case is minus \$2,741. In other words, there isn't a net advantage to leasing. NAL would need to be positive for the lease to be less costly than a loan. We can also use trial and

error to determine what lease rate would produce an NAL of zero. This is another way of saying: what lease rate do we require to at least equate with the bank financing? If we use the NPV function to do this, the result based on Lancelot's numbers is about \$9,825. As long as the rate we can negotiate is less than \$9,825 we achieve a saving by going to a lease arrangement.

Advantages of leasing

1. Obsolescence is a significant issue for many types of equipment; leasing of computers is such a big business that many large companies such as IBM and Dell operate leasing subsidiaries. Therefore, companies will often lease this type of equipment to avoid the cost of repurchasing new equipment. Under a lease arrangement it is sometimes much easier to return your leased product for a new and improved model, especially if you have been a "good" lessee and you have paid all rents on time.
2. Many loan arrangements have included restrictive covenants that have requirements for an organisation to meet or maintain certain liquidity levels or restrict dividend payouts. In other words, covenants attached to either bank loans or bond issues can significantly reduce financial flexibility by restricting capital expenditures and dividend payments; with leases, in general, obligations are restricted to making payments on time and ensuring the underlying asset is insured; with certain types of assets, such as aircraft, additional payments may be required to ensure that the asset is being appropriately maintained but on balance there are likely fewer restrictions on the lease option.
3. There are many instances where a company may require an asset for only a relatively short period for example, acquisition of an aircraft to meet a temporary increase in passenger traffic. Leases are ideal for these situations as they are easier to arrange than purchasing an asset and reselling it at a later date.
4. If companies are in need of working capital they will sometimes use sale/leaseback arrangements. This is an arrangement where an organisation owns an asset and sells it to a leasing company and then leases that asset from the leasing company. These are popular with land/buildings – tax deductions are improved significantly since land cannot be amortised under Canadian tax law but the full lease payment can be expensed.
5. Operating leases have the effect of improving financial ratios for an organisation as there is no visible increase in liabilities on the balance sheet and the total assets do not include leased assets. Therefore, leverage ratios and profitability ratios will be higher than if debt was incurred to purchase an asset. It is important to note that analysts and bankers take into account the impact of both operating and capital leases when completing an analysis of an organisation, hence it is unlikely the enterprise would get any real value from the



fact the operating lease is not disclosed in the same manner as capital leases. From the analyst's point of view both leases involved financial commitments and risk.

6. Leasing allows you to finance an asset 100 per cent where traditional borrowing often limits the percentage of the asset's value you can borrow. Therefore, often you can only borrow up to 90 per cent of the value of asset you purchase.
7. Often major lease companies are able to acquire equipment and vehicles at lower prices due to bulk purchases than most organisations can negotiate. The effect of this better pricing can allow an organisation to pay less for an asset under a lease as part of the lower price may be passed through to the lessee as a better lease rate.

Disadvantages of leasing

1. The rate implicit in a lease is often not stated in commercial leases – therefore the cost can be quite high versus traditional borrowing costs, and the financial officer needs to do some careful analysis.
2. In the case of a lease, the ownership rights are limited to the value of the leasehold interest and this is generally less than the outright ownership value. The relative value of the leasehold interest and outright ownership will depend upon the lease payments and the value of the asset returned to the lessor at the end of the lease term. There is no ownership position in the asset. Therefore at the end of the lease term the asset is returned to the lessor. If there is any value left the lessor reaps the rewards of this through the sale of the asset.
3. Most lease agreements have a provision that improvements or changes to the leased property cannot be made without the permission of the lessor. If the equipment were owned by the organisation, they would not need to seek approval of an outside party to make such improvements. Of course if the improvement is seen to add value to the asset then the lessor is not likely to withhold this approval.
4. If an asset leased becomes obsolete during the lease term, the lessee must continue to make lease payments to the end of the lease term regardless of whether the asset is being used. However, if the asset is purchased using debt and becomes obsolete, the owner is faced with a potentially similar problem of owing money on the debt when the asset is obsolete.

Module summary



Summary

In this module you learned:

- Leasing is an alternative financing option that has an important role to play in the overall capital structure of firms. Its relative importance varies over time and across firms and assets. Leasing is becoming more popular with organisations.
- Leases can be categorised as either operating leases or financial (capital) leases.
- Operating leases are short-term and have no balance sheet impact, but do have impact on the income statement.
- Financial leases are longer term than operating leases and in effect transfer some of the risks and rewards of ownership to the lessee.
- Financial leases have both a balance sheet and income statement impact. Their treatment for financial statement purposes is similar to the treatment that would be given an asset purchased and financed with traditional borrowing vehicles.
- The tax implication of leases can make leasing more advantageous than traditional borrowing, but in addition to tax considerations, leasing can be attractive for other reasons such as obtaining a higher level of financing than is possible by way of direct borrowing, etc.
- There are many advantages to leasing and a few disadvantages; however, it is important to analyse each leasing decision separately, ensuring the purchase-lease option is properly analysed.
- The lease vs. buy decision is often not a straightforward number-crunching exercise. There are many qualitative factors that must be considered in your analysis.



