Block

2

LEASING AND HIRE PURCHASE

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BLOCK 2: LEASING AND HIRE PURCHASE

There are various ways of acquiring assets. Leasing and Hire Purchase are two such methods that are gaining importance due to advantages like availability of 100% financing, simplified cash flow management, fixed amounts of lease rental payments, flexible terms of payment, tax advantage, etc. As there is a considerable growth of lease and hire purchase segment due to active participation of NBFC sector, Leasing and Hire Purchase has become an important component of financial services.

Financial Services Block 2 covers Leasing and Hire Purchase. Leasing is a simple method of acquiring assets such as office premises, machineries, industrial and commercial equipment, and transport vehicles without buying it. This industry started in the Western countries in the middle of the 20th century. The block covers introduction to Equipment Leasing, leasing in Indian Context, Legal and Tax aspects of leasing, Lease evaluation from lessee and lessor angle, Lease accounting and Hire purchase. This block covers seven units from Unit no. 5 till Unit no. 12.

Unit 5: This unit is titled "an *Introduction to Equipment Leasing.* Equipment leasing is an alternative to buying equipment. The equipment leased can range from vehicle, machines, airplanes, kitchen equipment, etc. This unit covers equipment leasing in detail. The unit begins with a vivid description of concept and classification of equipment leasing. This is followed by a detailed explanation of finance and operating leasing. Various types of leasing such as Sale and Leaseback, Direct Lease, Single Investor Lease, Leveraged Lease, Domestic Lease and International Lease are discussed at length. An introduction to NBFC funding is covered at the end of the unit.

Unit 6: This unit details *Leasing in Indian Context:* Leasing industry in India is of recent origin. Many financial institutions and commercial banks started leasing and is one of the fast growing industries. The sector has now reached a matured stage coupled with the emergence of a strong market for operating leases. The unit covers various aspects of leasing in India and begins with the history of leasing. Discussion on the product profile with specific reference to equipment leasing is analyzed at length. The unit examines the various angles in leasing such as Legal, Tax, Accounting and regulatory frame work in the Indian context. A discussion on the innovative sources of financing including securitization is also included at the end of the unit.

Unit 7: This unit deals with *Legal aspects of leasing*-Generally lease transactions are not very structured and can have variants. Further there is no separate legislation or regulatory frame work for leasing especially equipment leasing leading to legal issues. Hence a separate unit on legal aspects of leasing especially on equipment leasing is designed. This unit dwells with the legal aspects of equipment lease transactions and is covered in three parts: first one being the salient features of the present legislative framework governing lease transactions followed by the process of lease documentation and its important clauses and finally the major legal issues that must be considered at the time of drafting of the lease agreement.

Unit 8: This unit details *Tax aspects of leasing* -The Introduction of the Goods and Services Tax (GST) on lease transactions has brought into fore the importance of learning the tax aspects of leasing. Another tax aspect is the income tax aspects of equipment leasing and its related issues. Thus the unit covers both income tax on equipment leasing and goods and services tax on equipment lease transactions.

Unit 9: This unit covers *Lease Evaluation from the Lessee's Angle*-The process of lease evaluation consists of three stages, Financial Evaluation, Non-Financial Evaluation and Evaluation of the Lessor. This unit focuses on financial evaluation. The unit describes the frame work of lease evaluation, analyzes various models of Financial Evaluation and finally the evaluation of lessor.

Unit 10: This unit highlights the *Lease Evaluation from the Lessor's angle.* This unit discusses the pricing of a lease using the risk-return framework. The unit is divided into three parts. First part discusses the setting of the floor price of a lease, the second part is about the pricing of a lease based on the gross yield and the third part deals with the sources of a lease-related risk. The negotiation of lease rentals is also covered in the unit.

Unit 11: This unit elaborates the *concepts on Lease Accounting and Reporting*- The new standard on leases accounting is applicable from 1 April 2019 which eliminates the classification of leases as either finance leases or operating leases as required by Ind AS 17. There is a difference of view on appropriate accounting treatment between professional accounting bodies and the leasing industry for finance lease transactions. The unit covers the current Accounting and Reporting Practices for Operating Lease and Leasehold Land and Buildings. The Indian Leasing Industry has also been well covered.

Unit 12: This unit deals with *Hire Purchasing*- Among the alternative asset-based financing plans offered by finance companies, hire purchase is one of the methods. The major hire purchasing asset market in India is road transport operators in commercial vehicles. The hire purchase as a means of financing equipment has also picked up in the recent times. The concepts of hire purchasing have been well covered in the unit to begin with. The other areas such as Pricing, Legal, Accounting, financial evaluation and Tax aspects has been handled well.

Unit 5

An Introduction to Equipment Leasing

Structure

"It matters little, how much equipment we use; it matters much that we be masters of all we do use."

- Sam Abel, American photographer

5.1 Introduction

Equipment leasing is a sound financial strategy and the success of the strategy depends on how best we use our equipment to get the best return through leasing.

In the previous unit on credit rating, we discussed the importance of credit rating. Credit rating provides insights to the investors on various important factors of the company/industry which help investors to take an informed decision on risk-return trade-off. We also discussed the regulatory framework of credit rating regarding issuance of various instruments –bonds, equity, commercial paper and issuer credit rating.

Lease finance had developed rapidly in the mid-sixties in the US. It was introduced in the 1980's in India. The growth of leasing industry has increased the number of lessors and the lease business as well. The lessor can be an equipment manufacturer, a subsidiary of a bank or an independent leasing company. The growth of leasing industry is very modest in India. Equipment

leasing is an alternative to buying an equipment. The equipment leased can range from vehicle, machines, airplanes, kitchen equipments, etc. The equipment lessor purchases the asset and leases to the lessee for a rent. This unit deals with equipment leasing in detail.

5.2 Objectives

After going through this unit, you should be able to:

- Recall the concept of leasing
- List out various methods of leasing
- Explain the implications of financial and operating lease
- Analyze the pros and cons of various types of leasing
- Appreciate the various benefits of leasing

5.3 Concept of Leasing and Classification of Leasing

An equipment lease is a contract between a lessor (the owner of the equipment) and lessee (the person who put the equipment to use) for a specific period in return for an agreed rent. At the end of the contracted period, lessee will hand over the equipment back to the lessor. In case the agreement has a renewal clause, the lease will be renewed for a further period as agreed upon.

The method of operation in equipment lease is as follows:

Step-1 - The lessee will select the equipment as per his specific needs and available specifications from its supplier.

Step-2 - He will negotiate the cost and other terms such as guarantee, warrantee, date of delivery etc. with the supplier.

Step-3 - Lessee will then approach the financial intermediary (leasing company) who will be the lessor with a lease proposal.

Step-4 - The lessee will negotiate the terms of the lease which include lease rentals, period, maintenance, insurance of the equipment and other terms and conditions on the usage of the leased equipment.

Step-5 - After negotiations, the lessor and lessee will enter into a lease contract and the lessor will acquire the equipment selected by the lessee and deliver to the lessee.

Normally, it is the lessor who will bear the cost of maintenance of the leased equipment and its insurance cost as well.

New standards for lease

International Financial Reporting Standards (IFRS) 16 is the new standard globally implemented for lease transactions. The standard replaces the six-decade old distinction between financial and operating leases, from lessee accounting perspective, thereby, putting all leases on the balance sheet.

Some of the important changes are as follows:

- A lessee shall either present in the balance sheet, or disclose in the notes about the lease liabilities.
- The lessee shall include right-of-use assets as if they were owned; and should disclose which line items in the balance sheet include those right-of-use assets if not disclosed already in the balance sheet.
- If a lessee does not present lease liabilities separately in the balance sheet, he shall disclose which line items in the balance sheet include those liabilities.

As regards the direct tax taxation framework for lease transactions in India, it does not depend on the treatment of the transaction in books of accounts. Instead, it depends on whether the transaction is a true lease or is merely a disguised financial transaction. There will be no impact on the indirect taxation framework.

The equipment lease transaction depends on certain factors such as lessor and lessee, permanent residency of the equipment manufacturer, transferable portion of the risks and reward, other parties to the transaction etc. Based on these factors, a lease transaction can be classified into four types:

a. Finance lease and operating lease.
b. Sale and leaseback and direct lease.
c. Single investor lease and leveraged lease.
d. Domestic lease and international lease.

Example: Classification of Equipment Leasing in India

As per a report, machinery equipment industry including construction equipment indicated significant growth opportunities with a CAGR of 7.3% from $133 billion in 2020 to $250 billion till 2030. Though offline leasing was 98.2%, strong digital adoption and innovative financing models was expected to boost this to 10.4% in the coming decade. To meet the expected growth in the construction equipment leasing, TATA Capital had introduced new financing schemes like buyback schemes, pay-per-use lease option and developed favorable rental options. Some lenders started offering associated services like bundling equipment, software, supplies, and equipment as well.

Sources: i) https://www.cxotoday.com/cxo-bytes/equipment-leasing-the-financing-tool-of-choice/, May. 31, 2022,

ii) https://www.epcworld.in/p/post/construction-equipment-financing-eyeing-new-heights,Nov-15-18,2022, accessed on 3/11/2022.

5.4 Finance Lease and Operating Lease

The distinction between a finance lease and an operating lease is of fundamental importance in the financial evaluation and accounting of leases. The distinction is based on the extent to which the risks and rewards of ownership are transferred from the lessor to the lessee.

5.4.1 Finance Lease

A finance lease is one wherein a considerable portion of risk and rewards associated with the ownership of the leased equipment is shifted from lessor to the lessee. In case of financial lease implementation as per international accounting standards, they are:

- No change in the accounting treatment
- No change in the lessor's accounting

As per International Accounting Standards Committee (IASC), the ownership related risk and rewards are transferred from Lessor to Lessee if one of the following clauses is incorporated in the lessee agreement.

a. At the end of the lease term, there is a transfer of asset ownership from lessor to lessee.
b. If at the end of the lease, the lessee has an option to purchase the assets at a price which is considerably lower than the fair market value at the time of exercising the option and this should be clearly mentioned at the time of entering into the lease agreement.
c. Even though the transferability clause is not mentioned in the lease agreement, the lease period is long enough to cover the life of the asset.
d. At the time of the agreement, if the present value of minimum lease rentals payable is greater than or equal to the assets' fair market value, irrespective of whether the transferability clause is mentioned in the lease agreement or not.

The aforesaid criteria are based on those evolved by the Financial Accounting Standards Board (FASB) of the USA. The FASB has, in fact, defined certain cut-off points for criteria (c) and (d). According to the FASB definition of a finance lease, if the lease term exceeds 75 per cent of the useful life of the asset or if the present value of lease payments equals or exceeds 90% of the asset's original cost. Further, the lessor can determine the present value by using the discount rate which is the rate of interest implicit in the lease agreement. In case of lessee, the discount rate used shall be incremental borrowing rate.

In the Indian context, conditions (a) and (b) are inapplicable because inclusion of any of these conditions in the lease agreement will result in the agreement being treated as a hire-purchase agreement. If one of the conditions (d) or (e) is satisfied, the lease can be considered as financial lease.

Illustration 5.1

Montari Industrial Corporation (MIC) has recently leased equipment costing ₹ 400 lakh on the following terms:

Lease term	:	5 years
Lease rentals	:	₹ 300/₹1,000 per annum.

The incremental borrowing rate for MIC is 18% p.a. Can the transaction be classified as a finance lease if the useful life of the equipment is (i) six years? (ii) ten years?

Solution:

a. i. Lease Term : 5years

ii. Estimated Useful Life : 6 years

(i) As a percentage of (ii) : 83.3

Since the lease term exceeds 75 per cent of the estimated useful life of the equipments, the transaction must be classified as a finance lease.

b. i. Lease Term : 5 years

ii. Estimated Useful Life : 10 years

(i) as a percentage of (ii) : 50

The third condition specified by the FASB for classifying a lease as a 'finance lease' is not fulfilled.

iii. Present value of minimum lease payments

= (400 x 0.3) x PVIFA $_{(18,5)}$

= 120 x 3.127 = ₹ 375.24 lakh

iv. Fair market value at the time of inception

= ₹ 400 lakh

(iii) As a percentage of (iv): 94

The fourth condition specified by the FASB is fulfilled. Therefore, the transaction must be classified as a finance lease.

The lessee is totally responsible for maintaining the asset which includes repairs, insurance etc. Further, the "hell or high water" clause which the lessee agrees at the time of entering into the lease agreement implies that come what may, about the suitability of the asset or losses that he incurs in his business, he has to pay the lease rentals. Thus, the financial lease is a "full payout lease" which means that it operates over the entire economic life of the asset.

5.4.2 Operating Lease

Any lease other than financial lease is an operating lease as per the International Accounting Standards Committee.

It has the following characteristics:

a. The economic life of the asset is much higher than the lease period.

b. Penalty in case of termination of the lease by the lessee without any notice is minimal.

c. The lessor undertakes the following services unlike in financial lease:

   i. Provides operating know-how and other related services.

   ii. Insures and maintains the equipment in case of wet lease.

Example: Wet Lease can be a Bid to Reduce Overall Costs

In 2020 to expand the surveillance capabilities along the coastal regions, the Indian Navy (IN) went for short-term wet-lease of 12-18 for two non-weaponized General Atomics Aeronautical Systems (MQ-9 Sea Guardian unmanned aerial vehicles (UAVs)), for one year from the US. They were installed at the naval base INS Rajali. The General Atomics agreed to provide maintenance and other technical support and the Indian Navy agreed to have full control over their operational deployment and the information gathered through the systems. This agreement was facilitated through India signing the Basic Exchange and Cooperation Agreement (BECA) with the US to offer the bilateral exchange of geospatial data, sensor data and satellite imagery.

Source: https://www.financialexpress.com/defence/leasing-is-a-viable-option-to-supplement-military-capabilities/2144862/,2020, accessed on 8/7/22

A dry lease is one wherein the lessee undertakes to maintain and insure the equipment taken on lease, whereas in case of wet lease, it is the lessor who is responsible to undertake these activities.

From the attributes of an operating lease, it is evident that this form of a lease does not shift the technological risks and the equipment-related business from the lessor to the lessee. The lessor, structuring an operating lease transaction, has to depend upon multiple leases or on the realization of a substantial resale value (on the expiry of the first lease) to recover the investment cost plus a reasonable rate of return thereon. Therefore, specializing in operating leases calls for an in-depth knowledge of the equipment per se and the secondary (resale) market for such equipment. The pre-requisite is the existence of a re-sale market. Operating leases are not in popular use, given the fact that the re-sale market for most of the used capital equipment in our country lacks breadth. In case of sunrise industries, operating lease is most ideal where there is high degree of technological risk.

Reporting systems for operating lease have undergone changes as per the IFRS-16 Standards. As per International Financial Reporting Standards (IFRS-16) (which was published by the International Accounting Standards Board in January 2016), it is mandatory for all the companies, who have taken assets on operating lease, to report on-balance sheet a right-of-use asset and its lease liability based on the net present value rent, and thus, bring an end to off-balance sheet treatment of operating leases. As per IFRS 16, the distinction in accounting treatment between on-balance sheet financial lease and off-balance sheet

operating lease is eliminated which was not the case in earlier accounting procedure as per IAS-17. As far as lessors are concerned, the accounting should not change as a result of IFRS-16.

The following example details a popular leasing tool in the market.

Example: Introduction of New-age Asset-backed Investments

Grip Invest, a digital platform offered new-age asset-backed investments. It had accumulated $800K to lease Electric 2 Wheelers to Zypp Electric, an India's largest electric two-wheeler based delivery partner. In 2021, it had leased around 750 Electric 2 Wheelers (e2Ws) to Zypp Electric to help them scale up its fleet to 2,000 electric bikes within 18 months. Equipment leasing had facilitated Zypp Electric to scale its business operations, helped them in converting capex (capital expenditure) into opex (operational expenditure) and utilize the equity raised very efficiently.

Source: http://bwdisrupt.businessworld.in/article/Zypp-Electric-Raises-800K-In-Lease-Investment/28-09-2021-406467/, 28 September, 2021

Check Your Progress - 1

1. An equipment lease transaction cannot vary in one of the following dimensions. Which is it?
   a. Extent to which the risks and reward of ownership are transferred.
   b. Number of parties to the transaction
   c. Domiciles of the equipment manufacturer
   d. The lessor and the lessee
   e. The cost of the equipment
2. Which of the following is not a classification of lease transaction?
   a. Finance lease and operating lease
   b. Domestic lease and international lease
   c. Perpetual lease
   d. Sale and leaseback and direct lease
   e. Single investor lease and leveraged lease
3. Which of the following is not a reason for low growth of equipment leasing in India?
   a. High margin
   b. Long payback period
   c. Unfavorable regulation
   d. Depreciation allowance is low
   e. Poor collection experience

4. What is the name given to the type of lease if lease transfers a substantial part of the risks and rewards associated with ownership from the lessor to the lessee?
   a. Finance lease
   b. Operational lease
   c. Sale and leaseback
   d. International lease
   e. Domestic lease
5. What is the name given to an operating lease where the lessee bears the costs of insuring and maintaining the leased equipment?
   a. International lease
   b. Wet lease
   c. Domestic lease
   d. Dry lease
   e. Direct lease

Activity 5.1

You are a young entrepreneur who wants to start an industrial unit engaged in manufacturing of tools and other press metal components. One of the options available to acquire the machines is through lease. List out the steps that you will undertake to go ahead with the project based on the equipment lease.

Answer:

5.5 Sale and Leaseback and Direct Lease

Let us understand the transactions that fall into sale and leaseback, and direct lease.

5.5.1 Sale and Leaseback

In a sale and leaseback transaction, the owner of an equipment sells it to a leasing company which in turn leases it back to the erstwhile owner (the lessee). The 'leaseback' arrangement in this transaction can be in the form of a 'finance lease' or an 'operating lease'. The FASB released new guidelines and their effects on leasing arrangements (ASC Topic 842: Lease Accounting).

As per the new guidelines, in case of sale leaseback transaction, a seller-lessee can recognize a gain on sale, subject to the sale fulfilling the conditions stipulated in the ASC Topic 606. Thus, the seller-lessee can sell the underlying asset to the buyer-lessor as it does not prevent the transaction. Thus, the seller-lessee should account for the leaseback in the same manner as any other lease provided the sale has occurred based on the guidelines in ASC Topic 606.

The sale and leaseback transaction undertaken by banks for its safe deposit vaults is a classic example in the subject case. The transaction details are as follows:

a. The bank which has purchased the safe deposit vault and is in its custody, sells it to a leasing company at a market price which is higher than the book value.

b. The leasing company which has purchased the vault leases it back to the same bank on long-term lease.

As far as bank is concerned, it is at an advantageous position due to the following:

i) The bank will be able to unlock its investment as the yield on the vault is low.

ii) The bank can still enjoy the uninterrupted use of the lockers and get annual rents from its customers to whom it has leased them.

iii) It can further lend the sale proceeds of the vault to high-income yielding commercial loans.

Thus, in sale and leaseback transaction, the original owner of the asset can put into use the funds locked in the high value assets by selling it and take it back on lease on long-term and still enjoy the fruits of the asset. He can put the funds into more productive use such as expansion and diversification activities. The sale and leaseback arrangement can be a boon to those who have invested in capital assets purchased from short-term debt at high cost with medium-term debt subject to the leaseback arrangement being financial lease.

However, from the lessor point of view the following issues may have to be taken care:

a. It is difficult to establish a fair market value of the asset as there may not be a secondary market for the purchased asset.

b. Even if the secondary market exists, it may lack breadth.

c. Income tax authorities may disallow the depreciation on the fair market value as it may be perceived by them as high and unfair.

The owner of the assets opts for sale-and-leaseback mechanism. This is with the objective of realizing the value from tax depreciation on the asset by enabling the buyer (or lessor) claim depreciation on inflated cost of asset. In such instances, the courts have held the transaction was a colorable device to evade taxes and disallowed the deprecation claim.

Example: Avoiding Locking Up of Capital by Way of Sale or Leaseback

In 2021, Vodafone-Idea (Vi) raised financial spectrum worth ₹1,82,000 crore which was payable till 2036. Though the interest was payable on the deferred instalments, these spectrum payments were a huge burden on the company's finances. It was believed that even if the government defers the payment period to 20 years (instead of the 10 years), the Supreme Court's instructions to pay the additional interest charged would further add to the financial burden on the company. The government thus suggested telecoms to adopt the 'sale and lease' policy which was practiced in aviation industry so that it can introduce several measures to offer relief to the telecom sector. It may be by means of extending the payment period for outstanding dues to 20 years and reducing the licence fees and spectrum usage charges in terms of shares of revenue so that telecoms can avoid locking up capital on a spectrum hoard.

Source: https://thefederal.com/opinion/opinion-sale-leaseback-spectrum-may-save-telecom-sector/,29-Aug-2021, accessed on 8/7/22

5.5.2 Direct Lease

A direct lease is one in which there are two parties to the lease transaction, a lessor (owner of the asset) and a lessee (the one who uses the asset) unlike in a sale and leaseback transaction. There are two types of direct lease: A bi-partite lease and a tri-partite lease.

Bi-partite Lease

A bi-partite lease is normally an operating lease with two parties to the transaction, a lessor and a lessee. Since it is an operating lease, the lessor will undertake to

i. Maintain the equipment
ii. Insure the assets
iii. Upgrade the equipment (upgrade lease)
iv. Add to the original equipment
v. Replace the equipment if there are major repairs (swap lease)

The add-ons such as upgrade or swap lease on the basic lease is possible only if they are included in the basic lease, and where the lessor is either manufacturer or dealer of the asset.

Tri-partite Lease

In a tri-partite lease, there are three parties to the lease transaction - the lessor, the lessee and the equipment supplier - unlike in the bi-partite lease wherein the lessor and equipment supplier are one person. It has to be noted that most of the lease

transactions are tri-partite in nature. However, in case of sales aid lease, the seller/dealer of the equipment forms a catalyzer in the deal, wherein, he is involved in arranging the lease finance as well for the prospective customer (lessee) in case of need. The sales aid lease can be in the following manner:

a. The customer is introduced by the supplier to the leasing company.

b. The supplier will assist the customer in finalizing the lease deal with the leasing company by negotiating the terms of the lease and other documentation formalities involved in the lease transaction on behalf of the leasing company.

c. The supplier can discount the lease receivables with the leasing company by writing the lease on his own.

However, the ultimate owner of the equipment is the leasing company and the lease rentals are assigned only in his favor. If the lessee defaults in lease payments, there is a recourse for the supplier.

Option 1 - The supplier offers to buy back the equipment from the lessor.

Option 2 - Offers to provide a guarantee on behalf of the lessee.

5.6 Single Investor Lease and Leveraged Lease

This classification is also based on the number of parties to the lease transaction. In a single investor lease transaction, there are only two parties to the transaction – the lessor and the lessee—in contrast to a leveraged lease transaction where there are three parties to the transaction – the lessor (equity investor), the lender and the lessee.

5.6.1 Single Investor Lease

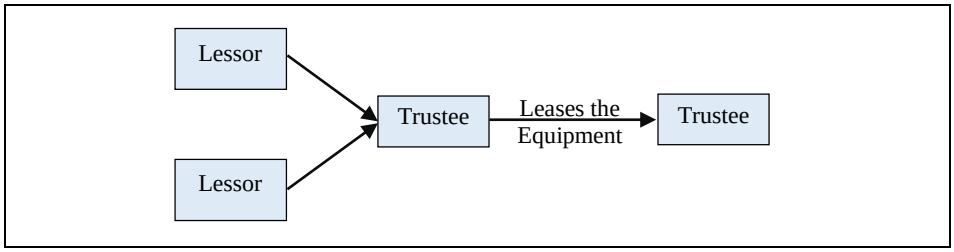
One has to note that the burden of repayment of the debt taken by the leasing company for purchasing the equipment to be leased solely rests with the leasing company and it cannot be passed on to the lessee. In the event of lessee failing to make the lease rentals, the servicing of debt is on the leasing company only.

5.6.2 Leveraged Lease

In this type of lease, the lessee is fully responsible to repay the debt to the lender and not the leasing company unlike what we learnt in the earlier para. The leasing company can be an equity investor, wherein, it will borrow the amount from the lender for the equipment purchased without recourse on it but on the lessee who will put the equipment to use. In this type of lease, the lender will obtain assignment of the lease rentals with the lessee and also a first mortgage on the leased asset as security. A trust is created wherein the lease transaction is routed through the trust and the lease rentals are paid into the trust account by the lessee. The trustee will remit the debt service component to the lender and the balance to

the lessor. In this process, the trustee will take care of the interest of both the lender and the lessor as shown in Figure 5.1.

Figure 5.1: Leveraged Lease Transaction



Source: ICFAI Research Center

Example: Generating a Passive Income through Leveraged Lease

Furlenco, an Indian online furniture rental platform, provided furniture to people on a rental basis. To provide furniture on rent, one has to buy it first. There were two standard options provided by Furlenco to acquire the asset/furniture. One option was, Furlenco raised funds through VC (venture capital) and the second option was to take a bank loan to purchase the furniture (by providing the collateral). Furlenco leased the assets acquired on rent to various corporates and earned passive income. Further the leasing of furniture business was growing as the lessee companies chose to lease over buy as leasing helped these companies be more asset-light and reduce the capital expenditure and use the funds for operational expenditure i.e. converting CAPEX to OPEX.

Source: https://finology.in/behavioral-finance/passive-income-through-lease-investing, 23 Mar 2022, accessed on 8/7/22

Illustration 5.2

Innovative Financial Services Limited (IFSL), has recently structured a leveraged lease transaction involving an investment cost of ₹ 80 crore with itself as the equity participant and Bharat Commercial Bank as the loan participant funding the investment in the ratio of 1:4. The loan carries a rate of interest of 18% p.a., and is to be repaid in five equated annual installments. If the required rate of return (gross yield) of IFSL is 22% p.a., calculate the annual lease rental to be charged.

Solution:

Loan Amount = 0.8 x 80 = ₹ 64 crore

Equity Contribution = ₹ 16 crore

Equated annual installment $= \frac{64}{PVIFA_{(18,5)}} = \frac{64}{3.127}$ = ₹ 20.47 crore

Denote the annual lease rental as Y.

Annual cash inflow to IFSL = (Y – 20.47)

Given that IFSL requires a rate of return of 22% p.a. it follows that,

$(Y - 20.47) \times PVIFA_{(22,5)} = 0.2 \times 80 = 16$

i.e., $2.864 (Y - 20.47) = 16$

i.e., $2.864 Y = 74.63$

i.e., $Y = ₹ 26.06$ crore

The lease rentals works out as follows:

$$₹ 325.75/₹ 1{,}000/p.a = 26.06 \times \frac{1{,}000}{80}.$$

Like any other lease transaction, a leveraged lease transaction entitles the lessor to claim tax shields on depreciation and other capital allowances on the entire investment cost despite the fact that a substantial part of the investment cost has been funded with non-recourse debt. Therefore, the return on equity (defined as profit after tax divided by net worth) tends to be high. From the lessee's angle, the effective rate of interest implied by the lease transaction turns out to be less than that of a straight loan because the lessor passes on a portion of the tax benefits to the lessee in the form of lower rental payments. Leveraged lease packages are usually structured for leasing investment-intensive assets like aircraft, ships, etc.

5.7 Domestic Lease vs. International Lease

Domestic lease is one where all the parties to the lease transaction (the lessor, the lessee and the equipment supplier/manufacturer/ dealer) are domiciles who conduct their business activities in the same country where as in the case of international lease they belong to different countries or at least one of the parties to the lease transaction is domiciled in another country.

Before entering into an international lease transaction, the parties to the lease transaction should have a clear knowledge in the following areas:

- The various statutory regulations such as tax, rules and regulations of the lease deals followed by the foreign country.
- The political and economic scenarios existing in the domiciled countries of the parties to the lease transaction.
- The prevailing exchange rates that exists as the transaction involves more than one country.

The last factor is important as the economics / viability of the lease transaction depends on the exchange rate factor both for the lessor and lessee.

Thus, in an international lease transaction, the parties to the transaction face two types of risk namely country risk and exchange rate risk.

International lease transactions can be further sub-classified into two groups, import lease transactions and cross-border lease transactions. In an import lease transaction, the lessor and the lessee are domiciled in the same country, but the equipment supplier is located in a different country. The lessor imports the equipment and leases it to the lessee. On the other hand, in a cross-border lease transaction, the lessor and the lessee are domiciled in different countries. The domicile of the supplier is immaterial.

The question that arises is: Given the complexities and additional risks characterizing international leases in general and cross-border leases in particular, why should lessors and lessees go in for cross-border leasing? The proponents of cross-border leasing advance the following reasons:

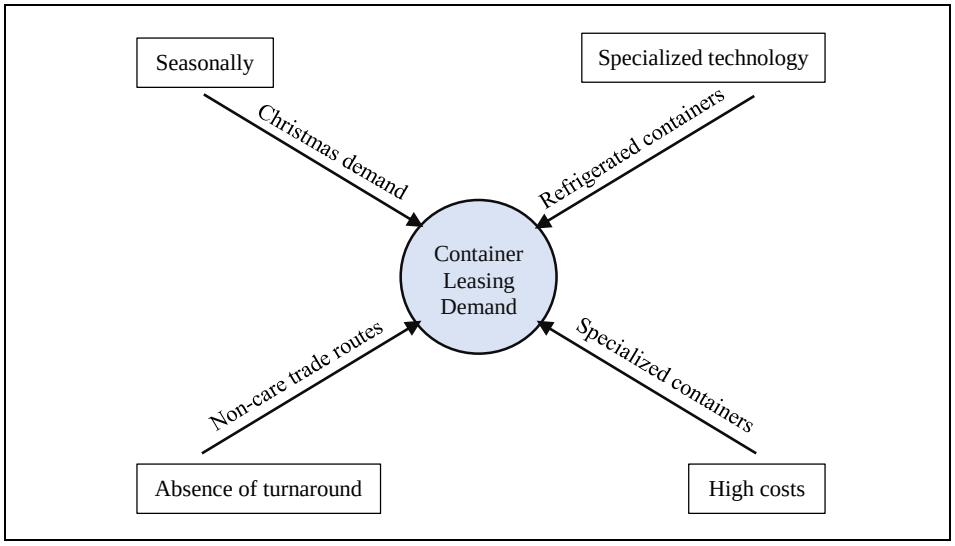
i. The lease can be so structured as to obtain maximum tax benefits by taking advantage of the tax concessions and incentives offered by the tax laws of the different countries. The end result is that the lease can be priced on terms favorable to both the lessor and the lessee.

ii. Cross-border leases offer funding on a long-term basis at fixed rates of interest which may not be available to the lessee in its country.

iii. The lessor has access to cross-country equipment markets for disposing of the leased equipment. Hence, it is prepared to take a higher residual value exposure and, in the process, price the lease on favorable terms to the lessee.

The following Figure 5.2 explains the demand determinants of container leasing.

Figure 5.2: Demand Determinants of Container Leasing



Source: ICFAI Research Centre

Of these reasons, the reason concerning the tax implications merits a more detailed discussion. In countries where a finance lease transaction is treated as a genuine lease transaction, the lessor claims the tax shields on depreciation and

the other capital allowances associated with the investment. The lessee claims the lease rentals as a tax-deductible expense. But in some countries (the USA, for instance), a finance lease is treated as a sale and the lessee is allowed to claim the tax shield on the investment-related depreciation and other capital allowances. A cross-border lease takes the advantage of the laws of two countries. This means the lessor can claim the investment-related tax shields in one country while the lessee can claim these tax shields in the other country. This enhances the financial advantage of leasing to both the lessor and the lessee.

CMIG, one of the largest leasing companies entered into international leasing for the first time in 2016. The details are provided below:

CMIG Enters into International Leasing

CM International Financial Leasing Co. Ltd. (CMIG Leasing), one of the largest new leasing companies in China, has acquired two companies from another Chinese-based leasing company. CMIG has undertaken subsequent lease of two new built container ships built by Shanghai Jiangnan-Changxing Shipbuilding Co. Ltd. to Mediterranean Shipping Company S.A. (MSC). This happens to be the first shipping transaction for CMIG leasing with a global ship owner, and thereby, entered into international leasing.

Audit Issues in International Lease

Financial criteria should guide the choice of jurisdiction but this should be balanced against other issues and various aspects in this transaction. This is discussed below:

International Big-Ticket Leasing Audit

Financial criteria should guide the choice of jurisdiction but this should be balanced against other issues. The UK markets, for example, offer Net Present Value (NPV) benefits to the tune of 7 to 22 per cent. But the catch is that UK lessors refuse to take the tax risk. Lessees can never be sure of the benefits until the lease ends. Benefits can alter substantially and eventually turn into losses if tax risks materialize in the form of new legislation. Conversely, deals from emerging markets result in more management time being invested in protracted negotiations and higher costs, because the players, viz. lawyers, arrangers and lessors are not as sophisticated as in mature markets. Risk of failure in such transactions is much higher. Austrian, Japanese and Swedish structures offer only limited benefits for railway transactions and need careful study before jumping into a deal. Double dip leasing may boost lease benefits but is costly and time consuming. The benefits cannot be assured. And tax authorities in some jurisdictions are more inclined to grant rulings in favor of tax lease structures when it benefits the country's industry.

Choosing Arranger: The role of arranger should necessarily be partisan, i.e. supporting the lessee against other transacting parties. The lessee-advisor should not be a lessee-cum-lessor advisor. Though fees are mutually negotiable, they

should depend on the structure. Fees should not be high for straightforward deals like Straightforward Pickle Dole, leasehold leases and Japanese Leverage lease, whereas it can be high for more innovative transactions like double dips, multiple dips or emerging market deals. Again, fees can be a fixed percentage or success fees can be carved into the total fees. Like most other fund syndications, larger organizations are much more difficult to convince to work at lower rates compared to smaller boutiques.

Managing Transaction Costs: The cost of putting together a deal is substantial and directly influences the net present value. The Anglo-Saxon type of documentation mostly used in lease transaction is much more complex and time consuming than the continental type. To control costs, lessees usually ask the lessors advocates to cap their fees so that costs avoid getting out of hand. Lenders fees and margins can be minimized through bidding procedures. This is more difficult with appraisers because the number of appraisers is limited and most investors stick to a particular appraiser. Trustee and bank fees are mostly fixed and lessees try to spread it over higher transaction volumes or by closing the lease in different tranches over time so as to minimize the impact on the first tranche. There are some basic accepted axioms pertaining to transaction costs:

- If the transaction is not closed due to the lessor's failure, the lessor shall bear all the transaction costs incurred.
- If the transaction is not closed due to the lessee's failure, the lessee shall bear all the transaction costs incurred.
- If the transaction is not closed due to the election of the lessee because tax changes reduce the benefits below a certain level, then the lessee bears the transaction costs.

If the transaction is not closed for any other reason like illegality or increased cost, each party will bear the transaction cost related to itself.

Optimizing Lease Structures: Lease economics are influenced by the cost of debt and guarantee fees if real financing is involved. For those leases that involve commercial banks, the usual bidding procedure applies in order to minimize the cost of funds. In a fully defeased structure (see: Defeasance structure for power leases), the intermediation fees of the intervening bank have also to be included. For structures where defeasance is needed to hedge the deal, the choice of the defeasance instrument influences the upfront benefits of the transaction.

The following approach is sometimes used. No direct investment in zero coupons in the currency of the purchase option, but adding swaps to the underlying investment, the maturity of which matches the purchase option date. In doing so, the lessee pays to the swap counterparty all coupons and the principal at maturity and receives from it an amount equal to the purchase option. Less than triple- A investments could be acceptable. Working this way, the benefits on transactions can be enhanced substantially without increasing the credit risk of the defeasance to an unacceptable level.

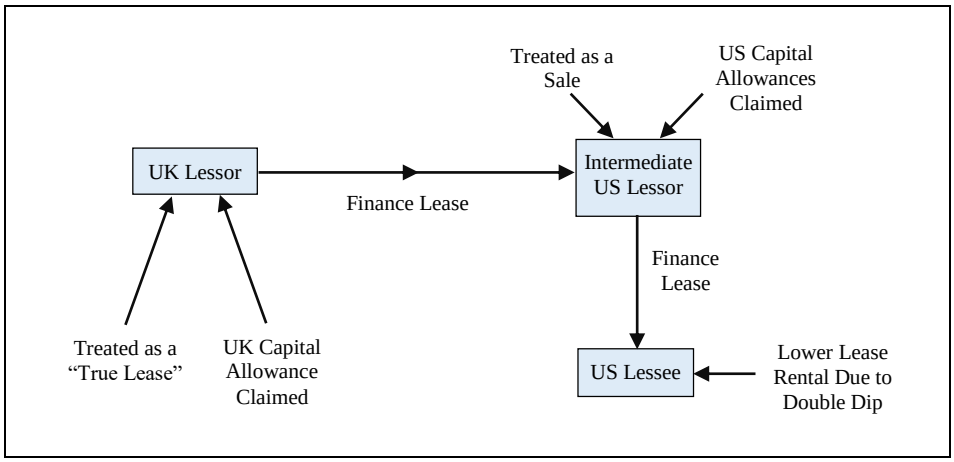
Term Sheets: Before starting full documentation, it is necessary to negotiate and agree upon the term sheet. Certain key considerations need to be looked at while agreeing on the term sheet. Firstly, it is necessary to ensure the bankruptcy proof of the proposed structure; the securities to be put in place to secure recuperate title to the equipment; and equity/lessor transfer restrictions. Secondly, it is necessary to clearly lay down when the lessor and lessee are in default and the magnitude of termination values.

Tax Risk: Lastly, it is necessary to agree upon the tax risk in advance. Most lessees insist on the lessor assuming the tax risk implicit in the transaction. In the US, this is no longer an issue because the lessor takes the full tax risk. But in the UK, the lessors usually prefer to avoid taking the tax risk. They consider the lease as a loan, a condition of which is that the lessee takes all the consequences of any change in tax laws.

Double dip lease deals can give rise to a major headache, viz. the potential for disqualification of one of the leases by the tax authorities because of the existence of the other. The termination value is the issue here. And at the end of the day, it all boils down to negotiations between the two transacting parties.

For example, consider a lease transaction in which a UK-based lessor leases an equipment to a US-based lessee under a finance lease arrangement. Under the tax laws of the UK, the lease will be treated as a 'true' lease and the UK lessor will claim the investment-related tax shields. Under the tax laws of the USA, the same transaction will be treated as a "sale" and the lessee will be allowed to claim the tax shields. This dual tax benefit (referred to as the "double-dip" advantage) reduces the cost of the lease to the lessee without affecting the return to the lessor. If the lessee is not in a position to absorb these tax shields, the UK lessor can write a lease with an intermediate lessor in the USA who can absorb these tax shields and in turn sub-lease the asset to the lessee at a lower lease rental. A schematic representation of this transaction is provided in Figure 5.3.

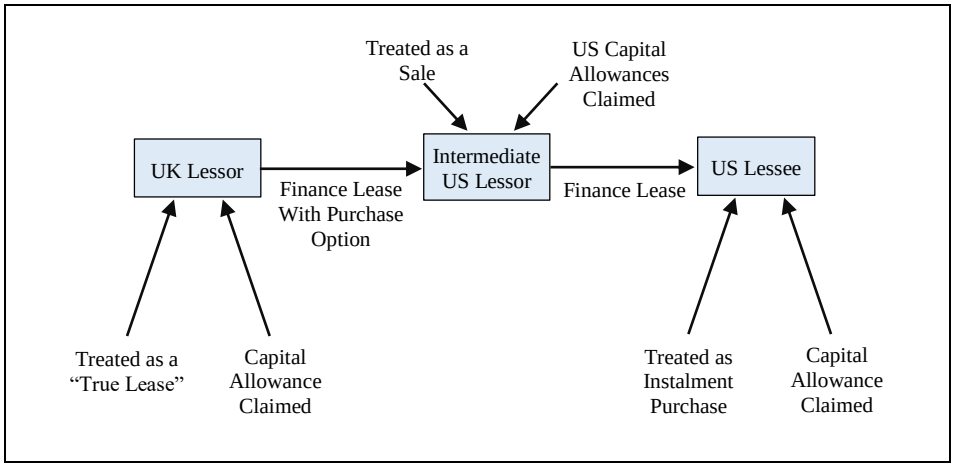
Figure 5.3: Structure of a Double-Dip Transaction



Source: ICFAI Research Center

A natural sequel to the "double-dip" transaction is the "multiple-dip" transaction in which more than two countries are involved. For example, consider a Switzerland-based lessor writing a lease with a purchase option with a US -based intermediate lessor and this lessor writing a lease that resembles an installment sale with a lessee in Germany. The multiple tax benefits associated with this transaction is schematically presented in Figure 5.4.

Figure 5.4: Structure of a Multiple-Dip Transaction



Source: ICFAI Research Center

In the recent years, however, there has been a decline in the number of double-dip and multiple-dip lease transactions. This decline is largely on account of introduction of a number of deterrents. This includes the phasing out of initial capital allowances in the UK restrictions on tax-oriented leases to the non-residents in the US. This is done through enactment of the Deficit Reduction Act of 1984 and the abolition of the Investment Tax Credit in the US through the Tax Reform Act of 1986.

Big Ticket Leasing

Big ticket leasing in the real estate sector has gained prominence in India in the recent years. This is typically done by large companies for acquisition of expensive assets such as aircraft etc. Some of the large companies such as SAIL, BHEL, ONGC, IA, SCI etc., as they need huge capital requirements and leasing route, is generally preferred. Since their requirements would be large, leasing for such companies will fall under the term called Big Ticket leases. India is likely to witness 'Big Ticket' leasing requirements over the next 10 years which can be to the extent of around $ 20 billion.

One of the big ticket leasing is the lease rights for six non-metro airports namely, Ahmedabad, Guwahati, Jaipur, Lucknow, Mangalore and Thiruvananthapuram, to Adani Enterprises Ltd. which was the highest bidder.

Big ticket leasing is catching by luxury car-makers. And it became the norm in corporate India and the concept is now going retail with companies such

as Mahindra and Mahindra offering some of their models on lease directly to customers. Sunil Gupta, managing director and chief executive officer, Avis India, a car rental firm, said the car leasing market in India is set to grow at 15-20% CAGR (Compound Annual Growth Rate) over the next 10 years.

Leasing of hotels in India is going to be the next big thing in big ticket leasing. Svenska, Howard Johnson, Royal Orchid and Bloom Rooms, have adopted the leasing model. These are some of the reputed 4- & 5-star hotel chains. These are typically very long-term leases, say for 25 years. These hotel chains are getting leases directly from owners between 10-35 years. The owner of the property gets a minimum guarantee of rent for two years until the hotel stabilizes. Subsequently, there is a share in revenue between the hotel and the owner of the property.

Work space leasing, another big ticket leasing is catching up very fast in India. Bengaluru, Delhi –NCR and Hyderabad have been the front runners. The demand will be driven by technology, pharmaceutical, engineering and manufacturing sectors.

In July 2019 union budget, the Finance Minister has mentioned about the proposal to bring out a policy framework for making India a global hub of aircraft financing and leasing activities (another big ticket leasing activity to encourage new industries to come up leveraging India's existing capabilities).

Overall, the big ticket leasing is catching up very fast in India. It holds promising future.

Example: A 2.4 Trillion Global Leasing Market

International Financial Services Centre (IFSC) in Gujarat International Finance Tec-City (GIFT-City) had pushed for big ticket aircraft leasing companies. The government of India was trying to transform the country into a global aircraft leasing hub to compete with Dublin or Singapore by incentivizing foreign lessors to commence operations through various concessions. There was a research report that supported this statement. As per the research report, it was expected that the global leasing market would touch 2.4 trillion $ by 2026 with a CAGR of 12.9%. Most of the companies were rearranging their operations post Covid and included retail and big-ticket leasing as well. The main types of products included automotive, equipment, machinery and aircraft etc. Asia Pacific was the largest region in the leasing market in 2021 followed by North America Western and Eastern Europe.

Sources: i) https://www.businesswire.com/news/home/20220228005693/en/The-Global-Leasing-Market-Is-Expected-to-Reach-2403.84-Billion-by-2026---ResearchAndMarkets.com dated 28th February 2022, Accessed on 11.10.22

ii) https://www.businesstoday.in/magazine/industry/story/indias-big-bet-on-aircraft-leasing-at-gift-city-needs-funds-345191-2022-08-22 dated 4th September 2022, accessed on 11th October 2022

5.8 Advantages of Leasing

Having seen the different types of lease arrangements, let us try to identify the principal reasons for leasing. The proponents of equipment leasing offer the following reasons:

5.8.1 Flexibility

Equipment leasing is a flexible financing arrangement in the sense that the lease rentals can be structured in a manner that squares with the cash flow pattern anticipated by the lessee. If the lessee expects a constant net cash flow stream from the project in which the leased assets are employed, the lease rentals can be evenly spread over the lease term. On the other hand, if the lessee anticipates a steadily increasing stream of cash flows, the lease rentals can be stepped up gradually. If the lease finance is availed for a project with a gestation period, the lease rentals can be structured with a deferment period.

The various ways of structuring lease rentals are explained through the following illustration 5.3:

Illustration 5.3:

Sunrise Leasing has made available the following data:

Investment Cost	: ₹ 40 lakh
Pre-tax required Rate of Return	: 20% p.a.
Primary Lease Period	: 5 years
Residual Value after the Primary Period	: Nil

With the given data, determine the annual lease rentals to be charged under the following rental structures:

a. Equated

b. Stepped (assume an increase of 15% p.a.)

c. Ballooned (assume an annual rental of ₹ 4 lakh for years one through four)

d. Deferred (assume a deferment period of two years).

Solution:

a. Denote Y as the annual rental to be charged. The value of Y can be obtained from the equation:

$Y \times PVIFA_{(20,5)} = 40$

$Y = \frac{40}{2,997}$ = ₹ 13.37 lakh

b. Denote Y as the annual rental to be charged in year 1. The value of Y can be obtained from the equation:

$Y \times PVIF_{(20,1)} + (1.15)Y \times PVIF_{(20,2)}$

$+ (1.15)^2Y \times PVIF_{(20,3)} + (1.15)^3Y \times PVIF_{(20,4)} + (1.15)^4Y \times PVIF_{(20,5)} = 40$, i.e.
$0.833Y + [(1.15)Y \times 0.694]$

$+ [(1.15)^2Y \times 0.579] + [(1.15)^3Y \times 0.482] + [(1.15)^4Y \times 0.402] = 40$, i.e.
$3.833Y = 40$, i.e. $Y = ₹ 10.44$ lakh.

The lease rentals to be charged over the lease term will be:

Year	Lease Rental (₹ in lakh)
1	10.44
2	12.01
3	13.81
4	15.88
5	18.26

c. Denote Y as the ballooned payment to be made in year 5. The value of Y can be obtained from the equation:

$[4 \times PVIFA_{(20,4)} + Y \times PVIF_{(20,5)}] = 40$, i.e.

$10.36 + 0.402Y = 40$, i.e.

$0.402Y = 40$, i.e.

depreciable, then a depreciation expense is also reported as with any other asset.

In case of operating lease, the lessee will report, in the financial statement, as follows:

- **Balance Sheet:** Neither a liability nor an asset is reported.
- **Income Statement:** The asset's rent, which is the same as the lease payment, is expensed.

[1]As the case reported in the SLM is financial lease, based on the latest guidelines, the asset and liability have to be reported in balance sheet and the accounting will not change whether it is with or without lease.

Illustration 5.4

Sandhya Breweries Limited (SBL), is in the midst of an expansion program because of expected surge in the demand for beer case worldwide. For the expansion program, it has proposed to acquire machinery worth ₹ 600 lakh. This should be funded through term loan carrying an effective interest rate of 14%.

[1] https://www.mca.gov.in/Ministry/notification/pdf/AS_19.pdf

The term loan shall be repayable in 6 equal annual installments starting from the end of first year. The useful life of the asset is 10 years after which the salvage value will be nil. The tax relevant rate of depreciation is 25%. Bisla, finance manager of the company, has prepared pro-forma income statement and balance sheet for the first year after the acquisition of the above asset as follows:

Profit & Loss Account for the Year 2021-22

	₹ in lakhs
Sales	10,000
PBDT	750
Depreciation	200
Profit before tax	550
Tax @ 33%	181.50
Profit after tax	368.50

Balance Sheet as on March 31, 2022

		₹ in lakhs
Sources of funds:		
Equity capital		500
Reserves and surplus		750
Secured loans		2,675
Total		3,925
Application of funds:		
Fixed assets (Gross)	2,000	
Less depreciation	650	
Net block		1,350
Investments		10.00
Current assets		
Inventory	1,800	
Sundry debtor	5,000	
Cash & bank balance	475	
Other current assets	250	7,525
Less current liabilities and provisions		
Current liabilities	4,500	
Provisions for taxes	260	
Other provisions	200	
Net current assets		2,565
Total		**3,925**

Maharaja Finance Limited approaches SBL with a proposal to structure the leasing of the above machinery. The other particulars are as follows:

SBL is interested in 5-year lease proposal.

The marginal cost of capital for SBL is 15%.

The marginal tax rate for SBL is 33%.

SBL follows effective rate of interest method for lease transactions and equated lease installments have to be paid quarterly in advance.

Effective interest rate for other borrowings is 8%.

Provision for taxes in the balance sheet includes current year taxes also.

You are required to:

a. Determine the minimum lease rentals to be paid by SBL, so that it can classify the lease as a finance lease.
b. Recast the financial statements of SBL assuming that the equipment is leased and the lease is classified as an operating lease. Assume the lease rentals to be 10% less than that arrived in **(a**) above.
c. Show the impact of above operating lease on the leverage and fixed asset turnover ratio.

Solution:

a. Investment cost = ₹ 600 lakh

   Useful life = 10 years

   Cost of debt = 14%

   For finance lease, the lease term should be more than 75% of the useful life of the asset or the present value of minimum lease rental should be more than 90% of the market value of the asset. The first condition is not satisfied here. So, we try to find out the lease rentals in a way that lease can be classified as finance lease. Hence,

   4L i/d[4] PVIFA (I, 5) > 90% of 600 lakh at I = 14%

   4L 3.43 > 540 solving the above equation, we get

   L > 36.21 lakh per quarter.

b. Interest on term loan = 0.14 x 600 = 84 lakh

   Depreciation on leased asset = 150 lakh

   Total interest = 0.08 (2675 - 600) + (0.14 x600) = 166 + 84 = 250 lakh

   Interest (250 – 84) = 166

   Lease charges = 130.36

   PBT = 653.64

   Tax = 215.7

   PAT = 437.94

Revised Balance Sheet

(₹ in lakhs)

Sources of funds:	
Equity capital	500.00
Reserves and surplus (750–368.5+437.94)	819.44
Secured loans (2675–600)	2075 .00
Total	3394.44
Application of funds:	
Fixed assets (Gross) (2000–600)	1400
Less depreciation (650–150)	500
Net block	900
Investments	10.00
Current Aassets	
Inventory	1800
Sundry debtor	5000
Cash & bank balance (475+84–130.36)	428.64
Other current assets	250
Total current assets	7478.64
Less current liabilities and provisions	
Current liabilities	4500
Provisions for taxes (260–181.50+215.70)	294.20
Other provisions	200
Total current liabilities	**4994.20**
Net current assets	2484.44
Total	**3394.44**

c. Leverage ratio prior to lease = 2675/1250 = 2.14

After the lease = 2075/1319.44 = 1.57

Fixed assets turnover ratio (prior to lease) = Sales/fixed asset = 10,000/1350 = 7.40

Fixed assets turnover ratio (after the lease) = 10,000/900 = 11.11.

5.8.2 User-Oriented Variants

There are several variants of a lease transaction which are designed to meet the specific requirements of the lessee. Examples of such innovative variants are the upgrade lease, which helps in hedging the risk of obsolescence or the cross-border lease which reduces the cost of the lease from the lessee's point of view. There

are also leases which provide all services related to the usage and maintenance of the asset. For example, in a full-service car lease, the lessee pays a pre-determined charge for the use of a car or a fleet of cars. He gets the entire spectrum of services ranging from the provision of chauffeurs to breakdown of maintenance.

5.8.3 Tax-Based Benefits

Leasing makes a lot of financial sense to a firm which has no capacity to absorb the investment-related tax shelters like depreciation. A lessor who can absorb these tax shelters can acquire the assets and lease them to a firm at a lower lease rental. The cross-border lease is a classic example of how leasing helps in exploiting multiple tax shelters to the advantage of both the lessor and the lessee. We will be discussing the tax-based advantages of leasing at greater length in the subsequent units.

Example: Benefits by leasing aircraft through IFSC

In 2022, Akasa Air, an Indian airline entered in to SLB (Sale and Leaseback) agreement with Griffin Global Asset Management Ireland for the supply of five Boeing MAX aircrafts. The agreement was in line with the leasing framework stipulated by IFSC (International Financial Services City) which said that, if lease agreement was done through IFSC, Indian airlines need not have to withhold tax on payment of rentals. Thus tax saving helped Akasa Airlines in reducing the cost of obtaining planes as the costs of airlines was much lower than taking aircraft on lease from overseas.

Source: https://www.moneycontrol.com/news/business/companies/airlines-set-to-benefit-by-leasing-aircraft-from-companies-based-in-ifsc-8768641.html , July 01, 2022, accessed on 7/7/22.

5.8.4 Less Paper Work and Expeditious Disbursement

Compared to the term loan arrangement, a lease arrangement requires (a) less of paper work to be done by the lessee, and (b) involves a shorter lead time between the date of submitting the proposal and the date of disbursement of funds.

5.8.5 Convenience

Convenience determines the decision to lease when a firm intends to using an asset for a very short period of time. For example, a firm which requires the use of a fleet of cars for a week will find it easier to rent a fleet for a week than to buy it on Monday morning and sell it on Saturday evening. Apart from convenience, it is also a financially sensible proposition because the transaction costs associated with buying and selling like search costs, legal charges, selling commissions, etc., will outweigh the rentals to be paid for the short-term lease.

5.8.6 Hundred (100) per cent Financing

The proponents of leasing often emphasize this feature of leasing as an advantage not available with the other forms of equipment financing. For example, the

Equipment Finance Scheme of IFCI requires a borrower's contribution of 25% of the equipment cost. Most of the other financing plans including hire purchase call for down payments varying between 15 and 25 per cent. While it is true that equipment leasing does not call for as high a margin as other financing schemes, the fact remains that where lease rentals are payable, say monthly in advance, the first installment amounts to a down payment. For example, a lease contract which requires lease rentals to be paid at the rate of ₹ 25 ptpm (per thousand rupees per month) in advance can be viewed as a contract which requires a down payment of 2.5% of the asset cost.

5.8.7 Better Utilization of Own Funds

The proponents argue that leasing is a sensible route for acquiring non-income generating assets like air conditioners, office equipment and vehicles. The firm can deploy its own funds in more productive channels.

We discussed several strong reasons in favor of leasing over buying. Does it mean that given a choice between leasing and buying, an asset must be always leased? The answer is 'no'. Some of the shortcomings of this form of asset-based financing are as follows:

i. Given the fact that most of the equipment lease transactions are structured as finance leases, the flexibility of the lessee to disinvest is seriously undermined. The non-cancellable feature is a serious disadvantage particularly where the equipment leased have uncertain technological and/or product-market lives.

ii. Propelled by the dubious advantage of "Off-balance Sheet Financing", no firm can afford to increase its exposure to leasing beyond reasonable limits. The International Accounting Standards Board (IASB), has finally, released IFRS 16, a new standard on lease accounting and it is mandatory for periods commencing on or after 1 January 2019. According to IFRS 16, all lessees to account for all leases on their balance sheets, including those which had previously been treated as operating leases and accounted for in the P&L account as an "in-year" expense. This will include leases of retail and commercial property, equipment and vehicles.

iii. In a perfectly competitive financial market, the cost of leasing tends to be equal to the costs of other forms of borrowing. Therefore, in this market, a borrower (lessee) can afford to be indifferent between the options of leasing and borrowing. While in the case of an imperfect financial market, the costs of leasing and borrowing can be significantly different. Because this is where the tax shields associated with leasing and owning are different, where some long-term interest rates are regulated, etc. More often than not, leasing turns out to be costlier than most forms of borrowing. So, the lessee has to necessarily evaluate the costs of leasing and borrowing before choosing between lease and buy.

iv. [2]In May 2020 the Board issued *Covid-19-Related Rent Concessions*, which amended IFRS 16. The amendment permits lessees, as a practical expedient, not to assess whether rent concessions that occur as a direct consequence of the covid-19 pandemic and meet specified conditions are lease modifications. Instead, the lessee accounts for those rent concessions as if they were not lease modifications.

5.9 Non-Banking Finance Companies Funding

A Non-Banking Financial Company (NBFC), a company registered under the Companies Act 2013, is engaged in:

- The acquisition of marketable securities.
- The business of loans and advances.
- Undertaking activities such as leasing, hire-purchase, insurance business.
- Receiving deposits under any scheme or arrangement in lump sum or in installments.

However, they cannot undertake activities such as:

- Agriculture, industrial, purchase or sale of any goods (other than securities)
- Providing any services and purchase/sale/construction of immovable property.

They are different from banks in the sense that they cannot accept demand deposits, do not form part of the payment and settlement system and cannot issue cheques drawn on itself. Their depositors do not get the insurance cover of the Deposit Insurance and Credit Guarantee Corporation (DICGC).

All NBFCs have to be registered with the RBI under Section 45-IA of the RBI Act, 1934 except merchant banking companies, housing finance companies, stock exchanges, companies engaged in the business of stock-broking/sub-broking, Nidhi companies, venture capital fund companies, insurance companies and chit fund companies subject to certain conditions.

Types of NBFCs:

NBFCs are broadly classified into:

- Deposit accepting NBFCs (liability-based classification)
- Systemically important companies
- Non-deposit holding companies (NBFC-NDSI and NBFC-ND)
- Asset financing companies (Asset-based classification).

[2] https://www.ifrs.org/issued-standards/list-of-standards/ifrs-16-leases/#:~:text=IFRS%2016%20introduces%20a%20single, asset%20is%20of%20low%20value.

Under the above categorization, NBFC can be further classified as follows:

Asset financing company, Investment Company, Loan Company, Infrastructure Finance Company. It is systemically an important core investment company, infrastructure debt fund, micro finance institution, mortgage guarantee companies, and non-Operative financial holding company.

Net owned funds

Minimum net owned funds of NBFCs - ₹ 200 lakh

Raising funds by NBFCs

NBFCs can raise funds through equity/preference instruments, bond, commercial papers, debentures, deposits, bank finance to NBFCs either through private placement of public issue.

RBI guidelines on funding NBFCs by banks

[3]RBI identified certain activities of NBFCs not eligible for bank credit. The ceiling on bank credit linked to Net Owned Fund (NOF) of NBFCs has been withdrawn in respect of all NBFCs which are statutorily registered with RBI and are engaged in principal business of asset financing, loan, factoring and investment activities. Accordingly, banks may extend need based working capital facilities as well as term loans to all NBFCs registered with RBI and engaged in infrastructure financing, equipment leasing, hire-purchase, loan, factoring and investment activities. Banks should not invest in Zero Coupon Bonds (ZCBs) issued by NBFCs unless the issuer NBFC builds up sinking fund for all accrued interest and keeps it invested in liquid investments / securities (Government bonds). Banks' exposures to a single NBFC (excluding gold loan companies) will be restricted to 20 percent of their eligible capital base (Tier I capital). However, based on the risk perception, more stringent exposure limits in respect of certain categories of NBFCs may be considered by banks. Banks' exposures to a group of connected NBFCs or group of connected counterparties having NBFCs in the group will be restricted to 25 percent of their Tier I capital.

Further, Reserve Bank of India has relaxed the risk-weightage norms for the banks for the rated loan exposure in Non-Banking Financial Companies. The move will make the loans cheaper for select NBFCs from the banks. These guidelines will have positive implications such as:

- More capital for lending by banks to NBFC.
- Lower borrowing cost for quality NBFCs.
- Incentive for NBFCs to perform better.
- Segregate good NBFCs from bad ones.

While relaxing risk weighted capital norms, RBI has planned to implement Liquidity Coverage Ratio (LCR) in a phased manner over four years starting

[3] RBI master Circular Jan5th, 2022 reference: RBI/2021-22/149; DOR.CRE.REC.No.77/21.04.172/2021-22

April 2020, from 60% to 100%. This will ensure that NBFC's will have to manage asset-liability situation prudently to prevent ILFS crisis situation in future.

NBFC partnering with banks

Under the RBI's loan co-origination scheme of 2018, many NBFCs are partnering with banks.

RBI has issued fresh guidelines on co-lending by banks and NBFCs to priority sector vide circular FIDD. CO. Plan. BC.No.8/04.09.01/2020-21 dated 05/11/2020, superseding its earlier co-origination circulars.

As per these guidelines, the primary focus of the revised scheme is to improve the flow of credit to the unserved and under-served sectors of the economy and make available funds to the ultimate beneficiary at an affordable cost, considering the lower cost of funds from banks and greater reach of NBFCs. The new scheme is christened as "Co-Lending Model" (CLM) under which, banks are permitted to co-lend with all registered NBFCs (including HFCs) based on a prior agreement. This policy for entering a co-lending arrangement with the NBFCs has been formulated in line with the RBI guidelines.

This proposed policy is meant to co-lend loans for the exclusive creation of priority sector assets. The co-lending of loans will enable the bank to meet the PSL requirements in a convenient and more organized manner by sharing risks and rewards between the NBFCs and the bank. Priority sector lending will be as defined by the extant RBI guidelines in force.

As the co-lending bank, the bank will take their share of the individual loans on a back-to-back basis in their books. However, NBFCs shall be required to retain a minimum of 20 per cent share of the individual loans on their books. Further, bank shall not be allowed to enter into a co-lending arrangement with an NBFC belonging to the promoter group.

For co-lending arrangement between lending, NBFCs shall satisfy the following criteria.

NBFC AUM ₹ 10 cr and above; HFC ₹ 1000 cr and above net worth: NBFC ₹ 10 cr; HFC ₹ 100 cr. There are other conditions also.

FDI in NBFCs

Foreign investors post economic liberalization has shown interest in Indian NBFC sector. In order to boost up the economic activity in financial sector, certain changes were incorporated in the budget of 2017-2018. The budget introduced new FDI norms for NBFCs. There were a few key relaxations:

- The venture capitalists and the foreign banks can now invest in NBFCs.
- 100% FDI through the automatic route is now permitted in "Other Financial Services" subject to regulatory guidelines.

- Simplified regulatory compliance and risk management for NBFC.
- Any form of additional capitalization norms linked to foreign ownership under FDI policy has been removed.

However, unregulated NBFCs will require prior government approval.

Outlook of NBFCs

The gradual improvement in liquidity situation will stabilize NBFCs in near term while those with lower creditworthiness may continue to remain tight.

The asset quality though mixed can be manageable as the level of Non-Performing Assets (NPAs) will be in manageable range.

The loan growth is expected to be moderate in spite of strong demand and the overall growth will be at a slower pace in the near term.

Activity 5.2

You have inherited a 5,000 sq. feet industrial shed in a popular industrial estate. You are planning to start a garment factory in the shed. However, you do not have sufficient capital to invest in the machines. Your friend suggests you to opt for sale and leaseback method to overcome the capital issue. List out the steps you will take to achieve your goal in setting up the garment unit through sale and leaseback transaction method.

Answer:

Check Your Progress - 2

6. Which of the following is a type of direct lease?
   a. Bi-partite lease and tri-partite lease.
   b. Sale and leaseback
   c. Single investor lease
   d. Leveraged lease
   e. Dry lease
7. Which of the following is a lease transaction where the lessor funds the entire investment by raising an appropriate mix of debt and equity?
   a. Leveraged lease
   b. Single investor lease

c. Bi-partite lease

d. Tri-partite lease

e. Sale and leaseback

8. Which of the following is not the determinant of lease structure?

a. Transformation cost management

b. Optimizing lease structure

c. Choice of jurisdiction

d. Choice of arranger

e. Lessor-banker relationship

9. One of the following is not a basic accepted axiom pertaining to transaction costs. Which one is it?

a. If the transaction is not closed due to the lessor's failure, the lessor shall bear all the transaction costs incurred.

b. If the transaction is not closed due to the lessee's failure, the lessee shall bear all the Transaction costs incurred.

c. If the transaction is not closed due to the election of the lessee because tax changes reduce the benefits below a certain level, then the lessee bears the transaction costs.

d. If the transaction is not closed for illegality, each party will bear the transaction cost.

e. If the transaction is not closed for increased cost, no party will bear the transaction cost.

10. Which of the following is the objective of acquiring assets like air conditioners, office equipment and vehicles through leasing.

a. Reducing tax components

b. Using funds for productive purposes

c. Acquiring these assets without any margin

d. Reducing the debt burden

e. Improving the debt equity ratio

5.10 Summary

- Lease is a contractual arrangement where the owner (lessor) of equipment transfers the right to use the equipment to the user (lessee) for an agreed period of time in return for lease rentals.
- Lease transactions can be broadly classified into Finance Lease and Operating Lease, Sale and Leaseback, Direct Lease, Single Investor Lease and Leveraged Lease and Domestic Lease and International Lease.

- In case of finance lease, a substantial part of the risks and rewards associated with ownership is transferred from the lessor to the lessee. An Operating Lease is defined as "any lease other than a finance lease".
- In a sale and leaseback transaction, the owner of equipment sells it to a leasing company which in turn leases it back to the erstwhile owner. This lease can be either finance or operating lease.
- A direct lease can be defined as any lease transaction which is not a "sale and leaseback" transaction and can be classified into two types: bipartite lease and tripartite lease. In a bipartite lease, there are two parties to the transaction, and in a tripartite lease, the transaction involves three different parties.
- In a single investor lease contract, there are two parties, the lessor and the lessee, and in a leveraged lease transaction, there are three parties to the transaction the lessor, the lender and the lessee.
- A lease transaction is classified as a domestic lease if all parties to the transaction are domiciled in the same country. On the other hand, if these parties are domiciled in different countries, the transaction is classified as an international lease transaction.
- International lease transactions can be further sub-classified into two groups, import lease transactions and cross-border lease transactions. In an import lease transaction, the lessor and the lessee are domiciled in the same country, but the equipment supplier is located in a different country. The lessor imports the equipment and leases it to the lessee. On the other hand, in a cross-border lease transaction, the lessor and the lessee are domiciled in different countries. The domicile of the supplier is immaterial.
- Leasing transaction has various advantages. They include flexibility in financing and structuring arrangement, designed to meet the specific requirements of the lessee, tax-based benefits, less paper work, faster disbursement, convenience, 100 % finance, better utilization of own funds by the lessee.
- Big ticket leasing is typically done by large companies for acquisition of expensive assets such as aircraft, hotels etc. It is picking up in a big way in India.
- RBI has issued fresh guidelines on co-lending by banks and NBFCs to priority sector in 2020.
- The ceiling on bank credit linked to Net Owned Fund (NOF) of NBFCs has been withdrawn in respect of all NBFCs and the new guidelines were issued in Jan 2022. This facilitates liberal funding to NBFCs.

5.11 Glossary

Big ticket Leasing - is a leasing contract undertaken by large companies for acquisition of expensive assets such as aircraft, hotels, land etc.

Bipartite and Tripartite Lease: In a bipartite lease agreement, there are two parties to the transaction (the lessor and the lessee). In a tripartite lease, there are three parties to the transaction (the lessor, the lessee and the equipment supplier)

Direct Lease – is a contract of lease transaction which is not a "sale and leaseback" transaction wherein the lessee and the owner are two different entities. A direct lease can be of two types: bipartite lease and tripartite lease.

Domestic Lease and International Lease - Domestic lease takes place when all the parties to the contract reside in the same country whereas in international lease, one of the parties to the contract is from another country. International lease is further classified into cross-border lease and import lease.

Dry lease and Wet lease - An operating lease where the lessee bears the costs of insuring and maintaining the leased equipment is called a 'dry lease'. It is wet lease if the lessor undertakes the responsibility of insuring and maintaining the equipment.

Equipment Lease - Equipment lease is a contractual agreement between the lessor and the lessee wherein the lessor allows the lessee to use the equipment for a specified time period in return for periodic lease payments.

Financial Lease: Financial lease is a lease contract in which both the risks and rewards inherent in the leased asset are transferred to the lessee, subject to the conditions mentioned in the lease agreement.

Lease- Lease is a contract in which one party transfers assets to another for a specified time, generally in return for a periodic payment.

Leveraged Lease - It is a three-party lease contract (lessor- lessee and financial institution), wherein an asset is bought by the lessor by borrowing the cost of the asset from a financial institution, and the asset is then leased to the lessee.

Off-Balance Sheet Exposure: It is finance that does not appear in the balance sheet of the company as it is not debt in a strict sense but a contingent one.

Operating Lease: It is a lease contract in which the lessee is allowed to use the asset and return the same after completion of the lease period.

Sale and Leaseback: It is a lease contract in which the owner of an asset sells it to a lender, and then immediately leases it back for a guaranteed minimum time period.

Single Investor Lease – It is a contract between lessor and lessee wherein the lessor arranges finance from a financial institution for the leased asset, and is responsible to repay the amount to the lender**.**

5.12 Self-Assessment Test

1. Analyze the concept of equipment leasing and the various classifications of equipment leasing.
2. List out the differences between financial and operating leasing.

3. What is sale and leaseback? How is this transaction different from other lease transactions?
4. Analyze the various determinants of lease structure.
5. Discuss the various advantages of equipment leasing.

5.13 Suggested Readings/Reference Materials

1. Anthony Saunders, Marcia Millon Cornett, Anshul Jain (2021), Financial Markets and Institutions, 7th edition, Tata McGraw-Hill Education.
2. Prasanna Chandra (2020), Fundamentals of Financial M, 7th edition, Tata McGraw-Hill Education.
3. Devie Mohan (2020), The Financial Services Guide to Fintech, 1st edition, Kogan Page Limited.
4. Siddhartha Sankar Saha (2021). Indian Financial System. 2nd edition, Tata McGraw-Hill Education.
5. DR. R. Shanmugham (2020). Financial Services. 2nd edition. Wiley India.

5.14 Answers to Check Your Progress Questions

1. (e) The cost of the equipment

An equipment lease transaction can vary in one of the following dimensions: extent to which the risks and reward of ownership are transferred, number of parties to the transaction, domiciles of the equipment manufacturer, the lessor and the lessee. Cost of the equipment is fixed and cannot be varied.

2. (c) Perpetual lease

There is no classification called perpetual lease. Lease has a fixed tenure.

3. (b) Long payback period

This is not a reason for low growth of equipment leasing in India.

4. (a) Finance lease

A lease is defined as finance lease if it transfers a substantial part of the risks and rewards associated with ownership from the lessor to the lessee.

5. (d) Dry lease

An operating lease where the lessee bears the costs of insuring and maintaining the leased equipment is called a ‘dry lease’.

6. (a) Bi-partite and tri-partite lease

A direct lease can be of two types: bi-partite lease and tri-partite lease.

7. (b) Single investor lease

In a single investor lease transaction, the leasing company (lessor) funds the entire investment by raising an appropriate mix of debt and equity.

8. (e) Lessor-banker relationship

Determinants of lease structure do not depend on the relationship between lessor/banker/lessee.

9. (e) If the transaction is not closed for increased cost, no party will bear the transaction cost.

If the transaction is not closed for any other reason like illegality or increased cost, each party will bear the transaction cost related to itself.

10. (b) Using funds for productive purposes

Leasing is a sensible route for acquiring non-income generating assets like air conditioners, office equipment and vehicles and the firm can deploy its own funds for more productive purposes.

Unit 6

Leasing in Indian Context

Structure

"Like any activity, leasing is risky in nature and it makes no sense to talk about complete elimination of risk - the risk must be managed."

- Oleg Ryabov; Practical Aspects of Risk Management in a leasing company, Monograph

6.1 Introduction

The quote gives a broader perspective on leasing.

In the previous unit we discussed the concept of lease and broad classification of leases - finance lease and operating lease, sale and leaseback, direct lease, single investor lease and leveraged lease and domestic lease and international lease. We have also briefed about domestic lease and international lease transactions and advantages of leasing transactions. We touched upon RBI guidelines on co-lending by banks and NBFCs and funding aspects of bank credit to NBFCs.

In this unit we discuss leasing in Indian context.

Leasing is a simple method of acquiring assets such as office premises, machineries, industrial and commercial equipment, and transport vehicles without buying it. This industry started in the Western countries in the middle of the 20th century. In India, the first leasing company — First Leasing Company of India Ltd. — was set up in 1973 in Chennai (then Madras). The next company, 20th Century Finance Corporation Ltd., was set up in 1979-80 after a period of 7 years. Thereafter, many leasing companies were set up such as Sundaram Finance, Motor and General Finance, etc. In 1982, banks and financial institutions entered the leasing arena with the ICICI setting up its shop in 1982-83 followed by International Finance Corporation, IDBI, SBI Capital, Kotak Mahindra Bank, etc. Late in the 90s, the performance of the leasing sector was affected adversely due to regulatory requirement coupled with poor quality of credit which impacted NBFCs in subsequent years. The sector revived slowly after 2005, supported by strong economic growth, good capital investments, etc. The sector has now reached a matured stage coupled with the emergence of a strong market for operating leases. In this unit, we shall discuss the leasing industry in the Indian context.

6.2 Objectives

After going through this unit, you should be able to:

- Discuss the evolution and growth of Leasing Industry in India
- Appreciate the various products in leasing and their profile
- Discuss the various legal, tax and accounting aspects
- Describe the various means of obtaining funds for leasing

6.3 History of Leasing in India

Leasing was started in 1973 in India, by the First Leasing Company of India Ltd., set up on September 10, 1973, by Farouk Irani and A. C. Muthia. Later on, in 1980, the 20th Century Finance Corporation Ltd., was set up.

In 1981, Shetty Investment and Finance, Jaybharat Credit and Investment, Motor and General Finance and Sundaram Finance were started. By 1983, financial institutions like ICICI entered this market. At the same time, the Washington DC-based International Finance Corporation opened four leasing joint-ventures in the country.

By 1986, there were 339 leasing companies in India. Banks also started offering leasing services through subsidiaries by 1994.

The post-liberalization era has been witnessing a slow but steady increase in foreign investment into the Indian leasing industry. Starting with GE Capital's entry, an increasing number of foreign-owned financial firms and banks are currently engaged or interested in leasing in India. It is estimated that there are nearly 1,400 leasing companies (including private limited companies) in India and the Industry is growing steadily. Some of the top private leasing finance

companies in terms of profits are Bajaj Finance, Shriram Transport, M&M Financials, Cholamandalam, Shriram City, Sundaram Finance, Manapuram Finance, Magma Fincorp, etc.

6.4 Product Profile of Equipment Leasing Industry in India

In the previous unit, we discussed the different types of leases that can be structured and their salient features. We will now look at the salient features of the leases structured in the Indian context as follows:

a. By and large, the leases structured in the Indian context fall under the category of 'Finance Lease'. The exposure to operating leases is extremely limited considering the fact that a resale market for most of the used capital-equipment is virtually non-existent.

b. The lease agreements do not provide for a transfer of ownership to the lessee either at the end of the lease period or during the period of the lease considering the fact that such a transaction will be classified as a hire purchase transaction from the tax angle.

c. The lease rentals are so structured as to recover the entire investment cost during the primary period. The lease rentals charged during the secondary period are quite nominal. The lease rates are influenced by a number of factors including the tax relevant rate of depreciation, availability of capital allowances and the marginal tax rate. The lease rental paid during the secondary period is called the pepper-corn consideration. In addition to the lease rentals, leasing companies charge a lease management fee equal to one percent of the asset cost, payable upfront.

d. Typically, the lease rentals are payable in monthly installments at the beginning of every month. Of course, there are exceptions to this pattern. The different rental structures which were discussed in the previous chapter are employed depending upon the lessee's requirement and projected cash flow pattern.

e. A typical equipment lease transaction falls under the category of 'Direct Lease'. Given the inherent drawbacks of a Sale and Leaseback transaction from the lessor's angle, such transactions are few and far between.

f. Equipment leases are written for a wide range of equipment from industrial plant and machinery, to computers and other office equipment, to vehicles.

g. By and large, equipment leases are written for capital investments below ₹ 100 lakhs. This is not very surprising considering the fact that most lessees tend to view leasing as a kind of "stand by" finance for meeting unplanned capital expenditures or for acquiring non-productive assets like air conditioners and other office equipment which do not qualify for financial assistance from financial institutions.

Project leasing is being attempted only on a limited scale. The Infrastructure Leasing and Financial Services Limited (ILFS) has written leases of power plants, effluent treatment plants and power transmission lines and public infrastructural projects.

h. The EXIM Policy permits the leasing companies satisfying certain criteria (as discussed below) to undertake leasing of imported equipment. But, the then existing regulatory and tax framework imposed certain constraints on undertaking cross-border lease transactions.

The Make in India concept helped the manufacturing sector to pick up office space on lease. The Make in India concept has made its impact by increasing leasing business in manufacturing activity across 7 major cities.

Office space absorption across India's six major cities stood[4] at 54.8 million square feet, recording a 48.5% increase in 2022, according to a report by international property consultant Savills India. This was very close to the historic peak of 55.7 million square feet recorded in 2019.

Example: Indian Start-ups to Drive the Office Space Leasing

The booming start-ups were set to drive the office space leasing in India. As per a new report by Colliers India and CRE Matrix, during 2022-24, there would be 30% increase in demand for office space leasing by the start-ups driven mainly by fin-tech and logistics start-ups. In absolute terms, it would be 29 million square feet up from 22.4 million square feet in 2019-21. This was considered historical in the Indian leasing industry.

Sources: https://realty.economictimes.indiatimes.com/news/commercial/startups-to-lease-29-million-sq-ft-office-space-in-2022-24-in-six-cities-report/89902090
Accessed on July 7th, 2022.

6.5 Legal Aspects

The salient features of the regulatory framework circumscribing leasing and hire purchase are as follows:

a. In India, we have the Hire Purchase Act, 1972 which focuses exclusively on hire purchase transactions in terms of defining the legal characteristics of hire purchase, enunciating the rights and obligations of the parties to a hire purchase transaction, specifying the ceiling on the interest cost of such transactions and so on. But there is no similar legislation that exclusively governs equipment lease transactions. Therefore, for adjudicating disputes arising from leasing transactions, one has to draw on the provisions of the Indian Contract Act, 1872 concerning contracts of bailment and a few court rulings that are available on the subject.

[4] https://economictimes.indiatimes.com/industry/services/property-/-cstruction/office-space-absorption-stood-at-54-8-mn-sqft-in-2022-increases-by-48-5-yoy-report/articleshow/ 96566670.cms?from=mdr ET Dec28th 2022

b. As discussed in the earlier section, the EXIM Policy regulates the entry of leasing companies into the business of leasing imported equipment. As per this policy, the eligibility criteria for undertaking import leasing are:

   i. The Memorandum of Association of the company must include leasing as an objective;

   ii. The leasing company must have a minimum net worth (paid-up share capital plus reserves and surplus) of ₹ 1 crore;

   iii. The leasing company must be listed on a recognized stock exchange.[5]

c. Bank participation in equipment leasing is regulated by the following guidelines of the Reserve Bank of India:

   i. A commercial bank can directly undertake the business of equipment leasing and hire purchase.

   ii. The bank can also set up a subsidiary to transact the business of equipment leasing and hire purchase and such other activities incidental thereto. The bank must hold not less than 51 percent of the paid-up share capital of this subsidiary.

   iii. Investment of a bank in the share capital of its subsidiary company (engaged in equipment leasing) together with the investment of the bank in the share capital of other companies carrying on the business of equipment leasing cannot in the aggregate exceed 10 percent of its paid-up share capital and reserves.[6]

Example: Aircraft lease Designated as Financial Product

The Government of India designated the aircraft lease into financial product based on the recommendations of the Rupee Raftar Committee. To further boost the aircraft leasing business, the Government announced some more tax incentives in 2021 budget. Subsequently many major players like Irish lessor Acumen Aviation, VMan Aero, JetSetGo, Investec, HAL-Alliance, Spice Jet and SBI had expressed interest in setting up leasing and financing services in GIFT City of Gujarat.

Sources: https://smefutures.com/aircraft-leasing-in-india-to-give-raftar-to-the-indian-aviation-industry/#:~:text=%20In%%2020October%202020%2C%20the%20government,zone%20dedicated%20to%20financial%20services. Date: 02-10-2021

Accessed on July 25th, 2022.

[5] This requirement does not apply to a leasing company in the Public Sector.

[6] This is also subject to the restriction imposed by Section 19(2) of the Banking (Regulation) Act, 1949 which states that a bank cannot hold shares in any company of an amount exceeding thirty percent of the paid-up share capital of that company or thirty percent of its own paid-up share capital and reserves, whichever is less.

Check Your Progress - 1

1. Which of the following is not a feature of lease structure?
   a. The lease rentals are so structured as to recover the entire investment cost during the primary period
   b. Leases structured in the Indian context mostly fall under the category of Operating Lease
   c. Lease rentals are normally payable in monthly instalments at the beginning of every month
   d. Equipment lease transaction typically falls under the category - 'Direct Lease'
   e. Equipment leases are written for capital investments below ₹ 100 lakhs.
2. Which of the following factors has no influence on lease rates?
   a. Tax rates
   b. Relevant rate of depreciation
   c. Marginal tax rates
   d. Margin available with the lessee
   e. Marginal tax rate.
3. Which of the following is called Pepper Corn consideration in leasing?
   a. Lease rental paid during primary period of lease
   b. Lease rental paid for equipment lease
   c. Lease rental paid during secondary period of lease
   d. Lease rental paid in the first year of lease
   e. Lease rental paid in the last year of lease
4. Which of the following regulatory authorities monitors bank's participation in equipment leasing?
   a. RBI
   b. IRDA
   c. Ministry of Finance
   d. LIC of India
   e. Ministry of Company Affairs
5. Which of the following laws provide the base for adjudicating disputes arising from leasing transactions?
   a. Indian Contract Act, 1872
   b. Indian Companies Act 2013
   c. Banking Regulations Act 1949
   d. RBI Act 1934
   e. IRDA Act 1999

6.6 Tax Aspects

The term *lease* has not been defined anywhere in *GST* Act or Rules. A transaction to become taxable under GST must cover within the meaning and scope of "supply".

A lease transaction can be referred under Schedule II of the CGST Act, 2017 based on certain parameters especially in supply of goods, they are as follows:

1) Transfer of the title in goods is a supply of goods;
2) Transfer of right in goods without the transfer of title is a supply of services;
3) Transfer of title in goods under an agreement at a future date upon payment of full consideration is a supply of goods;
4) Any lease to occupy land is a supply of services;
5) Any lease of a building including a commercial, industrial or residential is a supply of services.

All the above situations confirm that lease transaction attracts GST. Further, GST does not differentiate between Finance & Operating Leases. Thus, if the lease agreement stipulates transfer of title, it is supply of goods and if the lease agreement does not stipulate transfer of title, it is supply of services.

GST Rates on Lease transactions:

1) Lease of industrial plots provided by the State Government Industrial Development Corporations or Undertakings to industrial units - Nil Rate
2) Leasing of Agro Machinery/ Vacant land – Nil Rate
3) GST on Lease transactions which will be covered under the category of "Supply of Services," shall be chargeable at the same rate as on supply of similar goods.

Example: GST Exemption for Residential Property Lease Income

The Maharashtra Bench of GST Authority of Advanced Rulings (AAR) in early 2022 gave a ruling exempting from GST the rental income on residential properties leased to commercial entities. The case pertained to Kasturi and Sons leasing some of its residential flats to LIC to be used for residential purpose. The GST exemption would not apply if the property was used for commercial purpose. The new ruling if enacted would increase the profit balances of various leasing companies.

Sources: https://timesofindia.indiatimes.com/city/mumbai/lease-income-from-residential-property-is-exempt-from-gst/articleshow/92049263.cms Date: 07/06/2022.

Author: Lubna Kably. Accessed on June 30th, 2022.

6.7 Accounting Aspects

AS-19 (Accounting for Leases) issued by ICAI prescribed for lessees and lessors, the appropriate account policies and disclosures in relation to finance and operating leases.

AS-19 was introduced from April 1, 2001:

i. Leases in the financial statement of lessees:

   a. In the case of a finance lease, the lessee should recognize the lease as an asset and a liability.

   b. In case of an operating lease, the lease payments should be recognized as an expense in the P&L a/c on a straight-line basis over the lease term.

ii. Leases in the financial statement of lessors:

   In the case of a finance lease, the lessor should recognize assets given in its balance sheet as a receivable at an amount equal to the net investment in the lease.

iii. In the case of an operating lease, the lessor should present an asset in its balance sheet under the head fixed assets. Lease income from such lease should be recognized in the P&L a/c on a straight-line basis over the lease term.

iv. As per the new AS-19, lessee gets the right to claim depreciation, but as far as the Income Tax Act is concerned, the lessor still gets the benefit of depreciation.

The Central Board of Direct Taxes has come out with a circular in July 2016 on the issue on the suggested treatment of straight lining of lease rentals for computation of book profit for the purposes of levy of Minimum Alternate Tax (MAT) under Section 115(8) of the Income-Tax Act, 1961 for Indian Accounting Standards (Ind AS).

The main contents in the circular are reproduced hereunder-

Leases — Straight-Lining of Lease Rentals — Suggested Treatment for MAT

As per Indian Accounting Standard (Ind AS) 17, Leases, lease payments under an operating lease shall not be recognized as an expense/income on a straight-line basis over the lease term if the payments to the lessor are structured to increase in line with expected general inflation to compensate for the lessor's expected inflationary cost increases. Under the Indian GAAP, Accounting Standard (AS) 19 - Leases, straight-lining of such lease rentals and recognition of corresponding lease equalization liability/asset including cases where straight lining is not permitted. In such cases, any existing lease equalization liability/asset shall be adjusted to retained earnings on the date of transition.

The Ministry of Corporate Affairs (MCA) notified Ind AS 116, the new leases accounting standard on 30th March 2019 with the effective date of its application from 1st April 2019. Ind AS-116 replaces the guidance in Ind AS-17, 'Leases'. The details were discussed in unit 7.

Ind AS 116 defines a lease as a contract, or part of a contract, that conveys the right to use an asset (the underlying asset) for a period of time in exchange for consideration.

Under Ind AS 116 lessees have to recognize a lease liability reflecting future lease payments and a 'right-of-use asset' for almost all lease contracts. This is a significant change compared to Ind AS 17, under which lessees were required to make a distinction between a finance lease (on balance sheet) and an operating lease (off balance sheet). Ind AS 116 gives lessees optional exemptions for certain short-term leases and leases of low-value assets.

Suggested Treatment for MAT:

The Committee in its interim report had suggested that as aforesaid adjustments shall never be re-classified to the Profit and Loss Account, the amount of adjustment should be included in the book profit in the year of first-time adoption of Ind AS. In response to this, the stakeholders have raised concerns that the impact of this adjustment could be significant in the year of first-time adoption. The Committee has deliberated and identified the following options:

A. Continuing with the current recommendation, i.e. the retained earnings adjustment should be included in the book profit in the year of first-time adoption of Ind AS.

B. The retained earnings adjustment should be included in the book profit over the lease period in the same manner as it would have been so included under AS-19.

C. The retained earnings adjustment should be included in the book profit over a period of three years starting from the year of first-time adoption of Ind AS.

Considering the dual aspects of significant one-time charge and simplicity of implementation, the Committee recommends option C.

Example: GMR's Lease Liabilities Increase in 2021

As per the GMR's latest annual report, the companies lease liabilities increased to ₹ 110.24 crores as on March 31, 2021 from ₹ 105.24 crore in the previous fiscal. Accounted under non-current liabilities, the lease liabilities referred to loss of income for the company in the ultimate profit and loss balance sheet.

Sources: https://investor.gmrinfra.com/pdf/Annual%20Report%202020-21/1.%20GIL%20Annual%20Report%202021.pdf Author: GMR Group. Accessed on July 7th, 2022.

Accounting aspects in lease as per IASB guidelines

Lease accounting depends on the end user. Hence, both the lessor and lessee report the lease accounting differently. The reporting of financial and operating lease in the financial statements of lessor and lessee is discussed hereunder in Table 6.1.

Table 6.1: Reporting of Financial and Operating Lease in Financial Statements

A. The Finance Lease as reported by the Lessee

Balance sheet	Income statement	Cash flows
Both leased asset and lease liability should be shown and its value is either present Market Value or Fair Market Value whichever is lower.	The interest expense payable and depreciation on the lease is to be shown.	The interest is to be shown as operating cash outflow and the principal repayment is to be shown as financing cash outflow.

B. The Operating Lease as reported by the Lessee

Balance sheet	Income statement	Cash flows
Neither an asset nor a liability is to be reported.	The rent is to be shown as expense.	The rental expense is to be shown as operating cash outflow.

C. The Finance Lease as reported by the Lessor

Balance sheet	Income statement	Cash flows
The assets are to be reduced by the book value of the leased asset.	The interest revenue is to be shown.	The interest component is to be shown as an operating cash inflow and the principal component as an investing cash inflow.

D. The Operating Lease as reported by the Lessor

Balance sheet	Income statement	Cash flows
The leased asset and liability is to be reported as always.	The interest revenue and depreciation related to the leased asset is to be shown.	The lease payment is to be shown as operating cash inflow.

Source: ICFAI Research Center

6.8 Funding Aspects

The principal sources of finance (apart from equity capital, debentures and term loans from financial institutions) available to a finance company are:

- Public deposits
- Borrowings

- Inter-corporate deposits
- Commercial paper

This section dwells on these sources of finance and discusses the regulatory framework governing the funding pattern of finance companies. Our discussion is restricted to Non-Banking Financial Companies (NBFCs) primarily engaged in the business of equipment leasing and hire purchase.

6.8.1 Public Deposits

Public deposits constitute a major source of finance for a leasing company. The acceptance and repayment of public deposits are governed by the provisions of the Non-Banking Financial Companies Prudential Norms, (Reserve Bank) Directions, 1998. The minimum and the maximum maturity periods of the deposits and the rate of interest payable thereon are also fixed by these directions. Since the maximum rate of interest that has been stipulated is not the effective rate of interest, the fixed deposit schemes offered by leasing companies provide for compounding interest at intervals of less than one year. To meet the varying needs of the investors in terms of return and liquidity, two types of fixed deposit schemes are offered: the Cumulative Deposit Scheme and the Regular Income Deposit Scheme. While the former provides for compounding of interest, the latter leaves the reinvestment decision to the depositor. These schemes are illustrated in the Table 6.2.

Table 6.2: Cumulative Deposit Scheme

Period (in months)	Minimum Amount (₹)	Rate of Interest (%)*	Maturity Value (₹)	Annual Yield (%)
13	3,000	11	3378	11.63
36	3,000	11	4167	12.97
48	3,000	11	4649	13.74
60	3,000	11	5187	14.58

** Interest is compounded monthly. Interest rate is subject to change from time to time.*

Source: ICFAI Research Center

Example: ORIX Leasing India Raises ₹ 200 Million Funds in 2021

Orix Leasing and Financial Services India Ltd. (OLFS) raised ₹ 2000 Million funds in FY-2021 from various financial sources in the form of non-convertible debentures. OLFS India was a subsidiary of Orix Corporation, Japan and specialised in equipment leasing with focus on automobile sector.

Sources: https://www.orixindia.com/pdf/OLFS-policy/financial-info/annual-report/AnnualReport2021.pdf

Author: OLFS India Website. Accessed on July 8th, 2022.

The reader must note that the annual yields stated in the above table are the simple interest yields and not the compounded interest yields. The simple interest yield is calculated as follows.

$$\text{S.I. Yield} = \frac{(F-P)/N}{P} \times 12 \times 100$$

Where,

F = maturity value of the deposit,

P = initial amount of deposit,

N = number of months (term to maturity).

Of course, the interest amount is not received in equal annual installments as the formula suggests. Therefore, the simple interest yield is not the true yield. The true yield is the compound interest yield and the reader can verify from Illustration 6.1 below that this yield will be always less than the simple interest yield.

Illustration 6.1

For the data provided in Table 6.1, calculate the compounded interest yields.

Solution:

We know that the relationship between the effective annual rate of interest (r) and the nominal rate of interest (i) per annum compounded m times a year is given by the formula:

$$1 + r = (1 + i/m)^m$$

Given

i = 11%,

m = 12,

the reader can verify that

r = 11.57%

The true and simple interest yields are tabulated below:

True and Simple Interest Yields

Maturity Period (in months)	True Yield (%)	Simple Interest Yield (%)
13	11.57	11.63
36	11.57	12.97
48	11.57	12.74
60	11.57	14.58

The table reveals the financial truth that the true yield is not influenced by the term to maturity of the deposit.

An alternative to the Cumulative Deposit Scheme is the Cash Certificate Scheme, where the Cash Certificate is issued at a discount and redeemed at par. The following illustration explains the pricing mechanism involved.

Illustration 6.2:

Based on the data provided in the Table 6.1, develop a Cash Certificate Scheme.