Assignment



Assignment

1. Discuss how leasing can function effectively as a financing tool in the company's capital structure.
2. Discuss why leasing is becoming a popular financing option for companies.
3. Discuss why financial leasing has an impact on the financial statements whereby operating leasing does not.
4. What are the perceived benefits of ownership (buy) and leasing?
5. What information or data is needed to make a lease/buy comparison?

Assessment



Assessment

1. Sheila Cash, the CFO of Gamma Technologies is looking at the financing alternatives for a major new piece of manufacturing equipment. Sheila has rates on a 10-year lease that she believes are attractive versus the cost of borrowed funds. The equipment in question will be obsolescent after ten years. Jo Lightweight, the leasing company salesperson has told Sheila that the lease is structured as an operating lease. Is Jo's assertion correct?
 - a. Yes
 - b. No
2. Which of the following statements is not true regarding leases:
 - a. Lease payments are generally tax deductible.
 - b. The CCA on an asset is only claimable by the company using the asset – lessor's do not qualify.
 - c. The accounting treatment for financial leases is similar to that used when an asset is purchased outright.
 - d. Leases taken out by businesses that are generating profits (and have no available tax losses) can never be evaluated without taking taxes into account.
3. Cicero Ltd.'s effective tax rate is 45 per cent. In 1999, the company's CCA claims for buildings totaled \$40,000. The corresponding claim for trucks was \$87,000. Taxes saved on account of the claims for buildings and trucks amounted to:
 - a. \$57,150
 - b. \$27,700
 - c. \$13,850
 - d. \$28,575
4. When a not-for-profit society evaluates a lease proposal to finance new computers, which of the following factors will not be relevant:
 - a. federal and provincial corporate tax rates
 - b. the CCA rate for new computers
 - c. buy out options contained in the lease
 - d. all of (a) through (c)
 - e. (a) and (b).
5. Centaur Corporation is considering two options:
 - i. Purchase \$1 million in new computers financed by a five-year



term loan.

- ii. Lease the same number of computers utilising a three-year operating lease.

A financial analysis indicates a NAL (net advantage of leasing) of minus \$1,500. Centaur recorded a net income of \$3.5 million in its latest financial statements. Which of the following statements best applies to Centaur's decision:

- a. They must choose the purchase option as the NAL is negative.
 - b. They should examine the options in the lease, such as the option to trade in equipment before the term is up and then decide.
 - c. They should review their debt covenants to determine the potential impact of further borrowing.
 - d. Both of (b) plus (c).
6. Ajax Finance Corp has received a request from a customer to lease a fire truck. If the cost of the vehicle is \$1,000,000, determine the monthly lease payments based upon the following parameters:
- Lease term – five years
 - Interest rate – 10 per cent
 - Estimated salvage value at the end of the lease – \$500,000.

Determine the monthly payment assuming that payments are made at the end of the month.

7. Hyperion Limited leases an executive jet for two years at a monthly rental of \$75,000. The leased jet has a fair market value of \$9 million and an estimated remaining service life of 15 years. There is no bargain purchase option contained within the lease. The lease runs from January 1, 2002 to December 31, 2003. Discuss the impact of the aircraft lease on the income statement of Hyperion for the fiscal year ended on December 31, 2002.
8. Gentry Riding Equipment Company has entered into two lease arrangements. One is an operating lease on an office copier requiring annual payments of \$2,000 for the next three years. The other is a 15-year financial lease on a building requiring annual payments of \$150,000. How should each lease be presented on the firm's balance sheet?

Answer Key to Assessment Questions

1. b – The lease term equates with the economic life of the asset and will therefore be considered a financial lease.
2. b – The lessor can always claim the CCA on a leased asset as they are the legal owner.
3. a – Total CCA claim was $40,000 + 87,000 = 127,000$ Tax saved = $45\% \times 127,000 = \$57,150$
4. e – Not for profit societies do not pay tax, therefore (a) and (b) are both irrelevant as there is no tax shield effect.
5. d – A positive or negative NAL is never sufficient justification for a lease/buy decision. Other factors such as debt covenants and lease options should be factored into the decision. In this case, the NAL is small, so comparative cost is a very minor issue.
6. PV 1,000,000
n 5.00
FV (500,000)
Annual interest 10.00%
Monthly interest 0.0083
PMT (14,790)
7. Lease payments would be charged as an expense against income since the lease will almost certainly to be classified as operating lease since it is only for 2 years and there is no bargain purchase option. Since the monthly rental is \$75,000, then the overall effect in 2002 is additional expense of \$900,000.
8. Operating lease: The basic features such as the annual lease payment and the term of the lease should be disclosed in a footnote.

Financial lease: The building will be listed as an asset and there will also be a corresponding liability on the balance sheet.

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