Solution:

Let us consider the 13-month Cumulative Deposit Scheme, where interest is compounded monthly and the true yield is 11.57% p.a. Under the corresponding cash certificate scheme, a cash certificate of face value ₹ 3,000 will be issued at a discount and redeemed at par after 13 months (1.083 years) so as to yield 11.57% p.a.

The issue price will, therefore, be

$$= \frac{3{,}000}{\text{FVIF}(11.57,1.083)} = \frac{3{,}000}{1.1329} = ₹\ 2{,}648$$

Repeating these calculations for deposits of the other maturities, we can develop the following Cash Certificate Scheme:

Cash Certificate Scheme

Period (in months)	Issue Price (₹)	Maturity Value (₹)	True Yield (%)	Simple Interest Yield (%)
13	2,648	3,000	11.57	11.63
36	2,124	3,000	11.57	12.97
48	1,893	3,000	11.57	13.74
60	1,687	3,000	11.57	14.58

As mentioned earlier, public deposits constitute a major source of finance for funding leases. Consequently, there is keen competition among leasing companies to tap this source. Given the ceiling on interest rates and the legal minima and maxima relating to maturity period, there is a special emphasis on product differentiation to capture a larger market share. Fixed deposit schemes typically offer a loan facility under which the depositor can withdraw 75% of the deposit as loan at a rate of interest which is 2% higher than the rate of interest payable on the deposits. Some schemes provide consumer finance to the depositors for acquiring consumer durables like TVs, VCRs, washing machines, cooking ranges, etc. The amount of finance that can be availed of by a depositor is usually five times the amount of the deposit.

The schemes also offer several intangible benefits like prompt servicing, facility for encashing interest and maturity warrants at all branches of designated commercial banks, facility of using the company-owned safe deposit vaults, etc.

In recent years, finance companies with a consistent track record of credit-worthiness have got their deposit schemes credit-rated by a rating agency. These ratings are widely publicized to emphasize the degree of safety attached to the deposits.

Evaluating Public Deposits as a source of finance, the major advantages are as follows: (a) The rate of interest on public deposits is less than the rate of interest payable on other forms of debt like debentures, term loans or bank borrowings. Further, interest being a tax-deductible expense, the effective cost of this source is less than the coupon rate; (b) Public deposits being an unsecured form of debt, there is no asset cover requirement to be fulfilled for raising finance.

The major disadvantage is the problem of maturity mismatch. Although the maximum maturity period of fixed deposits has been extended up to five years, empirical studies reveal that most depositors prefer to hold deposits for the minimum period of time. This means that a leasing company has to often fund a 60-month primary period lease with a 12-month deposit. In such cases, unless the deposit is renewed after 12 months and/or there is an inflow of fresh deposits, the company can face a situation of financial embarrassment. Another disadvantage is that the company cannot use hundred percent of the finance raised for lease investments. The RBI directions require the company to invest an amount equal to 15 per cent of the deposit's liabilities in approved short-term securities. This reserve ratio requirement results in enhancing the cost of this source of finance.

6.8.2 Bank Borrowings

The bank borrowings represent the cash credit facility that can be availed of by a leasing company from a commercial bank. The amount of cash credit that can be availed of and the related terms and conditions have been stipulated by the Reserve Bank of India based on the recommendations made by a High-Powered Committee under the Chairmanship of G. S. Dahotre in 1986.

The salient features are as follows:

1. The bank lending to a leasing company can be only in the form of cash credit facility.
2. The maximum amount that can be lent to a leasing company cannot exceed four times the net owned funds of the company.

   'Owned Fund' means aggregate of the paid-up equity capital, preference shares which are compulsorily convertible into equity, free reserves, balance in share premium account and capital reserves representing surplus arising out of sale proceeds of asset, excluding reserves created by revaluation of asset, after deducting there from accumulated balance of loss, deferred revenue expenditure and other intangible assets. 'Net Owned Fund' is the amount as arrived at above, minus the amount of investments of such company in shares of its subsidiaries, companies in the same group and all

other NBFCs and the book value of debentures, bonds, outstanding loans and advances including hire purchase and lease finance made to and deposits with subsidiaries and companies in the same group, to the extent it exceeds 10% of the owned fund.

3. The drawing limit for each transaction is to be determined as follows:

   $$= 0.75 \times \frac{LR\ (5)}{LR\ (T)} \times C$$

   Where,

   LR (5) = Lease rentals receivables for the next five years.

   LR (T) = Lease rentals receivable over the lease term.

   C = Cost of the leased asset.

   The aggregate of the drawing limits for all the lease transactions must not exceed the ceiling defined in (2).

4. The cash credit facility will not be made available against operating leases and sale and lease back transactions.

   From the formula employed for calculating the drawing limit of a lease transaction, it is clear that bank borrowings do not have the problem of maturity mismatch, particularly for five-year leases. Also, interest on bank borrowings is a tax-deductible expense. But then, the availability is restricted and the cost of this source of finance is higher than the cost of fixed deposits.

   RBI has stipulated that finance companies which are not predominantly in equipment leasing/hire purchase business cannot borrow more than three times their net owned funds from banks. To qualify as a finance company predominantly engaged in the business of equipment leasing/hire purchase, the company's assets on lease (net block) plus the book value of stock on hire must be at least 75% of its total assets; and the company's income from equipment leasing and hire purchase business must be at least 75% of the total income.

6.8.3 Inter-Corporate Deposits

A finance company can also tap the inter-corporate deposit market subject to the following restrictions:

- The maximum maturity period cannot exceed 12 months.
- The maximum amount cannot exceed two times the net owned funds.
- As per the RBI guidelines, the amount of resources raised through ICDs should be within the overall umbrella limit fixed by the RBI. The issue of ICDs together with other instruments, viz. term money, term deposits, CDs, and CPs should not exceed 100 per cent of its net owned funds as per the latest audited balance sheet.

Of course, there is no ceiling on the interest rates payable on these deposits. Evaluating this source of finance from the point of the issuer, we find that the advantages and disadvantages are similar to the ones applicable to fixed deposits. In fact, the problem of maturity mismatch is more pronounced when lease and hire purchase investments are funded via inter-corporate deposits. This is because, these deposits have a shorter maturity than the underlying assets being financed, thereby leading to the necessity of refinancing before the maturity of the assets. The pricing of such refinancing is not known at the time the asset is created and the availability of the required amount of finance is also not guaranteed.

6.8.4 Commercial Paper

A finance company can also tap the money market through issue of Commercial Papers (CPs), subject to the provisions of the Non-Banking Companies (Acceptance of Deposits through Commercial Paper) Directions, 1989. The salient features are as follows:

i. The CPs are issued at discount and redeemed at par. The discount rate is not subject to any cap and can be freely determined by the issuer.

ii. CPs can be issued even for seven days and a maximum period of one year.

iii. The CPs will be in the form of usance promissory note negotiable by endorsement and delivery.

iv. The company must be enjoying working capital (fund-based) limit with the financing bank.

Of course, not all finance companies are eligible to issue CPs. To qualify as an issuer of CPs, the following criteria are to be fulfilled:

a. The tangible net worth of the issuing company must not be less than ₹ 4 crore as per the latest audited balance sheet.

b. The company must secure a minimum credit rating P2 from CRISIL or A2 from ICRA for the issue. The Rating so obtained has to be current and not due for review.

c. The company must have been classified as Standard Asset by the financing Bank.

Credit enhancement limits by the bank for issue of CP

The credit enhancement limits by the bank for the issue of CP is discussed as below:

a. CP shall be issued as a ‘standalone’ product. However, banks and FIs may apply their commercial judgment subject to the prudential norms as applicable to them, with the specific approval of their respective boards, choose to provide stand-by assistance or credit, back-stop facility, etc. by way of credit enhancement for a CP issue.

b. Non-banking entities (including corporates) may provide unconditional and irrevocable guarantee for credit enhancement.

Given the features of CPs, it is clear that CPs are an ideal source for funding short-term assets like purchase/discounting of bills. But, they cannot be employed for funding lease and hire purchase investments.

Activity 6.1

You are working in ABC Ltd. in the finance department. Your company has proposed to acquire new machines to increase the capacity and you are advised to draw a plan for getting the machines through leasing option. List out the steps you propose to follow for achieving the objective?

Answer:

6.9 Regulatory Framework

As said earlier, the funding pattern of a finance company is subject to a regulatory framework comprising:

- Non-Banking Financial Companies (Reserve Bank) Directions, 1977.
- SEBI Guidelines governing issues of equity shares and debentures.
- Non-Banking Companies (Acceptance of Deposits through Commercial Paper) Directions, 1989.
- Non-Banking Financial Companies Prudential Norms (Reserve Bank) Directions, 1998.

First, let us consider the provisions of Non-Banking Financial Companies (Reserve Bank) Directions, 1977 that have a bearing on the funding pattern of finance companies engaged primarily in the business of equipment leasing and hire purchase. These provisions relate to the maximum borrowings which these companies can raise. The sources of finance that fall within the scope of deposits. The rules and regulations relating to acceptance of deposits are discussed hereunder:

a. Deemed Deposits

Besides public deposits, the following sources of finance are also included within the scope of the term "Deposits":

i. Inter-corporate Deposits

ii. Borrowings and monies received from the directors/shareholders of private limited companies.

iii. Monies raised through debentures and bonds secured by immovable properties.

The concept of "Deemed Deposits", is important because the finance company has to maintain liquid assets (minimum reserve requirement) at the prescribed percentage on public deposits plus the deemed deposits. Since the liquid assets will fetch a rate of return lower than what can be earned in the normal course of the business of the finance company, the implicit cost of these sources of finance will be higher than their explicit cost.

b. Maintenance of Liquid Assets

A finance company is required to maintain liquid assets at 15 per cent on deposits as defined in (b). At least two thirds of these liquid assets, i.e. 10 per cent of the deposits, must be maintained in the form of Central and/or State Government Securities or Government Guaranteed Bonds. The balance can be held either in the form of account balances with scheduled banks or in the form of unencumbered approved securities or partly in the form of bank balances and partly in the form of unencumbered approved securities. Approved securities refer to "securities" in which a trustee can invest money under Section 20 of the Indian Trusts Act, 1882.

c. Acceptance of Public Deposits

All NBFCs are not entitled to accept public deposits. Only those NBFCs to which the bank had given a specific authorization and have an investment grade rating are allowed to accept/hold public deposits to a limit of 1.5 times of its Net Owned Funds.

As discussed earlier, the following rules apply to acceptance of deposits from the public:

i. The deposits must be rated by an "approved" credit rating agency. The company must secure at least an investment grade for its deposits before it can invite deposits from the public. The minimum ratings is prescribed are as follows (Table 6.3):

Table 6.3: Credit Rating Agency and its Minimum Rating

	Name of Credit Rating Agency	Minimum Rating
1.	Credit Rating Information Services of India Limited (CRISIL)	FA- Denotes adequate safety
2.	Investment Information and Credit Rating Agency of India Limited (ICRA)	MA-Denotes adequate credit quality
3.	Credit Analysis & Research Limited (CARE)	CARE BBB (FD) – Denotes moderate credit risk)
4.	Fitch Ratings India Private Ltd.	A-High credit quality

Source: https://www.crisil.com; https://www.icra.in/Rating/CreditRatingScale; https://www.careratings.com; https://www.fitchratings.com.

ii. The NBFCs are allowed to accept/renew public deposits for a minimum period of 12 months and maximum period of 60 months. They cannot accept deposits repayable on demand.

iii. The maximum rate of interest is 12.5% p.a. The interest may be paid or compounded at rests not shorter than monthly rests.

iv. The brokerage, commission, incentive or any other benefit by whatever name it is called is not paid in excess of two per cent of the deposit so collected.

Illustration 6.3

The audited summarized Balance Sheet of Stop and Shop Financial Services is given below:

Balance Sheet as on March 31, 20xx

Liabilities	(₹ in millions)	Assets	(₹ in millions)
Equity Share Capital	65	**Fixed Assets:**	
Reserves & Surplus	110	– Assets on Lease (Original Cost: ₹ 550 million)	375
Term Loan from IFCI	70		
		– Other Fixed Assets	50
Public Deposits	150	Investments (in wholly-owned subsidiaries)	20
Bank Borrowings	107		
Inter-Corporate Deposits	50	**Current Assets:**	
		– Stock on Hire	80
180-day Commercial Paper	50	– Receivables	30
		– Other Current Assets	35
		Miscellaneous Expenditure (not written-off)	12
	602		602

Required:

i. Calculate the net owned funds of the company as on March 31, 20xx.

ii. The company intends to enhance its investments in the lease portfolio by ₹ 600 million, and for this purpose, it plans to raise funds by way of bank borrowings and term loans from financial institutions in that order. Determine the financing mix.

The company can be classified as a finance company predominantly engaged in the business of equipment leasing and hire purchase.

Solution:

a.	Net owned funds	=	Equity Share Capital + Reserves and Surplus – Investments in Wholly Owned Subsidiaries – Miscellaneous Expenditure (not written off)
		=	175 – 20 – 12
		=	₹ 143 million
b.	Maximum debt capacity	=	143 x 10
		=	₹ 1,430 million
	Outstanding amount of debt	=	₹ 377 million
	Amount of debt that can be raised	=	₹ 1,053 million
	Additional amount of bank borrowings that can be raised	=	(143 x 4) – 107 ₹ 465 million

Given that the company wants to raise ₹ 600 million, the desired financing mix will be as follows:

Bank Borrowings: ₹ 465 million

Term Loans : ₹ 135 million

The following explains the above concept.

6.9.1 SEBI Guidelines - Issue of Shares and Debentures

The SEBI guidelines govern the issue of equity shares and debentures. These guidelines provide complete flexibility to most issuers in pricing equity and debenture issues. For example, an existing listed finance company can tap the primary market by issuing equity shares at a price determined in consultation with the lead manager to the issue. An existing private or closely held finance company with a three-year track record of consistent profitability can also tap the primary market with equity issues priced at a premium determined in consultation with the lead manager to the issue. It, therefore, follows that a new finance company coming out with the first public issue of equity shares can issue shares only at par (subject to certain exceptions).

The SEBI guidelines also permit a finance company to issue non-convertible debentures at a rate of interest freely determinable by the issuer (the finance company in this case) for any desired maturity period. However, the debentures must be rated by an approved rating agency if the initial term to maturity exceeds 18 months. The finance company can also issue partly convertible or fully convertible debentures at interest rates and conversion terms determined by it. The only stipulation is that the conversion terms must be predetermined and disclosed in the prospectus. The SEBI guidelines require such issues to be rated

by an approved credit rating agency if the conversion is made after 18 months in the case of Fully Convertible Debentures (FCDs), and if the term to maturity exceeds 18 months in the case of Partly Convertible Debentures (PCDs). Another important provision is that any conversion in part or whole of the debenture will be optional at the hands of the debenture holder, if the conversion takes place at or after 18 months from the date of allotment, but before 36 months.

Example: Credit Ratings for United Rental Inc.

As of January 24, 2022, United Rental Inc. was rated Ba1, Stable and BB+ Stable respectively by the credit rating agencies, Moody's and Standard and Poor's. United Rental Inc. was the US based world largest equipment rental/leasing company. The ratings were indicative of the company's credit quality for investors to make investment decisions.

Sources: https://s21.q4cdn.com/336331232/files/doc_financials/2021/ar/United-Rentals-Inc.-2021-Annual-Report.pdf

Author: United Rentals Inc. Website. Accessed on July 8th, 2022.

There are other guidelines relating to promoters' contribution, protection of investors' interest, etc., which are not discussed here. The interested reader can refer to the SEBI guidelines for disclosure and investor protection for details.

6.9.3 Other Sources

Term loans are available from multi-lateral financial institutions for funding leases. One such funding institution is the Asian Finance and Investment Corporation (AFIC). The AFIC extends term loans to select leasing companies in the developing economies of the Asian region. The loan is secured by a charge on the leased asset and the lease receivables. It carries a floating rate of interest and a flexible repayment schedule tailored to suit the anticipated cash flow profile and the debt-servicing capacity of the borrower (lessee).

Euro issues of GDRs (Global Depository Receipts) and private placement of equity shares with foreign institutional investors can be another attractive route for funding leases. This route is an appealing one for listed finance companies with an excellent track record. The issuer can price the issue closely to the ruling market price and realize the proceeds in Foreign Exchange (FX). The dividend payments are rupee denominated, and hence, the issuer is not exposed to any exchange rate risk.

These sources of funding will gain more popularity with finance companies as and when these companies get extensively involved in cross-border leasing. As on date, companies involved in import leasing can use this route for hedging against exchange rate risk. Tapping the Euro market via GDR issues is subject to the guidelines issued by the Finance Ministry and private placement with FIIs are subject to the SEBI guidelines.

The following example provides an insight how leasing companies raise funding.

Example: "Pay-as-you-go" Financing Strategy by JetSetGo

JetSetGo, the Indian aircraft leasing company, employed a novel financing strategy of "pay-as-you-go" where the Company got compensated on the number of aircraft flies. In August 2021, JetSetGo became the first Indian leasing business entity to import an aircraft (the Hawker 800 XP aircraft from UK) under direct leasing arrangement.

Sources: http://www.uniindia.com/~/jetsetgo-aviation-becomes-first-indian-leasing-company-to-bring-an-aircraft-into-india-under-direct-leasing-arrangement/Business%20Economy/news/2482009.html Dt: 21/08/2021

Author: United News of India (UNI) Accessed on July 8th, 2022.

6.10 Innovative Sources of Financing

In the recent times, a number of innovative ways of funding lease and hire purchase investments are being discussed. Accordingly, finance companies can seriously consider the following innovative funding mechanisms:

6.10.1 Exchangeables

An exchangeable bond is an innovative variant of the Convertible Debenture (CD), where the equity stock involved is that of another company. Like a CD, the conversion terms of this instrument are set at the time of the issue. While exchangeables are yet to catch on in India, they have been growing in importance in the US.

An example from the US Capital Market, is the issue of 6% subordinated debentures by National Distillers and Chemical Corporation (NDCC) exchangeable into the equity stock of Cetus Corporation, a bio-technology firm. The face value of the debenture was $1000 and NDCC had set a conversion price of $49 per share of Cetus Corporation. At the time of issue, Cetus was selling for $37.5 per share.

A typical exchangeable issue is one where the issuer owns equity stock in the company in which the bonds can be exchanged. Exchange requests are satisfied from this holding, as opposed to acquiring stock in the open market. As in the case of warrants and convertibles, the primary advantage of issuing an exchangeable is the reduction in the cost of servicing the debt instrument. The added attraction in this case is the possibility of disposing of the equity investments held by the issuing company at a premium above the current market price.

From the investor's angle, an exchangeable is more attractive than a CD because an exchangeable is a combination of debt of one company with the potential for conversion into equity of another. If the two companies are in unrelated industries, the investor achieves diversification. This may lead to a higher valuation for the exchangeable than for the convertible, all other things remaining the same.

In the Indian context, finance companies can seriously look at the possibility of using exchangeables as a means of financing for three reasons: (i) These companies have substantial investments in the equities of other companies. (ii) The equity stocks of these companies tend to sell at price-earnings multiples which are lower than the average price-earnings multiple for the market. Therefore, investors will not be particularly attracted to the CD issues of such companies. (iii) Issue of exchangeables results in a lower interest cost. This is a crucial factor because interest cost is the major component of a finance company's cost structure.

Example: Status of ILFS in March 2023

IL&FS was a RBI registered Core Investment Company (started in 1987) by three financial institutions - Central Bank of India, Housing Development Finance Corporation (HDFC) and Unit Trust of India (UTI), to provide finance and loans for major infrastructure projects. The company reported defaults on its borrowing obligations during the financial year 2018-19. Further, the credit rating of the company was downgraded to 'D' (lowest grade) in September 2018. At the request of Union of India ("UOI") (acting through the MCA) the Hon'ble NCLT suspended the Board of Directors of ILFS and appointed a new Board of Directors for resolving the crisis of ILFS. In an affidavit filed with National Company Law Appellate Tribunal in December 2022, the ILFS had declared that it resolved a debt of ₹ 56943 cr.

Source: https://www.ilfsindia.com/media.html
https://www.ilfsindia.com/significant-developments-post-2018.html

6.11 Securitization of Lease Receivables

One of the important tools that create liquidly to the organizations that involve in funding is securitization. Leasing companies use this tool to create liquidly within the system. Let us go into some aspects of securitization of lease rentals-

6.11.1 Concept of Securitization

Securitization can be defined as the process through which illiquid assets (like pools of loans and receivables) can be transformed into a more liquid, manageable form and sold to a broad range of investors through the capital market. Put it differently, securitization involves packaging designated pools of loans and receivables and selling these packages to investors in the form of securities on a non-recourse basis.

There are, of course, two parties to the transaction – the firm which packages and sells its loans and receivables called the originator and the ultimate buyers or investors. Now, the logical questions are:

i. Why should a firm securitize its assets?

ii. Why should an investor invest in such securities?

Securitization offers the following advantages to the originator:

a. Basically, securitization enables the originator to unlock its investment in certain illiquid assets. By freeing-up capital, the process allows the originator to expand its business volume without a corresponding increase in the capital. In an environment, where financial intermediaries are constrained by prudential capital ratios (capital adequacy norms), securitization permits the originator to manage capital more effectively and efficiently. This is probably the major advantage of securitization.

b. While securitizing the receivables portfolio, the originator retains a portion of the return of the securitized assets in the form of servicing fees which boosts the overall profitability and increases the rate of return on equity.

c. The third major advantage is that securitization provides funding to maturity. We have discussed this point earlier when we pointed out that deposits (including inter-corporate deposits) as a source of finance tend to be of shorter maturity than the underlying assets being financed, thereby, leading to the necessity of refinancing before the maturity of the assets. We also said that the finance companies face uncertainty in terms of both cost of such refinancing and the availability of finance. Securitization matches the maturity of the funding to the maturity of the financed asset. It ensures that assets are financed through to their maturity with the added advantage of enabling the issuer to fix the funding cost at the outset. Refinancing risk is, therefore, eliminated.

There are, of course, certain disadvantages associated with securitization. First, the cost aspect. Securitization being a more complex process than issue of straight debt securities entails large development costs in advance of the issue. There are legal costs associated with the structuring and documentation of a securitized program. The originator has to modify the existing systems to facilitate identification and monitoring of the securitized assets. The originator has to provide credit enhancement and liquidity support (to be discussed later) and this entails additional costs.

Second, the amount of management time required to co-ordinate a securitization project successfully is very high due to complicated process. Unlike other forms of finance, securitization requires input from a large number of departments: finance, systems and marketing. The associated implicit costs will inevitably be high for an initial issue since the management will be required to adapt the existing procedures and controls to accommodate the requirements of a securitization program.

Obviously, these disadvantages do not undermine the unique advantages of securitization. These disadvantages only underline the need for balancing the explicit and implicit costs of securitization against the potential benefits. For instance, a finance company which has adequate capital and which has achieved

a reasonable degree of "matching" between the term structures of its assets and liabilities may not find securitization as an appropriate funding strategy. On the other hand, a finance company with a substantial exposure to short-term debt can use the funds raised through the process of securitization to liquidate the short-term debt, and thereby, correct the problem of maturity mismatch. Likewise, a finance company which is constrained by prudential capital ratios from expanding its volume of business or exploiting new business opportunities, will find that securitization provides a convenient way of circumventing the constraint.

What are the advantages of securitization to the investor? First, securitization provides a broader range of investment opportunities. Typically, the asset pools identified for securitization are divided into separate tranches with specific maturity profiles and sold to different categories of investors whose investment horizons vary. Second, such asset-backed securities typically offer a yield premium over conventional debt instruments with comparable rating. Third, these securities offer a greater level of protection (against default risk) than comparable unsecured instruments like public deposits due to their multiple layers of credit enhancement.

Having evaluated "securitization" from the points of view of the originator and the investor, let us briefly discuss the steps involved in the process.

Example: Great America's Leasing Receivables Funding in 2021

In 2021, Great America, the leading US equipment leasing company, announced its 21st small ticket equipment securitization of lease receivables worth USD 514.4 million. 67.5% of the total lease receivables consisted of receivables from the copiers/printers line which were the main performing equipment types for Great America. Fitch Ratings gave stable ratings for this securitization offering by Great America.

Sources: https://www.fitchratings.com/research/structured-finance/greatamerica-leasing-receivables-funding-llc-series-2021-2-us-abs-23-09-2021 & https://www.fitchratings.com/research/structured-finance/fitch-rates-greatamerica-leasing-receivables-funding-llc-series-2021-2-07-10-2021

Author: Fitch Ratings Website. Accessed on July 8th, 2022

6.11.2 Process of Securitization

Let us understand the process of securitization here-

Consider the following extract from the Rating Scan (published by CRISIL) about the pool characteristics of a pool of property receivables securitized by Alacrity Housing Limited.

a. The first step is to define the pool characteristics. The pool comprises receivables on the sale of 12 projects under construction. The face value of the PTCs is equal to the consolidated value of the receivables in the main

pool. The pool consists of projects on which receivables towards land costs which amount to approximately 56% of sale value of the flats that has been received. In most of the cases, the first installment towards construction costs has also been received. The average seasoning (percentage of money collected out of the total contracted sale price) of the main pool is 72%. The final installment on the PTCs falls due in June 1994 but installments on some property sales extend beyond that date. These installments will not be passed on to the PTC holders. Since, the payout on the PTC is monthly, receivables with due dates falling in different months have been selected."

The term "PTC" used in the extract refers to Pass-Through Certificate which is the security created out of the securitization process. The PTCs are sold to the investors. Before including any receivable in the pool, it is the normal practice to monitor these receivables over a period of time to ensure that there is no default or delay in payment of the installments. This process is called "seasoning" or cherry picking. Seasoning improves the credit quality of the pool which is securitized.

b. The second step is to provide liquidity-cum-credit support for enhancing the credit quality of the pool. Consider the following extract from Rating Scan which dwells on the liquidity-cum-credit support provided by Alacrity Housing Limited (AHL): "The receivables on the securitized pool fall due on specific days as per the agreement entered into between AHL and the flat buyers independent of the physical progress of the construction. Contractually, payments are not related to progress on the project once the initial construction has commenced, though it is possible that any delay in the construction is likely to influence the delinquency pattern of the property receivables and therefore, the timeliness of payment on the PTCs. Several steps have been taken to enhance the safety level on the PTCs. Over collateralization to the extent of ₹ 2.58 crore (75% of the aggregate payouts on the PTCs) has been undertaken through the securitization of additional receivables from the same properties. Besides this, there is an unconditional and irrevocable 100% guarantee from AHL to meet the obligations on the PTCs."

Citibank is extending a dedicated line of credit of ₹ 35.33 lakh to AHL. This is equal to the first installment on the PTC. The "Articles of Agreement" signed by AHL and the investor provide additional safety to the investor through provisions for a successor trustee and successor receiving and paying agent.

The liquidity-cum-credit support provided by AHL is somewhat unusual because AHL has securitized the pool with full recourse to it. Typically, the liquidity-cum-credit support will be set equal to two or three equated monthly installments due from the pool. Thus, the investor is provided only with a partial protection against default risk.

c. The third step is to define the financial structure. The financial structure specifies the payout dates on which payments will be made to the PTC holders and the amounts due on these dates. Consider the following financial structure proposed by Alacrity Housing Limited: "The PTCs are backed by a pool of 206 identified property receivables aggregating ₹ 3.45 crore. The due dates on individual receivables could fall due on any day in the month whereas the payout on the PTCs will be made on the first day of the month, or in advance of collections. AHL will, therefore, be required to make payment on the PTCs before it actually collects its due on a large proportion of underlying receivables. The last month's pre-payments would also have to be passed on. In the normal course of business, AHL would utilize its own liquidity to pay investors. The alternative option would be to utilize the line of credit extended by Citibank, which would be replenished by AHL before the next payout date."

Given the financial structure and the price paid by the investors, we can calculate the promised rate of return to the investors.

The following illustration explains this point.

Illustration 4

A company has issued PTCs backed by a pool of property receivables aggregating to ₹ 315.86 lakh. The equated monthly payments to be made to the PTC holder are as follows:

- During the first 12 months : ₹ 16 lakh p.m.
- During the next 12 months : ₹ 12 lakh p.m.
- During the next 6 months : ₹ 8 lakh p.m.

Calculate the promised rate of return to the investors.

Solution:

Define i_m as the monthly rate of return implied by the cash flow stream. i_m can be calculated from the equation

$$315.86 = 16 \times PVIFA_{(im,12)} + 12 \times PVIFA_{(im,12)} \times PVIF_{(im,12)} + 8 \times PVIFA_{(im,6)} \times PVIF_{(im,24)s}$$

The equation is satisfied by $i_m = 1.5\%$ (This can be verified by the reader using the trial and error approach). Hence, the annualized rate of return (i) is

$$i = (1 + i_m)^{12} - 1 = (1.015)^{12} - 1 = 0.1956 \text{ or } 19.56\%$$

d. The last step in the process is to define the legal structure. Once again, we will consider the legal structure proposed by AHL.

"The transaction involves a pass-through structure, wherein the undivided beneficial interest in the pool of securitized receivables is sold by AHL to

the investors at a mutually acceptable price. AHL will retain the legal title of the securitized pool in trust for the investors because the transfer of the legal title would invite a large stamp duty, which would render the transaction uneconomic. The articles provide that in the event of default by AHL or if required to do so at any time by Citibank, AHL would have to assign the securitized receivables and provide full legal title to the receivables to Citibank and also transfer the R&P (Receiving and Paying) Agent function to Citibank or any third party as Citibank may require. AHL will execute an irrevocable power of attorney in favor of Citibank, which empowers Citibank to take over as successor trustee in the event of AHL becoming unable to fulfill its obligations as trustee, even without reference to AHL."

It is important to note that in the Indian context, if securitization involves transfer of legal ownership of the receivables from the originator to the investor, the transaction costs are significantly higher on account of the incidence of the stamp duty.

6.11.3 Securitization of Lease Receivables – A Framework

We believe that the unique advantages of securitization are particularly relevant for finance companies with substantial exposure to lease and hire purchase investments. The PTC (Pass-Through Certificate) has been the principal instrument used in the Indian context for securitizing property receivables and car loan receivables. So far, we think that the finance companies can issue securities of the CMO (Collateralized Mortgage Obligation) type because the CMO securities provide the potential to meet the needs of a broader investor group. We will briefly discuss the characteristics of the CMOs.

The collateralized mortgage obligation or the CMO is an innovative mortgage-backed security widely popular in the US. The CMOs are nothing but bonds that are collateralized by the underlying whole loan mortgages. The cash flows generated by the assets in the collateral pool are used to first pay interest and then pay principal to the CMO bondholders. The key difference between the CMOs and the pass-through certificates is the mechanics of the principal repayment process.

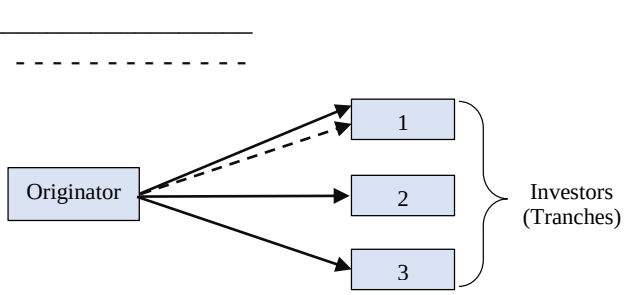
In a pass through, each investor receives a *pro rata* distribution of any principal and interest payments (net of servicing) made by the home-owner. Because mortgages are self-amortizing assets, a pass-through holder receives some return of principal each month. Complete return of principal and the final maturity of the pass through, however, do not occur until the final mortgage in the pool is retired. This results in a large difference between average life and final maturity as well as a great deal of uncertainty with regard to the timing of principal return.

The CMO structure substitutes sequential retirement of bonds for the *pro rata* principal return process found in pass through. Subject to the provisions of the individual CMO issues considered, cash flow generated by the underlying collateral (to the extent that it exceeds the amount required to pay interest) is used to retire bonds. Only one class of bonds at a time receives principal. All principal payments go first to the "fastest-pay" tranche of bonds, as stipulated by the prospectus. Following retirement of this class, the next tranche in the sequence then becomes the exclusive recipient of principal. This sequential process continues until the last tranche of bonds is retired.

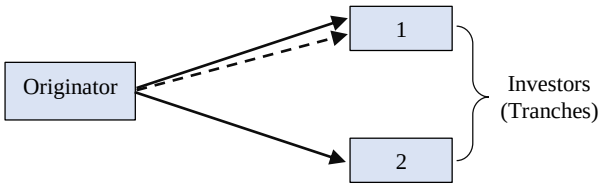
Figures 6.1 (a) and (b) illustrate the structure of a CMO issue.

Figure 6.1

(a) Cash Flow Pattern of a CMO at Inception



(b) Cash Flow Pattern of the CMO after the First Tranche is Retired



Source: ICFAI Research Centre

Figure 6.1 (a) and (b) reinforce the point about sequential retirement of bonds which is the unique feature of the CMO structure. After the last tranche of bonds is paid off, any collateral remaining generally reverts to the issuer. The typical CMO structure has four tranches with the following average lives (term to maturity):

Tranche	Average Life (in years)
1	2
2	5
3	7
4	20

The bonds included in the fourth tranche are usually of the zero-coupon type-bonds, issued at a discount and redeemed at par with no intervening interest payments.

Thus, we find that CMOs take long maturity mortgages and divide the cash flows in a manner that creates short, intermediate and long-term bonds. Hence, the CMO structure appeals to a broader range of individual and institutional investors.

Coming to the Indian context, bonds of the CMO type can be primarily used for funding lease investments in infrastructural projects – long-term leases. Finance companies which write 5-year and 8-year leases can use variants of the CMO structure, say, a bond structure with three tranches – two years, five years and eight years with suitable sweeteners built into the five-year and eight-year tranches. This structure will appeal to all groups of investors who currently fund the operations of a finance company – the fixed deposit investors, banks and financial institutions. The structure will also enable the finance companies to minimize the term structure risk.

Activity 6.2

You are working in Lorvin Real Estates Pvt. Ltd, as Accounts Manager. Your company has recently entered into a lease agreement with an IT company to lease out 50,000 sq. feet of office space for a five-year period. As the company needs funds for further investment, you approach your banker to get advance against the lease rentals through securitization. Explain the steps to be followed in the process.

Answer:

Check Your Progress - 2

6. What is the maximum amount that can be lent to a leasing company by a bank?
   a. Four times the net owned funds of the company
   b. Five times the net owned funds of the company
   c. Three times the net owned funds of the company
   d. Six times the net owned funds of the company
   e. Two times the net owned funds of the company.

7. Identify the transactions, for which the cash credit facility will not be made available.
   a. Sale and leaseback transactions
   b. Finance lease and Operating lease
   c. Sale and leaseback and Finance lease
   d. Direct lease and Finance lease
   e. Operating leases and sale and leaseback transactions.
8. What is the formula for net owned funds of a company?
   a. Equity Share Capital – Reserves and Surplus + Investments in Wholly Owned Subsidiaries + Miscellaneous Expenditure (not written off)
   b. Equity Share Capital + Reserves and Surplus + Investments in Wholly Owned Subsidiaries – Miscellaneous Expenditure (not written off)
   c. Equity Share Capital + Reserves and Surplus + Investments in Wholly Owned Subsidiaries + Miscellaneous Expenditure (not written off)
   d. Equity Share Capital + Reserves and Surplus – Investments in Wholly Owned Subsidiaries – Miscellaneous Expenditure (not written off)
   e. Equity Share Capital + Reserves and Surplus – Investments in Wholly Owned Subsidiaries + Miscellaneous Expenditure (not written off).
9. From the perspective of an issuer, what is an exchangeable issue?
   a. Owns equity stock in the company in which the Preferential Shares can be exchanged
   b. Owns equity stock in the company in which the bonds can be exchanged
   c. Owns Options in the company in which the shares can be exchanged
   d. Owns equity stock in the company in which the futures can be exchanged
   e. Owns Options in the company in which the futures can be exchanged.
10. Which of the following is the main advantage of securitization?
   a. Securitization enables the company to unlock its investment in illiquid assets
   b. Securitization helps a company to raise funds from banks and FI
   c. Securitization enables the company to raise equity from the market
   d. Securitization enables the company to expand the business into unrelated areas
   e. Securitization can help the company to increase the size of the balance sheet.

6.12 Summary

- The equipment leasing industry in India came into being in 1973, but did not come of age until the early 80's.
- The leasing boom of the early 80's propelled a large number of private sector finance companies, commercial banks and financial institutions into this industry. The Banking Regulation Act, 1949 was amended in 1983, to permit commercial banks to undertake equipment leasing operations through the subsidiary route. Recently, these subsidiaries have been permitted to undertake hire purchase operations.
- Funding of finance companies is subject to the RBI (Non-Banking Financial Companies) Directions, 1977. These directions have been considerably revised.
- RBI raises capital requirement, proposes stricter NPA guidelines; norms to be introduced in a phased manner by April 2018; aims to bring norms on a par with those for banks.
- NBFC rises funding through different sources. The guidelines for raising funds through public deposits are revised from time to time.
- Leasing companies use securitization as a tool to create liquidity within the system.
- Accounting aspects of leases and lease payments are dealt under AS19.
- The PTC (Pass-Through Certificate) and CMO (Collateralized Mortgage Obligation) type have been the principal instruments used in the Indian context for securitizing property receivables and car loan receivables.

6.13 Glossary

Direct Lease: Direct lease is a contractual financing arrangement in which the lessor (a bank or leasing company) purchases the property from the manufacturer and leases the property to the lessee. The lessor uses this arrangement as an alternative to direct loan.

Equipment Lease: Use of machinery, vehicles or other *equipment* on a rental basis is equipment lease. One can avoid investment in *equipment if he opts for this kind of lease*. Ownership rests in the hands of the financial institution or *leasing* company, while the business has the actual use of it.

EXIM Policy: *It* is a set of guidelines and instructions established by the DGFT in matters related to the import and export of goods in India. DGFT (Directorate General of Foreign Trade) is the main governing body in matters related to *Exim Policy*. It is also called the foreign trade policy.

Lease Rentals: The periodic payment made to the owner of a property for the use of said property is lease rentals. The amount is determined by a lease (rental) agreement and the payment is made till the lease continues. The tenant who pays rent to use the property has to manage the property.

Make in India: The Government of India under Shri. Narendra Modi has come out with the concept "Make in India" on September 25, 2014, wherein the government has laid a special emphasis on encouraging major national and international corporations to manufacture their products in India. The main aim is job creation and skill enhancement in 25 key sectors for boosting the domestic economy.

NITI Aayog: Niti Aayog, the National Institution for Transforming India, was formed via a resolution of the Union Cabinet on January 1, 2015. It is a Government of India policy think-tank established by the P.M. Shri Narendra Modi replacing the Planning Commission. The Prime Minister is the Ex-officio Chairman. The governing council consists of all state Chief Ministers, and Lieutenant Governors of union territories. The vice chairman is nominated by the Prime Minister. The other members are two part-time members and four ex-officio members and a chief executive officer.

6.14 Self-Assessment Test

1. List out the salient features of the leases structured in the Indian context.
2. What are the various aspects to be considered in accounting of lease transaction as per Accounting Standard – 19 (AS-19)?
3. What are the various sources available for a leasing company to raise funds? List out the conditions to be complied by the leasing company to raise funds from banking channel.
4. Discuss the various aspects of securitization of lease receivables by a lessor.
5. What are the various steps to be followed for securitization of lease rentals?

6.15 Suggested Readings/Reference Materials

1. Anthony Saunders, Marcia Millon Cornett, Anshul Jain (2021), Financial Markets and Institutions, 7th edition, Tata McGraw-Hill Education.
2. Prasanna Chandra (2020), Fundamentals of Financial M, 7th edition, Tata McGraw-Hill Education.
3. Devie Mohan (2020), The Financial Services Guide to Fintech, 1st edition, Kogan Page Limited.
4. Siddhartha Sankar Saha (2021). Indian Financial System. 2nd edition, Tata McGraw-Hill Education.
5. DR. R. Shanmugham (2020). Financial Services. 2nd edition. Wiley India.

6.16 Answers to Check Your Progress Questions

1. (b) Lease structured under the Indian context mostly falls under the category of Operating Lease.

This is incorrect, because by and large, the leases structured in the Indian context fall under the category of 'Finance Lease'. The exposure to operating leases is extremely limited.

2. (d) Margin available with the lessee

The lease rates are influenced by a number of factors including: the tax, relevant rate of depreciation, availability of capital allowances and the marginal tax rate.

3. (c) Lease rental paid during the secondary period of the lease.

The lease rental paid during the secondary period of the lease is very low and therefore, the rental payable during this period is called the pepper-corn consideration.

4. (a) Reserve Bank of India-

RBI regulates banks on equipment leasing guidelines.

5. (a) Indian Contracts Act 1872

For adjudicating disputes arising from leasing transactions, one has to draw on the provisions of the Indian Contract Act, 1872 concerning contracts of bailment and a few court rulings that are available on the subject.

6. (a) Four times the net owned funds of the company.

The maximum amount that can be lent to a leasing company cannot exceed four times the net owned funds of the company.

7. (e) Operating lease and sale and leaseback transaction.

The cash credit facility will not be made available against operating leases and sale and leaseback transactions.

8. (d) Equity Share Capital + Reserves and Surplus – Investments in Wholly-Owned Subsidiaries – Miscellaneous Expenditure (not written off)

Net owned funds of a company is given by the formula: Equity Share Capital + Reserves and Surplus – Investments in Wholly-Owned Subsidiaries – Miscellaneous Expenditure (not written off).

9. (b) Owns equity stock in the company in which bonds can be exchanged.

A typical exchangeable issue is one where the issuer owns equity stock in the company in which the bonds can be exchanged.

10. (a) Securitization enables the company to unlock its investment in illiquid assets.

Securitization enables the originator to unlock its investment in certain illiquid assets.

Unit 7

Legal Aspects of Leasing

Structure

"We are only Tenants and shortly the great Landlord will give us notice that our lease has expired."

- Joseph Jefferson, American Actor

7.1 Introduction

The quote applies to tenancy in general and the legal aspects of leasing.

The previous unit covered the evolution of equipment leasing industry in India and how the commercial banks helped the growth of equipment leasing and about accounting aspects of lease and lease payments under AS19 and Ind AS 116 were briefly discussed.

A lease transaction can have several variants. It can be structured in various ways, thereby giving a rise to a number of legal issues. However, in the Indian context, we do not have an exclusive legislation to regulate (equipment) lease transactions.

Therefore, in the absence of a separate legislative framework defining the rights and obligations of the parties to a lease contract, resolving the lease-related legal issues involves scanning of many allied legislations and court rulings.

Of course, this is a job which is best handled by the legal experts. But, then the lessor and the lessee must be able to anticipate the various legal issues that can arise from the lease transaction and ensure that these issues are adequately

addressed by the lease contract. For this purpose, it is necessary to have a basic understanding of the legal framework circumscribing lease transactions and an awareness of the key legal issues that must be sorted out.

This unit dwells with the legal aspects of equipment lease transactions. The unit is divided into three parts.

Part 1 deals with the salient features of the present legislative framework governing lease transactions.

Part 2 describes the process of lease documentation and the important clauses that are built into a lease agreement.

Part 3 briefly discusses the major legal issues that must be considered at the time of drafting of the lease agreement.

7.2 Objectives

After going through this unit, you should be able to:

- Discuss the present Legislative Framework for Leasing
- Outline the Structure of a Lease Agreement
- Analyze the Legal Issues in Leasing.

7.3 Present Legislative Framework

While the term 'lease' has been defined under various economic legislations like the Transfer of Property Act, 1882 and the Indian Registration Act, 1899, the definitions under these legislations relate to leases of immovable property. The term 'equipment lease' has not been defined by any of these legislations. We know that an equipment lease transaction is a transaction which transfers the 'right to use' from the lessor to the lessee, but cannot provide for a purchase option or a transfer of ownership from the lessor to the lessee. This description of a lease transaction closely resembles the definition provided for 'bailment' under the Indian Contract Act, 1872.

The Indian Contract Act defines a bailment as, "The delivery of goods by one person to another for some purpose upon a contract that they shall, when the purpose is accomplished, be returned or otherwise disposed off according to the directions of the person delivering them". The person delivering the goods is called "the bailor" (the counterpart of the lessor) and the person taking delivery of the goods is called the "bailee" (the counterpart of the lessee). The reader must note that the delivery of goods as defined here will include both actual and constructive delivery.

Example- Ramesh is the owner of a heavy earth moving machines' such as excavators and loaders, and he has been used to undertake infra projects. Since he has planned to go abroad for six months, he has bailed these equipment's to Rajeev Construction Company, for a period of 12 months. The bailee (lessee) will be paying the rents for using the equipment.

The following aspects can be noted in this bailment contract:

- Rajeev Construction Company will pay the lease rent to Ramesh.
- The construction company will also be responsible for maintenance of the equipment and insuring them from damages and other risks.

In general, there are three kinds of bailments:

i. Service agreement bailments. In this case the bailee agrees to perform a service for the bailor (such as parking of a car).
ii. Constructive bailment, whereby the bailee agrees to protect the bailor's asset (such as a safe deposit box).
iii. Gratuitous bailments, whereby the bailor doesn't receive payment from the bailee for the bailment (such as in free coat checks at a restaurant).

Bailment is a written contract. In certain cases the contract is printed on the back of a coat check stub or a claim ticket for valet parking (other instances into which property goes into bailment). Bailment contract can also be conducted without compensation.

Characteristics of Goods

The *goods*, being subject matter of a lease, must have the following attributes as per common law principles: (Refer Table 7.1)

Table 7.1: Attributes to Goods subject to Lease

Durability	The goods must be expected to last till the end of the lease term
Movable	The leased goods should remain as movable property
Identifiable	The goods provided on lease should not be rendered unidentifiable
Severable	The leased goods should remain detachable so that they may be retrievable by the lessor at the end of the lease

Source: ICFAI Research Center

This legislation (Indian Contract Act 1872) also defines the obligations of the bailor and the bailee. These obligations are as follows:

7.3.1 Obligations of the Bailor

i. The bailor is obliged to inform the bailee beforehand about the issues, faults, defects in the bailed goods. If the bailor fails to disclose the same and in the event of any damages to the bailed goods, the bailor will be responsible for the damages and not the bailee. It is also the duty of the bailor to indemnify the bailee for the cost incurred due to the defective title of goods bailed.

   Example- Ramesh has to inform the construction company on the defects in the heavy earth moving machines before the bailment commences failing which any destruction or damages to the machines is the responsibility of Ramesh and has to make good of the cost incurred for the machines repairs.

ii. The bailor has to accept the goods handed over by the bailee after the purpose for which it was taken on bailment achieved is accomplished or after the lease period as the case may be.

Example- Ramesh who is the owner and the bailor of the machineries will have to accept after it is returned by the company once its task is accomplished. However, the company may seek renewal of the bailment and may be considered by the bailor. The renewal clause may also be incorporated in the bailment contract.

7.3.2 Obligations of the Bailee

i. To ensure that the goods are properly taken care of

The Bailee is obligated to take proper care of the bailed goods in terms of the quality and value as a responsible citizen as per T P act section 151. However due to act of god or if without any fault of the bailee, the machines are damaged or destroyed, in the absence of a provision to the contrary, the bailee is not liable to indemnify the bailor for the loss.

In the example quoted above on the bailment of heavy earth moving machines by Mr Ramesh to M/S Rajeev construction company, it is the responsibility of the company to take proper care of the machines and return in proper condition after the bailment period is completed.

Example: Microsoft Azure's Strange Bailee Obligations

Microsoft Azure, the cloud storage provider, as noted in a 2022, July 14th article, was explicitly specifying that the company could not be held liable for data loss in any event. This tended to disowning of bailee obligation by Microsoft which was expected to be the custodian of the bailer's data. The cloud storage services seemed to pose new challenges vis-a-vis bailee obligations.

Sources: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3785711 Dt. 21-03-2022
Author: Danielle D'Onfro Accessed on July 14th, 2022

ii. To use the bailed goods as authorized by the contract

As per Section 153, the bailee shall put into use the bailed goods as authorized by the contract. In case of using the same for unauthorized purpose or uses the asset for a purpose other than the one stated in the agreement, the agreement becomes voidable, the bailor can terminate the bailment contract, take immediate possession of the goods and also claim damages as per Section 154 of the contract.

This example can be extended to this point as well. The construction company has to use the bailed machineries for the purpose mentioned in the contract and not otherwise failing which Ramesh can terminate the contract, take the possession of the machines and claim damages as per the contract agreement.

iii. The bailed machines have to be kept separate

It is the responsibility of the bailee to keep the goods separately and not to mix them with his own goods. In the event of failing to maintain the goods separately without the consent of the bailor, it implies that bailor also has an interest in the entire goods. Further, if there is damage for the goods which effects the bailed goods as well, then the bailee has to pay for the expenses for such damaged goods.

Hence, it is the responsibility of the construction company to keep the bailed machines in a separate place and not mix them with the company's machines and equipments. If unfortunately, the company's machines are damaged by fire or any other way, and if it also impacts the bailed machines, the company has to compensate the loss due to such damages to the bailor.

iv. Return Goods

It is the obligation of the bailee to return the goods bailed on the expiry of the contract to bailor in the good condition even if the purpose for which the goods were taken on bailment has not been accomplished. The bailee shall be responsible for the loss, destruction, deterioration, damages or destruction of goods if not returned on the expiry of the lease period.

Example- Rajeev Construction Company has to hand over the heavy earth moving machines back to Ramesh on the expiry of the term of 12 months as per the contract failing which the company will be responsible for the loss, destruction, deterioration, damages or destruction of goods if not returned on the expiry of the lease period.

v. Set adverse title

This happens in case of landed property which cannot be bailed. However, it is the obligation of the bailee not to set adverse title to the bailed goods.

vi. Return increase or profits

In the absence of any contract to the contrary, if the bailee earns additional profits than what was envisaged by using the bailed goods, he is obliged to return the same to the bailor.

Example- Using the heavy earth movers, the company earns a windfall profits, it is expected to share them with the bailor. However, this may be a very rare case.

In addition to the aforesaid obligations, the following are also deemed to be implied obligations of the bailee and the bailor:

a. The bailee is required to pay the sums specified in the agreement as per the schedule and in the manner laid down in the agreement.

b. The bailee is obliged to protect the bailor's title to the bailed goods by informing the bailor as soon as possible of any adverse claim of it.

c. The bailor is required to ensure that the bailee's peaceful possession of the bailed goods during the period of the agreement is not broken either by him or by the lawful acts of the third parties.

d. The bailor is required to ensure that the goods bailed are fit for the purpose for which the bailee is authorized to use them.

Almost all the implied obligations stated above are taken as the implied obligations of the lessor and the lessee under an equipment lease agreement. But then one important implied obligation of the bailor which is expressly negative by the lease agreement is the lessor's responsibility to ensure that the equipment(s) leased is fit for the purpose for which the lessee is authorized to use it. This is because in a typical equipment lease agreement, the lessor is only a financial intermediary whose role is limited to purchasing the equipment from the supplier and delivering it to the lessee. The equipment supplier is identified by the lessee and the equipment specifications and the terms and conditions relating to its performance are negotiated by the lessee.

7.3.3 Process of Lease Documentation

The major steps in the process of lease documentation are as follows:

i. The lessee submits a proposal in the format specified by the leasing company. The proposal provides (a) information about the lessee in terms of a brief business history, financial statements for the last three years, projected financial statements for the next 3 to 5 years and data on the existing long-term debt obligations including hire purchase and lease commitments (b) information about the equipment(s) to be leased, the supplier(s), the place of installation and the purposes for which the equipment will be used.

   The lessee may be required to submit copies of the audited financial statements for the last three years along with the proposal form.

ii. If the leasing company is satisfied about the financial feasibility of the investment and the creditworthiness of the lessee, the proposal is approved, and the decision is conveyed to the lessee through a letter of offer. Often, the lessee asks for a lease limit or lease line which can be utilized for acquiring a number of assets within an agreed period of time. The letter of offer indicates the sanctioned limit with the accepted terms and conditions. The letter of offer is open for a specified period.

iii. The letter of offer is accepted by the lessee by passing a Board resolution which authorizes an officer of the company to sign the agreement. Usually, the leasing company insists that the contract is not terminated later on the ground that the signatory to the contract had no proper authorization.

iv. The acceptance of the letter of offer culminates in executing the lease agreement. Where the lease facility offered to the lessee is in the form of a lease line, the parties enter into a Master Lease Agreement which is an Agreement to Lease – the lessor agrees to transfer on lease equipment in the future, subject to the pre-determined limit. The Master Lease agreement contains the general terms and conditions governing the leasing facility. As and when equipment is transferred on lease, the particulars of the equipment, the lease tenure, the lease terms and conditions and the rental structure are incorporated in the schedule to the agreement.

    Registration of an equipment lease agreement is optional under the Indian Registration Act, 1908. A written equipment lease agreement is treated as normal agreement under the Indian Stamp Act, 1899. The stamp duty applicable to such agreements depends upon the rates prescribed by the state in which the agreement is executed.

v. As we said earlier, in an equipment lease transaction, it is the lessee who selects the equipments and negotiates the terms and conditions of purchase with the equipment supplier. Therefore, it is important to recognize this role of the lessee in the contractual relationship that arises between the equipment supplier and the lessor.

    This is done through the mechanism of a 'tri-partite agreement' under which the role of the lessee in selecting the equipment is detailed; the warranties in respect of the equipment are assigned by the lessor to the lessee; and the lessee is made as the agent of the lessor in inspecting and accepting the delivery of the equipment.

The following gives an example of complications at the time of bankruptcy.

Bailed Goods and Bankruptcy Charges

A processor of beans had more demand than supply. Hence, the property was bailed to a third party through a co-packing agreement (contract of bailment). This "co-packing" agreement entailed bailor would provide the raw material to the bailee to pack. But prior to executing the contract, the bailee became bankrupt and filed bankruptcy suit before the bankruptcy court. After bailee filed bankruptcy, the bankruptcy trustee asserted that the co-packing arrangement constituted a sale of the raw materials by bailor to bailee– meaning that bailee took ownership of the materials when they were delivered, and so they could be sold and the proceeds distributed among all bailee's creditors, rather than returned to bailor.

The bankruptcy court disagreed, finding that bailor furnished the materials to bailee as a "bailment" and not a sale. The court noted that no purchase price was set for the materials, and that there were no entries in either party's books reflecting a sale.

Activity 7.1
You are the CFO of a leading tea company which wants to enter into bailment contract with a tea vending machine manufacturer. List out your company's obligations and liabilities in this case.

Check Your Progress - 1

1. Leasing is typically a bailment contract as the main element of two types of transaction is similar. Which of the following statement is not true under the purview of leasing agreement?
    a. The lessor and the lessee in a lease transaction are in the positions of bailor and bailee respectively
    b. There is delivery of possession / transfer of goods from the lessor to the lessee
    c. The goods in bailment is transferred for a specific purpose under a contract
    d. The purpose of a lease agreement is to allow the lessee to have ownership on the goods / assets during the term
    e. The assets are returned to the lessor on accomplishment of the purpose or on expiry of the lease term
2. Which of the following Act defines bailment?
    a. Transfer of Property Act 1882
    b. Indian Registration Act 1889
    c. Indian Contract Act 1872
    d. Indian Stamp Act 1899
    e. Companies Act 2013
3. Which type of bailment enables the bailor from not receiving any payment from the bailee for the bailment agreement?
    a. Service agreement
    b. Gratuitous

c. Constructive

d. Non-gratuitous

e. Leveraged lease

4. The liabilities of a lessee under a contract of lease is like the obligations of a bailee. From the following, identify the statement that is contrary to the implied obligations of the bailee.

   a. The bailee is bound to take reasonable care of the leased asset

   b. The bailee has an implied obligation not to act in a manner that is inconsistent with the terms of the agreement

   c. The bailee must return the goods on expiry of the time fixed or when the purpose is accomplished

   d. The bailee cannot mix the goods received on bailment with his own goods

   e. The bailee is not obliged to protect the bailor's title to the bailed goods by informing the bailor as soon as possible of any adverse claim of it

5. There are several significant steps involved in the process of documenting a lease agreement. Recognize the statement that is not in sequence to the below mentioned steps.

   a. The lessee submits a proposal in the format specified by the leasing company

   b. If the leasing company is satisfied about the financial feasibility of the investment and the creditworthiness of the lessee, the proposal is approved, and the decision is conveyed to the lessee through a letter of offer

   c. The letter of offer is accepted by the lessee by passing a Board resolution which authorizes an officer of the company to sign the agreement

   d. The lessor is required to ensure that the goods leased are fit for the purpose for which it is ready to be used by the lessee

   e. The acceptance of the letter of offer culminates in executing the lease agreement

7.4 Structure of a Lease Agreement

In the first part, we discussed the implied obligations of the lessee and the lessor derived primarily from the relevant provisions of the Indian Contract Act and partly from the court rulings on hiring contracts. The lease agreement can, however, impose a greater number of obligations on the lessee/lessor and expressly render some of the implied obligations inapplicable. To understand the typical rights and obligations that are built in a lease agreement, let us look at some of the clauses built into a lease agreement.

7.4.1 Contents of Lease Agreement

There is no uniform format for a lease agreement and the clauses included in the agreement vary from one lease agreement to another. But, by and large, the following clauses are found in most of the lease agreements:

Description Clause provides the description of the lessor, the lessee, the equipment, and the location(s) where the equipment is (are) to be installed. The lessor usually stipulates that the equipment shall not be removed from the described location without his prior permission. For the sake of easy identification, the lessor may direct the lessee to affix plates or markings to the equipment indicating the lessor's interest.

Period Clause specifies the period for which the equipment is leased and the option available to the lessee for renewing the lease on expiry of the lease term.

Rental Clause specifies the amount of lease rentals to be paid, the periodicity, and the mode of such payment. If the rentals are not evenly spread over the lease term, the rental pattern is given by way of a schedule. This clause also specifies the initial deposit to be made, and the penal charge that is payable on lease rentals not paid on the due dates.

Exemption Clause clearly states that the lessee has selected the equipment based on his own judgment and has not relied on any statements or representations made by the lessor. Through this clause, the lessor expressly denies any obligation as to the fitness or merchantability of the equipment, and disowns responsibility for any defects in the equipment or the operations thereof.

Manufacturer's Warranty Clause entitles the lessee to the benefits of the warranties provided by the manufacturer/supplier of the equipment. This clause also authorizes the lessee to enforce due performance by the manufacturer of the equipment for any warranties or performance guarantee relating to the equipment.

Ownership Clause unequivocally states that no right, title, or interest in the equipment shall pass to the lessee and the lessee shall, at no time, contest or challenge the lessor's sole and exclusive right, title, and interest in the equipment. This clause also stipulates that the lessee shall not sell, assign, pledge, hypothecate or otherwise encumber a lien upon or against the equipment.

Equipment Delivery Clause states that the lessee shall be solely responsible for taking delivery and possession of the leased equipment from the manufacturer/ supplier. The clause also specifies that the lessor shall not be responsible for any loss suffered by the lessee because of the equipment not being delivered on the due date. If the lessee cancels the purchase order/contract with the supplier of the equipment or refuses to accept delivery of the equipment, this clause entitles the lessor to terminate the agreement and be indemnified by the lessee for all expenses incurred because of the action of the lessee.

Repairs and Alterations Clause specifies that the lessee at its own cost and expense will keep the equipment in good repair, condition and working order. While all replacements in the nature of maintenance will be deemed as part of the equipment, the additions, attachments, and improvements made to the equipment by the lessee (if not financed by the lessor) will belong to the lessee.

Example: LIC as Tenant and Modernisation Clause

LIC took on lease many office spaces and was very specific about the terms and conditions of the lease agreement. As per 2021 update on their website with respect to Repairs and Alterations clause, LIC wanted the lessor to agree to permit LIC for "Modernization of the premises" if LIC wished to do so. LIC followed a uniform lease agreement format pan India.

Source: http://test.licindia.in/getattachment/11afee27-a92c-42bb-b6be-d5ee261d62ca/Advertisement-For-Requirement-O Year: 2021

Authors: LIC Website. Accessed on July 14th, 2022.

Insurance Clause specifies that the lessee must insure the equipment at its cost and expense for the benefit of and on behalf of the lessor against all normal risks and risks that are specific to the equipment and to the business of the lessee where this equipment is used.

Surrender Clause states that upon expiry of the lease term or earlier termination of the lease, the lessee must deliver the equipment to the lessor at the place where it is to be in good working order and condition.

Default Clause specifies the events of default and the remedies available to the lessor upon the occurrence of any such event of default.

Arbitration Clause explains the arbitration procedure to be followed in the event of any dispute, difference or claim arising out of the lease agreement between the parties to the lease.

Miscellaneous Clauses includes provisions such as the lessee's obligation to submit its audited annual accounts to the lessor, the lessor's right to demand additional security in the event of any significant adverse change in the financial conditions of the lessee, etc. An interest variation clause is also included which provides for varying the lease rentals in line with the changes in the lending rates of commercial banks.

7.5 Ind AS 116 Replaced Ind AS 17

The Ministry of Corporate Affairs (MCA), has notified that Ind AS 116, the new accounting standard on leases will be applicable from April 1st, 2019. This standard will replace Ind AS 17.

Lease accounting will undergo a drastic change with the applicability of the new standard on leases (i.e., Ind AS 116) after the Ministry of Corporate Affairs notified the new standard.

One of the important features of the new standard is that, there is a considerable convergence with IFRS 16 on all leases on the balance sheet.

As per the new standards, it becomes obligatory on the part of the lessees and lessors to provide relevant information for users of financial statements. This is to enable them to assess the effect of the lease on the financial position, financial performance, cash flows and financial position.

Example: ABFRL and Ind AS 116 Impact for FY 21

Aditya Birla Fashion and Retail Ltd (ABFRL) with multi-branded stores like Pantaloons had reported higher lease interest payments for FY21 under the new lease standards i.e. Ind AS 116. The interest payment increased from ₹ 2,777 million in pre AS 16 scenario to ₹ 5,026 million in post AS116 scenario as per a market report update in September, 2021. Ind AS 116 stated that interest was chargeable on the lease liability.

Sources: https://bsmedia.business-standard.com/_media/bs/data/market-reports/equity-brokertips/2021-09/16327195750.78456800.pdf Accessed on July 15th, 2022

Hitherto, lease accounting was based on Ind AS-17 and Ind AS 116 has now replaced the older version with effect from 1 April 2019. The new standards shall be applicable to contracts with similar characteristics and in similar circumstances.

Identification of Lease

A contract which fulfills the following condition can be recognized as a lease:

- There should be an asset which should be identifiable and should be used by lessee.
- The lessee should generate substantial economic benefits through the contract.

A comparative analysis of the new standards with earlier standard is provided in tabular form here. (Refer Table 7.2).

Table 7.2: Comparative Analysis of the Standards (Ind AS 17 and Ind AS 116)

S No	As per Ind AS 17	As per Ind AS 116
	Lessee accounting	
1	Lease is classified as Finance & Operating lease.	There is no differentiation between financial and operating lease. There is a single lessee accounting model where the lessee needs to recognize both assets and liabilities for all the leases with a term exceeding 12 months.

		However, if the asset is of low value or having a tenor below 12 months, there is no change in accounting model.
2	Operating Lease payments is considered as an expense on a straight-line basis. The lessor enjoys the depreciation benefits.	The lessee should classify repayments of the lease liability into two portions. They are principal portion and an interest portion. A lessee has the right-of-use assets. This is similar to other non-financial assets. Lease liabilities are similar to other financial liabilities. Depreciation is chargeable on the right-of-use asset and interest is on the lease liability.
3	Not much of disclosures needed.	Detailed disclosures needed.
	Lessor accounting	
4	Lessor will classify both types of lease. Accounting for both the types are different.	Does not contain substantial changes to lessor accounting compared to lessee accounting. A lessor will continue to classify its leases into operating leases or finance leases. A financial lease is type of lease where the lessor transfers all the risks and rewards incidental to ownership of the underlying asset to the lessee. While an operating lease is where all the risks and rewards incidental to ownership of the underlying asset are not transferred.

		For operating lease, the lessor recognizes the underlying asset. For financial lease, the lessor derecognizes the underlying asset. However, it recognizes the investment in the lease. Any selling profit or loss is recognized at the commencement of lease. The account for those two types of leases is different.
5	Not much of disclosures are required.	Contains additional disclosure requirements such as, disclosure of maturity analysis of lease payments; quantitative and qualitative explanation of significant changes in carrying amount of new investment in finance leases, etc.
6	No provisions for lease Modification.	Contains specific provision for lease modification for both lessor and lessee.

Source: ICFAI Research Center

Finance Lease, Operating Lease and Hire Purchase

A **finance lease** is a contract that allows the lessor, as owner, to retain legal ownership of an asset while transferring substantially all the risks and rewards of economic ownership to the lessee. A finance lease may also be termed a full payout lease, as the leasing payments made during the term of the lease will repay all of the original cost of the asset plus the interest charge by the lessor. Typically, at the end of the lease tenure, the asset is transferred to the lessee on the payment of a pre-agreed residual value, usually upto 10% of the original cost. Thus, a finance lease is essentially a finance transaction dressed up as a lease.

An **operating lease** is a contract that allows the lessor, as owner, to retain legal ownership of an asset but allows the lessee to enjoy the economic use of the asset for a predetermined period before returning the asset to the lessor.

Table 7.3 below helps to compare financial leases and operating leases, from an Indian perspective. Many of the points in the table are discussed later herein. Also see table 7.4 for detailed comparison.

Table 7.3: Financial Lease versus Operating Lease

Comparison of Financial lease and Operating lease		
Feature	**Financial lease**	**Operating lease**
Legal ownership	Lessor	Lessor
Right to economic usage	Lessee	Lessee
Responsibility for insuring asset	Lessor or lessee depending on contract	Lessor or lessee depending on contract
Responsibility for maintenance of asset	Lessee	Generally lessee; some leases may offer bundled contracts with maintenance by lessor or lessor-appointed agency
Transfer of ownership at end of lease	Lease agreement will typically offer a renewal or purchase at a price considerably lower than the fair market rental/ price of the asset	The asset is returnable to the lessor; lease contract may offer a purchase option at a price usually based on expected fair value of the asset
Choice of vendor	Lessee	Lessee, but subject to greater involvement of the

Source: Evolution+of+Leasing+in+India_Aug+30+2019; https://www.ifc.org/wps/wcm/connect/098d9d0e-a553-4d2a9b46bf1701b19bf4/Evolution+of+Leasing+in+India_Aug+30+2019.pdf

In a **hire purchase transaction**, at the end of the fixed term of the hire, the hirer/user has the option to buy the asset at a token value. This is called, in some countries, a conditional sale or deferred purchase. In view of the certainty of title transfer at the end of the term, hire purchase is viewed as a device of title retention for the purpose of securing funding, and therefore, akin to a secured loan.

Under the terms of **a loan agreement**, the borrower is the legal owner of the asset. The supplier of the asset for which the loan has been created invoices the borrower directly, and the borrower uses the money that has been provided by the lender to pay the supplier. The treatment of the Goods and Services Tax (GST) also varies between a finance lease and a loan.

The similarities between a loan and a financial lease include the following:

- The lessee (providing the terms of the lease are met) and the borrower are able to retain the asset once payments are complete.

- Over the period of both a lease and a loan, interest and capital (equipment cost) are repaid.
- Should there be a default on either the lease or the loan, both the lessor and the lender have the legal right to reclaim/repossess the asset, provided the loan is secured.
- The risks and costs of ownership, including maintenance and obsolescence, remain with the lessee and the borrower. Also, under both a financial lease and a loan, if the asset appreciates, neither the lessor nor the lender benefits.
- The agreements are non-cancellable until either the lessor or the lender has recovered its outlay.

The following Table 7.4 provides the difference between Finance Lease, Operating Lease, Loan and Hire Purchase.

Table 7.4: Difference between Finance Lease, Operating Lease, Loan and Hire Purchase

Particulars		**Financial Lease**	**Operating Lease**	**Loan**	**Hire Purchase**
Legal	Nature of the contract	Renting out the asset	Renting out the asset	Loan of money	Renting out the asset with an option to buy
	Nature of the income	Rental	Rental	Interest +principal	Hire charge = rental
	Ownership	Financier	Financier	Borrower	Financier
	Residual value	Can be client-guaranteed	Cannot be client-guaranteed	Question does not arise	Usually Re 1
Accounting	Books of the finance company	Asset to be treated as current asset	Asset to be treated as fixed asset	Asset to be treated as current asset	Asset to be treated as current asset
	Book depreciation (finance company)	Not to be charged	To be charged	Question does not arise	Not to be charged
	Books of the client	Asset to be capitalized; liability to be recorded	Off the balance sheet	Asset to be capitalized; liability to be recorded	Asset to be capitalized; liability to be recorded
	Book depreciation (client)	To be charged	Not to be charged	To be charged	To be charged

Income tax	Income-tax (financier)	Rentals taxable. Depreciation claimable	Rentals taxable. Depreciation claimable	Interest taxable. No depreciation	Interest taxable. No depreciation
	Income-tax (client)	Rentals tax deductible; depreciation not claimable	Rentals tax deductible; depreciation not claimable	Interest tax deductible; depreciation claimable	Interest tax deductible; depreciation claimable
Financial regulations	Capital requirements	Regular capital requirements	Basel II capital requirements distinguish between asset risk and lessee risk	Regular capital requirements	Regular capital requirements
	Financial entity regulation	Applicable	Not applicable	Applicable	Applicable
	Concentration norms	Applicable	Not Applicable	Applicable	Applicable
	Provisioning requirement	Applicable	Not Applicable	Applicable	Applicable

Source: ICFAI Research Center

GST and Lease Transactions

The introduction of GST led to subsuming of differentiated taxes on production (excise), sales (VAT), services (service tax) and other several taxes such as entry tax, octroi etc. into one comprehensive tax.

The process of this change involved an amendment of the Constitution, presenting and passing of the GST Bill, and framing and implementing several procedural rules, besides, of course, administrative changes.

[7]The GST law covers both sales of goods and rendering of services – hence, it is based on "supply of goods/services" rather than a sale or service. The scheme of the GST law is that there will be a Central GST (CGST) and State GST (SGST) on every intra-state state supply, and an inter-state GST, Integrated Goods and Service Tax (IGST) on every inter-state supply. By and large, the law provides for a full set off for all inputs used in business, whether by way of purchase of goods or acquisition of services.

The GST Law provides a clear distinction between what is supply of services and what is supply of goods, thus ending the long standing litigation that exists in the

[7] http://www.cbec.gov.in/htdocs-cbec/gst/ index.

present taxation regime. Schedule II of the Central Goods and Services Tax Act, 2017 (CGST Act) provides such distinction and it provides that:

- Any transfer of goods or of right in goods or of undivided share in goods without the transfer of title thereof is supply of services.
- Any transfer of title in goods under an agreement which stipulates that property in goods will pass at a future date upon payment of full consideration as agreed, is supply of goods.

Therefore, a financial lease, which stipulates automatic transfer of title in goods at the end of the lease tenure would be classified as supply of goods while an operating lease and financial lease, other than other mentioned above would be classified as supply of services.

In case of lease of business assets, the place will be the location of the lessee. Thus, from the viewpoint of compliance, a leasing entity may still have to maintain multiple tax registrations, based on the states where its lessees reside.

As it appears currently, GST law has brought in several positive changes for the leasing industry. The following points summarize the impact:

a. Earlier, certain lease transactions were chargeable to both VAT and service tax but now there is one comprehensive GST on lease transactions, removing the duplicity and loss of benefit of set off. In addition, earlier, there was no cross set off between taxes paid on purchase of goods, and on acquisition of services. GST law, being one comprehensive levy, enables this cross offsetting.

b. Earlier, there was significant tax inefficiency in case of lease of goods procured from other states, in form of Central Sales Tax. But under GST regime, IGST charged on inter-state supplies are fully deductible against GST liability. Henceforth, there will be full tax neutrality in case of leases of all assets, whether procured from within the state or from outside, except for loss of present value (since the input taxes are paid upfront, but recovered in form of lease rentals over a period of time). However, experience shows that the loss of present value will get eliminated soon as leasing volumes grow and there is substantial amount of output tax liability to take care of input taxes immediately.

c. Earlier, leasing entities had to face substantial practical difficulties at the time of inter-state movement of goods, in form of entry tax, octroi, etc. All these taxes get subsumed into GST.

d. Earlier, there was discrimination in several states, mentioned above, where input tax set off was denied in case of lease transactions. This has been eliminated as the States now have to stick to a harmonized tax across all states.

Applicability of the new standards

The new standards are applicable from 1st April 2019, for all types of leases including right of use of assets in sub lease.

However, there are certain exceptions from application of the new lease standards. They are:

- Exploration of natural minerals such as oil, natural gas and those resources which are non-generative in nature.
- Biological assets (under Sec AS 41) and agriculture held by a lessee.
- Service concession arrangements (Appendix D) and revenue from contract with customer.
- Licence of IPR granted by lessor (under AS 115).
- Rights held under licence agreement (AS 38) & intangible assets (patents, copyrights, motion pictures, manuscripts, video recordings etc.).

Lease recognition

The following are the key point pertaining to lease recognition:

- The lessee will recognize assets and liabilities of all leases (except short-term & low value).
- The lessee will measure right of use of asset, depreciation and interest.
- Lease liability = Present value of lease rental + present value of expected payments at the end of lease.
- Lease liability will be amortized using effective interest rate method.
- Lease term = Non-cancellable period + renewable period
- Right of use of asset = Lease liability + advance lease payments – lease incentives to be receivable if any + initial direct cost + cost of dismantling / restoring.
- Depreciation will be as per Ind AS 16 on the assets.

Presentation in balance sheet

The lessee should present either in balance sheet or disclose it in notes as follows:

- Right of use of assets separately from other assets.
- Lease liabilities from other liabilities.

Depreciation

- There are two primary conditions for claiming depreciation– ownership of the asset, and use of the asset. In the case of operating leases, the asset is owned by the lessor, and the lessor puts the asset to use by leasing the asset. As a result, in the case of operating leases, there seems no uncertainty over claim of depreciation by the lessor, and the claim for rentals as an expense by the lessee.

- On the other hand, depreciation allowance in case of financial leases continues to be a contentious issue over the years. There is no clear provision in the Income-tax Act distinguishing between financial and operating leases, leaving it open for tax officers to examine the "substance" of a transaction, and deny depreciation where the transaction is regarded as a camouflaged financial transaction. In 2014, there was a proposed Income Computation and Disclosure Standard on lease transactions[8], which sought to make the distinction clear by way of a "tax accounting" standard – however, the standard on lease transactions has not been notified.

The following provides an explanation to above:

Deposits and Depreciation – The Twin Factors that Led to Bursting of the Leasing Boom

Financial companies in India had traditionally been allowed to accept deposits from the public. While the limit up to which non-financial companies have been allowed to accept deposits has been only 25%, for financial companies the limit was 1000% of net owned funds. Most of the leasing entities took advantage of largely unregulated deposit market, and started accepting deposits mostly for tenures of 1 year. While the leasing companies continued to accept deposits, these short term deposits were deployed for long-term slowly leading the companies to a growing build-up of severe asset-liability mismatches.

In early years of leasing, India had no accounting standard dealing with lease transactions. Hence, a lessor could treat all lease rentals as income, and thereby, report substantially higher leasing incomes than the actual interest embedded in lease rentals. A lessee could keep all leases off-the balance sheet. This led to higher-than-real profits in initial years booked by leasing entities, which would reverse in later years, thereby creating unsustainable financial statements.

Around the same time, tax assessments of several leasing companies revealed the use of leasing as a mechanism for tax shelter, Several sham transactions came to the fore, where assets for which a lease was undertaken were either non-existent or could not be identified. In an effort to capture the high depreciation available on some of the asset classes, several sale and lease back transactions were undertaken with artificial inflation in asset values, leading to tax officers disallowing depreciation to the lessors in such transactions and remaining conspicuously cautious of sale and lease back transactions.

7.6 Legal Issues

We will now look at some of the lease-related legal issues. The issues which we will consider here are:

- Supplier-Lessor-Lessee Relationship
- Insurance

- Usage and Maintenance
- Sub-Lease
- Set-off Provisions
- Defaults and Remedies

7.6.1 Supplier-Lessor-Lessee Relationship

The legal relationship between the three parties – supplier, lessor, and lessee – becomes particularly important when the performance guarantees have to be enforced against the supplier. Since the sale contract is concluded between the supplier and the lessor, the latter enjoys the right of enforcing such guarantees against the supplier.

Normally, the lease agreement contains a clause to the effect that the lessor will undertake to enforce the contractual obligations of the supplier to the extent it is necessary to protect the lessee's interest. Alternatively, the lease agreement may provide for the lessor assigning to the lessee his rights against supplier. However, both these options do not provide an acceptable answer to the lessee's problem of securing the obligations of the supplier.

This is because the damages that can be claimed by the lessee in the event of breach of the sale contract cannot exceed the loss suffered by the lessor because of such breach. Given the 'hell or high water' clause, a clause in the lease agreement which reiterates the unconditional obligation of the lessee to pay rentals for the entire lease term. This is regardless of any event affecting the usage of the asset or any change in the circumstances of the lessee. In the typical lease agreement, the loss incurred by the lessor in this context will be insignificant and the lessee is put at a serious disadvantage.

One way of resolving this problem in favor of the lessee is to enter into a tri-partite commercial agreement between the supplier, the lessor, and the lessee wherein the first party recognizes the interests of the third party. This practice gained acceptance in the UK after the court ruling in the case of *Lambert vs. Lewis*, recognizing the validity of the tri-partite agreement.

7.6.2 Insurance

A finance lease agreement invariably requires the lessee to insure the equipment against such risks as are normally insured against by the owners of similar equipment. These risks include, risks of loss or damage to the leased equipment itself and the risk of damage caused by leased asset to third parties and their property which can be substantial in the case of an asset such as an aircraft.

The risk of loss or damage to the equipment will include loss or damage caused by fire, accidents, strikes, riot, burglary, acts of God, faulty handling and such

other causes as the lessor may specify. In the case of assets like ships or aircraft insurance cover for war, expropriation and hijacking risks, is warranted.

Since the cost of an insurance cover increases with the number and nature of risks to be covered, thereby increasing the overall cost of transaction, the lessee and the lessor must arrive at an acceptable risk-cost trade-off. Usually, the insurance policy is drawn in the name of the lessor for an amount equal to the replacement value/market value or purchase price as may be specified in the lease agreement.

In the event of the occurrence of any of the risks covered by the policy, the lease agreement must clearly specify the way the proceeds received from the insurer will be applied.

Example: Hyundai Car Leasing and Insurance Clause

Hyundai, the leading car manufacturer in India, offered car leasing in collaboration with ALD Auto Motive (ALD Automotive is Europe's largest player and a leading international provider of vehicle leasing and fleet management services). While Hyundai was offering its entire range of car models on lease offering various benefits, the onus of Insurance was put on the customer. This was standard case of lessee requirement to insure the equipment as per Hyundai's 2022 website update.

Sources: https://www.hyundai.com/in/en/mobility-solutions/hyundai-leasing Year: 2022 Author: Hyundai Website Accessed on July 15th, 2022.

7.6.3 Usage and Maintenance

With movable equipment, the first concern is the geographic area in which the equipment is permitted to be used. The more areas in which the equipment is used, the greater are the risks to it. Typically, the lease agreement specifies the location(s) where the equipment can be used. Then, the lease agreement cannot be too rigid on this point where the asset involved is say, an aircraft or a shipping container. Too many restrictions on the movements of such assets can impair the lessee's ability to make rental payments. The lessor must, however, ensure that (i) its title or lien on the asset is respected in all the jurisdictions in which the asset can be located, (ii) the 'use of the asset' in any location complies with the requirements of the local legal framework governing the operation of the asset.

The finance lease usually requires the lessee to maintain the equipment in good working condition at his cost. In this context, the lessor must specify the extent to which he will allow modifications to the leased equipment. Since the leased asset and all its parts must be clearly identifiable, the lessor will have to limit the extent to which the lessee can remove and replace parts. At the same time, he has to ensure that the restrictions placed do not prevent the lessee from carrying out his maintenance obligation.

Activity 7.2

You are the lessor leasing an aircraft to a chartered flight company. What are the factors you would keep in mind before insuring the aircraft? What are the risks that should be covered?

Answer:

7.6.4 Sub-Lease

The issue of sub-lease is one of the important issues to be considered while structuring a lease agreement. The lease agreement can expressly permit or prohibit sub-lease. Where sub-lease is permitted, the lessor can impose restrictions on the identity of the sub-lessee, the duration of the sub-lease and the usage of the equipment. Alternatively, the lessor can require the lessee to obtain his prior approval before entering into a sub-lease arrangement. Normally, when the first lessee wants to sub-lease, the lessor calls for a tri-partite agreement involving himself, the first agreement executed between the lessor and the first lessee. Among other things, the sub-lease agreement spells out the rights and obligations of the lessor, the first lessee and the sub (second) lessee. It should be noted that in the case of sublease, there is no relationship between the lessor and the lessee. The contract between the lessee and the sub tenant entails the extent of sub lease being executed. In the case of sub lease, the lessor cannot hold the sub – lessee responsible for any loss incurred during the lease period. Similarly in the case of sub-lease. due to entitlement problem, the lessor cannot be held responsible. However, the lessor can prevent the lessee from entering into a sub contract by explicitly mentioning it in the contract.

The following states advantages of structure of international power deals.

Defeasance Structure in International Power Deals

- Defeasance structures reduce the risk of the lender in the event of the bankruptcy or default of the lessee.
- Instead of paying an assumption amount to the payment undertaker or the guarantor, the sub-lessee deposits on closing, an amount equal to the assumption with a bank.
- The deposit account is in the sub-lessee’s name.

- The deposit bank cannot be the same entity as the payment undertaker but it can belong to the same group.
- Under the payment undertaking agreement, the payment undertaker only makes sub-lease rental payments if it receives the cash from the deposit account.
- The sub-lessee grants irrevocable rights to the payment undertaker and access to the deposit account with the exclusion of the sub-lessee.
- The deposit account is pledged to the sub-lessor as security for the sub-lessee's rental obligations.
- The sub-lessor re-pledges the deposit account to the lender as security for the loan.
- The major drawback with the structure is that it does not consider the cost of capital reserve or the cost of balance sheet reporting. Debt defeasance is, therefore, attractive only if the transaction can be treated as an off-balance sheet deal with zero risk weighting for the loan.

7.6.5 Set-Off Provisions

The set-off provision gives the lessor the right to set aside the contract in case of any dispute. Set-off provisions, hence, protect the interest of the lessor. The set-off provisions are primarily meant to protect the interests of the lessor. An example is the 'hell or high water' clause which requires the lessee to make periodic rental payments and perform lease covenants under all circumstances regardless of the condition and fitness of the equipment. There are few exceptions to the hell or high-water clause. They are:

1. In case the lessor, through fraud, induces an unsophisticated business owner into signing lease agreement, then it can be a defence to enforcement of "hell or high water" clauses.
2. In case the hell or high-water provisions are modified during the lease term.

Likewise, the lease agreement may bar the off-setting of any counter claims and defenses (against the lessor) against the lease payments. The lessee must ensure that the 'no set-off' provisions are not so drafted as to waive any claim the lessee may have against the lessor in a separate action.

7.6.6 Defaults and Remedies

The lease agreement must detail the events construed as 'default', and specify the remedies available to the lessor upon occurrence of such events. Broadly, defaults can be grouped into three categories. The category 1 default relates to the asset itself. For example, if the lessee violates any requirement relating to the insurance, use or maintenance of the equipment, such violation can constitute a default.

Under such circumstances, the lease agreement may require the lessor to give a notice to the lessee allowing certain grace period to correct the default before exercising the remedies.

The category 2 default relates to non-payment of rent and the general financial condition of the lessee. For example, the lease can contain specific financial covenants relating to the lessee's liquidity ratios, debt/equity ratio, interest coverage ratio, etc., violation of which can constitute a default. In practice, inclusion of such financial covenants is somewhat uncommon.

The category 3 default relates to the insolvency of the lessee. Any insolvency, bankruptcy or reorganization proceedings which affects the lessee can give rise to a default under the lease whether or not the lessee has failed to make any rental payments or has committed a breach of the other covenants.

As far as the remedies are concerned, foreclosure and repossession of the leased asset can be the most useful remedy to the lessor. In the Indian context, the right of the lessor to repossess the leased asset in the event of a default committed by the lessee, was not very clear until the Bombay High Court clearly ruled that the lessor has the right to repossess the leased asset in the event of default by the lessee *(Twentieth Century Finance Corporation Vs SLM Maneklal Industries Limited).* The lease agreement usually prescribes the procedure for repossession. In addition, the lessor forfeits the rentals and front-end deposit, if any, paid by the lessee under the lease agreement.

Let us also consider the remedies to the lessee in the event of the lessor committing an act of default. If the lessor commits a breach of the obligations, then the lessee can terminate the lease agreement and claim damages. The measure of damages will be equal to the aggregate of: (a) the additional lease rental (if any) the lessee will have to pay for leasing similar equipment from another source over the unexpired term, and (b) the cash loss resulting from the non-availability of the equipment for the period between the date of terminating the lease agreement and the date on which the lessee obtains a similar equipment on lease.

7.7 Lessons to Learn from Developed Leasing Markets

Among other objectives, leasing has successfully contributed to financing of small businesses across the world.

The outstanding feature of growth of leasing in global markets is that leasing has grown on its own strength, with regulatory efforts mostly limited to removing of de-motivators or undesirable bottlenecks. It is also clear looking at global data that most of the leasing volumes emanate from financial leasing: which is miniscule in the case of India. Therefore, the key immediate objective must be to

remove the de-motivators that have squeezed financial leasing out of existence in India.

Example: Japan Aviation Lease Finance and Tax Benefits

As per a May, 2022 update, Japan, one of the developed nations, offered tax benefits to their citizen lessees availing aviation lease finance. Though there were limitations on this benefit clause, current tax-residency certificate along with supporting documents would give the benefit from Withholding tax levied on "rent paid by a Japanese lessee to a foreign lessor". This clause was seen to incentivise aviation leasing in upcoming markets like India giving tax benefits for their own citizen lessees.

Sources: https://iclg.com/practice-areas/aviation-finance-and-leasing/japan Dt. 20/05/2022
Author: ICLG.Com Website. Accessed on July 15th, 2022.

While trying to create a congenial environment for financial leasing, regulators must also obviously curb any potential misuse of leasing for generating tax shelters. The following treatment, holding true for major leasing markets in the world, ensures that there are financial leasing may compete with lending, without having the potential for tax shelters:

- Financial lease transactions are treated as "non-true leases" for tax purposes and do not result into tax shelters. US Revenue Procedure 2001-28 lays so-called "bright line" tests for distinguishing between true leases and non-true leases. In UK too, a "long funding lease", as per provisions inserted by the Finance Act, 2006, are treated for tax purposes based on their substantive similarity with loans and do not qualify for any tax benefits. Despite the specific tax provision for "long funding leases", UK tax rules are relatively more liberal for tax benefits to lessors, as the same are not based on accounting distinction between financial and operating leases.
- At the same time, in most countries, it is clear that if the lease qualifies to be a true lease for tax purposes, which is mostly the case with operating leases, the lease will qualify for tax benefit of depreciation in the hands of the lessor, and rental expensing in the hands of the lessee.
- The substantive similarity of financial leases with loans carries through to the indirect taxes too.

Thus, finance leases provide the protection of ownership to the lessor, without being exposed to incremental taxation in most countries. Whether, in the event of bankruptcy of the lessee, the lessor will be able as an owner, or will rank at par with secured lenders – is a question still debated in courts..

While questions such as the one above continue to stir debates in courts of law, in most countries, financial leasing continues as a vibrant alternative to secured lending.

Check Your Progress - 2

6. The contents of a lease agreement contain clauses that may vary in nature as per the lease agreement. Which of the following clauses allows the lessor to disown responsibility for any defects in the equipment or the operation under leasing?
   a. Description clause
   b. Exemption clause
   c. Period clause
   d. Insurance clause
   e. Ownership clause
7. Rasheed Udyog, manufacturers of duplex board paper in Mumbai leased a roller-conveyer from Northwest Pulp and Paper Equipment manufacturers, US. As one of the terms under the leased agreement, it stated that all the maintenance cost and expenses will be borne by the lessee in the leased equipment inclusive of additions, attachments and improvements. Pick out the clause that represents the above-mentioned statement.
   a. Miscellaneous clause
   b. Default clause
   c. Manufacturer's warranty clause
   d. Repair and alteration clause
   e. Arbitration clause
8. Which of the following statement is true in relation to the legal issues between the three parties – supplier, lessor, and lessee?
   a. This legal relationship has lesser significance when the performance guarantees have to be enforced against the supplier
   b. The sale contract is concluded between the supplier and the lessee and the latter enjoys the right of enforcing such guarantees against the supplier
   c. The lease agreement contains a clause to the effect that the lessor will undertake to enforce the contractual obligations of the supplier to the extent it is necessary to protect the lessee's interest
   d. The lease agreement does not assign the lessee his rights against supplier
   e. The damages that can be claimed by the lessee in the event of breach of the sale contract can exceed the loss suffered by the lessor on account of such breach

9. Which of the following legal issues necessitates a risk cost trade-off between the lessor and lessee in the event of risk covered on the leased equipment?
   a. Supplier-lessor-lessee relationship
   b. Insurance
   c. Usage and maintenance
   d. Sub-lease
   e. Set-off provisions
10. The following are the accounting procedures as per AS 17 in the books of lessee. However, one statement is not mentioned correctly. Identify the incorrect statement.
   a. Lease is classified as financial and operating lease
   b. The lessor enjoys depreciation benefits in financial lease
   c. Lease payments have to be recognized as expenses in the books of lessee in case of operating lease
   d. Detailed disclosure is a must in the accounting of lessee
   e. There is no provision for lease modification in lessor accounting

7.8 Summary

- In the Indian context, there is no legislation that exclusively relates to equipment lease transactions. Since the features of an equipment lease transaction closely resemble the features of bailment, the provisions of the Indian Contract Act, 1872, which govern contracts of bailment, are applied to equipment lease transactions. This enactment defines the implied obligations of the bailor and the bailee.
- Since in a typical equipment lease transaction, the lessor plays the role of a financier, the implied obligation of the bailor relating to the fitness of the bailed goods is expressly negative by the lease agreement.
- The lease documentation process is simple. It starts with the submission of a proposal by the lessee. On approval, the lessor issues a letter of offer detailing the terms and conditions of the lease. The letter of offer is accepted by the lessee by passing a Board resolution. This is followed by the lessor and lessee entering into a formal lease agreement.
- There are several legal issues to be considered before drafting the lease agreement. Some of these issues are: (a) legal relationship between the equipment supplier, the lessor, and the lessee, (b) insurance, (c) usage and maintenance, (d) sub-lease, (e) set-off provisions, and (f) defaults and remedies.

7.9 Glossary

Description Clause provides the description of the lessor, the lessee, the equipment, and the location(s), where the equipment is (are) to be installed.

Equipment Delivery Clause states that the lessee shall be solely responsible for taking delivery and possession of the leased equipment from the manufacturer/ supplier. The clause also specifies that the lessor shall not be responsible for any loss suffered by the lessee because of the equipment not being delivered on the due date.

Exemption Clause clearly states that the lessee has selected the equipment based on his own judgment and has not relied on any statements or representations made by the lessor.

Insurance Clause specifies that the lessee must insure the equipment at its cost and expense for the benefit of and on behalf of the lessor against all normal risks and risks that are specific to the equipment and to the business of the lessee, where this equipment is used.

Manufacturer's Warranty Clause entitles the lessee with the benefits of the warranties provided by the manufacturer/supplier of the equipment.

Ownership Clause unequivocally states that no right, title, or interest in the equipment shall pass to the lessee, and the lessee shall at no time contest or challenge the lessor's sole and exclusive right, title, and interest in the equipment.

Period Clause specifies the period for which the equipment is leased and the option available to the lessee for renewing the lease on expiry of the lease term.

Rental Clause specifies the amount of lease rentals to be paid, the periodicity, and the mode of such payment. If the rentals are not evenly spread over the lease term, the rental pattern is given by way of a schedule.

Repairs and Alterations Clause specifies that the lessee at his/her own cost and expense will keep the equipment in good repair condition and working order. While all replacements in the nature of maintenance will be deemed as part of the equipment, the additions, attachments, and improvements made to the equipment by the lessee (if not financed by the lessor) will belong to the lessee.

Set off provision gives the lessor the right to set aside the contract in case of any dispute.

Sub-Lease refers to the process of leasing the asset by the lessee to a third party. Here, the contract is between the lessee and the sub lessee. There is no contract between the lessor and the lessee.

7.10 Self-Assessment Test

1. Explain bailor's obligations in detail.
2. What do you mean by set off provisions? Explain the same in detail.
3. Define the relationship between lessor, lessee, and supplier. Why is it important?
4. What are the remedies available to the lessor in the case of default by lessee?
5. Who is responsible for insurance of the asset at the time of leasing?
6. What are the contents of the lease agreement?

7.11 Suggested Readings/Reference Materials

1. Anthony Saunders, Marcia Millon Cornett, Anshul Jain (2021), Financial Markets and Institutions, 7th edition, Tata McGraw-Hill Education.
2. Prasanna Chandra (2020), Fundamentals of Financial M, 7th edition, Tata McGraw-Hill Education.
3. Devie Mohan (2020), The Financial Services Guide to Fintech, 1st edition, Kogan Page Limited.
4. Siddhartha Sankar Saha (2021). Indian Financial System. 2nd edition, Tata McGraw-Hill Education.
5. DR. R. Shanmugham (2020). Financial Services. 2nd edition. Wiley India.

7.12 Answers to Check Your Progress Questions

1. (d) The purpose of a lease agreement is to allow the lessee to have ownership on the goods / assets during the term

The purpose of a lease agreement is to allow the lessee to make economic use and not to take ownership on the goods / assets during the term.

2. (c) Indian Contract Act 1872

The description of a lease transaction closely resembles the definition provided for 'bailment' under the Indian Contract Act, 1872. The Indian Contract Act defines a bailment as, "The delivery of goods by one person to another for some purpose upon a contract that they shall, when the purpose is accomplished, be returned or otherwise disposed off according to the directions of the person delivering them."

3. (b) Gratuitous

There are three kinds of bailments whereby in gratuitous bailments, the bailor doesn't receive payment from the bailee for the bailment (such as in free coat checks at a restaurant).

4. (e) The bailee is not obliged to protect the bailor's title to the bailed goods by informing the bailor as soon as possible of any adverse claim of it

Of all the obligations being true, one of the obligations is that the bailee is obliged to protect the bailor's title to the bailed goods by informing the bailor as soon as possible of any adverse claim on it.

5. (d) The lessor is required to ensure that the goods leased are fit for the purpose for which it is ready to be used by the lessee.

This is not a step involved in the process of lease documentation whereas it is one of the obligations of the lessor (bailor) to ensure that the bailee's peaceful possession of the bailed goods during the period of the agreement is not broken either by himself or by the lawful acts of the third parties and that the goods bailed are fit for the purpose for which the bailee is to use them.

6. (b) Exemption Clause

Exemption Clause clearly states that the lessee has selected the equipment based on his own judgment and has not relied on any statements or representations made by the lessor. Through this clause, the lessor expressly denies any obligation as to the fitness or merchantability of the equipment, and disowns responsibility for any defects in the equipment or the operations thereof.

7. (d) Repair and Alteration Clause

Repairs and Alterations Clause specifies that the lessee at its own cost and expense will keep the equipment in good repair, condition and working order. While all replacements in the nature of maintenance will be deemed as part of the equipment, the additions, attachments, and improvements made to the equipment by the lessee (if not financed by the lessor) will belong to the lessee.

8. (c) The lease agreement contains a clause to the effect that the lessor will undertake to enforce the contractual obligations of the supplier to the extent it is necessary to protect the lessee's interest

All other statements being false, the lease agreement contains a clause to the effect that the lessor will undertake to enforce the contractual obligations of the supplier to the extent it is necessary to protect the lessee's interest because the sales contract is concluded between the supplier and the lessor where the latter enjoys the right of enforcing such guarantees against the supplier.

9. (b) Insurance

A finance lease agreement invariably requires the lessee to insure the equipment against such risks as are normally insured against by the owners of similar equipment. Since the cost of an insurance cover increases with the number and nature of risks to be covered, thereby increasing the overall cost of transaction, the lessee and the lessor must arrive at an acceptable risk-cost trade-off.

10. (d) Detailed disclosure is a must in the accounting of lessee

As per AS 17, not much disclosures are needed both in the accounting books of lessee and lessor.

Unit 8

Tax Aspects of Leasing

Structure

"You don't pay taxes-they take taxes"

- Chris Rock, American comedian

8.1 Introduction

Leasing is no exception to taxes and leasing is subject to different tax deductions and called for understanding different aspects.

In the previous unit, we discussed how leasing can be used as a vehicle for transferring the investment-related tax shields (like depreciation tax shield) from the lessee to the lessor. The former can share a portion of the tax benefits accruing to the latter through a reduction in lease rentals. This unit dwells on – the income tax aspect – in detail.

In the Indian context, another dimension of tax that looms large is the goods and services tax – particularly on lease rentals. The enactment of the 46th Amendment to the Constitution and the consequent imposition of the goods and services tax on genuine lease transactions have been matters of great concern for the leasing industry. Therefore, this unit also deals with the sales tax aspects of leasing.

The unit is divided into two parts. The first part discusses the salient features of income tax aspects of equipment leasing and some related issues. The second part deals with the provisions of the goods and services tax enactments that have a bearing on equipment lease transactions and some related issues.

8.2 Objectives

After going through this unit, you should be able to:

- Explain the Income Tax Aspects of Leasing
- Discuss the application of Depreciation Allowance
- Describe the Treatment for Rental Income
- Discuss the inter-relationship between Leasing and Tax Planning
- Elucidate Goods and Services Aspects of Leasing

8.3 Income Tax Aspects

The income tax aspects of equipment leasing revolve around are:

i. Lessee's claim for lease rentals, maintenance and insurance costs of the leased asset being treated as tax-deductible expenses.

ii. Tax liability of rental income in the hands of the lessor.

iii. Relevance of the substance of a lease contract in determining the deductions allowable in the hands of the lessor and the lessee.

iv. Implications of the tax aspects for the financial evaluation of lease contracts.

v. Lessor's claim for depreciation tax shields.

However, there are complexities involved in the treatment of income tax such as:

- **According to AS-19, type of risk** – financial and operating lease is decided by determining who takes the significant risk and who gets rewards for the same.
- **Transfer** – has the ownership been transferred to the party which has leased the asset?
- **Availability –** of an option to sell the assets which are being leased.
- **Tenure** – if the asset is being used as leased assets for the complete life of its assets.

Example: Income Tax Benefits for Air-craft Leasing in India

In 2021, the Government of India announced tax exemptions for aircraft lease rental payments to foreign lessors who start their units in India. This was in addition to the 10 year tax holiday on corporate gains of aircraft leasing companies. These steps meant to boost aircraft leasing in India showed the tax aspects revolving around key features of aircraft equipment leasing.

Sources: https://corporate.cyrilamarchandblogs.com/2021/11/part-iii-b-aircraft-leasing-in-ifsc-lets-kick-the-tires-and-light-the-fires/
Authors: Ketaki Mehta and et al. Accessed on July 18th, 2022

8.4 Depreciation Allowance

Depreciation is erosion in the value of the asset with wear and tear or obsolescence over a period of time. Different methods are used to compute the

depreciation allowance. Straight line methods, written down value method etc. are some of the models to calculate depreciation allowance. The following paragraphs discuss the how depreciation is computed for leased assets.

8.4.1 Depreciation Allowance on Leased Assets

Before we discuss the lessee's claim for depreciation tax shields on the leased assets, let us take a quick look at the provisions of the Income Tax Act, 1961 relating to depreciation allowance (Sec.32). The salient provisions are as follows:

i. Depreciation on a business asset is allowed as a tax-deductible expense if:

   (a) The asset is owned by the assessee; and

   (b) The asset is used by the assesse for the purpose of business.

ii. Assets which qualify for depreciation allowance are:

   - Buildings
   - Machinery
   - Furniture
   - Plant

iii. Depreciation is computed with reference to the actual cost of the asset. The actual cost will include:

   (a) All expenses directly related to the acquisition of the asset, such as, say, the interest on money borrowed for financing the acquisition of the asset for the period till the asset is first used.

   (b) Expenses necessary to bring the asset to the site, install it and make it fit for use like carriage inwards, installation charges, etc.

   (c) Expenses incurred to facilitate the use of the asset, like expense on training the operators of a new plant, or expense on essential construction work.

iv. Depreciation is computed at the rates prescribed under the Income Tax Act, 1961, based on the Written down Value (WDV) method. Plant and machinery have been classified under three blocks with rates of depreciation of 15%, 30%, 40%. In the case of office buildings, the rate of depreciation is 5%, 10% and 40%, and the general rate applicable to furniture and fittings is 10%. Where the actual cost of plant and machinery does not exceed ₹ 5,000, the entire cost is allowed as depreciation in the year in which such plant and machinery is first put to use.

v. Prior to the enactment of the Finance Act, 1991, depreciation was treated as an annual allowance not linked to the period of use during the year. But the Finance Act, 1991 has introduced a provision that if an asset acquired during a year has been used for business for a period of less than 180 days during the year, depreciation on such asset will be allowed at 50% of the depreciation computed as per the provisions of the Act.

vi. To date, depreciation is charged not on an individual asset but on a block of assets For example, all items of plant and machinery which qualify for a rate of depreciation of 15% p.a. will constitute a "block of assets" and depreciation is computed with reference to the actual cost of this block.

8.4.2 Issues Involved

Financial Accounting Standards Board (FASB) based on the Accounting Standards Codification Topic 842 (ASC 842), has come out with clarifications on the current leases and future equipment financing decisions:

- Finance lease is essentially a financing arrangement where-in the lessee becomes the economic owner of the asset and uses the asset, bears the wear and tear and takes the risk of loss or damage he is entitled to claim depreciation on the leased asset as per accounting standard AS-19.
- In case of operating lease, depreciation of leased asset can be claimed by lessor under both accounting standards.

Example: No Depreciation Allowance for Apollo Hospitals Leased Building

The 2021 Annual Report of Apollo Hospitals, the Indian MNC health care group, mentioned that the 60 year leasehold rights for developing a multi-speciality hospital building in Navi Mumbai had been re-classified as Right-of-use asset due to Ind AS 116, Lease Rules. Consequently, depreciation allowance would not be allowed for the upcoming building for Apollo Hospitals.

Source: https://www.apollohospitals.com/apollo_pdf/AHEL-AR21-Full-Report-eVersion (20210811).pdf Authors: Apollo Hospitals. Accessed on July 18th, 2022.

Check Your Progress – 1

1. Leasing as a finance device has tax implications and offers tax benefits both to the lessor and the lessee. From the following aspects of income tax provisions, identify the statement that is not in accordance to equipment leasing.
   a. Lessee's claim for lease rentals, maintenance and insurance costs of the leased asset is treated as tax-deductible expenses.
   b. Tax liability of rental income is in the hands of the lessee.
   c. Relevance of the substance of a lease contract in determining the deductions allowable is in the hands of the lessor and the lessee.
   d. Equipment leasing contracts do not consider the tax aspects for the financial evaluation of lease contracts.
   e. Lessor's claim for depreciation tax shields is not part of taxable income.

2. Under what Section of the Income Tax Act, 1961, is the depreciation allowance on leased assets has been provided?

   a. 17

   b. 32

   c. 19

   d. 39

   e. 15

3. Depreciation is computed at the rates prescribed under the Income Tax Act, 1961 based on the Written Down Value (WDV) method. What is the general rate applicable to furniture and fittings?

   a. 5%

   b. 10%

   c. 15%

   d. 30%

   e. 40%

4. Identify the statements that are in contrary to the provisions of depreciation allowance, provided under Section 32 of the Income Tax Act, 1961.

   a. Depreciation on a business asset is allowed as a tax-deductible expense.

   b. Depreciation is computed with reference to the actual cost of the asset.

   c. Depreciation is computed at the rates prescribed under the Income Tax Act, 1961 based on the Written Down Value (WDV) method and Straight-Line Method (SLM).

   d. Prior to the enactment of the Finance Act, 1991, depreciation was treated as an annual allowance not linked to the period of use during the year.

   e. To date, depreciation is charged not on an individual asset but on a block of assets.

5. In which of the following years, was special accounting for lease financing introduced?

   a. 1991

   b. 2000

   c. 2001

   d. 2006

   e. 2015

8.4.3 Rental Expense on Leased Assets by Lessee

In Financial lease, the Lessee can recognize depreciation of the right-of-use asset but not lease rentals for Income Tax purpose.

8.4.4 Insurance and Maintenance Costs of Leased Assets

In a typical finance lease, the costs of insuring and maintaining the leased equipment are borne by the lessee. Section 31 of the Income Tax Act provides that such expenses incurred in respect of hired plant, machinery or furniture used for the purpose of business will be treated as tax-deductible expenses.

8.5 Treatment for Rental Income

Owner of the asset will receive income on the assets rented out. The assets cover land, building, and machinery. The following paras will discuss on the accounting treatment on the rental income from lessor/lessee perspectives:

8.5.1 Rental Income from Lease by Lessor

In case of operating lease, depreciation on leased asset and interest paid for acquiring the assets can be claimed by lessor both under accounting standards and tax law. Thus, the rental income is to be treated as income.

From the lessor's point of view, the inclusion of rental income under the residuary head of 'Income from Other Sources' was disadvantageous because some of the deductions – particularly capital allowances other than depreciation – allowed under the heading 'Profits and Gains of Business' were not allowed under this head of income.

8.5.2 Form versus Substance of Lease Contracts

Whether a lease is a finance lease or an operating lease depends on the substance of the transaction rather than its form. Examples of situations which would normally lead to a lease being classified as a finance lease are:

a. The lease transfers ownership of the asset to the lessee by the end of the lease term.

b. The lessee has the option to purchase the asset at a price which is expected to be sufficiently lower than the fair value at the date, and the option becomes exercisable such that, at the inception of the lease, it is reasonably certain that the option will be exercised.

c. The lease term is for the major part of the economic life of the asset even if title is not transferred.

d. At the inception of the lease the present value of the minimum lease payments amounts to at least substantially all the fair value of the leased asset; and

e. The leased asset is of a specialized nature such that only the lessee can use it without major modifications being made.

Example: Ola Car Leasing as Operating Lease

Ola, the car aggregator, offered car leasing. However, the form of Ola's car leasing was operating lease instead of finance lease. This implied that the lessee could not become owner of the car at the end of lease period. Ola mentioned that at the end of lease, one could not either renew the lease or have the security deposit refunded.

Sources: https://partners.olacabs.com/lease, year 2022 (Home Page).
Author: Ola Website. Accessed on July 18th, 2022.

8.6 Leasing and Tax Planning

There are basically two ways in which the lessee can use leasing as a tax planning device. First, by taking advantage of the flexibility in structuring lease rentals, the lessee can reduce the current or future tax liability. Second, by transferring the capital allowances (which it is unable to absorb) to a lessor who can absorb these allowances, it can indirectly derive the benefit of these capital allowances in the form of lower lease rentals.

To understand how the first method works, let us look at the following illustration.

Illustration 8.1

Alternative II: Finance Lease		
	Year 1 (₹ in lakh)	Year 2 (₹ in lakh)
Tax Deductible Expenses:		
Lease Rentals (B)	132.90	132.90
Depreciation (C)	75.00	56.25
Tax Shield (either B x 0.46) or (C x0.46)	61.13 / 34.50	61.13 / 25.87

The tax relevant rate of depreciation is 25% and the marginal tax rate (inclusive of surcharge) is 46%. The company anticipates substantial tax liabilities during the current year and in the following year. Given that the objective of the company is to reduce the tax liability, which one of the two alternatives will you recommend?

Note: The tax rates change from time to time. The above rates are considered for the purpose of explaining the concept only.

Solution:

Alternative I: Debt Financing		
	Year 1 (₹ in lakh)	Year 2 (₹ in lakh)
Tax Deductible Expenses:		
Interest on long-term debt	45	36.00
Depreciation	75	56.25
Total (A)	120	92.25
Tax shield (A x 0.46)	55.2	42.44

Alternative II: Finance Lease		
	Year 1 (₹ in lakh)	Year 2 (₹ in lakh)
Tax Deductible Expenses:		
Lease Rentals (B)	132.90	132.90
Depreciation (C)	75.00	56.25
Tax Shield (B + C x 0.46)	95.63	87.01

Working Notes:

		(₹ in lakh)	(₹ in lakh)
1.	**Debt Repayment Schedule**		
	Year	1	2
	Loan outstanding at the beginning	300	240
	Interest @ 15%	45	36
	Loan installment	60	60
	Loan outstanding at the end	240	180
2.	**Depreciation Schedule**		
	Year	1	2
	Opening WDV	300	225
	Depreciation	75	56.25
	Closing WDV	225	168.75
3.	**Lease Rentals (₹ in lakh)**		
	Years 1-2	0.443 x 300 = 132.9	

Alternative II is recommended because it generates a higher amount of tax shield.

Supposedly, a lessor can even structure a lease package where 99 percent of the total lease rental is payable in year 1 and the remaining one percent over the next four years. Likewise, to suit the requirement of a lessee who anticipates an increasing stream of tax liability, a back ended rental stream can be structured. The Income Tax Authorities can disallow rental structure which is purely tax driven. It is not representative of the time pattern of the user's benefit.

The other tax-based advantage of leasing is that it permits a transfer of the investment related tax shields from a lessee who cannot absorb these tax shields to a lessor who can absorb the same. The tax shields on any fresh capital investment do not have any impact on the operating cash flows of the firm. However, the operating cash flow can be increased if these tax shields can be transferred to a lessor who is prepared to pass on a portion of these tax shields in the form of lower lease rentals. The obvious question is: How much should the lessee pay? The following illustration answers this question.

Illustration 8.2

Anupam Textiles is a 100% export-oriented cotton yarn manufacturing company. It is contemplating a modernization expenditure at a cost of ₹ 80 lakh. It is planning to lease the required plant and machinery from Kher Financial Services (KFS). KFS has offered to structure a five-year non-cancellable finance lease with rentals payable on an equated annual basis. If the marginal cost of debt of Anupam Textiles is 15%, calculate the maximum lease rental p.a. that Anupam Textiles will be willing to pay. Assume no salvage value for the equipment after five years.

Solution:

Being a 100% EOU, the company can neither avail of the lease related tax shelters nor avail of the acquisition related tax shelters.

Therefore, the company will not be willing to accept a rental stream whose present value exceeds ₹ 80 lakh. Put differently, if L denotes the maximum annual lease rental that Anupam Industries is willing to pay, the value of L can be determined from the equation.

$L \times PVIFA_{(15, 5)} = 80$

$3.352L = 80$

$L = ₹ 23.87$ lakh

If the annual lease rental charged by Kher Financial Services is less than ₹ 23.87 lakh, Anupam Industries will find it worthwhile to lease the equipment.

Implications for Financial Analysis:

From a financial angle, what are the implications of the tax provisions we have discussed so far?

Briefly the implications are:

i. The lessor gains the tax shields on depreciation and the lessee gains the tax shields on lease rentals. The tax shields will be treated as a cash inflow while defining the lease related cash flows of both.

ii. Since capital gains on sale of individual assets of a block are not normally subject to tax, the estimated salvage value of the equipment on expiry of the lease term will not be adjusted for capital gains tax while defining the lease-related cash flows of the lessor or the lessee. Based on the same line of reasoning, the estimated salvage value will not be adjusted for tax shield on capital loss. Put differently, we will treat the given net salvage value as a post-tax cash flow.

Example: 30% Tax Benefit on Car Leasing in India:

In India, the 2021 update showed that the salaried individuals availed 30% tax benefit on leasing a car as part of salary package. This helped in planning for a lesser tax and afford a high priced car if the individual cannot afford down payment. For instance, a person's salary was 25 Lakhs and out of which 4.8 lakh was car lease amount and ₹ 39,600 allocated towards maintenance, insurance etc. Then, ₹ 20, 59,600 was the taxable income after deduction of ₹ 5,19,600 (₹ 4.8 + ₹ 39,600).

Sources: https://timesofindia.indiatimes.com/business/india-business/decoded-when-should-you-lease-a-car-rather-than-buying-it/articleshow/87484470.cms, dated: Nov. 3, 2021.

Author: Sunainaa Chadha. Accessed on July 30th, 2022.

8.7 GST Impact on Leasing Transactions

The Central Goods and Services Tax Act was passed on 12th April, 2017 and replaced all the existing indirect taxes such as central excise duty, commercial tax, value added tax, central sales tax, service tax etc. GST was effective from July 1st, 2017. Under the GST, a taxable person is required to file details on tax returns on all sales electronically within the 10th day of every month in GSTR-1 succeeding the taxable month. At the same time, the person is supposed to file the details of all purchases in GSTR -2 by the 15th day and similarly by 20th day in GSTR-3 every month succeeding the taxable month. Finally, an annual return has to be filed up to 31st December in GSTR-8 of the next financial year. The GST law eliminates the cascading effect of Input Tax credit, thereby reducing the cost of goods as it levies only a single tax system.

GST is seen as a revolutionary step by many as it is proposed to usher in several benefits such as:

- Ease of doing business increases with one tax replacing the hitherto existing 17 indirect tax levies.
- Revenue will increase as tax evasion is likely to drop.
- Emergence of a uniform market replacing multiple fragmented markets across states that was pushing up costs.
- Boost to capital goods investment with full input tax credit under GST.
- Differential rate structure of 0%, 5%, 12%, 18% and 28% under GST ensures lower rates for essential goods and services.
- Greater transparency with simple online forms and lesser number of compliances.

Impact on Leasing Transactions

As the lease transaction involves transfer of right to use the asset from the Lessor to the Lessee, it is treated as supply of services for the purpose of GST. Even

though the Financial and Operating Lease are considered the same under the GST regime financial leases that might involve transfer of title of the asset at the end of the tenure will be treated as supply of goods, as per Schedule II (refer Appendix 3) of the Central Goods and Services Tax Act. The act states that any transfer of title in goods under an agreement is about to pass in a future date is determined as supply of goods.

In case of lease, one of the important aspects of GST is that, the very term lease was not defined anywhere in GST Act or Rules. Since there is no sale transaction in lease transaction, the alternate taxable event in GST pertaining to lease is supply of goods or services or both. Thus, in a lease transaction, the GST aspect must fall within the scope of supply of goods. In order to bring the GST under lease transaction, it must cover within the meaning and scope of supply.

The term supply, as per Sec 7 of the CGST Act, 2017 and Sec 2(83), comprises all types of supply of goods or services or both which include sale, exchange, transfer of goods, licensing, lease or disposal to be made for a consideration in the course of business growth.

Thus, the term lease falls within the meaning and scope of supply of goods and services and is taxable accordingly.

The next aspect is to further classify a lease transaction into either supply of goods or supply of services. This is explained as per Schedule II of the CGST Act, 2017 based on certain parameters. Accordingly, the supply of goods and supply of services is as follows.

If the transaction pertains to the transfer of the title, it is considered as supply of goods and if there is no transfer of title, it is considered as supply of services. Another important aspect in lease transaction pertaining to GST is that there is no difference between finance and operating lease. The only differentiation is –to know whether there is any transfer of title or not in the lease transaction for proper classification either as supply of goods or services. Further, in case of finance lease, there is no transfer of title even if there is an option to purchase the assets at the end of the lease period.

GST on Lease of Land

As per section 2(*a*) of Schedule II of CGST Act, 2017, lease of land is a supply of services.

As per Bombay High Court ruling, the one-time premium payable on the long-term lease of land for more than 30 years attracts GST as it constitutes supply.

There are, however, certain exemptions in the category of land leasing as per section 11(1) of the CGST where the rate is nil. They are:

- Upfront amount payable in respect of long-term lease of industrial plots for the development of infrastructure provided by the State Government

Industrial Development Corporations or by any other institution having 50 per cent or more ownership of Central/State Governments, Union territories to the industrial units or the developers in any industrial or financial business area.

- Leasing of vacant land or agro machinery incidental to its use.

Thus, leasing of land by a farmer for agricultural produce and related activities and leasing of industrial plots for the development of infrastructure for business activities are exempted from GST. Leasing of vacant land for commercial purpose/warehousing attracts GST.

GST on Sale of Land

Since land is immovable property, it does not fall within the definitions of goods under GST and hence does not attract GST. Further, it is neither supply of goods nor services as per Schedule III of the CGST Act, 2017. Hence there is no GST implication on transfer of land other than for purposes of leasing.

8.7.1 GST on Interstate Purchase of Equipment

The enactment of the 46th Amendment to the Constitution has raised some issues that have not been fully resolved at the time of writing. One such issue is:

"Can interstate lease transactions be excluded from the purview of the local sales tax?"

Before we answer this question, let us define the term "interstate lease". Extending the definition of an interstate sale under Sec.3(a) of the CST Act, we can define an interstate lease as follows:

An interstate lease is a lease transaction which occasions the movement of the goods from one state to another as a direct result of the transfer of the right to use the goods embodied in the lease agreement. But from the definition of "sale" under the CST Act it is clear that an interstate lease is not governed by the provisions of the Act because lease is not a deemed sale under this Act.

But then Article 286 of the Constitution which was modified by the 46th Amendment Act clearly states that an interstate sale is outside the taxing powers of the states and the term 'sale' for this Article includes all types of deemed sales covered by Article 366(29A) (See Appendix 13A). Article 286 also states that an interstate sale must satisfy the conditions laid out under Sec.3(a) of the CST Act. It therefore follows that an interstate lease as defined by us must fall outside the taxing powers of the states.

While it is clear from the provisions of Article 286 that there is no sales tax liability on lease rentals received from interstate lease transactions, the provisions of the legislation enacted by the State Government of Maharashtra runs contrary to this view. As per this legislation, the taxable event takes place in that state in which the asset is at the time of its use.

This implies that interstate lease transactions will be subject to the Maharashtra local sales tax if the equipment (asset) is in the State of Maharashtra at the time of its use by the lessee. The 20th Century Finance Corporation challenged the provisions of this enactment in the Bombay High Court but this court has upheld the validity of the enactment. The court has, however, granted leave to appeal to the Supreme Court against this judgment.

Another issue concerning the levy of sales tax on lease rentals is the "appropriate state" for levying and collecting the sales tax on lease rentals. It is clear that the 'appropriate state' will be the state where the taxable event takes place and in the case of an equipment lease the equipment. The questions are: Does this transfer of right to use take place where the lease agreement is signed? Or does the transfer take place where the equipment is delivered to the lessee?

The legislation enacted by the State Government of Maharashtra states that the transfer of the right to use is deemed to have taken place in the State of Maharashtra if the goods are in the State of Maharashtra at the time of their use, irrespective of the place where the agreement for such transfer is made. Upholding the validity of this clause in the case of *20th Century Finance Corporation vs. State of Maharashtra,* the Bombay High Court observed that "only after the goods in question are delivered to the lessee, he becomes legally entitled to possess and use the goods. Accordingly, by the amended explanation to Sec.2(10), the commencement of the use of the goods which are situated within the State of Maharashtra has been chosen as the taxable event".

The statement that the taxable event takes place in the state where the goods are at the time of their use endorses the point of view that the taxable event takes place in the state where the equipment is delivered to the lessee. This can lead to some strange situation. For example, the lessee who has signed the lease agreement at Chennai for leasing equipment meant for use at its plant in Mysore takes delivery of the equipment at Mumbai. In this case, the taxable event is deemed to have taken place in the State of Maharashtra, which in fact is only remotely connected with the transaction.

A more serious problem arises in the case of automobile leasing. Consider the situation of a leased truck moving from one state to another. Going by the provisions of the aforesaid legislation, each state through which the truck passes will be entitled to collect sales tax for the period it was within that state. Obviously, it involves enormous paper work for the lessor and avoidable administrative difficulties for the states concerned.

Therefore, the alternative viewpoint, that the taxable event takes place at the place where the lease agreement is signed, demands more serious consideration. The proponents of this view point argue that it is the lease agreement which causes the transfer of the right to use, and that the delivery of the equipment to the lessee

merely completes the process. Therefore, the sites of the taxable event – the transfer of the right to use – are the place where the lease agreement is signed.

The issues that have been raised here have not been resolved and the matter is still under discussion stage. The validity of levying sales tax on genuine lease transactions and related matters have been challenged by the leasing companies, and stay orders have been obtained from the different State High Courts. Consequently, the lessor's liability to pay sales tax on lease rentals remains as a contingent liability. The situation is likely to continue until a ruling is obtained from the Supreme Court, or a Uniform Sales Tax Code clarifying these issues is evolved.

8.7.2 GST on Lease Rentals

We have learnt in the earlier section that the term "lease" is covered under the scope of supply which is taxable. Further, GST does not differentiate between finance and operating leases. If the lease agreement stipulates transfer of title, the transaction falls under supply of goods and if it does not involve transfer of title, it falls under supply of services. Further, an option to buy the assets at the end of the lease period will not amount to transfer of title.

GST rates of lease transactions are given in Exhibit 8.1 below.

Exhibit 8.1: GST Rates on Lease Transactions

Industrial plots, provided by the State Industrial Development Corporations or Undertakings to industrial units	Nil
Agro Machinery / Vacant land	Nil
Transfer of the right to use any goods for any purpose	Same rate as supply of similar goods in other transactions
Any transfer of right in goods without the transfer of title	Same rate as supply of similar goods

Source: https://taxguru.in/goods-and-service-tax/gst-lease-rental-transactions.html Accessed on 19th April, 2023

Illustration 8.3

A leasing company buys equipment from a supplier within the same state and leases it to a lessee within the same state. The transaction between the leasing company and the equipment supplier being the first sale within the state will suffer local sales tax. The transaction between the leasing company and the lessee being a 'deemed sale' is a second sale within the same state. Second sale of some specified goods is normally exempted from a second levy of sales tax. But in the

case of lease the exemption is usually not available. Put differently an equipment lease transaction suffers a multi-point levy irrespective of the goods covered by the transaction.

8.7.3 Implication of GST on Financial Statements

After understanding the applicability of GST on lease transactions and the issues involved there under, we will discuss upon the implications of GST on financial statements of a business concern. The following are the implications of GST on the financial statements:

- After GST implementation from 1st July 2017, excise duty (except petrol, natural gas, tobacco products, petroleum crude, high speed diesel, and aviation turbine fuel) would not be payable on removal of goods from factory and instead the appropriate CGST, SGST, IGST will be payable subject to following conditions.
- No excise duty is to be collected for the goods manufactured on or before June 30th, 2017, but cleared on or after July 1st, 2017 and no liability for excise duty should be created in the books of account.
- As opening stock includes excise duty and closing stock does not, there will be an adverse impact on the Profit & Loss account.
- Sales of companies engaged in manufacturing will fall by around 8% - 16% or the rate of duty on its products.
- As per Ind AS 32, Liabilities or Assets that are not contractual such as income taxes or statutory dues are not financial liabilities or financial assets. Accordingly, GST input credit shall be presented as other non-current/current assets in the balance sheet.
- As per Ind AS 2, the costs of purchase of inventories are directly attributable to the acquisition of finished goods, materials and services. Trade discounts, rebates and other similar items are deducted in determining the costs of purchase. Based on this interpretation, if any entity eligible to recover paid GST at the time of purchase of inventories, it shall be excluded at the time of valuation of inventories.

No Input Tax Credit will be available for claim u/s 16(9) under the following:

- Goods and services acquired for personal use.
- Tax paid in GST composition scheme for goods and services received.
- Immovable property built apart from plant and machinery using the goods and services and is not transferred.
- Employees using the goods and services for personal purposes.
- When the cost of capital goods depreciation is claimed, then Input Tax Credit cannot be claimed.

Example: Mahindra Announces Rise in Deprecation Amount for 2021-Impact of GST

The Mahindra Group in its annual report of 2021 announced that depreciation, amoritisation and impairment costs increased from ₹ 2,223 crore to ₹ 2,233 crore which 5% of operational revenue. This should be inclusive of depreciation of leased properties. Thus, the Mahindra Group would not be entitled for Input Tax credit under GST for this value.

Sources: https://www.mahindra.com/resources/investor-reports/FY21/Annual-Reports/Mahindra-Annual-Report-FY-2021.pdf

Author: Mahindra Website. Accessed on July 19th, 2022.

The following provides an insight on aircraft leasing and its tax aspects.

Cross Border Aircraft Leasing and its Aspects on India's Tax Regime

Initially, the aircraft import under lease was pegged at 5% GST. After the industry representation, the government made the rate nil for levy of IGST on aircrafts imported under a lease arrangement. Further, even levy of customs duty was also exempted, both for aircraft as well as spares.

GST on Services

The GST rate applicable for economy class flight tickets is 5% while it will be 12% on business class as against 6% and 9% service tax earlier.

GST on Aviation Turbine Fuel (ATF)

Presently, ATF is kept outside the scope of the GST law. However, the tax paid on the purchase of ATF attracts VAT which depends upon the state where re-fuelling occurs. Since ATF prices were increasing and subject to volatility, the airline industry made a representation for inclusion of ATF in the GST regime.

GST for Air Travel

As there is no provision under the GST law to determine the taxability when the passenger travels in more than one class of travel on a 'continuous journey', the GST rate as applicable on the class in which the first leg of the journey is travelled, is taken into account.

Example: If a passenger travels by non-economy class in the first leg from India to Dubai and then in economy class from Dubai to New York, he will be paying GST at the rate of 12% for the complete journey.

GST on Ancillary Services

Airlines provides various services such as charges pertaining to excess baggage, date change, unaccompanied minor fees, preferred seat, cancellation fees, etc.

Such services attract GST as applicable to the transport of passengers by air, as they are part of the service of transporting the passenger by air and do not constitute a separate supply of service.

No GST is applicable in case of forfeiture of ticket prices, penal charges, compensation paid for baggage losses etc. as there is no supply of services or goods from the airlines / customers.

GST is exempted on the charges in the form of PSF and UDF charges from the passenger for the amenities provided at the airport by Airport Authority of India ('AAI')/Airport operator.

Check Your Progress - 2

6. A lease is classified as a finance lease, if all the risks and rewards incidental to the ownership were transferred substantially. From the following situations, identify the one that is not true with regard to financial lease.
    a. The lease transfers the asset ownership to the lessee by the end of the lease term.
    b. The leased asset is of a special nature such that only the lessee can use it without major modifications being made.
    c. The lease term is for the major part of the asset's economic life only if the title of ownership is transferred.
    d. At the inception of the lease, the present value of the minimum lease payments amounts to at least substantially all of the fair value of the leased asset.
    e. The lessee has the option to purchase the asset at a price which is expected to be sufficiently lower than the fair value at that date.
7. Which of the following is not correct as regard to implication of GST on financial analysis?
    a. Excise duty is to be collected for the goods manufactured on or before 30 June, 2017 but cleared on or after 1 July, 2017.
    b. Sales of companies, engaged in manufacturing, will fall by 8% - 16% on the rate of duty on its products.
    c. As excise duty is included in the opening stock and not in closing stock, there will be an adverse impact on the profit & loss account.
    d. Costs of inventory purchases are directly attributable to the acquisition of finished goods, materials and services.
    e. Input credit shall be presented as other non-current/current assets in the balance sheet.

8. Identify the appropriate GST rate on aircraft imported on the lease.
   a. 5 %
   b. 10%
   c. Nil
   d. 18%
   e. 28%
9. In which of the following years were there no sales tax on lease rental before the introduction of the Constitution's 46th Amendment that enlarged the concept of tax on goods by the state governments?
   a. 1962
   b. 1981
   c. 1982
   d. 1991
   e. 2000
10. Which of the following is a lease transaction which occasions the movement of the goods from one state to another as a direct result of the transfer of the right to use the goods embodied in the lease agreement?
   a. Intrastate
   b. Interstate
   c. Financial lease
   d. Operating Lease
   e. Deemed sale

8.8 Summary

- There are two types of taxes in leasing. Income tax (direct tax) and GST (indirect tax). In case of Income Tax, the tax liability of rental income in the hands of the lessor.
- In finance lease, the lessee can recognize depreciation of the right-of-use asset but not lease rentals for IT purpose under accounting standards. In case of operating lease, depreciation of leased asset can be claimed by lessor both under accounting standards and tax law.
- In finance lease, the costs of insuring and maintaining the leased equipment are borne by the lessee. and such expenses incurred in respect of leased plant, machinery or furniture used for the purpose of business will be treated as tax-deductible expenses as per IT Act.

- There are two ways in which the lessee can use leasing as a tax planning device. Firstly, by taking advantage of the flexibility in structuring lease rentals, the lessee can reduce the current or future tax liability. Secondly, by transferring the capital allowances to a lessor who can absorb these allowances, it can indirectly derive the benefit of these capital allowances in the form of lower lease rentals.
- The term lease has not been defined anywhere in GST Act or Rules. Since there is no sale transaction in a lease, the alternate taxable event in GST pertaining to lease is supply of goods or services or both. Thus, in a lease transaction, the GST aspect is within the scope of supply of goods.
- The term supply, as per Sec 7 of the CGST Act, 2017 and Sec 2(83), comprises all types of supply of goods or services or both which include sale, exchange, transfer of goods, licensing, lease or disposal to be made for a consideration in the course of business growth.

8.9 Glossary

Depreciation on Lease: It is charged in those leases which are financial in nature and ownership is deemed to be transferred.

Financial Lease: Financial lease refers to lease where the de facto owner of the asset is lessor rather than the lessee.

Goods and Service Tax: It is the tax levied on sale of goods and services used for domestic consumption.

Operating Lease: Refers to lease where the ownership is with the person leasing the asset for a shorter period that is less than the economic life of the leased asset.

Rental expense on Lease: It is the expense paid by lessee as rent for the use of property in exchange for which the lessor agrees to provide maintenance and insurance for the property.

Sales Tax: It is the charge levied to the value on sale of goods and services at each point sale.

8.10 Self-Assessment Test

1. What are the tax implications pertaining to financial lease for a lessor?
2. How is depreciation expenses treated under leasing agreement?
3. How is rent income treated under leasing agreement?
4. What are the sales tax aspects relating to leasing agreement?
5. What are the advantages of financial lease?
6. What are the advantages of operating lease?

8.11 Suggested Readings/Reference Materials

1. Anthony Saunders, Marcia Millon Cornett, Anshul Jain (2021), Financial Markets and Institutions, 7th edition, Tata McGraw-Hill Education.

2. Prasanna Chandra (2020), Fundamentals of Financial M, 7th edition, Tata McGraw-Hill Education.

3. Devie Mohan (2020), The Financial Services Guide to Fintech, 1st edition, Kogan Page Limited.

4. Siddhartha Sankar Saha (2021). Indian Financial System. 2nd edition, Tata McGraw-Hill Education.

5. DR. R. Shanmugham (2020). Financial Services. 2nd edition. Wiley India.

8.12 Answers to Check Your Progress Questions

1. (b) Tax liability of rental income is in the hands of the lessee

The aforesaid is wrong because the tax liability of rental income is in the hands of the lessor abut not in the hands of the lessee.

2. (b) 32

The provisions of the Income Tax Act, 1961 relating to depreciation allowance is mentioned under Section 32.

3. (b) 10%

Depreciation is computed at the rates prescribed under the Income Tax Act, 1961 based on the Written down Value (WDV) method and the general rate applicable to furniture and fittings is 10%.

4. (c) Depreciation is computed at the rates prescribed under the Income Tax Act, 1961, based on the Written Down Value method and Straight Line Method (SLM).

As per the provisions provided under Section 32 of the Income Tax 1961, the depreciation amount is computed at the rates prescribed under the Income Tax Act 1961 based only on written down value method and does not include straight line method.

5. (c) 2001

On April 1, 2001, Accounting Standard 19 (Accounting of Leases) was introduced by the ICAI in India. It was in line with the International Accounting Standards 17 (IAS 17).

6. (c) The lease term is for the major part of the asset's economic life only if the title of ownership is transferred.

7. (a) Excise duty is to be collected for the goods manufactured on or before June 30th, 2017, but cleared on or after July 1st, 2017.

This is incorrect statement.

8. (c) Nil

Initially the aircraft import under lease had been pegged at 5% GST. After the industry representation, the government has made it nil rate for levy of IGST on aircrafts imported under a lease arrangement.

9. (b) 1981

One of the objectives of the 46th Amendment to the Constitution (1981) Bill, was to enlarge the concepts of 'tax on the sale or purchase of goods' to enable the state governments to levy tax on transactions which are not sales or purchases as conventionally understood. This was accomplished by inserting a new clause (Clause 29A) as a part of Article 366 and modifying Article 286.

10. (b) Interstate

An interstate lease is a lease transaction which occasions the movement of the goods from one state to another as a direct result of the transfer of the right to use the goods embodied in the lease agreement.

Unit 9

Lease Evaluation: The Lessee's Angle

Structure

"It is better to prepare and prevent than it is to repair and repent."

- Ezra Taft Benson, Former United States Secretary of Agriculture

9.1 Introduction

The above quote showcases the significance and prevention, over repairing and repenting later on. This is also applicable to lease and its evaluation. The present unit summarizes the same showcasing that a lessee, as a tenant, can approach his lessor to state his requirements and accordingly both can evaluate the lease model. This is to avoid any negative approach from the lessor, as an owner, on the lease given.

In the previous unit, we discussed the tax aspects in a leasing transaction. We have also identified a set of financial and non-financial factors that have a bearing on the decision to lease. This unit will discuss the evaluation of a lease (from the lessee's standpoint) in detail. The process of lease evaluation consists of three stages: financial evaluation, evaluation of non-financial factors and evaluation of the lessor.

The first part of this unit focuses on financial evaluation. It explores the anatomy of the various financial models developed for this purpose and attempts to build a framework for financial evaluation. The second part of the chapter briefly covers the non-financial factors considered in practice. The third part presents a framework for appraising the lessor.

9.2 Objectives

After going through this unit, you should be able to:

- Discuss the various Financial Evaluation Models
- Describe the Suggested Framework for Lease Evaluation
- Appreciate the Concept and Application of Breakeven Lease Rentals
- Discuss the lease from the Lessor perspective

9.3 Financial Evaluation Models

This part of the unit deals with financial evaluation of the lease proposals.

9.3.1 Alternative Approaches for Lease Evaluation

We know that a finance lease effectively transfers the risks and rewards associated with the ownership of equipment from the lessor to the lessee. Therefore, from the lessee's angle "leasing" and "buying" can be looked upon as two mutually exclusive ways of investing in an asset. In other words, the firm contemplating a capital investment can evaluate "leasing" as one of the ways of investing in the asset and choose this alternative if it is financially more desirable than "buying".

In practice, we also encounter situations where the decision to invest is predetermined. Examples of such situations include investment decisions relating to the replacement of machinery and statutory investments like an investment in pollution control equipment. In such situations, a firm is confronted only with the problem of funding the acquisition. The questions are- Should the asset be funded with debt? Should it be funded with a mix of debt and equity? Should it be leased? From a purely economic angle, the firm will lease the asset if and only if the cost of leasing is less than the cost of funding the acquisition.

In short, we can say that a lease can be evaluated either as an investment alternative or as a financing alternative. Most of the lease evaluation models, however, assume that the decision to acquire the assets has been made and treat 'finance lease' as a financing alternative. Now, we must also mention that the 'appropriate model' for lease evaluation is still debated by both finance managers and academicians. While there are more than half-a-dozen models available for evaluating a lease, we will confine our discussion to four models, which in our opinion represent reasonably well the spectrum of views on this issue. We will label these models as:

- Weingartner's Model.
- Equivalent Loan Model.
- Bower-Herringer-Williamson (BHW) Model.
- Bower Model.

These models differ from one another primarily in terms of the discount rate(s) to be applied to the different components of the lease-related cash flow stream.

9.3.2 Weingartner's Model

The steps involved in the application of this model are as follows:

Step 1: Compute the Net Present Value of the 'Lease' alternative – NPV (L)

Step 2: Compute the Net Present Value of the 'Buy' alternative – NPV (B)

Step 3: Compare the net present values defined in steps (1) and (2)

Lease, if NPV (L) > NPV (B) > 0
Buy, if NPV (B) > NPV (L) > 0

The discount rate (k) to be used for calculating the net present values will be the marginal cost of capital defined as follows:

$$k = \frac{D}{D+E} \times k_D \times (1 - T) + \frac{E}{D+E} \times k_E \qquad \text{Eq. (1)}$$

Where,

k_D = Marginal cost of debt;
k_E = Marginal cost of equity;
D:E = Debt-equity mix in the target capital structure; and
T = Marginal tax rate.

It is important to note that 'debt' as defined here includes 'lease finance'. Put differently the model assumes: (i) that the target capital structure consists of a mix of debt, lease finance, and equity; and (ii) that each investment is deemed to be financed using this mix. The first assumption is important because 'lease finance' is not normally included as a source of finance in the target capital structure. In fact, the other lease evaluation models assume that the target capital structure consists of just debt and equity and treat 'lease finance' as a substitute for 'debt'. The implications of this assumption will be clear once we complete our discussion of all the models on lease evaluation.

Illustration 9.1

Royal Ceramics Limited is considering an investment in balancing equipment about which the following information is available:

The equipment costs ₹ 41.6 lakhs inclusive of GST of 18%

The acquisition will be funded through a mix of term loan and own funds in the ratio of 3:1. The loan carries a rate of interest of 18% p.a. and is repayable in five equal annual installments.

The planning horizon for such investments is 5 years. After 5 years, the equipment is expected to fetch a net salvage value of ₹ 4 lakhs.

The tax-relevant rate of depreciation is 25%.

The investment is expected to generate an incremental EBDIT (Earnings Before

Depreciation, Interest, and Taxes) of ₹ 35 lakhs in year 1, ₹ 20 lakhs in year 2, and ₹ 12 lakhs from years 3 through 5.

The commercial bank, which has agreed to finance the investment, has recently informed the company that because of a temporary resource crunch, the loan can be disbursed only after six months. The equipment is, however, urgently required for de-bottlenecking its production process. Therefore, the company decides to evaluate the following options:

– Finance the acquisition through a six-month Intercorporate loan at a cost of 12% per semiannual period and liquidate the liability utilizing the bank loan made available six months later.
– Lease the equipment.

The company has received an offer from Classic Leasing Limited, the terms of which are as follows:

– Primary lease period	:	5 years
– Secondary lease period	:	3 years
– Management fee	:	1% of investment cost
– Annual rental		
During the primary period	:	₹ 294/ ₹ 1,000
During the secondary period	:	₹ 36/ ₹ 1,000

The lease rentals are payable annually in arrears, but the management fee is payable immediately on signing the lease. The lease rentals are subject to G S T of 18%.

Royal Ceramics has an explicitly stated target debt-equity ratio of 2:1. The marginal costs of debt and equity are 18 percent and 22.45 percent respectively. The marginal rate of tax is 46 percent including surcharge.

Based on economic considerations, which alternative would you recommend? Use Weingartner's model for calculations.

Solution:

Marginal cost of capital = WACC

WACC= ((D/D+E) * Cost of debt *I1-t)) + (E/ (D+E)) * Cost of Equity) = $\frac{2}{3}$ x

0.18 x (1 – 0.46) + $\frac{1}{3}$ x 0.2245 = 0.1396 or 13.96%

The present value of the net cash flow stream associated with the purchase option can be defined as:

NPV (B) =– Initial Investment
+ PV of [EBDIT Stream x (1 – Tax Rate)]

+ PV of [Tax Shields on Depreciation]
+ PV of [Net Salvage Value]

PV of [EBDIT Stream (1 – Tax Rate)]; Hence sum of PV of EBITDA can be calculated as:

= [35 x PVIF $_{(13.96,1)}$ + 20 x PVIF $_{(13.96,2)}$
+ 12 x [PVIF $_{(13.96,3)}$ + PVIF $_{(13.96,4)}$
+ PVIF $_{(13.96,5)}$]] x (1 – 0.46)

= ₹ 36.49 lakhs.

PV of (Tax Shields on Depreciation)

=[10.4 x PVIF $_{(13.96,1)}$ + 7.8 x PVIF $_{(13.96,2)}$
+ 5.85 x PVIF $_{(13.96,3)}$ + 4.39 x PVIF $_{(13.96,4)}$
+ 3.29 x PVIF $_{(13.96,5)}$] x 0.46

= ₹ 10.76 lakhs.

PV of (Interest on Inter-corporate Borrowings)

= 0.12 x (41.6 x 0.75) x PVIF $_{(13.96,1/2)}$

= 3.74 x 0.937 = ₹ 3.5 lakhs.

PV of (Interest Tax Shield on Intercorporate Borrowing)

=3.74 x 0.46 x PVIF $_{(13.96,1)}$ = ₹ 1.51 lakhs.

PV of (Net Salvage Value)

= 4 x PVIF $_{(13.96,5)}$ = ₹ 2.08 lakhs.

Net present value of purchase option

= ₹ (– 41.6 + 36.49 + 10.76 – 3.50 + 1.51 + 2.08) lakhs.
= ₹ 5.74 lakhs.

The net present value of the lease option is defined as:

NPV(L)= – PV (Lease Rentals) + PV (EBDIT Stream) x (1 – Tax Rate)
PV (Tax Shield on Lease Rentals) – Management Fee
+ PV (Tax Shield on Management Fee) Eq. (2)

PV (Lease Rentals) = 13.57 x PVIFA $_{(13.96,5)}$

(See Notes 2) = ₹ 46.68 lakhs.

PV [EBDIT Stream x (1 – Tax Rate)] = ₹ 36.49 lakhs.

PV (Tax Shield on
Lease Rentals) = 13.57 x 0.46 x PVIFA $_{(13.96,5)}$ = ₹ 21.47 lakhs.

Management Fee = ₹ 0.44 lakhs

PV (Tax Shield on Management Fee) = 0.44 x 0.46 x PVIF $_{(13.96,1)}$ = ₹ 0.18 lakhs.

NPV (L) = ₹ (–46.68 + 36.49 + 21.47 – 0.44 + 0.18) = ₹ 11.02 lakhs.

Since NPV (L) > NPV (B) > 0, the equipment must be leased.

Notes:

1. In this example, we have assumed that the lessee bears operating costs including insurance and maintenance, which is normally true of any finance lease barring the bipartite finance lease.
2. The example also illustrates the GST implications of leasing. The impact of the GST on rentals have been factored into our calculation of lease rentals as shown below: GST on lease rentals is 18 % (prevailing rate as of 2020)

   Annual Lease Rental

   = (0.294 x 1.18) x $\left(\frac{41.6}{1.04} \text{ x } 1.1\right)$ (41.6 / 1.18) x 1.1 = ₹ 13.57 lakhs.

From the example, we find that the present value of the post-tax EBDIT stream has no bearing on the final decision for the obvious reason that it remains unchanged under both the options. Therefore, if we consider the difference between NPV(L) and NPV(B) denoted as Δ (pronounced as 'delta') NPV, we find that the EBDIT component can be deleted and the value of NPV(L) can be expressed as follows:

ΔNPV(L)= Initial Investment – PV (Lease Rentals)
– Management Fee + PV (Tax Shield on Lease Rentals)
+ PV (Tax Shield on Management Fee)
– PV (Tax Shield on Depreciation) – PV (Net Salvage Value). Eq. (3)

We have not considered the interest on inter-corporate borrowings in Eq. (3), because it is not a typical cash flow associated with 'Lease vs Buy' Analysis.

The value of ΔNPV (L) is called the Net Advantage of Leasing (NAL).

A positive NAL indicates a preference for leasing and a negative NAL indicates a preference for 'buying'. Since either NPV(L) or NPV(B) or both can be negative, NAL cannot be regarded as the necessary and sufficient condition for leasing or buying the equipment. To illustrate, consider the following values:

Panel A	Panel B
NPV(L) = –₹ 7 lakhs	NPV(L) = –₹ 8 lakhs
NPV(B) = –₹ 8 lakhs	NPV(B) = –₹ 7 lakhs
NAL = ₹ 1 lakhs	NAL = –₹ 1 lakhs

While the NAL values in panels A and B suggest that the equipment must be leased/purchased, the negative values of NPV(L) and NPV(B) reveal that the asset must be neither leased nor purchased. Therefore, NAL cannot be used as an

investment decision-making criterion unless the decision-maker has prior information on the investment worthiness of the asset under consideration. Put differently, NAL can be used as the criterion for choosing between 'leasing' and 'buying' if and only if the decision to invest in the asset has already been made.

Activity 9.1

Suppose a company A requires a machine Y for its operations. It can purchase this machine from Company B for ₹ 1 crore or lease it for a lease rental of ₹ 5,00,000 per year. What decision should Company A take? Which criteria should it use to evaluate the decision?

Answer:

Weigngarner's school is based on two fundamental assumptions: (i) the decision to acquire the asset has been already made; and (ii) the asset, if purchased, will be debt-financed. The first assumption is necessary for viewing leasing as a financing alternative. The second assumption is necessary to prove that lease displaces debt. The following illustration gives the phenomenon of debt displacement.

Illustration 9.2

Assume that the balance sheet of South India Industries (SII) as on February 1, 20xx is as follows:

Balance Sheet of SII as on February 1, 20xx

Liabilities	(₹ in lakhs)	Assets	
Net Worth	300	Fixed Assets	600
Long-Term Debt	300	Current Assets	200
Current Liabilities	200		
	800		800

Suppose SII is contemplating a capital expenditure of ₹ 200 lakhs and is planning to fund the acquisition by raising debt and equity in the ratio of 1:1.

The Post-Acquisition Balance Sheet of SII

Liabilities	(₹ in lakhs)	Assets	(₹ in lakhs)
Net Worth	400	Fixed Assets	800
Long-Term Debt	400	Current Assets	200
Current Liabilities	200		
	1,000		1,000

Alternatively, if the assets are acquired on a finance lease, the economically equivalent balance sheet will be as follows:

Liabilities	(₹ in lakhs)	Assets	(₹ in lakhs)
Net Worth	300	Fixed Assets (Existing)	600
Long-Term Debt	300	Assets on Lease As per the new AS-19, the lessee must capitalize the financial lesser in his books of accounts.	200
Lease Liability	200	Current Assets	200
Current Liabilities	200		
	1,000		1,000

Suppose SII wants to maintain long-term debt to equity ratio of 1:1, we find that the capital structure in the post-lease balance sheet needs re-balancing because the long-term debt to equity ratio as per this balance sheet stands at 500/300 = 1.67:1. To re-balance the capital structure, SII must issue fresh equity to the tune of ₹ 100 lakhs and reduce its long-term debt by ₹ 100 lakhs. The revised balance sheet will be as follows:

Liabilities	(₹ in lakhs)	Assets	(₹ in lakhs)
Net Worth	400	Fixed Assets (Existing)	600
Long-Term Debt	200	Assets on Lease	200
Lease Liability	200	Current Assets	200
Current Liabilities	200		
	1,000		1,000

Comparing this balance sheet with the post-acquisition balance sheet, we can find conclusive evidence for the fact that 'finance lease' has displaced an equal amount of long-term debt. What are the implications of this debt displacement effect for our analysis? First, we understand that the appropriate discount rate for discounting lease payments is the marginal cost of debt. Second, when leasing displaces debt, the lessee obviously foregoes the interest tax shields on the displaced debt. Therefore, the present value of these interest tax shields (foregone) must be taken as an outflow in computing the net advantage of leasing. The three models that we have presented here consider these implications.

9.3.3 Equivalent Loan and Other Models

Let us discuss other models-

Equivalent Model

Let us assume the Equivalent Model in this case.

The Net Advantage of Leasing (NAL) is called the Net Value of Lease (NVL) under the Equivalent Loan Model and is defined as follows:

Net Value of Lease =

+ Initial Investment – PV (Lease Payments Discounted at k_d)

+ PV (Tax Shield on Lease Payments Discounted at k_d)– PV (Depreciation Tax Shields Discounted at k_d)

– PV (Net Salvage Value Discounted at k_d)

– PV (Interest Tax Shields on displaced Debt Discounted at k_d)

Where,

k_d = pre-tax marginal cost of debt

T = marginal tax rate.

Illustration 9.3

Devi Agro Products (P) Ltd., is contemplating an investment in a rice-milling machine costing ₹ 60 lakhs. The company can purchase the equipment by raising additional debt at a cost of 15% p.a.

Alternatively, the company can take the equipment on a finance lease with a five-year primary lease period at the rate of ₹ 300 ptpa payable annually. The marginal tax rate is 46% and the tax-relevant rate of depreciation is 40%. The salvage value of the equipment after five years is negligible.

Calculate the net value of the lease. Should the company lease the equipment?

Solution:

$k_d = 15(1 - 0.46) = 8.1\%$, Annual Lease Payment = $\left(\frac{300}{1{,}000}\right)$ x 60 = ₹ 18 lakhs.

1.	Initial investment	=	₹ 60 lakhs
2.	Present value of lease payments	=	18 x PVIFA $_{(15,5)}$
		=	18 x 3.352 = ₹ 60.34 lakhs
3.	Present value of tax shield on lease payments	=	18 x 0.46 x PVIFA $_{(8.1,5)}$
		=	18 x 0.46 x 3.982 = ₹ 32.97 lakhs
4.	Present value of depreciation tax shields	=	[24 x PVIF $_{(8.1,1)}$ + 14.4 x PVIF $_{(8.1,2)}$ + 8.64 x PVIF$_{(8.1,3)}$ + 5.18 x PVIF$_{(8.1,4)}$ + 3.11 x PVIF$_{(8.1,5)}$] x 0.46
		=	₹ 21.74 lakhs
5.	Present value of interest tax shields	=	[9.05 x PVIF $_{(8.1,1)}$ + 7.71 x PVIF$_{(8.1,2)}$ + 6.17 x PVIF$_{(8.1,3)}$ + 4.39 x PVIF$_{(8.1,4)}$ + 2.35 x PVIF$_{(8.1,5)}$] x 0.46
		=	₹ 11.34 lakhs.
6.	Net value of the lease	=	(1) – (2) + (3) – (4) – (5)
		=	– ₹ 0.45 lakhs

Since NVL is negative, the equipment cannot be leased.

Amortization Schedule for Equivalent Debt

(₹ in lakhs)

Year	Amount of Outstanding Loan	Capital Content	Interest Content @ 15% p.a.	Debt Service Charge
1	60.34	8.95	9.05	18.00
2	51.39	10.29	7.71	18.00
3	41.10	11.83	6.17	18.00
4	29.27	13.61	4.39	18.00
5	15.66	15.66	2.35	18.01

Note: Amount of Loan outstanding = Debt Service Charge x PVIFA $_{(\text{int }\%;\ \text{years})}$

Evaluating the Equivalent Loan Model, we find that the principal advantage of this model is the ease in application. It uses a single discount rate (cost of debt) to value all cash flows and this discount rate can be easily determined. Then the use of a single discount rate is also the main drawback of this model. One discount rate can be applied to all cash flow components only if the risks characterizing these cash flow components are the same. In this case, the risk characterizing the lease payments is often significantly less than the risk characterizing the (timely) realization of the tax shelters and the residual value.

It is, therefore, reasonable to assume that the lease payments (including lease management fee, if any, and the guaranteed residual value) have the same risk as the debt service associated with a secured loan and to discount these outflows at the marginal cost of debt (k_d). However, the realization of the tax shelters at the scheduled points of time is a function of the availability of adequate pre-tax earnings that in turn is influenced by the business and financial risks of the firm. Realization of the estimated salvage value is influenced by the degree of uncertainty associated with the technological life and the product market life of the equipment. Therefore, these cash flows must be discounted at a rate that is higher than the post-tax marginal cost of debt. While there is no consensus among the academicians and the practicing managers on the appropriate risk-adjusted discount rate, many consider the marginal cost of capital as a better approximation of this rate.

Example: Calculation of Net Value of Lease using Equivalent Model for Devi Agro Products

Devi Agro Products (P) Ltd., is contemplating an investment in a rice-milling machine costing ₹ 60 lakhs. The company can purchase the equipment by raising additional debt at a cost of 15% p.a.

Contd….

Alternatively, the company can take the equipment on a finance lease with a five-year primary lease period at the rate of ₹ 300 ptpa payable annually. The marginal tax rate is 46% and the tax-relevant rate of depreciation is 40%. The salvage value of the equipment after five years is negligible.

Calculate the net value of the lease, as per equivalent model. Should the company lease the equipment?

Solution

$k_d = 15(1 - 0.46) = 8.1\%$, Annual Lease Payment = $\left(\frac{300}{1,000}\right)$ x 60 = ₹ 18 lakhs.

1.	Initial investment	=	₹ 60 lakhs
2.	Present value of lease payments	=	18 x PVIFA $_{(15,5)}$
		=	18 x 3.352 = ₹ 60.34 lakhs
3.	Present value of tax shield on lease payments	=	18 x 0.46 x PVIFA $_{(8.1,5)}$
		=	18 x 0.46 x 3.982 = ₹ 32.97 lakhs
4.	Present value of depreciation tax shields	=	[24 x PVIF $_{(8.1,1)}$ + 14.4 x PVIF $_{(8.1,2)}$ + 8.64 x PVIF$_{(8.1,3)}$ + 5.18 x PVIF$_{(8.1,4)}$ + 3.11 x PVIF$_{(8.1,5)}$] x 0.46
		=	₹ 21.74 lakhs
5.	Present value of interest tax shields	=	[9.05 x PVIF $_{(8.1,1)}$ + 7.71 x PVIF$_{(8.1,2)}$ + 6.17 x PVIF$_{(8.1,3)}$ + 4.39 x PVIF$_{(8.1,4)}$ + 2.35 x PVIF$_{(8.1,5)}$] x 0.46
		=	₹ 11.34 lakhs.
6.	Net value of the lease	=	(1) – (2) + (3) – (4) – (5)
		=	– ₹ 0.45 lakhs

Since NVL is negative, the equipment cannot be leased.

Note 1: Amortization Schedule for Equivalent Debt.

(₹ in lakhs)

Year	Amount of Outstanding Loan	Capital Content	Interest Content @ 15% p.a.	Debt Service Charge
1	60.34	8.95	9.05	18.00
2	51.39	10.29	7.71	18.00
3	41.10	11.83	6.17	18.00
4	29.27	13.61	4.39	18.00
5	15.66	15.66	2.35	18.01

Note 2: Amount of Loan outstanding = Debt Service Charge x PVIFA $_{(\text{int }\%;\ \text{years})}$

Source: ICFAI Research Center

Bower-Herringer-Williamson (BHW) Model

Under the BHW Model, the lease-related cash flow stream is divided into two parts – the part relating to financing per se and the part relating to tax shields and residual value. The cash flow stream related to financing is called the Financial Advantage of Leasing and can be defined as-

FA(L) = Initial Investment – PV of Lease Payments Eq. (4)

The BHW model assumes that the debt, which will be raised in lieu of the lease will be equal to the initial investment (as opposed to the assumption underlying the Equivalent Loan Model that the amount of debt that will be raised in lieu of the lease will be equal to the present value of the lease payments). Therefore, the model defines FA(L) as:

FA(L) = PV of Loan Payments – PV of Lease Payments Eq. (5)

The cash flow stream related to tax shields and the residual value is called the Operating Advantage of Leasing and is defined as:

OA(L) = PV of lease-related tax shields – PV of loan-related tax shields

– PV of Residual Value Eq. (6)

The discount rate to be used for determining the PV of lease payments in Eq. (5) will be the pre-tax marginal cost of debt and the discount rate to be employed in Eq. (6) will be the post-tax marginal cost of capital.

It is important to note that either FA(L) or OA(L) or both can be negative. A negative FA(L) signifies the financial disadvantage of leasing and a negative OA(L) denotes the operating disadvantage of leasing. If FA(L) + OA(L) is negative, then leasing has an overall disadvantage. Therefore, the decision rules associated with leasing can be summed up as follows:

Condition	Decision
[FA(L) + OA(L)] is positive	Lease
[FA(L) + OA(L)] is negative	Borrow and Buy

Illustration 9.4

Consider the data provided in illustration 3. You are informed that the marginal cost of capital is 13% p.a. Calculate the net advantage of leasing.

Solution:

Present value of loan payments = ₹ 60 lakhs

Present value of lease payments = 18 x $PVIFA_{(15,5)}$ = ₹ 60.34 lakhs

Financial advantage = 60 – 60.34 = (–) ₹ 0.34 lakhs

Present value of lease related Tax shields = 18 x $PVIFA_{(13,5)}$ x 0.46 = ₹ 29.12 lakhs

The loan related tax shields are the depreciation and the interest tax shield. To calculate the interest tax shield, we should develop the repayment schedule for the loan amount of ₹ 60 lakhs. If the loan is to be repaid in equated annual installments, the amount of each installment will be

$$= \frac{60}{PVIFA_{(15,5)}} = \frac{60}{3.352} = ₹ 17.90 \text{ lakhs}$$

Repayment Schedule

(₹ in lakhs)

Year	Loan Outstanding at the Beginning	Rate of Interest (%)	Interest Content	Capital Content	Debt Service Charge
1	60	15	9.00	8.90	17.90
2	51.1		7.67	10.23	17.90
3	40.87		6.13	11.77	17.90
4	29.10		4.36	13.54	17.90
5	15.56		2.33	15.56	17.89

Present Value of Loan Related Tax Shields

(₹ in lakhs)

Year	Interest (A)	Depreciation (B)	TS = (A + B x 0.46)	Present Value @13%
1	9.00	24.00	15.18	13.43
2	7.67	14.40	10.15	7.95
3	6.13	8.64	6.79	4.71
4	4.36	5.18	4.39	2.69
5	2.33	3.11	2.50	1.36
				30.14

Note: TS denotes Tax Shield.

Operating advantage = ₹ (29.12 – 30.14) lakhs = (–) ₹ 1.02 lakhs

Overall advantage = (–) ₹ [0.34 + 1.02] lakhs = (–) ₹ 1.36 lakhs.

Since there is an overall disadvantage, the equipment must not be leased.

As we said earlier, the principal merit of the BHW Model is that it explicitly recognizes the higher risk inherent in the realization of tax shields and the residual value. However, the assumption underlying the model that the present value of the loan payments is equal to the acquisition cost is somewhat inconsistent with the notion of debt displacement, which states that the amount of loan displaced is equal to the present value of the lease payments.

Check Your Progress - 1

1. Since the Weingartner's model is deemed of the assumption that the target capital structure consists of a mix of debt, lease finance, and equity, identify the statement incorrect to this lease evaluation model.
   a. The net present value of the lease and buy option acts as a decision criterion.
   b. If NPV (L) is greater than NPV (B) greater than zero, the asset or the equipment is leased.
   c. If NPV (L) is less than NPV (B) less than zero, the asset or the equipment is purchased.
   d. D: E refers to the debt-equity mix in the target capital structure.
   e. The negative values of NPV (L) and NPV (B) reveals that the asset or equipment can be either leased or purchased.
2. Which of the following model is based on the premise that companies can reduce long-term debt through leasing?
   a. Bower's Model
   b. Weingartner's Model
   c. Equivalent loan Model
   d. BHW Model
   e. Non-Financial Lease Model
3. Which of the following Model assumes that all cash flows carry the same risk as the risk of the firm and all the cash flows are said to be discounted at the marginal cost of capital?
   a. Bower's Model
   b. Weingartner's Model
   c. Equivalent loan Model
   d. BHW Model
   e. Non-Financial Lease Model
4. Which of the following is the name given to the lease-related cash flow stream related to financing in BHW Model?
   a. Financial advantage of leasing
   b. Marginal advantage of leasing
   c. Net advantage of leasing
   d. Operating advantage of leasing
   e. Net value of leasing

5. Which of the following assumptions is false regarding the BHW model?
   a. The BHW model assumes that the debt, which will be raised in lieu of the lease will be equal to the initial investment.
   b. FA(L) = PV of Loan Payments – PV of Lease Payments.
   c. OA(L) = PV of lease-related tax shields – PV of loan-related tax shields – PV of Residual Value.
   d. The discount rate used to determine the PV of lease payments in FA(L) refers to the post-tax marginal cost of capital.
   e. If FA(L) + OA(L) is negative, then leasing has an overall disadvantage.

Bower's Model

The lease evaluation model developed by Richard Bower is a synthesis of the alternative models developed for evaluating lease as a financing alternative. He found that these alternative models differed from one another in terms of the appropriate discount rate to be applied for discounting the tax shelters. Therefore, he developed a model that recognizes the point of disagreement and still permits the decision-maker to take advantage of the broad agreement on other matters.

The steps involved in the application of the models are:

1. Define the Cost of Purchase (COP) as:

   COP = Initial investment

   – PV (Tax Shields on depreciation discounted at an unspecified rate)

   – PV (Net salvage value discounted at the marginal cost of capital) Eq. (7)

2. Define the Cost of Leasing (COL) as:

   COL= P V (Lease Rentals discounted at pre-tax cost of debt)

   – PV (Tax shield on lease rentals discounted at an unspecified rate)
   + PV (Tax shield on interest discounted at an unspecified rate). Eq. (8)

The decision-maker can specify a discount rate, which in his opinion reflects reasonably well the risk associated with the realization of the tax shelters and can evaluate the costs of purchase and leasing. If COL < COP, the decision will be to lease, and if COL > COP, the decision will be to purchase. The advantage of this model over the other models is that it permits the decision-maker to choose the appropriate discount rate for valuing the tax shelters. Of course, this advantage is secured at the cost of adding more complexity to the basic model.

Illustration 9.5

Consider the data provided in Illustration 4. Calculate the values of COP and COL for the following discount rates – 6%, 8%, 10%, 12%, and 14%.

Solution:

The amounts of the different tax shelters and their present values are given in the following tables:

Computation of Tax Shields

	Year	1	2	3	4	5
A.	Depreciation	24.00	14.40	8.64	5.18	3.11
B.	Tax Shield on (A) = (A) x 0.46	11.04	6.62	3.97	2.38	1.43
C.	Lease Payments	18.00	18.00	18.00	18.00	18.00
D.	Tax Shield on (C) = (C) x 0.46	8.28	8.28	8.28	8.28	8.28
E.	Interest Payments	9.00	7.67	6.13	4.36	2.33
F.	Tax Shield on (E) = (E) x 0.46	4.14	3.53	2.82	2.01	1.07

Present Values of Tax Shields

(₹ in lakhs)

Discount Rate (%)	6	8	10	12	14
PV of Depreciation Tax Shields	22.59	21.77	21.00	20.29	19.60
PV of Tax Shields on Lease Payments	34.88	33.06	31.39	29.85	28.43
PV of Interest Tax Shields	11.81	11.30	10.83	10.40	9.99

Note: The reader is requested to verify the cell entries in the above Table.

At a discount rate of 6%, the cost of purchase (using equation 7) will be:

$60 - 22.59 - 0 \times PVIF_{(13,5)} = ₹\ 37.41$ lakhs

The cost of leasing (using equation 8) will be:

$60.34 - 34.88 + 11.81 = ₹\ 37.27$ lakhs.

Repeating these calculations for k = 8%, 10%, 12% and 14%, we get the following table:

Values of COP and COL

(₹ in lakhs)

Discount Rate (%)	Cost of Purchase (COP)	Cost of Leasing (COL)	COL – COP
6	37.41	37.27	(–) 0.14
8	38.23	38.58	0.35
10	39.00	39.78	0.78
12	39.71	40.89	1.18
14	40.40	41.90	1.50

From the above Table, it is clear that leasing is costlier than borrowing for the discount rates above 6%, which is the same as the post-tax cost of debt.

9.4 Suggested Framework for Lease Evaluation

From our discussion of the alternative models of lease evaluation, two points emerge. First, the discount rate applied to the evaluation of the tax shields and the residual value must reflect the higher degree of risk inherent in the realization of these flows. Second, the change in the borrowing capacity of the firm because of leasing must be recognized and factored into the lease evaluation model.

As far as the first point is concerned, Weingartner's Model and the BHW Model use the marginal cost of capital (K_c) as the risk-adjusted discount rate on the assumption that the risk characterizing the cash flows is equal to the risk complexion of the firm. The Equivalent Loan Model uses the pre-tax marginal cost of debt (K_d) as the discount rate on the assumption that the risk characterizing these cash flows is not significantly different from the risk characterizing the lease payments. The Bower Model leaves this rate to be specified by the decision-maker.

As far as the second point is concerned, the Equivalent Loan Model, the BHW Model, and the Bower Model explicitly consider the debt-displacement effect of leasing. These models are based on the premise that lease finance displaces an equal amount of long-term debt. Therefore, the lease payments are discounted at the pre-tax cost of debt to determine the amount of long-term debt displaced. The interest tax shields on the displaced debt are also explicitly considered in these models. On the other hand, the Weingartner's Model discounts the lease payments at the marginal cost of capital on the assumption that each investment (in this case the investment in the equipment) on an average is financed with the target mix of long-term debt, lease finance, and equity. Therefore, this model requires the values of the present and future leases to be explicitly considered as a form of debt in determining the target capital structure.

As far as the first point is concerned, we agree that the tax shields must be discounted at a risk-adjusted rate and we recommend the use of the marginal cost of capital as the discount rate rather than leaving this discount rate unspecified. Our recommendation is also justified on the ground that in any typical capital budgeting exercise we discount the net cash flows (which include depreciation tax shields) at the marginal cost of capital.

Of course, a discount rate higher or lower than the marginal cost of capital will be warranted in such cases where the risk associated with the realization of these cash flows is believed to be significantly higher or lower than the risk of existing investments. Therefore, in general, the risk-adjusted discount rate will be

$$r = i + n + d$$

Where,

r = risk-adjusted discount rate,

i = risk-free rate of interest,

n = adjustment for the firm's normal risk, and

d = adjustment for the investment's differential risk.

If d = 0, then r = (i + n), i.e., the marginal cost of capital, will be the appropriate discount rate.

As far as the debt-displacement effect of leasing is concerned, we believe that this effect must be explicitly considered in the cash flow computations. The alternative of including the value of present and future leases as a form of debt in the target capital structure is prone to serious valuation problems and is not easy to implement in practice. It is difficult to subscribe to the viewpoint that firms explicitly consider the present and future lease obligations in defining the target debt-equity mix. We, therefore, suggest that a finance lease must be treated as a perfect substitute for long-term debt and the loss of interest tax shields must be explicitly considered.

We, therefore, recommend that lease payments be valued at the pre-tax cost of debt, and the loss of interest tax shields on the displaced debt be valued at the marginal cost of capital given the inherent risk in realizing these tax shields.

Therefore, our suggested framework for lease evaluation is as follows:

– In the absence of any prior information on investment worthiness, evaluate leasing and buying as two mutually exclusive investment alternatives. The recommended criterion of merit is the net present value and the appropriate discount rate is the marginal cost of capital for all cash flows other than lease payments. The lease payments are to be discounted at the pre-tax cost of debt. The value of the interest tax shields must be included as a foregone cash inflow in the computation of NPV(L).

– Given that an investment decision has already been made, evaluate leasing as a financing alternative. The recommended criterion of merit is the Net Advantage of Leasing (NAL) defined as follows:

NAL	Investment Cost – PV (Lease Payments discounted at k_d) + PV (Tax Shields on Lease Payments discounted at k) – Management Fee + PV (Tax Shield on Management Fee discounted at k) – PV (Depreciation Tax Shields discounted at k) – PV (Interest Tax Shields discounted at k) – PV (Residual value discounted at k)

Where,

K_d denotes the pre-tax cost of long-term debt, and

k denotes the post-tax marginal cost of capital for the firm respectively.

The following illustration explains this framework.

Illustration 9.6

Anurag Industries is contemplating an investment in imported energy conservation equipment about which the following particulars are available:

- Investment Cost: ₹ 60 lakhs
- Tax Relevant Rate of Depreciation: 40% p.a.
- Useful Life: 4 years
- Estimated Net Salvage Value after 4 years: ₹ 5 lakhs

The company can either borrow and buy the equipment or lease the equipment. The cost of capital is 12% p.a., and the marginal rate of tax is 46%. The cost of debt (comparable to the lease) is 17% p.a.

The finance manager of the company has a strong preference for leasing the equipment. Based on a set of financial and non-financial criteria evolved by him for evaluating the lessors he has identified Synergy Leasing as a potential candidate.

Synergy Leasing has offered to structure a three-year full pay-out lease at the rate of ₹ 444/₹ 1,000 payable annually in arrears. The lease can be renewed for a further period of 3 years at a rental of ₹ 18/₹ 1,000 payable annually in arrears.

Compute the Net Advantage of Leasing (NAL). Assume a net salvage value of ₹ 6 lakhs after three years.

Solution:

A. Initial Investment = ₹ 60 lakhs

B. PV of Lease Rentals = (60 x 0.444) x PVIFA $_{(17,3)}$ = 26.64 x 2.210
= ₹ 58.87 lakhs

C. PV of Tax Shield on Lease Rentals = (60 x 0.444 x 0.46) x PVIFA$_{(12,3)}$
= ₹ 29.44 lakhs

D. PV of Tax Shields on Depreciation = [24 x PVIF $_{(12,1)}$ + 14.4 x PVIF $_{(12,2)}$
+ 8.64 x PVIF $_{(12,3)}$] x 0.46 = ₹ 17.96 lakhs

E. PV of Interest Tax Shield on Displaced Debt (Refer to Debt Amortization Schedule) = [10.01 x PVIF $_{(12,1)}$ + 7.18 x PVIF $_{(12,2)}$ +3.87 x PVIF $_{(12,3)}$] x 0.46 = ₹ 8.01 lakhs

F. PV of Net Salvage Value = 6 x PVIF $_{(12,3)}$ = ₹ 4.27 lakhs

G. Net Advantage of Leasing = A – B + C – D – E – F = ₹ 0.33 lakhs

Since NAL is positive the lease is economically viable at the given lease quote.

(Displaced) Debt Amortization Schedule

(₹ in lakhs)

Year	Loan o/s in the beginning	Interest	Capital	Rental
1	58.87	10.01	16.63	26.64
2	42.24	7.18	19.46	26.64
3	22.78	3.87	22.78	26.65

Example: Calculation of Net Advantage of Leasing (NAL) for Anurag Industries

Anurag Industries is contemplating an investment in imported energy conservation equipment about which the following particulars are available:

– Investment Cost: ₹ 60 lakhs
– Tax Relevant Rate of Depreciation: 40% p.a.
– Useful Life: 4 years
– Estimated Net Salvage Value after 4 years: ₹ 5 lakhs

The company can either borrow and buy the equipment or lease the equipment. The cost of capital is 12% p.a., and the marginal rate of tax is 46%. The cost of debt (comparable to the lease) is 17% p.a.

The finance manager of the company has a strong preference for leasing the equipment. Based on a set of financial and non-financial criteria evolved by him for evaluating the lessors he has identified Synergy Leasing as a potential candidate.

Synergy Leasing has offered to structure a three-year full pay-out lease at the rate of ₹ 444/₹ 1,000 payable annually in arrears. The lease can be renewed for a further period of 3 years at a rental of ₹ 18/₹ 1,000 payable annually in arrears.

Compute the Net Advantage of Leasing (NAL). Assume a net salvage value of ₹ 6 lakhs after three years.

Solution

A. Initial Investment = ₹ 60 lakhs

B. PV of Lease Rentals = (60 x 0.444) x PVIFA $_{(17,3)}$ = 26.64 x 2.210 = ₹ 58.87 lakhs

C. PV of Tax Shield on Lease Rentals = (60 x 0.444 x 0.46) x PVIFA$_{(12,3)}$ = ₹ 29.44 lakhs

Contd….

D. PV of Tax Shields on Depreciation = [24 x PVIF $_{(12,1)}$ + 14.4 x PVIF $_{(12,2)}$ + 8.64 x PVIF $_{(12,3)}$] x 0.46 = ₹ 17.96 lakhs.

E. PV of Interest Tax Shield on Displaced Debt (Refer to Debt Amortization Schedule) = [10.01 x PVIF $_{(12,1)}$ + 7.18 x PVIF $_{(12,2)}$ +3.87 x PVIF $_{(12,3)}$] x 0.46 = ₹ 8.01 lakhs

F. PV of Net Salvage Value = 6 x PVIF $_{(12,3)}$ = ₹ 4.27 lakhs

G. Net Advantage of Leasing = A – B + C – D – E – F = ₹ 0.33 lakhs

Since NAL is positive the lease is economically viable at the given lease quote.

(Displaced) Debt Amortization Schedule

(₹ in lakhs)

Year	Loan o/s in the beginning	Interest	Capital	Rental
1	58.87	10.01	16.63	26.64
2	42.24	7.18	19.46	26.64
3	22.78	3.87	22.78	26.65

Source: ICFAI Research Center

Valuing Lease Contracts with Monthly Payments

In practice, lease contracts require the lessee to make lease payments monthly or quarterly in advance. The following illustration gives the evaluation of such contracts.

Illustration 9.7

Consider the data provided in Illustration 6. Assume that the lease rate is ₹ 35/₹ 1,000 payable monthly in advance. Calculate the net advantage of leasing.

Solution:

The following components of the lease-related cash flow stream defined in Illustration 9.6 will undergo changes:

B. Present value of lease rentals = (60 x 0.035 x 12) x PVIF $\bar{A}_{m\,(17,3)}$

$= 25.2 \times \frac{i}{d^{(12)}} \times PVIF_{(i,3)}$ where, i = 0.17 = 25.2 x 1.09 x 2.210

(Refer to Tables A.1 and A.5 at the end of the book) = ₹ 60.70 lakhs.

C. PV of tax shield on lease payments = [60 x 0.035 x 12 x PVIFA $_{(12,3)}$ x 0.46] = ₹ 27.84 lakhs

E. Present value of interest tax shields on displaced debt of ₹ 60.70 lakhs. (Refer Debt Amortization Schedule)

= [(8.05 x PVIF $_{(12,1)}$ + (5.13 x PVIF (12,2) + (1.72 x PVIF (12,3)] x 0.46
= ₹ 5.75 lakhs

Debt Amortization Schedule

(₹ in lakhs)

Year	Amount outstanding at the beginning	Capital Content	Interest Content	Installment Amount
1	60.70	17.15	8.05	25.2
2	43.55	20.07	5.13	25.2
3	23.48	23.48	1.72	25.2

Note: The reader is advised to read Section A.7 of Appendix A before studying the debt amortization schedule.

Net advantage of leasing = A – B + C – D – E – F = – ₹ 0.84 lakhs

Since NAL is negative, the lease is financially not advantageous at the given lease quote.

9.5 Concept and Application of Break-Even Lease Rentals

The break-even lease rental can be defined as that rental at which the lessee is indifferent between the options of leasing and buying, or that rental of which the net advantage of leasing will be nil. Clearly, the break-even rental reflects the maximum rental, which the lessee is willing to pay. Comparing the break-even rental with the given lease quote enables the lessee to decide whether the lease quote can be accepted.

Illustration 9.8

Consider the data provided in Illustration 6. Assume monthly lease payments in advance. Calculate the break-even monthly lease rental for Anurag Industries. Can the firm accept a lease quote of ₹ 35/1,000 per month payable in advance?

Solution:

Denote L_B as the monthly break-even rental. The value of L_B can be obtained by setting NAL equal to Zero. We get

$$60 - (12L_B \times 1.09 \times 2.210) + (12L_B \times 0.46 \times 2.402) - 17.96 - [(3.83 \times 0.893) + (2.45 \times 0.797) + (0.81 \times 0.712)] \times 0.46\ L_B - 4.27 = 0.$$

$$L_B = ₹\ 4.70 \text{ lakhs.}$$

Since the break-even monthly lease rental is more than the lease rental which Anurag Industries has to pay, viz ₹ 2.1 lakhs (= 60 x 0.035), the lease proposal should be accepted.

Note: The amount of displaced debt in this case is equal to:

$$12L_B \times 1.09 \times 2.210 = 28.91L_B.$$

The required amortization schedule at a rate of interest of 17% p.a. will be as follows:

Year	Amount outstanding at the beginning	Capital Content	Interest Content	Installment
1	$28.91L_B$	$8.17L_B$	$3.83L_B$	$12L_B$
2	$20.74L_B$	$9.55L_B$	$2.45L_B$	$12L_B$
3	$11.19L_B$	$11.19L_B$	$0.81L_B$	$12L_B$

An analysis of the equation used by us for calculating the break-even rental reveals that it is a function of the pattern of lease payments, the tax shields, the net salvage value, the lease period, and the cost of capital.

The following observations can be made on the interrelationships between each one of these variables and the break-even rental, holding others constant:

- A larger upfront payment increases the break-even rental.
- A higher tax-relevant rate of depreciation decreases the break-even rental.
- A longer primary lease period decreases the break-even rental.
- A higher cost of capital increases the break-even rental.
- A higher net salvage value decreases the break-even rental.

The break-even rental constitutes an important input in negotiating lease rentals, about which there is further discussion in the following unit.

Illustration 9.9

Anjuman Steel Ltd. (ASL) is a loss-making steel unit. It is contemplating to purchase modern equipment costing ₹ 600 lakhs to help in the turnaround of the Company. It approaches Grover Finance Ltd. (GFL) to structure the lease. GFL found it difficult to handle the lease due to the high cost and specialized nature of the asset. It approaches Varun Finlease Ltd. (VFL) which specializes itself in handling large and complex leases. It reached an agreement with VFL. According to the agreement; GFL will act as a broker for the lease and the lease rentals shall be payable quarterly in arrears to the GFL, which will deduct its commission of ₹ 3.58 lakhs per quarter, invest the rest amount in short-term liquid securities yielding 4% p.a compounded quarterly until the end of the year and pay the rentals annually to VFL. The useful life of the asset and the lease period is 5 years and the salvage value at the end of the 5 years shall be ₹ 10 lakhs. The tax-relevant rate of depreciation is 25%. The other particulars are as follows:

	ASL	GFL	VFL
Pre-tax cost of debt (%)	12	10	8.5
Marginal cost of equity (%)	18	14	13.5
Tax rate (%)	35	35	35
Asset to equity ratio	1.5	2.5	2.0

ASL has no tax liability from the past two years and expects to have a nil tax liability at least for the next five years.

You are required to:

a. Calculate the maximum lease rental ASL can pay.

b. Comment whether the amount is acceptable to VFL if ASL pays the maximum lease rental as calculated in (a) above.

Show all the workings.

Solution:

a. Since ASL is a loss-making unit, no tax shield shall be available to it. The interest tax shield on the cost of debt will also be lost. While calculating WACC, the pre-tax and post-tax cost of debt will be the same.

NAL = initial investment – PV(LR) – PV(NSV)

Cost of capital can be calculated as follows:

Leverage ratio = Total assets/ total equity = 1.5

Therefore, debt/equity ratio becomes 0.5

Cost of capital = 12 ×0.5/1.5 + 18/1.5 = 16%

i. Initial investment = ₹ 600 lakhs

ii. PV (LR): Let quarterly rental be L

PV = L × i/i^4 × 4 × PVIFA (12%,5) = 15.04L

iii. PV (NSV) = 10 × PVIF (16%,5) = 4.76

NAL = 600 – 15.04L – 4.76 = 0 Therefore L = ₹ 39.58 lakhs

b. WACC of VFL

Leverage ratio = 2.0, (D+E)/E = 2.0; Therefore D/E becomes 1.0

WACC = (8.50 × 0.35)0.5 + (13.5 x 0.5) = 8.49%

Lease rentals payable by ASL = ₹ 39.58 lakhs.

Amount received at the end of the year after deducting the commission of GFL = 36 × $(1.01)^3$ + 36×$(1.01)^2$ + 36 ×(1.01) + 36 = ₹ 146.17 lakhs

NPV (L)=– Initial investment + PV(LR) – PV (tax on lease rental)
+ PV(DTS) + PV(SV)

i. Initial investment = ₹ 600 lakhs

ii. PV of lease rental = 146.17 × PVIFA (8.49%,5) = ₹ 576.18 lakhs

iii. PV of tax on lease rentals = 576.18 × 0.35 = ₹ 201.66

iv. PV (DTS) =[150 × PVIF (8.49%,1) + 112.5 × PVIF (8.49%,2)
+ 84.38 × PVIF (8.49%,3) + 63.28 PVIF (8.49%,4)
+ 47.46 × PVIF (8.49%,5)]x 0.35 = 132.01

v. PV (NSV) = 10 PVIF (8.49%,5) = 6.65

NPV (L) = – 600 + 576.18 – 201.66+ 132.01+6.65= ₹ -86.82 lakhs.

As NPV is negative, the lease cannot be structured.

Example: Calculation of Breakeven Lease Rentals for Anjuman Steel Ltd

Anjuman Steel Ltd. (ASL) is a loss-making steel unit. It is contemplating to purchase modern equipment costing ₹ 600 lakhs to help in the turnaround of the Company. It approaches Grover Finance Ltd. (GFL) to structure the lease. GFL found it difficult to handle the lease due to the high cost and specialized nature of the asset. It approaches Varun Finlease Ltd. (VFL) which specializes itself in handling large and complex leases. It reached an agreement with VFL. According to the agreement; GFL will act as a broker for the lease and the lease rentals shall be payable quarterly in arrears to the GFL, which will deduct its commission of ₹ 3.58 lakhs per quarter, invest the rest amount in short-term liquid securities yielding 4% p.a compounded quarterly until the end of the year and pay the rentals annually to VFL. The useful life of the asset and the lease period is 5 years and the salvage value at the end of the 5 years shall be ₹ 10 lakhs. The tax-relevant rate of depreciation is 25%. The other particulars are as follows:

	ASL	GFL	VFL
Pre-tax cost of debt (%)	12	10	8.5
Marginal cost of equity (%)	18	14	13.5
Tax rate (%)	35	35	35
Asset to equity ratio	1.5	2.5	2.0

ASL has no tax liability from the past two years and expects to have a nil tax liability at least for the next five years.

You are required to:

a. Calculate the maximum lease rental ASL can pay.

b. Comment whether the amount is acceptable to VFL if ASL pays the maximum lease rental as calculated in (a) above.

Show all the workings.

Solution

a. Since ASL is a loss-making unit, no tax shield shall be available to it. The interest tax shield on the cost of debt will also be lost. While calculating WACC, the pre-tax and post-tax cost of debt will be the same.

NAL = initial investment – PV(LR) – PV(NSV)

Cost of capital can be calculated as follows:

Leverage ratio = Total assets/ total equity = 1.5

Therefore, debt/equity ratio becomes 0.5

Contd….

Cost of capital = 12 ×0.5/1.5 + 18/1.5 = 16%

i. Initial investment = ₹ 600 lakhs

ii. PV (LR): Let quarterly rental be L

PV = L × i/i^4 × 4 × PVIFA (12%,5) = 15.04L

iii. PV (NSV) = 10 × PVIF (16%,5) = 4.76

NAL = 600 – 15.04L – 4.76 = 0 Therefore L = ₹ 39.58 lakhs

b. WACC of VFL

Leverage ratio = 2.0, (D+E)/E = 2.0; Therefore D/E becomes 1.0

WACC = (8.50 × 0.35)0.5 + (13.5 x 0.5) = 8.49%

Lease rentals payable by ASL = ₹ 39.58 lakhs.

Amount received at the end of the year after deducting the commission of GFL = 36 × (1.01)^3 + 36×(1.01)^2 + 36 ×(1.01) + 36 = ₹ 146.17 lakhs

NPV (L) = – Initial investment + PV(LR) – PV (tax on lease rental) + PV(DTS) + PV(SV)

i. Initial investment = ₹ 600 lakhs

ii. PV of lease rental = 146.17 × PVIFA (8.49%,5) = ₹ 576.18 lakhs

iii. PV of tax on lease rentals = 576.18 × 0.35 = ₹ 201.66

iv. PV (DTS) = [150 × PVIF (8.49%,1) + 112.5 × PVIF (8.49%,2) + 84.38 × PVIF (8.49%,3) + 63.28 PVIF (8.49%,4) + 47.46 × PVIF (8.49%,5)] x 0.35 = 132.01

v. PV (NSV) = 10 PVIF (8.49%,5) = 6.65

NPV (L) = – 600 + 576.18 – 201.66+ 132.01+6.65= ₹ -86.82 lakhs.

As NPV is negative, the lease cannot be structured.

Source: ICFAI Research Center

9.5.1 Lease Evaluation in Practice

The available empirical evidence on leasing practices is rather scant in the international context in general, and in the Indian context in particular. In this section, we present the findings of a few studies that have been carried out in the US and the results of a survey carried out in India.

Most of the finance literature on leasing assumes that the operating cash flows associated with leasing or owning are invariant (do not change) to the financial contract chosen and focuses primarily on the tax shelters associated with leasing or buying. This in turn implies that there must be no perceptible cross-sectional differences in the net benefits of leasing across assets and industries. But a

managerial analysis of the observed variations in leasing practices carried out by Smith and Wakeman has revealed a concentration of leases in certain industries and for certain types of assets. The authors conclude that this concentration is explained by a set of non-tax incentives that are typically not factored in a lease evaluation model. According to them, leasing is more likely if they are

- The value of the asset is less sensitive to use and maintenance decisions.
- The asset is not specialized to the firm (lessee).
- The expected use of the asset is short, relative to the useful life of the asset.
- The corporate bond contracts (loan agreements) contain specific financial policy (restrictive) covenants.
- The management compensation contracts contain provisions specifying payoffs as a function of the return on invested capital.
- The lessor has a comparative advantage in asset disposal.

We have seen that most of the financial evaluation models treat lease financing as a perfect substitute for debt financing. Some studies have empirically investigated the validity of this assumption. A reasonably comprehensive study conducted by Bowman has revealed that the market views leasing and debt financing as close substitutes. This finding provides empirical support to the framework for lease evaluation evolved in the previous section.

In the Indian context, a survey conducted by Kamath *et al., h*as revealed that the decision to lease is primarily influenced by,

- Hundred Percent Financing Provided under a Finance Lease.
- Simple Documentation.
- Expeditious Sanctions.
- Absence of Restrictive Financial Covenants in the Lease Agreement.
- No Requirement for Detailed Post-Sanction Reporting.
- Flexibility in Terms of Structuring Lease Rentals.
- Off-Balance Sheet Feature of Finance Lease (which helps in maintaining the apparent borrowing capacity of the firm). However, as per the latest guidelines on lease accounting, it is no more an off-balance sheet item.

9.6 Evaluation of Lessor

Given the long-term relationship envisaged by a finance lease, the unlimited innovative ways of structuring a lease, and the legal and tax complexities that go with the structuring of such leases, selecting a lessor cannot be accomplished by applying the "minimum lease quote" as the sole criterion of the appraisal. In our opinion, the following factors play an equally important part in the selection of a lessor: (i) Role of the Lessor, (ii) Financial Position, (iii) Experience, and (iv) Product Range.

9.6.1 Role of Lessor

Perhaps the most important question to be asked in big-ticket lease transactions is: Is the lessor acting as a lease broker or as a lease broker-cum-financier? In large leveraged leases, the lessor interacting with the lessee might be a minor equity participant and the lessee may be required to deal with a large group of equity and loan participants either directly or through the owner/indenture trustees. In such cases, the lessee must consider the operational difficulties involved and more importantly evaluate the character and the capacity of these financial intermediaries for backing up the lease commitments. This is indeed an onerous task.

9.6.2 Financial Position

Where the lease involves a substantial financial commitment or where the lessee intends to access lease finance on an ongoing basis, the lessee has to undertake a thorough analysis of the financial position and condition of the lessor. The analysis can be in terms of:

– Profitability

– Growth

– Risk.

The financial indicators that can be employed for this purpose are provided in the following Table 9.1:

Table 9.1: Financial Dimensions with Indicators (with Explanatory Notes)

Dimension	Indicator
Profitability	– Return on Total Assets (ROA) = $\frac{PBIT}{TA}$ – Return on Equity (ROE) = $\frac{PAT}{NW}$
Risk	– Coefficient of Variation (CV) of the chosen Measure of Profitability CV(ROA) = $\frac{SD(ROE)}{\overline{ROE}}$ CV(ROE) = $\frac{SD(ROE)}{\overline{ROE}}$
Growth	– Compounded Annual Growth Rates in: λ Investment in Leased Assets (Gross Block) λ Profit before Interest & Taxes λ Capital Employed

Explanatory Notes:

1.	PBIT	:	Profit Before Interest and Taxes
	TA	:	Total Assets
	PAT	:	Profit After Tax
	NW	:	Net Worth
	SD	:	Standard Deviation
	ROA	:	Arithmetic Average of Return on Total Assets
	ROE	:	Arithmetic Average of Return on Equity
	Capital Employed	:	Net Worth plus all Liabilities with a Maturity period of one year or more.
2.	'Risk' in finance literature measures the deviation of individual outcomes from the average (expected) outcome. While a simple measure of such variability can be the Range – the difference between the largest and the smallest outcomes – we have used a more sophisticated measure – the coefficient of variation – because it permits inter-lessor comparison.		
3.	Ideally, financial data relating to the last five years are required for measuring the C.V. and the growth rates.		

Source: ICFAI Research Centre

While appraising the financial performance of the leasing company, the lessee should bear in mind that depreciation of the right-of-use asset and interest on the lease liability. The depreciation would be on a straight-line basis and Assets and liabilities are initially measured on a present value basis, as per international accounting standards.

Another aspect of the financial evaluation, which must be considered is the funding of leases. Given the ceiling on bank borrowing and the limited lines of credit available from the financial institutions, public deposits constitute an important source of finance for many leasing companies subject to the company following RBI norms on Net owned funds (NOF). So, the ability of a leasing company to tap this source on an ongoing basis is an important consideration. One indicator of this ability is the rating provided by CRISIL.

9.6.3 Experience

The experience of the lessor in the financial services industry is particularly important to a lessee when the lease under review calls for managing certain financial, legal, and tax issues not addressed by the typical lease agreements. Structuring large leveraged leases or designing complex cross border leases are some illustrative areas where the lessor's financial acumen and knowledge of the relevant legal and tax issues are put to an acid test.

Example: Blackstone, the biggest lessor in India

Blackstone Advisors, one of the largest lessor and largest logistics warehousing company had built a 140 million square feet realty portfolio. The company had acquired Express Towers in 2014 for $150 million. The company went on acquiring marquee assets to build a 125.5 million square feet realty portfolio and emerged as India's largest corporate landlord with over fifteen years' experience. The real estate lessor held 38 assets in seven cities and some of them included

No. 2 NCR-based DLF's	37.7 million sq feet
Mindspace	31.3 million sq feet
Brookfield's	42.6 million sq feet
Prestige group	18.7 million sq feet
Nexus mall	9.0 million sq feet

Blackstone Advisors also ran a huge real estate investment trust (REIT) and pooled money from mostly small investors and invested in real estate assets.

Source- https://www.fortuneindia.com/long-reads/indias-biggest-landlord/107343 dated 8th March 2022 Date of access- 26th August 2022

9.6.4 Product Range

Firms implementing large projects where 'lease finance' is just one component of the overall financing plan looks for financial intermediaries that can play the role of a "one-stop-shop". Such financial intermediaries have to offer a wide range of fund based and non-fund based financial services, which include leasing, hire purchase, merchant banking, trade bill discounting, etc., to provide a comprehensive package to the client.

9.6.5 Rating a Lessor

To simplify the process of selecting the right lessor, the Bank of America Lease Group has come up with a questionnaire in a yes/no response format which is reproduced below. The rating of the lessor depends upon the number of negative responses. The greater the number of negative responses, the more the lessor is to be avoided. (Refer Table 9.2)

Table 9.2: Lessor Evaluation Questionnaire

1.	Will sign a firm commitment subject only to documents.	Yes/No
2.	Will not break the entire transaction to a third party who may be difficult to deal with.	Yes/No
3.	Is adequately capitalized to back up a firm commitment.	Yes/No
4.	Will furnish an audited statement; will state net worth.	Yes/No

Contd….

5.	Is substantial from a financial and management point of view.	Yes/No
6.	Is experienced and has a clear history in the equipment leasing business.	Yes/No
7.	Has a good anticipated future in equipment leasing and will be available for consultation throughout the term of the lease.	Yes/No
8.	Is not a promoter type who will disappear after payment of his fee.	Yes/No
9.	Is familiar with the special legal problems related to a lease.	Yes/No
10.	Understands and can correctly analyze the income tax considerations.	Yes/No
11.	If undercapitalized, will post a deposit to insure performance.	Yes/No
12.	Will disclose the full amount of any fees he will receive in the transaction.	Yes/No
13.	Has not purposely submitted a 'Low Bill' bid.	Yes/No
14.	If a broker, will not enter into special arrangements for his fee such as "residual sharing", which may jeopardize the "true lease" and result in liability to the lessee under the tax indemnity clause.	Yes/No
15.	All material facts will be presented in obtaining the tax ruling since the ruling may be valueless if this is not the case and the lessee may then be liable under the tax indemnity clause.	Yes/No
16.	The transaction may be booked for financial accounting purposes as presented.	Yes/No
17.	Have financial resources to do follow-on lease financing of retrofits, improvements, or additions.	Yes/No
18.	Will not break the lease to a number of parties, not one of whom can bind the others and will be difficult to deal with as a group when changes are later needed.	Yes/No
19.	Will not disrupt the lessee's credit standing by contracting financial debt and credit sources all over the country in attempting to break the transaction.	Yes/No
20.	If the commitment is not firm, the broker will disclose in advance how he will go about finding equity participants and whom he will contact.	Yes/No
21.	If the broker intends to bring in other brokers to help find equity participants, he will disclose who they are, whom he will contact, the amount of their fees, and who will pay the fees.	Yes/No

Contd….

22.	The broker will make correct representations to the equity participants so that they will thoroughly understand their rights and obligations under the lease and not become disgruntled investors with whom it will be difficult to deal should the need arise.	Yes/No
23.	The equity participants will be financially able to meet their obligations to the owner trustee.	Yes/No
24.	The overall cost of the transaction has not been needlessly raised by a broker's fee.	Yes/No

Source: ICFAI Research Centre

Check Your Progress – 2

6. In lease financing valuation models, the discounted rate on the marginal cost of capital determines its risks associated with the realization of cash flows. Which of the following equation will be used to calculate the risk-adjusted discount rate?

   a. r = i + n + d

   b. r = i - n + d

   c. r = n + i - d

   d. r = i - n - d

   e. r = n - i + d

7. Which of the following statements is **not true** in relation to the break-even lease rentals?

   a. The break-even lease rental is that rental at which the lessee is indifferent between the options of leasing and buying.

   b. It is that rental of which the net advantage of leasing (NAL) is nil.

   c. The breakeven rental reflects the minimum rental, which the lessee is willing to pay.

   d. It enables the lessee to decide whether the lease quote can be accepted or not.

   e. Breakeven rental reveals that it is a function of the pattern of lease payments, the tax shields, the net salvage value, the lease period, and the cost of capital.

8. As the breakeven rentals act as a functional pattern constituting lease payments, the tax shields, the net salvage value, the lease period, and the cost of capital, identify the **incorrect** observation in relation to its

interrelationships between each one of these variables and the breakeven rental, holding others constant.

a. A larger upfront payment increases the breakeven rental.

b. A higher tax-relevant rate of depreciation decreases the breakeven rental.

c. A longer primary lease period decreases the breakeven rental.

d. A higher cost of capital decreases the breakeven rental.

e. A higher net salvage value decreases the breakeven rental.

9. Smith and Wakeman had observed a managerial analysis on the variation in leasing practices and revealed that the concentration of leases in certain industries and for certain types of assets is explained by a set of non-tax incentives. Which of the following observation statement is **true** to leasing that is not factored in a lease evaluation model?

   a. The value of the asset is more sensitive to use and maintenance decisions.

   b. The asset is specialized to the firm (lessee).

   c. The expected use of the asset is long, relative to the useful life of the asset.

   d. The corporate bond contracts (loan agreements) contain specific financial policy (restrictive) covenants.

   e. The lessee has a comparative advantage in asset disposal.

10. Which of the following statements is relevant in a lessee, when the lease under review calls for managing certain financial, legal, and tax issues not addressed by a typical lease agreement?

    a. The role played by the lessor in the financial services

    b. The financial position of the lessor

    c. The experience gained by the lessor in the financial services

    d. The product range offered by the lessor company

    e. The financial rating of a lessor by a finance credit institution

Activity 9.2

You are the CEO of a company planning to lease out machinery to a contractor. What are the factors that you would consider before making the decision?

9.7 Summary

- A finance lease can be evaluated either as an investment alternative or as a financing alternative depending upon the a priori information available about the financial desirability of capital investment. In the absence of any a priori information about the financial desirability, 'leasing' and 'buying' are evaluated as two mutually exclusive investment alternatives. Given prior knowledge of the financial desirability or need for capital investment, 'leasing' is evaluated as one of the financing alternatives.
- There are a number of financial models available for evaluating a 'lease' and there is no consensus until date on the most appropriate model. The following four financial models represent reasonably well the spectrum of views on this issue: (i) Weingartner Model, (ii) Equivalent Loan Model, (iii) Bower-Herringer-Williamson Model, (iv) Bower Model, and (v) Barring the first model, the other three models evaluate leasing as a financing alternative.
- The application of the Weingartner Model for evaluating a 'lease' as an investment alternative involves the following steps: (a) Compute the NPVs of the 'lease' and 'buy' alternatives, and (b) Select the alternative with the higher positive NPV.
- Setting NAL to zero and solving for the unknown rental value provides the break-even rental from the lessee's point of view – the maximum lease rental acceptable to the lessee.
- In practice, the decision to lease is significantly influenced by several non-tax based factors like, (a) Simple Documentation, (b) Expeditious Sanction, (c) Absence of Restrictive Financial Covenants in the Lease Agreement, (d) No Requirement for Detailed Post-Sanction Reporting, (e) Flexibility in terms of Structuring Lease Rentals, and (f) Off-Balance Sheet feature of Finance Lease.

9.8 Glossary

Marginal Cost of Capital – Minimum return expected from the leased asset is known as the marginal cost of capital.

Weingartner's Model - The model assumes that the target capital structure consists of a mix of debt, lease finance, and equity; and that each investment is deemed to be financed using this mix.

Bower-Herringer-Williamson (BHW) Model - Under the BHW Model, the lease-related cash flow stream is divided into two parts – the part relating to financing per se and the part relating to tax shields and residual value. The cash flow stream related to financing is called the Financial Advantage of Leasing and can be defined as:

FA(L) = Initial Investment – PV of Lease Payments

Bower's Model - A model of lease evaluation, which checks the viability of the project by comparing the cost of purchase with the cost of the lease. A project is accepted if the cost of the lease is more than the cost of purchase.

9.9 Self-Assessment Test

1. Explain Bower's model of lease evaluation in detail.
2. What is the premise on which the Equivalent Loan Model is developed? Explain the model in detail.
3. Explain the concept of break-even point associated with leasing.
4. How is Weingartner's Model different from the BWH model? Explain with an example.
5. What are the parameters on which the lessor's financial condition can be evaluated?
6. What are the non-tax factors that impact the leasing contract?

9.10 Suggested Reading/Reference Material

1. Anthony Saunders, Marcia Millon Cornett, Anshul Jain (2021), Financial Markets and Institutions, 7th edition, Tata McGraw-Hill Education.
2. M.Y.Khan (2019, Financial Services, 10th edition, Tata McGraw-Hill Education.
3. Prasanna Chandra (2020), Fundamentals of Financial M, 7th edition, Tata McGraw-Hill Education.
4. Devie Mohan (2020), The Financial Services Guide to Fintech, 1st edition, Kogan Page Limited.
5. Siddhartha Sankar Saha (2021). Indian Financial System. 2nd edition, Tata McGraw-Hill Education.
6. DR. R. Shanmugham (2020). Financial Services. 2nd edition. Wiley India.

9.11 Answers to Check Your Progress Questions

1. (e) The negative values of NPV(L) and NPV(B) reveals that the asset or equipment can be either leased or purchased

The value of NPV (L) is called the Net Advantage of Leasing (NAL). The negative values of NPV (L) and NPV (B) reveal that the asset must be neither leased nor purchased.

2. (c) Equivalent loan Model

The Net Advantage of Leasing (NAL) is called the Net Value of Lease (NVL) under the Equivalent Loan Model. It uses a single discount rate

(cost of debt) to value all cash flows. Hence, this model is of the presumption that companies can reduce long term debt through leasing.

3. (b) Weingartner's Model

Weingartner's Model assumes that all cash flows carry the same risk as the risk of the firm and all the cash flows are said to be discounted at the marginal cost of capital.

4. (a) Financial advantage of leasing

Under the BHW Model, the lease-related cash flow stream is divided into two parts – the part relating to financing per se and the part relating to tax shields and residual value. The cash flow stream related to financing is called the Financial Advantage of Leasing and can be defined as FA(L) = Initial Investment – PV of Lease Payments.

5. (d) The discount rate used to determine the PV of lease payments in FA(L) refers to the post-tax marginal cost of capital

In the BHW model, the discount rate to be used for determining the PV of lease payments in FA (L) will be the pre-tax marginal cost of debt and the discount rate to be employed in OA (L) will be the post-tax marginal cost of capital.

6. (a) r = i + n + d

In any typical capital budgeting exercise, a discount rate higher or lower than the marginal cost of capital will be warranted where the risk associated with the realization of cash flows is believed to be significantly higher or lower than the risk of existing investments. Therefore, in general, the risk-adjusted discount rate will be

r = i + n + d

Where, r = risk-adjusted discount rate, i = risk-free rate of interest, n = adjustment for the firm's normal risk, and d = adjustment for the investment's differential risk.

7. (c) The breakeven rental reflects the minimum rental, which the lessee is willing to pay

The break-even lease rental can be defined as that rental at which the lessee is indifferent between the options of leasing and buying. Clearly, the breakeven rental reflects the maximum rental, which the lessee is willing to pay.

8. (d) A higher cost of capital decreases the breakeven rental

All others being true a higher cost of capital will only increase the breakeven rental while interrelated with functional variables.

9. (d) The corporate bond contracts (loan agreements) contain specific financial policy (restrictive) covenants

The corporate bond contracts (loan agreements) contain specific financial policy (restrictive) covenants is a correct statement of observation to the study made by Smith and Wakeman to determine the corporate leasing policy.

10. (c) The experience gained by the lessor in the financial services

The experience of the lessor in the financial services industry is particularly important to a lessee. Structuring large leveraged leases or designing complex cross border leases are some illustrative areas where the lessor's financial acumen and knowledge of the relevant legal and tax issues are put to an acid test.

Unit 10

Lease Evaluation: The Lessor's Angle

Structure

"It is not easy to steal where the landlord is a thief"

- Irish proverb

10.1 Introduction

It is not easy to hoodwink the lessor who is the landlord as he knows the value of the asset and the rent.

In the previous unit, we discussed lease evaluation from the lessee's angle. We also discussed four lease evaluation models: (i) Weingartner's Model (ii) Equivalent Loan Model (iii) Bower-Herringer-Williamson (BHW) Model and (iv) Bower Model. In this unit, we focus on the pricing of a lease using the risk-return framework.

This unit is divided into three parts. The first part dwells on the computation of the break-even rental which sets the floor price of a lease. The second part discusses the concept of gross yield and the pricing of a lease based on the gross yield. The third part deals with the sources of lease-related risk, the assessment of credit risk and product risk, and the methods of risk management. Initially, the lessor was entitled to tax shield on depreciation.

As per the latest guidelines, the accounting procedure for normal fixed assets and those taken on lease are the same.

Further, since the lessee has to show the assets and liabilities in his balance sheet, he is eligible for depreciation for the 'right-of-use' asset. Rental expense will be replaced by depreciation on the 'right-of-use' asset, and interest expense on the lease liability, recognized in the profit and loss statement.

10.2 Objectives

After going through this unit, you should be able to:

- Discuss the concept of Break-even Rental for the Lessor
- Explain the negotiating process of Lease Rentals
- Evaluate the concept of Gross Yield and Add-on Yield
- Assess Gross Yield-Based Pricing
- Analyze and interpret the Internal Rate of Return of a Lease
- Discuss Lease-Related Risks and Default Risk

10.3 Break-even Rental for Lessor

The lease attracts rent. It is payable by the lessee to lessor. The lessor always looks for higher rent and the lessee always prefers lower rent. Let us discuss the rentals from the lessor's perspective.

The break-even lease rental from the lessor's angle is the minimum lease rental which the lessor can accept. At this rental, the Net Advantage of Leasing (NAL) from the lessor's point of view will be equal to zero. Obviously, the break-even rental sets the floor price of a lease.

We are already familiar with the application of the NAL approach for determining the break-even rental from the lessee's point of view. We will extend this approach to determining the break-even lease rental for the lessor.

For this purpose, let us take a quick look at the lease related cash flow stream from the lessor's angle (Exhibit 10.1).

Exhibit 10.1: Composition of Cash Flow Stream

Constituent	From the point of view of	
	Lessor	Lessee
Initial investment	Outflow	Inflow
Management fee	Inflow	Outflow
Direct costs	Outflow	–
Lease payments	Inflow	Outflow
Income tax on lease payments	Outflow	Inflow (tax shield)
Tax shields on depreciation	Foregone Inflow	Outflow
Sales tax on lease rental	–	Outflow
Residual value	Inflow	Outflow (or foregone inflow)

Source: ICFAI Research Center

To determine the break-even rental from the lessor's standpoint, we set the present value of the lessor's cash flow stream equal to zero and solve for the lease rental which is the unknown variable. The discount rate to be used will be the cost of funds to the lessor which will be:

$$k' = k_E \times \frac{E}{D+E} + k_D(1-T) \times \frac{D}{D+E}$$

Where,

k' = Marginal cost of funds,

k_E = Marginal cost of equity,

k_D = Marginal cost of debt, and

D: E = Target debt-equity ratio of the lessor

The following illustrations explain the application of the NAL approach in determining the floor price of a lease:

Illustration 10.1

Ever Lease Company (ELCO) typically writes five year leases with rentals payable annually in arrears. The following information is available about a lease under review:

Equipment Cost	₹ 33 lakh (inclusive of CST @ 10%)
Salvage Value after 5 Years	10% of the original cost
Initial Direct Cost	₹ 0.3 lakh (front ended)
Management Fee	₹ 0.5 lakh (front ended)

The cost of funds to ELCO is 14% and the marginal rate of tax is 46%.

Calculate the break-even rental for ELCO, assuring a tax relevant rate of depreciation of 25%, 40% and 100%.

What will the break even rentals if the lease is set up in the second half of the financial year? (Say from September to March)

How the break even rentals change if the lease is entered in the first of the financial year?

Solution:

Define L as the annual break-even rental for ELCO. The components of NAL to ELCO can be computed as follows:

1.	Equipment cost	:	₹ 33 lakh
2.	Present value of lease rentals	:	L x $PVIFA_{(14,5)}$ = 3.433L
3.	Present value of tax on lease rentals	:	0.46 x L x $PVIFA_{(14,5)}$ = 1.579L

2	Present value of tax shield on depreciation @ 25% p.a.	:	[8.25 x PVIF $_{(14,1)}$ + 6.19 x PVIF $_{(14,2)}$ + 4.64 x PVIF$_{(14,3)}$ + 3.48 x PVIF$_{(14,4)}$ + 2.61 x PVIF$_{(14,5)}$] x 0.46 = ₹ 8.53 lakhs
	Present value of tax shield on depreciation @ 40% p.a.	:	[13.2 x PVIF $_{(14,1)}$ + 7.92 x PVIF $_{(14,2)}$ + 4.75 x PVIF $_{(14,3)}$ + 2.85 x PVIF$_{(14,4)}$ + 1.71 x PVIF$_{(14,5)}$] x 0.46 = ₹ 10.79 lakhs
	Present value of tax shield on depreciation @ 100% p.a.	:	33 x PVIF $_{(14,1)}$ x 0.46 = ₹ 13.31 lakhs
5	Present value of initial direct costs	:	₹ 0.3 lakhs
6	Present value of management fee	:	₹ 0.5 lakhs
7	Present value of tax shield on initial direct costs	:	0.3 x 0.46 x PVIF $_{(14,1)}$ = ₹ 0.12 lakhs
8	Present value of tax on management fee	:	0.46 x 0.5 x PVIF $_{(14,1)}$ = ₹ 0.20 lakhs
9	Present value of salvage value	:	3.3 x PVIF $_{(14,5)}$ = ₹ 1.71 lakhs

Given a tax relevant depreciation rate of 25% p.a., L can be obtained from the equation:

$$-33 + 3.433L - 1.579L + 8.53 - 0.3 + 0.5 + 0.12 - 0.2 + 1.71 = 0 \text{ i.e.,}$$

L = ₹ 12.21 lakhs

The reader can verify that for tax relevant depreciation rates of 40% and 100%, the values of L will be ₹ 10.99 lakh and ₹ 9.63 lakh respectively.

Therefore, the depreciation related tax shields for the different rates of depreciation will be as follows:

Depreciation-Related Tax Shields

Tax-Relevant Rate of Depreciation	PV of the Tax Shields (₹ in lakh)
25%	[0.5 x 8.25 x PVIF $_{(14,0)}$ + 7.22 x PVIF $_{(14,1)}$ + 5.41 x PVIF $_{(14,2)}$ + 4.06 x PVIF $_{(14,3)}$ + 3.05 x PVIF $_{(14,4)}$ + 2.28 x PVIF $_{(14,5)}$] x 0.46 = 9.36
40%	[0.5 x 13.2 x PVIF $_{(14,0)}$ + 10.56 x PVIF $_{(14,1)}$ + 6.34 x PVIF $_{(14,2)}$ + 3.80 x PVIF $_{(14,3)}$ + 2.28 x PVIF $_{(14,4)}$ + 1.37 x PVIF $_{(14,5)}$] x 0.46 = 11.67
100%	0.5 x 33 x PVIF $_{(14,0)}$ x 0.46 = 7.59

Based on the depreciation, tax shields given in Table 10.1, the break-even rentals must be reworked. The reader can verify that the break-even rentals at

depreciation rates of 25%, 40%, and 100% are ₹ 11.77 lakh, ₹ 10.52 lakh, and ₹ 12.72 lakh respectively.

We can combine the results obtained in parts (a) and (b) in the form of a two-way table as follows-

Impact of Depreciation and Lease Timing on Break-Even Rental

Duration of Lease during year 1 / Tax Relevant Rate of Depreciation	More than six months	Less than six months
25%	₹ 12.21 lakhs	₹ 11.77 lakhs
40%	10.99	10.52
100%	9.63	12.72

We find:

1. Setting up a lease transaction in the second half of a financial year (between September 30th and March 31st) lowers the break-even rental over what is required, if the transaction has been set up in the first half for assets with depreciation rates of 25% and 40%.
2. Where the lease runs for a duration of more than six months in the first year, the break-even rental is reduced as the rate of depreciation increases.
3. Where the lease runs for a duration of less than six months in the first year, the relationship stated in (2) does not hold good for an asset which qualifies for 100% depreciation.

Illustration 10.2

Innovative Financial Services writes the following types of lease contracts:

Type	Duration of Primary Lease Period (in years)	Tax Relevant Rate of Depreciation (%)	Residual Value as a % of Original Cost
I	3	40	8
II	5	25	5

The marginal tax rate applicable to the company is 46% and the post-tax cost of funds is 14% p.a. On interstate purchases of capital equipment, the company is required to pay central sales tax at the rate of 10% on the basic price.

Compute the minimum rental the company should charge for the two types of lease contracts. Assume that the company collects lease rentals monthly in advance.

Solution:

We shall assume an investment cost of ₹ 1,000 and use the following notations to denote the monthly break-even rentals for the two types of lease contracts:

L_1 – Type I contract.

L_2 – Type II contract.

To determine L_1, we must set the NAL equation involving L_1 to zero. For this purpose, we must determine the following:

1.	Investment cost	:	₹ 1,000
2.	Present value of lease rentals	:	$12L_1 x \ PVIF\bar{A}_{m(14,3)} = 29.93\ L_1$
3.	Present value of tax on lease rentals	:	$12L_1 x \ PVIF\bar{A}_{m(14,3)} \times 0.46 = 12.82L_1$
4.	Present value of tax shields on depreciation	:	[400 x $PVIF_{(14,1)}$ + 240 x $PVIF_{(14,2)}$ + 144 x $PVIF_{(14,3)}$] x 0.46 = 290.98
5.	Present value of residual value	:	1000 x 0.08 x $PVIF_{(14,3)}$ = 54

Setting the NA L equal to zero, we get,

$-1000 + 29.93L_1 - 12.82L_1 + 290.98 + 54 = 0$ i.e.,

$L_1 = 38.28$

Therefore, the minimum lease rental that innovative must charge for writing a lease contract will be ₹ 38.28/₹ 1,000/month.

To determine L_2, we must set the NAL equation involving L_2 to zero. For this purpose, we must determine the following:

1.	Investment cost	:	₹ 1,000
2.	Present value of lease rentals	:	$12L_2 x\ PVIF\bar{A}_{m\,(14,5)} = 44.26\ L_2$
3.	Present value of tax on lease rentals	:	$12L_2 x\ PVIF\bar{A}_{m\,(14,5)} \times 0.46 = 20.36\ L_2$
4.	Present value of tax shields on depreciation	:	[250 x $PVIF_{(14,1)}$ + 187.5 x $PVIF_{(14,2)}$ + 140.63 x $PVIF_{(14,3)}$ + 105.47 x $PVIF_{(14,4)}$ + 79.10 x $PVIF_{(14,5)}$] x 0.46 = 258.53
5.	Present value of residual value	:	1000 x 0.05 x $PVIF_{(14,5)}$ = 26

Setting the NAL equal to zero, we get,

$-1000 + 44.26L_2 - 20.36L_2 + 258.53 + 26 = 0$ i.e., $L_2 = 29.94$

Therefore, the minimum lease rental that innovative must charge for writing a lease contract will be ₹ 29.94/₹ 1,000/month.

10.4 Negotiating Lease Rentals

A knowledge of the break-even rentals of the lessor and the lessee helps in defining the range in which the rental can be negotiated. The break-even rental of the lessor defines the lower limit of this range, which we shall denote as LB^1. The break-even rental of the lessee defines the upper limit of the range, which we shall denote as LB. The difference $LB - LB^1$ is defined as the spread between the break-even rentals of the lessor and the lessee. The rental that is finally agreed upon will however, depend upon other factors like the prevailing market conditions, the credit-worthiness of the lessee and the prospects of doing business with the lessee on a continuing basis. But, if this rental remains within the range (LB, LB^1), both the lessor and the lessee will enjoy a positive net advantage of leasing. The following illustration 10.3 explains this point.

Illustration 10.3 (Determining the Bargaining Area)

The Alpha Paper Mills Limited (APML, hereafter) has decided to invest in an imported pulp quality control equipment, for which the following particulars are available:

1.	Cost of the Equipment	:	₹ 30 lakh
2.	Tax Relevant Rate of Depreciation	:	40%
3.	Useful Life	:	5 Years
4.	Estimated Net Salvage Value after Five Years	:	Negligible

The company has received a lease proposal from Integrated Leasing (ILL) to structure a finance lease at a rental of ₹ 25 ptpm payable at the beginning of every month.

The marginal cost of debt and the marginal cost of capital for APML are 17% (pre-tax) and 14% respectively. The marginal tax rate is 46%.

You have been informed that ILL requires a minimum post-tax return of 13% on its lease portfolio.

a. Determine the break-even rentals for APML and ILL.

b. Comment on the spread available between the two break-even rentals.

Solution:

a. We will work with an investment cost of ₹ 1000. The break-even rental for APML (LB) can be obtained as follows:

A : Investment Cost	=	₹ 1,000
B : Present Value of Lease Rentals	=	$12LB \times PVIF\bar{A}_{m\ (17,5)}$
	=	$12LB \times \frac{i}{d^{(12)}} PVIFA_{(17,5)}$

			at i = 17%
		=	12LB x 1.09 x 3.199
		=	41.84 LB
C :	Present Value of Tax Shield on Lease Rentals	=	12LB x $PVIFA_{(14,5)}$ x 0.46
		=	18.95L
D :	Present Value of Tax Shields forgone on Depreciation	=	[400 x $PVIF_{(14,1)}$ + 240 x $PVIF_{(14,2)}$ + 144 x $PVIF_{(14,3)}$ + 86.4 x $PVIF_{(14,4)}$ + 51.84 x $PVIF_{(14,5)}$] x 0.46
		=	326.88
E :	Present Value of Interest Tax Shields on Displaced Debt	=	[6.03LB x $PVIF_{(14,1)}$ + 5.02LB x $PVIF_{(14,2)}$ + 3.83LB x $PVIF_{(14,3)}$ + 2.44LB x $PVIF_{(14,4)}$ + 0.84LB x $PVIF_{(14,5)}$] x 0.46 = 6.26 LB

(Displaced) Debt Repayment Schedule

Year	Amount Outstanding at the Beginning	Capital Content	Interest Content = (B) x 0.17–1.08	Installment
(A)	(B)	(C)	(D)	(E)
1	41.84 LB	5.97 LB	6.03 LB	12 LB
2	35.87 LB	6.98 LB	5.02 LB	12 LB
3	28.89 LB	8.17 LB	3.83 LB	12 LB
4	20.72 LB	9.56 LB	2.44 LB	12 LB
5	11.16 LB	11.16 LB	0.84 LB	12 LB

Note: Interest on interest

$$= \left[12LB \times \frac{i}{d^{(12)}}\right] - 12LB = 12LB \times 1.0899 - 12LB = 1.08LB$$

In year 1:

Interest content = 41.84 x 0.17LB – 1.08LB = 6.0328LB

Setting the NAL of the lease proposal equal to zero, we get

A – B + C – D – E = 0

1000 – 41.84LB + 18.95LB – 326.88 – 6.26LB = 0

i.e., LB = 23.11

Therefore, the break-even rental of APML is ₹ 45.52 ptpm.

The break-even rental of ILL will be as follows:

F.	Initial Investment = 1,000	
G.	Present Value of Lease Receipts	$= 12LB' \times PVIF\overline{A}_{m\,(13,\,5)}$
		$= 12LB' \times \frac{1}{d^{(12)}} \times PVIFA_{(13,5)}$
		where i = 13%
		$= 12L\,B'$ x 1.0691 x 3.517
		$= 45.12L\,B'$
H.	Present Value of Tax Liability on Lease Receipts	$= 12L\,B'$ x 0.46 x $PVIFA_{(13,5)}$
		$= 12L\,B'$ x 0.46 x 3.517
		$= 19.41L\,B'$
I.	Present Value of Depreciation Tax Shields	= [400 x $PVIF_{(13,1)}$ + 240 x $PVIF_{(13,2)}$ + 144 x $PVIF_{(13,3)}$ + 86.4 x $VIF_{(13,4)}$ + 51.84 x $PVIF_{(13,5)}$] x 0.46
		= 332.50

The break-even rental of ILL can be obtained from the equation:

$-F + G + H + I = 0$

i.e., $-1000 + 45.12L\,B' - 19.41\,L\,B' + 332.50 = 0$

i.e., $LB^1 = 25.96$ ptpm

b. Therefore, on an investment cost of ₹ 30 lakh, the maximum lease rental APML will be willing to pay, is ₹ 0.69 lakh ptpm; and the minimum lease rental ILL will be willing to accept, is ₹ 0.78 lakh ptpm. Since the break-even rental required by ILL ($L\,B'$) is more than the maximum rental APML is willing to pay (LB), there is no positive spread and a bargaining area does not exist.

Often,, we will encounter leases where $L\,B'$ exceeds LB and under such conditions, a lease cannot be structured with a positive NAL for both the lessor and the lessee. In practice, such leases are written for other overriding considerations, but then we must understand that in such lease transactions one of the two parties sacrifices the goal of wealth maximization. The following illustrations give the other factors on account of which $L\,B'$ can exceed LB.

Illustration 10.4

In illustration 10.3, assume that the equipment under consideration is indigenously available. Being an interstate sale, if APML acquires the equipment, it must pay a central sales tax of 4% on the basic price of ₹ 30 lakh. On the other hand, if IEL acquires the equipment to lease it out to APML, it must pay central sales tax at 10% on the basic price. Compute the spread available between the break-even rentals of APML and IEL.

Solution:

Assuming an investment cost of ₹ 1,000, we know that the break-even rentals of APML and IEL are 23.11 ptpm and ₹ 25.96 ptpm.

Given an investment cost of ₹ 31.2 lakh, the monthly break-even rental for APML is ₹ (31.2 x 0.02311) lakh = ₹ 0.72 lakh.

On the other hand, the investment cost for IEL will be ₹ 33 lakh, and the monthly break-even rental for IEL = ₹ (33 x 0.02596) lakh = ₹ 0.86 lakh.

Clearly, there is no spread available between the break-even rentals of APML and IEL, which in turn implies that there is no room for negotiating a lease package that is financially attractive from the points of view of both the lessor and the lessee.

While calculating the spread in illustrations 10.3 and 10.4, we have assumed that there are no differences in the capital allowances available to the lessor and the lessee. This again need not be true. When the investment allowance scheme was in vogue (it was withdrawn by the Finance Act of 1990), a controversial and unresolved issue was the entitlement of the lessor to the benefit of investment allowance. The Income Tax Department was of the view that the lessor cannot claim investment allowance on the eligible leased assets because these assets are not deployed directly in his business. Obviously, the lessee, not being the owner of the equipment, cannot claim the tax shield on investment allowance. Since the department disallowed the claim for investment allowance in the hands of both the lessor and the lessee, the spread ($LB-L_{B'}$) ceased to exist in many lease transactions.

Illustration 10.5

Consider the data provided in illustration 10.3. Assume that APML is eligible to claim investment allowance at 20 per cent of the original cost of the equipment, if it purchases the equipment. On the other hand, if it takes the equipment on lease, it is not entitled to this capital allowance. The capital allowance is not made available to the lessor either. Calculate the spread available between the break-even rentals of APML and IEL.

Solution:

Investment allowance on an equipment costing

₹ 1000 = 0.2 x 1,000 = ₹ 200

Tax shield on investment allowance

= 0.46 x 200 = ₹ 92

Present value of tax shield on investment allowance

= 92 x $PVIF_{(14,1)}$ = ₹ 80.68

Factoring this value in the NAL equation of APML and solving for LB we get

LB = ₹ 20.34 ptpm

Since IEL cannot claim investment allowance, its monthly break-even rental of 25.96 ptpm will remain unchanged. Thus, we find that asymmetries in terms of availability of tax shelters make leasing less attractive. Differences in terms of the relative capacities of the lessor and lessee to absorb tax shields will also affect the spread.

10.5 Concepts of Gross Yield and Add-On Yield

Often, the leasing companies use the gross yield on investment as the basis for pricing a lease. The gross yield of a lease can be defined as that compounded rate of return (discount rate) that equates PV (Lease Rentals) + PV (Residual Value) to Investment Cost. PV is Present Value.

Where, management fees and initial direct costs are involved, the gross yield will be the discount rate that equates:

PV (Lease Rentals) + PV (Residual Value) + Management Fees

= Investment Cost + Initial Direct Costs

As the reader would have observed, the tax element is not factored into the calculation of gross yield. Therefore, the gross yield is always in pre-tax terms. The gross yield of a lease is compared with the pre-tax cost of funds to the lessor to evaluate the financial viability of the lease investment. In practice, the cut-off rate is determined as the pre-tax cost of funds plus a profit margin, the latter being a subjectively determined figure. The following illustration explains the computation of gross yield and the application of the decision rules that are based on gross yield.

Illustration 10.6

The finance manager of Implease Limited evaluates lease proposals in terms of the risk adjusted gross yield. For this purpose, he has developed the following risk classification table which provides information on the risk adjusted pre-tax yields required for different default risk classifications.

Risk Class	Required Yield (%)
A	19
B	21
C	24
D	25

The finance manager is currently reviewing a proposed lease transaction with Sindhri Coffee Curing Works, about which the following information is available:

Primary Lease Period	:	5 years
Secondary Lease Period	:	3 years
Monthly Rental during Primary Period	:	₹ 25/₹ 1,000
Monthly Rental during Secondary Period	:	₹ 1/₹ 1,000

The credit rating exercise undertaken by him reveals that the lessee can be placed in the 'B' category of the risk classification table.

Required:

a. Can the finance manager recommend the proposal? Why or why not?

b. Assume that the lessee is prepared to pay three months' rental in advance. Out of which, the two months' rental will be maintained as an interest free security deposit and adjusted against the payments due for the last two months of the primary lease period. Does this alter your answer to (a)?

Solution:

a. Define i as the annual pre-tax yield implied by the lease transaction. The value of i can be obtained from the equation:

$(25 \times 12) \times PVIF\bar{A}_{m\ (i,5)} = 1{,}000$

i.e., $300 \times \frac{i}{d^{(12)}} \times PVIFA_{(i,5)} = 1{,}000$

i.e., $\frac{i}{d^{(12)}} \times PVIFA_{(i,5)} = 3.333$

At i = 0.18, LHS of the equation = $1.095 \times 3.127 = 3.424$

i = 0.20, LHS of the equation = $1.105 \times 2.991 = 3.305$

Interpolating in the range (18,20) we get

$$i = 0.18 + \left[0.02 \times \frac{3.333 - 3.424}{3.305 - 3.424}\right] = 0.18 + \left[0.02 \times \frac{0.091}{0.119}\right]$$

= 0.1953 or 19.53%

The gross yield is less than the required yield. Hence, the finance manager cannot recommend the proposal.

b. The value of i can be determined from the equation:

$(25 \times 2) + [25 \times 12 \times PVIF\ \bar{A}_{m\ (i,4.833)}] = 1000$

[**Note:** 4.833 years = 58 months]

From this equation, we get

$$PVIF\bar{A}_{m\ (i,4.833)} = \frac{950}{300} = 3.167$$

At i = 0.20 LHS of the equation
= 1.105 x 2.928 = 3.235

i = 0.22 LHS of the equation
= 1.115 x 2.807 = 3.130

Interpolating in the range (20,22) we get

i = 0.2129 or 21.29%

Since the gross yield is marginally higher than the required yield, the finance manager can consider accepting the proposal.

The illustration 10.6 shows that the payment profile influences the calculation of the gross yield. Hence, the decision to accept or reject a lease investment. Another variable that considerably influences the gross yield is the residual value of the equipment. In cases where the residual value is significant and unguaranteed, we must implicitly or explicitly recognize the uncertainty associated with the realization of the estimated salvage value. An implicit approach will be to take a very conservative estimate of the salvage value, which we assume will be realized under the pessimistic scenario. An explicit approach will be to define the subjective probability distribution for the residual values and use the expected value of the probability distribution as the input for computing the gross yield.

Illustration 10.7

Consider the problem described in illustration 10.6. The finance manager of Implease estimates the residual value to vary between 5% and 20%, according to the following probability distribution:

Residual value (as a % of investment cost)	5	7.5	10	15	20
Probability	0.1	0.25	0.4	0.15	0.1

Compute and comment on the residual dependence of the gross yield.

Solution:

We shall work with an investment cost of ₹ 1,000.

The expected residual value

= [(5% x 0.1) +(7.5% x 0.25) + (10% x 0.4) + (15% x 0.15) + (20% x 0.10)] x 1000

= ₹ 106.25

The value of r can be determined from the equation:

$$300 \times PVIF\bar{A}_{m(r,5)} + 106.25 \times PVIF_{(r,5)} = 1,000$$

The reader can verify that the gross yield implicit in the transaction is about 22%, which is higher than the required yield. Therefore, the finance manager can recommend the proposal. The residual dependence of the gross yield is about (22% – 19.53%) = 2.47%.

A variant of gross yield that is sometimes quoted to mislead the unwary lessee is the "add-on yield". The "add-on yield", akin to the "flat rate of interest", assumes that the investment in the lease remains constant over the lease period. Put differently, it does not recognize the fact that every lease rental paid under the finance lease has a capital content (return of investment), and an interest content (return on investment). Therefore, the add-on yield is not a true measure of the interest rate implicit in a lease.

Illustration 10.8

For the problem described in illustration 10.6, calculate the add-on yield.

Solution:

Initial investment	=	₹ 24 lakh
Aggregate lease rentals payable under the lease during the primary period	=	(0.025 x 24 x 60) ₹ 36 lakh
Aggregate interest charge for the lease over the lease period	=	₹ 12 lakh
Average annual interest charge	=	₹ 2.4 lakh
Add-on yield	=	$\frac{2.4}{24}$ x 100 = 10%

Comparing the add-on yield with the gross yield of 19.53%, it is clear that this measure of yield provides a distorted picture of the true cost of a lease to the lessee.

Activity10.1

The Arora Floor Mills Limited (AFML) has decided to invest in a modern imported floor mill equipment for which the following particulars are available:

1.	Cost of the Equipment	:	₹ 45 lakh
2.	Tax Relevant Rate of Depreciation	:	30%
3.	Useful Life	:	7 Years
4.	Estimated Net Salvage Value after Five Years	:	Negligible

The company has received a lease proposal from More Super Stores (MSS) to structure a finance lease at a rental of ₹ 25 ptpm payable at the beginning of every month.

The marginal cost of debt and the marginal cost of capital for AFML are 14% (pre-tax) and 11% respectively. The marginal tax rate is 36%. You have been informed that MSS requires a minimum post-tax return of 13% on its lease portfolio. Arrive at the break-even rentals for AFML and MCC.

10.6 Gross Yield-Based Pricing

Now, let us look at the pricing of a lease, given - the required gross yield, the duration of the lease, the residual value, the management fees, and the initial direct costs.

Illustration 10.9

Integrated Financial Services Limited (IFSL) uses the gross yield approach to price its lease investments. The gross yield for this purpose is determined as the marginal pre-tax cost of funds plus 1.3%. You are informed that the incremental costs of debt and equity for IFSL are 15% and 21% respectively. The company would like to maintain a gearing ratio of 4:1 eventually. The marginal rate of tax is 45% and the surcharge is 15%.

The company typically writes lease contracts for primary periods of 3, 5 and 8 years. For a 5-year (primary) lease contract, the company collects 1% of the investment cost as management fee (front ended) and incurs 1/2% of the investment cost as initial direct costs (front ended). The company assumes 5% of the original cost as residual value of the equipment after 5 years.

a. Assuming an equated pattern of collection, calculate the annual lease rental. The rentals are collected annually in arrears.

b. Assuming a stepped pattern of collection whereby the rentals are stepped up by 10% p.a., calculate the lease rentals over the lease period. The rentals are payable in arrears.

c. Assuming equated collection pattern, calculate the lease rental. The rentals are payable monthly in advance.

d. In certain cases, the company follows a deferred pattern of collecting lease rentals whereby the lessee is not required to make any payment for the first 12 months. Thereafter, he makes equated payments for the remaining part of the lease period. Calculate the lease rental if the lease rentals are collected monthly in advance.

Solution:

Required gross yield = Marginal cost of capital (in pre-tax terms) + 1.3%

Marginal cost of debt = 15% (in pre-tax terms)

Marginal cost of equity = $\frac{21\%}{(1-0.5175)} = 43.5\%$ (in pre-tax terms)

Marginal cost of capital = $\left(\frac{4}{5}\times 0.15 + \frac{1}{5}\times 0.435\right)$ (in pre-tax terms)

Required gross yield = 20.7% + 1.3% = 22%

a. Define L as the annual lease rental. The value of L can be obtained from the equation (assuming an investment cost of ₹ 1,000).

$10 + L \times PVIFA_{(22,5)} + 50 \times PVIF_{(22,5)} = 1{,}005$

Note: The front ended management fee = 0.01 x 1000 = 10 and the initial direct cost = 0.005 x 1000 = 5 i.e.,

10 + 2.864L + (50 x 0.370) = 1,005 i.e.,

2.864L = 976.5 i.e.,

L = ₹ 341

b. Define L' as the amount of the rental to be charged in the first year. The rentals to be charged in years 2, 3, 4, and 5 will be

1.1 L', $(1.1)^2 L'$ $(1.1)^3 L'$ and $(1.1)^4 L'$

The value of L' can be obtained from the equation:

$[10 + L' \times PVIF_{(22,1)} + 1.1 L' \times PVIF_{(22,2)} + (1.1)^2 L' \times PVIF_{(22,3)}$

$+ (1.1)^3 L' \times PVIF_{(22,4)} + (1.1)^4 L' PVIF_{(22,5)} + 50 \times PVIF_{(22,5)}] = 1{,}005$ i.e.,

$3.368\, L' = 976.50$ i.e.,

$L' =$ ₹ 290 (lease rental to be charged in the first year)

c. Define LM as the equated monthly lease rental. The value of LM can be obtained from the equation:

$10 + 12LM \times PVIF\bar{A}_{m\,(22,5)} + 50 \times PVIF_{(22,5)} = 1{,}005$ i.e.,

10 + 38.320LM + (50 x 0.370) = 1,005 i.e.,

38.320LM = 976.5 i.e.,

LM = ₹ 25.48 ptpm

d. Define L_M' as the monthly lease rental payable from the beginning of the 13th month to the beginning of the 60th month. The value of L_M's is given by the equation:

$10 + 12\, L_M' \times PVIF\bar{A}m_{(22,4)} \times PVIF_{(22,1)} + 50 \times PVIF_{(22,5)} = 1{,}005$ i.e.,

$10 + 27.363L_{M'} + 18.5 = 1{,}005$ i.e.,

$27.363L_{M'} = 976.5$ i.e.,

$L_{M'} = ₹\ 35.69$ ptpm.

Note:

The present value of a rental stream where the rentals increase (or decrease) at a constant rate per annum can be also determined from the following formula:

$$PV = L\left(\frac{1+j}{1+i}\right)PVIFA_{(j,n)}$$

Where,

L = lease rental per period

n = duration of the lease (in years)

$j = \frac{i-g}{1+g}$

i = pre-tax yield per annum

g = constant rate of increase (decrease) per annum

Check Your Progress - 1

1. In the stream of composition of cash flow, which of the following constituents is an outflow to the lessor?
   a. Management fee
   b. Residual value
   c. Lease payments
   d. Tax shields on depreciation
   e. Initial investment
2. What will be the Net Advantage of Leasing (NAL), from the lessor's point of view at break-even lease rental?
   a. Lease rentals
   b. 25% of lease rentals
   c. 50% of lease rentals
   d. Zero
   e. Double the lease rentals
3. Which of the following reflects the gross yield of a lease?
   a. Compounded rate of return (discount rate) that equates to total of lease rentals minus residual value.

b. Compounded rate of return (discount rate) that equates to total of lease rentals plus residual value.

c. Compounded rate of return (discount rate) that equates to present value of lease rentals minus present value of residual value

d. Compounded rate of return (discount rate) that equates to total of lease rentals minus present value of residual value.

e. Compounded rate of return (discount rate) that equates to PV (Lease Rentals) + PV (Residual Value) to Investment Cost.

4. You are aware that a variable that considerably influences the gross yield is the residual value of the equipment. In cases, where the residual value is significant and unguaranteed, we must implicitly or explicitly recognize the uncertainty associated with the realization of the estimated salvage value. In this context, which of the following will be the right decision?

   a. Fixed 10% of the cost of the equipment.

   b. A very conservative estimate of the salvage value.

   c. Fixed 5% of the cost of the equipment.

   d. Estimated value of the salvage value on optimistic view.

   e. The subjective probability distribution for the residual values and use of the expected value of the probability distribution as the input.

5. The break-even rental of the lessor defines the lower limit of the range which is denoted as LB^1. The break-even rental of the lessee defines the upper limit of the range denoted as LB. What is the spread between the break-even rentals of the lessor and the lessee?

   a. The difference ($LB^1 - LB$),

   b. Total of ($LB^1 + LB$)

   c. The difference ($LB - LB^1$)

   d. 50% of ($LB - LB^1$)

   e. 50% of ($LB^1 - LB$)

10.7 Internal Rate of Return of a Lease

Some leasing companies evaluate lease investments using the criterion of Internal Rate of Return (IRR). The IRR of a lease investment is that rate of interest at which the NAL is equal to zero. The lease investment is accepted if and only if the IRR exceeds the marginal cost of capital. The following illustration explains the application of the IRR criterion to lease evaluation.

Illustration 10.10

Consider the problem described in 10.6. You are informed that the target debt-equity ratio for Implease is 4:1. The marginal costs of debt and equity

are 18% and 24% respectively. The marginal rate of tax inclusive of surcharge is 46%. The tax relevant rate of depreciation is 40%. The net salvage value after five years can be ignored. Calculate the IRR of the lease proposal. Should the proposal be accepted?

Solution:

The marginal cost of capital is

$\left(\frac{4}{5}\times 0.18\times 0.54\right)+\frac{1}{5}\times 0.24$ = 0.1258 or 12.58%

Define i as the IRR of the investment

The various components of NAL valued at i will be as follows:

A. Initial investment = ₹ 1,000

B. PV of lease payments = $25\times 12\times \text{PVIF}\overline{\text{A}}_{\text{m}(1,5)}$ = 300 x $\frac{i}{d^{(12)}}$ x PVIFA $_{(i,5)}$

C. PV of tax liability on lease payments
= 25 x 12 x 0.46 x PVIFA $_{(i,5)}$ = 138 x PVIFA$_{(i,5)}$

D. PV of tax shields on depreciation
= [400 x PVIF $_{(i,1)}$ + 240 x PVIF$_{(i,2)}$ + 144 x PVIF $_{(i,3)}$ + 86.4 x PVIF$_{(i,4)}$
+ 51.84 x PVIF$_{(i,5)}$] x 0.46

Setting – A + B – C + D = 0 and solving for i involves a trial and error approach which can be calculated by the student, to decide whether to lease or not.

10.7.1 IRR-based Pricing

The lessors, who use the IRR criterion for pricing a lease, use an approach like the gross yield-based pricing approach. (Refer Illustration 10.9.) They define what they call the 'Required Internal Rate of Return' for setting the price of the lease. The reader must note that the 'Required IRR' is nothing but the risk adjusted rate of return required by the lessor. Conceptually, the risk adjusted rate of return is defined as:

$$i = i_F + i_e + i_d \qquad \text{Eq. (1)}$$

Where,

- i = risk-adjusted rate of return,
- i_f = risk-free rate,
- i_e = premium for the risk characterizing the existing lease investments, and
- i_d = premium for the differential risk characterizing the lease investment under review.

As discussed in the earlier unit, i_d can be zero, positive or negative depending upon how the lessor perceives the "extra" risk inherent in the lease proposal. Usually, i_d is assumed to be zero or negligible and the risk-adjusted rate is set equal ($i_f + i_e$), which is nothing but the marginal cost of capital.

We are aware that the price of lease based on the marginal cost of capital is nothing but the break-even lease rental of the lessor. Therefore, the lessor who employs the IRR-based approach for pricing a lease is, in fact, determining its break-even rental.

The following provides an example to it.

10.8 Assessment of Lease-Related Risks

We have, so far, discussed the various approaches for pricing a lease. Clearly, the price of a lease must reflect the risk inherent in the lease investment. So, the relevant question is: What are the lease related risks borne by the lessor?

The total risk of a lease portfolio consists of the following types of risks:

Default Risk: The risk of not receiving the lease rentals on schedule. Default risk can arise on account of certain economy-wide factors like unanticipated cost push inflation which affects the financial performance of almost all lessees or on account of industry/company-specific factors which affect only a few lease accounts in the portfolio.

Example: SpiceJet Settles Dispute with Lessor

Spice Jet, the private airliner which had dispute over a payment dispute related to three Boeing 737 aircraft which was taken on lease announced that it had entered into a settlement with the lessor Goshawk Aviation and its affiliates. Goshawk Aviation, the lessor had sued SpiceJet in a UK court for $ 16 million due to default in lease payments. However, the UK court ordered mediation in its order May 2021 as it felt that the airliner may go bankrupt. Both the lessor Goshawk Aviation (Lessor) and Spice Jet (Lessee) have decided to settle all disputes and withdrew legal proceedings in UK and Delhi.

Air craft leasing is a big-ticket leasing and is risky business. The lessor has to make proper assessment of lessee before entering into lease agreement.

Source- https://www.business-standard.com/article/companies/spicejet-ends-dispute-with-lessor-seeks-rs-200-crore-loan-to-clear-dues-122081601095_1.html dated 16th August 2022, Accessed on 26th August 2022

Residual Value Risk: The possibility of a decline in the estimated residual value of the equipment. This risk is particularly relevant in operating leases of hi-tech equipments. It is caused by factors like technological obsolescence and uncertainty regarding the product market life of the equipment.

Interest Rate Risk: The interest rate risk refers to the changes in the market rate of interest which adversely affects the cost of funds to the lessor.

Purchasing Power Risk: This refers to the reduction in the value of lease rentals in real terms caused by unanticipated inflation. This risk is particularly relevant for real estate leases or leases with a long duration.

Political Risk: Political risk refers to the changes in the governmental policies in general and the fiscal policy in particular, which have significant implications for the economic viability of lease investments. An example is the withdrawal of the investment allowance scheme, which as we noted earlier has a favorable implication for the economies of leasing.

Currency and Cross-border Risk: These risks are relevant only for cross-border lease transactions. Currency risk refers to the fluctuations in the exchange rate of the rupee vis-á-vis the currency in which the lease payments are structured. Cross-border risk refers to the unfavorable changes in the political and economic environment of the country where the lessee is located.

10.9 Assessment of Default Risk

While we have listed about six types of risk, the most significant risk in the case of a domestic finance lease is the default risk. Why? A finance lease, as we are aware, is invariably a full payout lease. Therefore, the residual value risk is negligible. The lease agreement includes a clause that permits the lessor to alter the lease rentals in response to: (a) changes in the fiscal policies of the government which have a bearing on the lease; and (b) variations in the interest rates which adversely affect the cost of funds to the lessor. Thus, the lessor is effectively immunized against the interest rate risk and political risk. In case of long-term leases, the lease agreement provides for periodic rental reviews or for automatic revision of lease rentals based on some escalation formula, for example, indexed leases. So, what remains is the default risk.

10.9.1 Determinants of Credit-Worthiness

To assess the default risk of a lease, the lessor must examine the credit-worthiness of the lessee. The factors to be considered in this credit rating exercise are briefly explained below:

i. **Character:** This refers to the lessee's demonstrated integrity, honesty, and commitment to pay even during hard times. For this purpose, the lessor relies on the informal reports from other lessors who have transacted business with the lessee or on more formal sources like reference letters from bankers.

ii. **Capacity:** The lessee's capacity to honor his future financial commitments can be assessed by considering (i) the present debt capacity and the debt servicing ability; and (ii) the future cash flow position. The trend analysis (based on the financial statements of the lessee for the last 3-5 years) of the following ratios can be useful:

$$\text{Debt-Equity Ratio} = \frac{\text{Total Debt}}{\text{Net Worth}}$$

$$\text{Interest-Coverage Ratio} = \frac{\text{Earnings before Interest and Taxes}}{\text{Interest}}$$

$$\text{Cash Flow Coverage Ratio} = \frac{\text{EBILT+D}}{1+\text{L}+\frac{\text{LR}}{1-\text{T}}}$$

Where,

EBILT = Earnings Before Interest, Lease payments and Taxes

D = Depreciation

I = Interest Charges

L = Lease Payments

T = Marginal Tax Rate

LR = Loan Repayment

$$\text{Operating Cash Flow/Net Sales} = \frac{\text{Earnings after Taxes + Depreciation}}{\text{Net Sales}}$$

Before analyzing the financial statements, the lessor must look for the creative accounting techniques that could have been employed to dress up the financial statements. There are areas like depreciation accounting, valuation of inventories, disclosure of prior period and extraordinary items, accounting for leases, foreign currency translations, etc., which offer considerable scope for adopting diverse accounting practices. The lessor must adjust the reported financial statements of the lessee for the material distortions caused by the choice of a particular accounting practice or by changes in the accounting practices over a period of time.

Likewise, the cash forecast provided by the lessee must be evaluated against the criteria of objectivity and conservatism. As a simple check, the lessor can verify whether the contingent liabilities (disclosed in the financial statements for the most recent period) which have a bearing on the future cash flows have been considered in the cash forecast. The lessor can seek information on the off-balance sheet liabilities and check whether the financial commitments associated with these liabilities find a place in the cash forecast. The lessor must also know the basis for estimating future revenues and costs. By relating this information to the prospects for the industry/industries in which the lessee operates and the lessee's market shares in these industries, the lessor can determine the degree of credibility that can be placed on the forecast.

iii. **Conditions and Competition:** If the industry in which the lessee operates is sensitive to changes in the business cycle, then the impact of the emerging economic conditions on the business of the lessee must be considered. For example, the machine tools industry is usually the first one to get into a recession and the last one to come out of it, whereas the food processing industry is less sensitive to such changes. The lessor must ensure that the impact of the emerging economic trend is reflected in the cash forecast furnished by the lessee.

The competitive conditions in the lessee's industry need to be analyzed and the lessee's standing in the marketplace assessed. The market share of the lessee must also be related to the growth prospects for the industry. A diminishing market share of the lessee in a growing industry is a better business risk than a diminishing market share in a declining industry.

Many lessors regard industry analysis as one of the key facets of the evaluation process. Based on their perceptions about the problems and prospects of the different industries, they fix on the lease investments that can be made in different industries.

iv. **Collateral:** The collateral here refers to the value maintained by the leased equipment. The resale value of the collateral is an important consideration in risk assessment because that is what the lessor gets back immediately in the event of default. Obviously, equipments which maintain value over time due to inflation and other factors offer a better collateral than those which are not likely to maintain resale value due to technological or economic obsolescence.

In practice, lessors are also concerned about the physical attributes of the asset leased. Other things being equal, a clearly identifiable asset which lends itself to easy repossession is preferred.

v. **Cross-border and Currency:** The political and economic conditions prevailing in a foreign country become relevant in the analysis of the credit risk associated with a cross-border lease. The exchange rate fluctuation is also an important consideration in the risk analysis of lease proposals with lease receipts and loan payments[8] structured in different currencies.

10.9.2 Approaches to Credit Rating

Once the factors relevant for credit rating a lessee have been identified, the next step is to assess the lessee on each of these factors and combine these assessments into an overall rating. The overall rating forms the basis for extending the lease line and for deciding the lease limit. For arriving at the overall rating, the lessor can adopt one of the following approaches:

– Explicit Judgmental Approach.

– Statistical Approach.

The **Explicit Judgmental Approach** calls for (a) defining the set of factors relevant for credit rating; (b) specifying the weights to be assigned to these factors; (c) Making a quantitative assessment of the rated entity on each of the factors; and (d) Combining the weights and the quantitative assessments into a

[8] The loan payments refer to the repayment of the external commercial borrowings availed of by the lessor for funding the lease.

numerical credit score (credit index). This approach is illustrated in the following table:

1.	Relevant Factors	Weights
	Net Worth	12
	Current Ratio	10
	Profitability	35
	Business Risk	18
	Financial Risk	10
	Managerial Competence	15
2.	Scores of the Rated Entity (0–1 Scale):	
	Net Worth	0.6
	Current Ratio	0.8
	Profitability	0.5
	Business Risk	0.6
	Financial Risk	0.9
	Managerial Competence	0.8

(0 refers to the most unfavorable assessment and 1 refers to the most favorable assessment).

3. Obtaining the overall score:

	Factor (a)	Weight (b)	Score (c)	Weighted Score (d) = (b) x (c)
	Net Worth	12	0.6	7.2
	Current Ratio	10	0.8	8.0
	Profitability	35	0.5	17.5
	Business Risk	18	0.6	10.8
	Financial Risk	10	0.9	9.0
	Managerial Competence	15	0.8	12.0
	Overall Credit Score			64.5

Based on an analysis of historical data about the degree of association between the overall credit scores and the actual defaults, the lessor can fix a cut-off score for accepting or rejecting a lessee. In our example, if the lessor regards a score of 60 (out of a maximum of 100) as the minimum acceptable score, the lessee under review will be considered as an acceptable credit risk.

While the approach is simple and, *prima facie*, analytical, it suffers from two serious limitations: (a) the weights assigned to the factors are subjectively

determined; and (b) the minimum acceptable score if fixed arbitrarily can result in mis-classification errors. (A mis-classification error occurs when, based on the minimum acceptable score, a good lessee account is rejected or a bad lessee account is accepted.)

Example: India Ratings Assigns Adarsh Property Developments 'IND BB+'; Outlook Stable

Adarsh Property Developments (APD) was one of the group concern of the Adarsh Group and was engaged in the leasing of rental premises since 1988

ADB had come out with a Long-Term Issue (10 years) for raising an amount of ₹ 290 crore for acquiring properties for leasing. The maturity would be in 2031 and the rating agency had awarded IND BB+/Stable. The following were the reasons for awarding BB+ / Stable rating for APD.

Reasons for awarding BB+ rating

a. The rent escalation clause of 12% in the lease agreement would improve the revenue
b. APD 's liquidity would be sufficient to meet its debt servicing obligations over the tenure of the debt
c. Average debt service coverage ratio (DSCR) could improve over the near term due to improved Earnings before interest, taxes, depreciation, amortization, and rent costs (EBITDA)
d. The promoter's profile was good
e. The company had 12 ongoing projects and already executed 26 projects in Bengaluru
f. Possibility of extending the lease agreement of the two floors of life style international.

The financial profile (2021 – Provisional)

The company had achieved₹ 45.51, Earnings before interest, taxes, depreciation, amortization, and rent costs (EBITDAR) of ₹ 32.49 million, with margin of 71.4 % and net leverage of 8.74 %.

Rating Sensitivities

Positive factors: Higher income and cash generation declined in the debt ensuring a DSCR of over 1.2x.

Negative factors: Need for support from group companies if there was a decline or delay in the cash inflows

Source: https://www.indiaratings.co.in/pressrelease?pressreleaseid=57128 dated 30th December 2022, Accessed on 26th August 2022.

Key Rating Drivers

Liquidity

The loans are so structured that the repayment is to be made out of rental income through an escrow account in which the rents are deposited as per the agreement. The debt service coverage ratio is 1.21 and is at comfortable level. Hence, no liquidity crisis is envisaged in the near future.

Outlook

Due to steady cash flows from the rents, MPEDPL will continue to benefit over the medium term. There is a possibility for upgrading it to positive, in case there is an increase in lease rentals and higher operating profitability. There is a possibility of slippage in rating to negative, in the case of unexpected termination of existing leases.

Company's Profile

M.P. Entertainment and Developers Private Limited is a closely-held Private company incorporated on 28 March 2006, and is classified as non-government company and is registered at Registrar of Companies, Gwalior. The directors of the company are Gurjeet Singh Chhabra, Prabjot Kaur Chhabra and Riya Chhabra with 82% of shares controlled by them. The authorized share capital is ₹ 44,000,000 and its paid up capital is ₹ 36,100,000. The directors have over a quarter century experience in running malls.

MPEDPL has owned and operated the Malhar Mega Mall in Indore, and three of the four large malls in Indore. All these properties are leased out to the hospitality industry. The company enjoys a high level of occupancy at the mall.

Strengths

- Solid industry experience of the promoter.
- Prime location of the mall, and revenue visibility due to long-term lease contracts.
- Located on the Agra-Bombay road of Indore, and is surrounded by elite gated communities.
- Strong business visibility, adequate revenue visibility and assured cash inflows.
- Strong brands such as Future Group's Big Bazaar, McDonald's, and Carnival Cinemas, etc.
- Average tenure of lessee is around nine years.

Weaknesses

- Possibility of lower occupancy in the Malls due to economic downturns.
- Exit of large tenants from the Mall may impact cash flows.

- Sudden changes in the government policies (fiscal/monetary policies) may lead to change in contract terms including cancellation of contracts.
- When existing tenants vacate, difficulty in finding new tenants at the similar rent.

The key financial indicators of the company are as follows:

(₹ in crores)

Particulars	**2018**	**2017**
Revenue	14.04	13.57
Profit After Tax (PAT)	0.13	0.2
PAT Margin (%)	0.9	0.16
Authorized capital	4.40	4.40
Paid up capital	3.61	3.61
Interest coverage	1.48	1.53

Details of instrument

Lease rental discounting loan

Issue size – ₹ 60 crores

Maturity date – February 2014

Rating assigned – CRISIL – BBB/Stable

Rating History for the past three years

Instrument – Lease rental discounting loan

Outstanding amount – ₹ 60 crores

Date of rating – 10.01.2018

Rating – CRISIL – BBB/Stable

Additional Inputs to Summary

The break-even lease rental from the lessor's angle is the minimum lease rental which the lessor can accept. At this rental, the Net Advantage of Leasing (NAL) from the lessor's point of view will be equal to zero.

The total risk of a lease portfolio consists of: Default Risk, Residual Value Risk, Interest Rate Risk, Purchasing Power Risk, Political Risk, and Currency and Cross-border Risk.

The determinants of credit worthiness of lessee by lessor should include Character, Capacity, Conditions and Competition, Collateral, and Cross-border and Currency.

For arriving at the overall rating, the lessor can adopt one of the two approaches: Explicit Judgmental Approach and Statistical Approach.

The Explicit Judgmental Approach is assessed based on defining the set of factors relevant for credit rating; specifying the weights to be assigned to these factors, making a quantitative assessment of the rated entity on each of the factors and combining the weights and the quantitative assessments into a numerical credit score.

The Statistical Approach relies on statistical methods in the selection of factors, the weights to be assigned to each of them and in the interpretation of the financial scores.

10.9.3 Developing a Risk Classification Table

In the earlier section, we looked at certain approaches for discriminating between the good and the bad lessee accounts. This classification, however, does not mean that all good lessees carry the same degree of default risk. To differentiate between good accounts and marginally good accounts, the lessor needs to develop a risk-classification table based on the minimum acceptable score like the one developed in Table 10.2. Of course, such a table can be also developed based on the Z scores obtained from a Discriminant Analysis Function.

Table 10.2: Credit-Risk Classification Table

Cut-Off Score	Grade
Above 90	A
Between 80 and 89	B
Between 70 and 79	C
Between 60 and 69	D

Source: ICFAI Research Centre

Once the risk-classification table is developed, the next step is to incorporate the credit risk in the lease structuring process. The alternative ways of doing this are as follows:

a. **Increasing Rentals:** The lease rentals can be increased for lease proposals with higher degree of default risk.

b. **Altering Payment Schedule:** The lessor can modify the payment pattern depending upon the degree of risk assumed. For instance, in the case of a lease proposal with a higher element of risk, the lessor can adopt a front ended pattern of payment as opposed to the equated pattern of payment.

c. **Extending the Duration:** The lease term can be reduced for leases with a higher degree of risk.

d. **Collecting a Security Deposit:** The lessee can be required to maintain a security deposit with the lessor. This deposit can be forfeited if the lessee fails to meet his obligations.

e. **Insisting on Personal and Bank Guarantees:** The lessor can insist upon personal and bank guarantees from the lessee for securing his obligations. The lessor can also insist that the bankers of the lessee co-accept the bills raised for payment of rentals.

Activity 10.2
Build an example around risk classification table and the alternative ways of doing the same.

10.9.4 Evaluating Product Risk

Since the focus of this chapter has been on the evaluation of a financial lease, not much emphasis has been placed on the assessment of product risk (the salvage value of the leased equipment). As noted earlier, the product risk looms large in the case of an operating lease and in the case of financial lease carrying a high default risk. Given the lack of depth of the market for used equipment and the rapid technological changes, the estimation of resale value is a highly complicated and specialized task. If the trend in the equipment leasing industries of the developed countries is any indication, operating leases are likely to emerge as a popular mode of equipment leasing, particularly in the sunrise or hi-tech industries. Given this scenario, the lessors will be substantially exposed to product risk. How can the lessor manage the product risk?

Residual Value Insurance

Residual Value Insurance (or RVI, as it is popularly known) guarantees a minimum value of an asset on a pre-determined date in future and thus, provides a hedge against the down-side risk associated with the realization of residual value. Put differently, RVI converts product risk into a receivable. Of course, the lessor may not buy RVI to cover the entire asset residual risk. For example, a lessor who offers a lease which pays out say 60% of the equipment value over the lease term may buy an RVI for 30% of the asset residual risk. In this process, he assumes a residual value risk equal to 10% of the equipment value.

The cost of RVI is the premium payable to the underwriter or the insurance company. The obvious advantage of buying an RVI is that the lessor is able to offer a competitive rate. A less obvious advantage is that the lessor can fund the lease at a lower interest cost because the financial intermediary funding the lessor values the RVI underwritten by a reputed insurance company. Experience shows that such interest capping can result in savings that not only pays the insurance

premium, but also increases the overall yield to the lessor. RVI is usually an integral part of lease packages structured for leasing aircraft or similar high value equipment.

Product-Market Specialization: An alternative way of managing product risk is to specialize in specific industrial segments (example, industrial electronics) or to concentrate on a particular class of equipment (example, computers). The advantage is the specialized knowledge of the resale markets which enables the lessor to structure multiple operating leases over the useful life of the equipment.

Check Your Progress - 2

6. Some leasing companies evaluate lease investments based on the criterion of Internal Rate of Return. Which of the following statements is true in case of the IRR of a lease investment?
   a. The rate of interest at which NAL is equal to zero.
   b. The rate of interest at which NAL is positive.
   c. The rate of interest at which NAL is negative.
   d. It is the discount rate at which the net present value of future cash flows is more than the initial investment.
   e. It is the discount rate at which the net present value of future cash flows is less than the initial investment.
7. Which of the following terms is used for the risk of not receiving the lease rentals on schedule?
   a. Residual value risk
   b. Political risk
   c. Default risk
   d. Interest rate risk
   e. Cross-border risk.
8. Which of the following is not a factor to be considered in credit rating exercise to assess the default risk of the lessee?
   a. Lessee's demonstrated integrity
   b. Lessee's capacity to honor future commitments
   c. Lessor's present debt capacity and the debt servicing ability
   d. Political and economic conditions prevailing in foreign country are relevant in the analysis of credit risk associated with cross-border leases
   e. If the industry in which the lessee operates is sensitive to changes in the business cycle, then the impact of the emerging economic conditions on the business.

9. For extending the lease line and for deciding the lease limit, overall rating is the key based on which the lessor takes decisions. In this context, which of the following is not a part of the explicit judgmental approach?
   a. Technique of factor analysis to identify the set of factors deemed relevant.
   b. Defining the set of factors relevant for credit rating.
   c. Making a quantitative assessment of the rated entity on each of the factors.
   d. Combining the weights and the quantitative assessments into a numerical credit score/credit index.
   e. Specifying the weights to be assigned to the factors defined.
10. Which of the following is not a correct step in incorporating the credit risk in the lease structuring process?
   a. The lessor can modify the payment pattern depending upon the degree of risk assumed.
   b. The lease rentals can be increased for lease proposals with higher degree of default risk.
   c. The lessee can be required to maintain a security deposit with the lessor. This deposit can be forfeited if the lessee fails to meet his obligations.
   d. The lessor can insist upon personal and bank guarantees from the lessee for securing his obligations. The lessor can also insist that the bankers of the lessee co-accept the bills raised for payment of rentals.
   e. The lease rentals can be decreased for lease proposals with higher degree of default risk.

10.10 Summary

- The Net Advantage of Leasing (NAL) from the lessor's point of view can be defined as follows:

  NAL = – Initial Investment + PV (Lease Payments) – PV (Tax on Lease Payments) + PV (Management Fee) – PV (Tax on Management Fee) + PV (Tax shields on Depreciation) + PV (Net Salvage Value) – PV (Initial Direct Costs) + PV (Tax Shield on Initial Direct Costs).
- The discount rate to be used is the marginal cost of capital based on the debt/equity mix in the target capital structure of the lessor. The lease rental for which the NAL is equal to zero is defined as the break-even rental of the lessor—the minimum lease rental the lessor will charge.
- Lessors who use the gross-yield approach for pricing the lease, define the gross yield as that rate of interest which equates the present value of the lease rentals plus the present value of the residual value of the investment cost.

- The flat rate of interest applicable to a lease is called the add-on yield. The assumption underlying the computation of "add-on yield" is that the investment in the lease remains constant over the lease period, which is untrue. The add-on yield is always less than the (effective) gross yield defined above.
- The Internal Rate of Return (IRR) on a lease is that rate of interest for which the NAL is equal to zero. The lease proposal is accepted if and only if IRR is greater than the marginal cost of capital.

10.11 Glossary

Collateral Assignment: Refers to assigning an asset whose ownership rights are moving only as an additional security for a loan.

Cross-border Risk: Risks relevant only for cross-border lease transactions. Cross-border risk refers to the unfavorable changes in the political and economic environment of the country where the lessee is located.

Currency Risk: It refers to the fluctuations in the exchange rate of the rupee vis-á-vis the currency in which the lease payments are structured.

Default Risk: Default Risk of a lease is the risk of not receiving the lease rentals on schedule.

Gross Yield: Gross Yield of the lease is the compounded rate of return (discount rate) that equates PV (lease rentals) plus PV (Residual Value) to investment cost.

Internal Rate of Return: A metric used in capital budgeting measuring the profitability of potential investments. It is the discount rate that makes the NPV of all cash flows from a project equal to zero.

Interest Rate Risk: The risk that refers to the changes in the market rate of interest which adversely affects the cost of funds to the lessor.

Net Advantage of Leasing (NAL): AA measure in current funds of the savings resulting from the lease of an asset rather than its outright purchase by either an individual or a business.

Purchasing Power Risk: Refers to the reduction in the value of lease rentals in real terms caused by unanticipated inflation. This risk is particularly relevant for real estate leases or leases with a long duration.

Political Risk: Refers to the changes in the governmental policies in general and the fiscal policy, which have significant implications for the economic viability of lease investments. An example is the withdrawal of the investment allowance scheme, which as we noted earlier has a favorable implication for the economies of leasing.

Residual Value Insurance: Residual Value Insurance (or RVI, as it is popularly known) guarantees a minimum value of an asset on a pre-determined date in

future and thus, provides a hedge against the down-side risk associated with the realization of residual value.

Risk-Classification Table: A table that shows the classification of lessees based on the default risk associated with them.

10.12 Self-Assessment Test

1. Write short notes on gross yield on investment.
2. Explain the concept of add-on yield of a leasing company. What are the benefits of using this method?
3. What is IRR of a lease investment?
4. What are the types of risks associated with a lease portfolio?
5. What are the factors to be considered by a lessor while doing credit rating exercise in respect of a lessee?

10.13 Suggested Reading/Reference Material

1. Anthony Saunders, Marcia Millon Cornett, Anshul Jain (2021), Financial Markets and Institutions, 7th edition, Tata McGraw-Hill Education.
2. Prasanna Chandra (2020), Fundamentals of Financial M, 7th edition, Tata McGraw-Hill Education.
3. Devie Mohan (2020), The Financial Services Guide to Fintech, 1st edition, Kogan Page Limited.
4. Siddhartha Sankar Saha (2021). Indian Financial System. 2nd edition, Tata McGraw-Hill Education.
5. DR. R. Shanmugham (2020). Financial Services. 2nd edition. Wiley India.

10.14 Answers to Check Your Progress Questions

1. (e) Initial investment

Initial investment is an outflow to the lessor as the funds are invested.

2. (d) Zero

At break-even lease rental from the lessor's angle, the Net Advantage of Leasing (NAL) from the lessor's point of view will be equal to Zero.

3. (e) Compounded rate of return (discount rate) that equates to PV (Lease Rentals) + PV (Residual Value) to Investment Cost

The gross yield of a lease can be defined as that compounded rate of return (discount rate) that equates to PV (Lease Rentals) + PV (Residual Value) to Investment Cost.

4. (b) A very conservative estimate of the salvage value

Where there is an uncertainty associated with estimation of salvage value, it is better to adopt a conservative approach to estimation of salvage value.

5. (c) The difference (LB – LB^1)

The spread between the break-even rentals of the lessor and the lessee is the difference (LB – LB^1).

6. (a) The rate of interest at which NAL is equal to zero

IRR of a lease investment is the rate of interest at which NAL is equal to zero.

7. (c) Default risk

Not receiving the lease rentals on schedule is known as default risk.

8. (c) Lessor's present debt capacity and the debt servicing ability

In assessing the default risk of the lessee, the lessor's present debt capacity and the debt servicing ability is irrelevant and hence, need not be considered.

9. (a) Technique of factor analysis to identify the set of factors deemed relevant

For arriving at the overall rating, the lessor can adopt one of the following approaches: Explicit Judgmental Approach and Statistical Approach. The Explicit Judgmental Approach calls for (a) defining the set of factors relevant for credit rating; (b) specifying the weights to be assigned to these factors; (c) making a quantitative assessment of the rated entity on each of the factors; and (d) combining the weights and the quantitative assessments into a numerical credit score (credit index). Hence, option (a) is incorrect.

10. (e) The lease rentals can be decreased for lease proposals with higher degree of default risk

The steps to incorporate the credit risk in the lease structuring process consist of: Increasing Rentals, Altering Payment Schedule, Extending the Duration, Collecting a Security Deposit, and Insisting on Personal and Bank Guarantees. Hence, decreasing lease rentals is not the correct option.

Unit 11

Lease Accounting and Reporting

Structure

"We do not have a freehold on the earth, only a full repairing lease."

- Margaret Thatcher, former Prime Minister of United Kingdom

11.1 Introduction

We are here on this planet and if we get involved in a lease agreement, we must abide by the country's laws in force and the accounting standards in vogue. Let's look into some of the important accounting principles of leasing and some recent developments in the field.

In the previous unit, we discussed lease evaluation from the lessor's point of view. We have discussed the computation of the break-even rental that sets the floor price of a lease, and the concept of gross yield and the pricing of a lease based on the gross yield. We also discussed the risks involved in lease-related issues.

In this unit, we will discuss the accounting and reporting framework for lease transactions. However, before we do that, we must explain the need for an elaborate discussion on this subject. As of date, professional accounting bodies on the one hand and the leasing industry on the other are sharply divided on the "appropriate accounting treatment" for finance lease transactions. The professional accounting bodies subscribe to the view that the 'extent to which the

risks and rewards of ownership are transferred from the lessor to the lessee' must be the guiding principle for determining the appropriate accounting treatment for a lease transaction. Therefore, different accounting treatments are recommended for finance and operating lease transactions so that the financial statements of the lessee and the lessor portray a more accurate picture. The leasing industry on the other hand holds on to the view that both types of leasing involve 'the transfer of the right to use an asset for a specified time in return for rent' and feels that there is no need to obfuscate the accounting process by according a more complicated accounting treatment for finance leases.[9]

The first attempt to evolve accounting standards for lease transactions was made by the Financial Accounting Standards Board (FASB) of USA, and in 1976, this body published the FASB Statement 13 on 'Accounting for Leases'. The International Accounting Standards Committee (IASC) perceived the need for evolving similar standards across countries and this committee came out with its accounting standard titled IAS:17, "Accounting for Leases" in 1982, drawing largely on the FASB Statement.

In India, the Institute of Chartered Accountants of India (ICAI) came out with an Exposure Draft on the subject in 1987 modeled on the lines of IAS:17. However, this Exposure Draft did not find favor with the Indian leasing industry and the Institute came up with a revised Guidance Note (Guidance Note on Accounting for Leases) in 1988. This Guidance Note which was applicable for an unspecified interim period offers certain guidelines for refining the current accounting and reporting practices followed by the lessors and the lessees. On April 1, 2001, the ICAI has come out with the AS-19, which is at par with IAS-17, Accounting on Leases.

AS-19 has completely replaced the interim guidance note, but as per Circular no. 2 of 2001, dated February 9, 2001, as far as the Income Tax Act is concerned the lessor still gets the benefits of depreciation tax shields.

However, as per some court judgments[10], only the lessee can be treated as the owner of the asset in the case of a finance lease. It is he, who is entitled to claim depreciation as per law. No depreciation can be allowed to the lessor in such a case of a genuine finance lease. So, lessors and lessees will be required to maintain two sets of books of accounts: one for tax purposes and the other as per AS-19

[9] The leasing industry is also opposed to this idea on account of the possible fiscal ramifications. In countries, where the tax liability is assessed on the basis of the reported financial statements, the distinction drawn between a finance lease and an operating lease has obvious tax implications. In countries where an operating lease and a finance lease are treated on the same footing for tax purposes, an accounting distinction can possibly lead to a change in the tax treatment.

[10] IndusInd Bank Ltd vs. ACIT (ITAT Mumbai Special Bench

11.2 Objectives

After going through the unit, you should be able to:

- Discuss the Concept of Current Accounting and Reporting Practices;
- Differentiate between form and substance debate;
- Discuss the Accounting Treatment on Financial and Operating Lease;
- Explain the accounting method for leasehold Land and Buildings;
- Discuss briefly on Indian Leasing Industry.

11.3 Current Accounting and Reporting Practices

The following are the salient features regarding the lease accounting and reporting practices followed by the lessees and the lessors, based on the AS-19:

- The lessee is supposed to capitalize the assets leased into his books of accounts as fixed assets and claim depreciation on the same.
- The lessor must recognize the lease as a receivable in his books of accounts at an amount equal to the net investment in the lease i.e., gross investment in the lease less unearned finance income.

Example of lease accounting under IAS 116 using an Indian scenario:

Assuming the lease payments are made at the end of each month and using an implicit interest rate of 8%, the lease accounting under IAS 116 for the given scenario can be calculated as follows:

Assume the lease payment is ₹ 300,000

Calculation of Present Value of Lease Payments:

PV of lease payments = (300000 * ((1 - (1 + 0.08/12) ^ (-5*12)))/ (0.08/12))

PV of lease payments = 300000*49.31843334 = ₹ 1,47,95,530

Calculation of Right-of-Use Asset:

Right-of-Use Asset = PV of lease payments + Initial Direct Costs - Lease Incentives

Assuming no initial direct costs or lease incentives, Right-of-Use Asset = ₹ 1,464,833

Calculation of Lease Liability:

Lease Liability = PV of lease payments

Lease Liability = ₹ 1,464,833

Calculation of Depreciation Expense:

Depreciation Expense = (20000000 - 0) / 5

Depreciation Expense = ₹ 4,000,000 per year

Depreciation Expense per month = ₹ 4,000,000 / 12 = ₹ 333,333

Calculation of Interest Expense:

Interest Expense for the first month = Lease Liability * Interest Rate

Interest Expense for the first month = ₹ 1,464,833 * 0.08/12 = ₹ 9,765

Interest Expense for the second month = (Lease Liability - Lease Payment) * Interest Rate

Interest Expense for the second month = (₹ 1,464,833 - ₹ 300,000) * 0.08/12 = ₹ 8,757

And so on for each subsequent month.

Therefore, the lease accounting under IAS 116 for the given scenario is as follows:

Right-of-Use Asset = ₹ 1,464,833

Lease Liability = ₹ 1,464,833

Depreciation Expense per month = ₹ 333,333

Interest Expense per month varies from ₹ 9,766 to ₹ 1,094 over the lease term.

IAS 17 was reissued in December 2003. It applies to annual periods beginning on or after January 1, 2005.

IndAS 17 was replaced by IFRS 16 (IAS 116) leases from January 1, 2019, onwards.

The following gives an overview of the new leasing standard issued by FASB.

FASB's New Accounting Standard - Highlights

The Financial Accounting Standards Board (FASB) initiated a joint project with the International Accounting Standards Board (IASB) in 2006 for revising lease accounting standards. After their decade-long efforts, both Boards finalized their respective lease accounting standards in early 2016. The new standards fundamentally change the rules. The rules that govern accounting for substantially all leases include the equipment and real estate leases. We expect the standard will have far-reaching implications in areas like accounting, finance and reporting, real estate, tax, and technology.

What is the effective date?

The FASB's Accounting Standards Update, ASU 2016-02, *Leases*, was issued on February 25, 2016. The new guidance is effective as follows:

For public business entities, the standard is effective for annual periods beginning after December 15, 2018 (i.e., calendar periods beginning after January 1, 2019), and interim therein.

For all other entities, the standard is effective for annual periods beginning after December 15, 2019 (i.e., calendar periods beginning after January 1, 2020), and interim periods after December 15, 2020.

Early adoption would be permitted for all entities.

The IASB's standard, IFRS 16, is effective for annual periods beginning on or after January 1, 2019.

Some of the expected impacts are-

The Leasing model requires operational and system changes significantly impacting several organizational areas like accounting, finance, financial reporting, taxes, and technology.

Operational considerations include:

Challenges in data collection and aggregation across many locations and technology platforms

Technology capabilities to store lease data and perform calculations. It includes calculations during the lookback period (i.e., comparative prior periods)

Review of lease tax classification and other factors. It also includes any changes in the classification requiring IRS consent

Enhanced disclosure requirements

Financial ratios tend to change with significant impacts on debt covenants or other guarantees

Impact of limited resources and ongoing needs of the business on the timeline for adoption

Transforming from paper documents to sustainable technology solutions.

Example: Accounting and Reporting Practices: Amendments to IFRS 16

In May 2020 the International Accounting Standards Board (IASB) issued Covid-19-related rent concessions. This was done by amending the IFRS 16 which relates to Leases. This gave lessees a voluntary exemption from having to follow IFRS 16's instructions on how to account for rent discounts brought on directly by the COVID-19 outbreak. This amendment would offer tangible assistance to lessees who have received rent cuts from lessors because of COVID-19. However, the users of the financial statements can still benefit from this helpful information about leases. But the amendment would not affect lessors.

Sources: i) https://home.kpmg/xx/en/home/insights/2021/02/leases-rent-concessions-ifrs16-extension.html#:~:text=In%20May%202020%2 C%20the% 20 Board,direct%20consequence% 20of%20COVID%2D19. Dated: 31 Mar 21. (Accessed on 12 Aug 2022)

ii) https://www.ey.com/en_gl/ifrs-technical-resources/applying-ifrs--accounting-for-covid-19-related-rent-concessions-updated-april-2021, Dated: 22 Apr 21. (Accessed on 12 Aug 2022)

11.4 Accounting Treatment

What type of accounting treatment we adopt for leasing transactions. The following paragraphs discuss the accounting treatment angle.

11.4.1 Accounting Treatment for Finance Leases

In the Books of the Lessee

Initial Recognition: At the commencement of the lease term, the lessee shall recognize the lease as an asset and a liability at the present value of the lease payments.

Depreciation: The leased asset shall be depreciated over the shorter of the lease term and its useful life.

Interest Expense: The interest expense on the lease liability shall be recognized over the lease term using the effective interest method.

Lease Payment: Each lease payment shall be allocated between the reduction of the lease liability and the lease expense.

Subsequent Measurement: The lease liability shall be measured at amortized cost using the effective interest method.

Impairment: If there is an indication that the leased asset may be impaired, the lessee shall test the asset for impairment.

Disclosure: The lessee shall disclose the nature and extent of its lease arrangements.

It is important to note that the above accounting treatment is based on the International Financial Reporting Standards (IFRS) and may differ from the accounting treatment prescribed by other accounting frameworks such as the Generally Accepted Accounting Principles (GAAP).

Example

XYZ Ltd., leases a machine from a lessor, ABC Pvt Ltd., under a finance lease agreement for a period of 5 years. The fair value of the machine is ₹ 10,00,000, the implicit interest rate in the lease is 10%, and the lease payments are ₹ 2,00,000 per year, payable at the end of each year.

The accounting treatment for finance leases in the books of the lessee in an Indian scenario:

Step 1: Recognition and measurement of the lease liability and right-of-use asset

The present value of the lease payments will be calculated using the implicit interest rate of 10%.

PV = C x [1 - (1 + r)^-n] / r

Where:

C = Annual lease payment = ₹ 2,00,000

r = Implicit interest rate in the lease = 10%

n = Number of years in the lease term = 5

Plugging in the values, we get:

10%	Annual amount paid	PV at 10%
0.909091	200000	181818
0.826446	200000	165289
0.751315	200000	150263
0.683013	200000	136603
0.620921	200000	124184
		758157

PV = 2,00,000 x [1 - (1 + 0.10)^-5] / 0.10

PV = 2,00,000 x (1 - 0.6209) / 0.10

PV = 2,00,000 x 0.3791 / 0.10

PV = ₹ 7,58,157

Therefore, the present value of the lease payments is ₹ 7,58,157

The right-of-use asset will be recognized on the balance sheet as:

Right-of-use asset: ₹ 10,00,000

Step 2: Amortization of the right-of-use asset and interest expense

The right-of-use asset will be amortized over the lease term of 5 years, which means the annual amortization expense will be ₹ 2,00,000.

For the first year, the interest expense will be ₹ 75,815 (calculated as opening balance of lease liability of ₹ 7,58,157 *10%), and the lease liability will be reduced by the lease payment of ₹ 2,00,000, resulting in a closing balance of ₹ 6,34,020.

The journal entries for the first year will be:

Dr. Right-of-use asset: ₹ 2,00,000

Cr. Lease liability: ₹ 1,24,185(₹ 2,00,000 - ₹ 75,815)

Cr. Bank account: ₹ 75,815 (lease payment)

Step 3: Depreciation of the right-of-use asset

The right-of-use asset will be depreciated over the useful life of the leased asset, which is 5 years. The annual depreciation expense will be ₹ 2,00,000.

The journal entry for the first year will be:

Dr. Depreciation expense: ₹ 2,00,000

Cr. Accumulated depreciation: ₹ 2,00,000

Overall, the entries for the first year will be:

Dr. Right-of-use asset: ₹ 2,00,000

Dr. Depreciation expense: ₹ 2,00,000

Cr. Lease liability: ₹ 1,24,185

Cr. Bank account: ₹ 75,815

These entries will be repeated every year until the end of the lease term, with the amounts adjusted for any changes in the lease liability due to interest expense and lease payments.

IAS 116 provides guidance on accounting for property, plant, and equipment (PPE), including the treatment of finance charges related to PPE. The standard requires entities to capitalize borrowing costs directly attributable to the acquisition, construction, or production of qualifying assets,

If borrowing costs are capitalized, they must be allocated over the period of time during which the entity incurs borrowing costs. IAS 116 provides two methods for allocating unexpired finance charges:

The first method is the use of the weighted average interest rate. Under this method, an entity calculates the weighted average interest rate on its outstanding borrowings. The unexpired finance charge is then calculated by applying the weighted average interest rate to the carrying amount of the qualifying asset.

The second method is the use of the actual interest rate incurred. Under this method, an entity identifies the actual interest rate incurred on each borrowing related to the acquisition, construction, or production of the qualifying asset. The unexpired finance charge is then calculated by applying the actual interest rate to the carrying amount of the borrowing.

It's important to note that IAS 116 requires the use of the same method consistently for all qualifying assets. Additionally, any change in the method of allocating unexpired finance charges should be accounted for as a change in accounting policy and should be applied retrospectively.

What are the methods for allocating the unexpired finance charge under IAS 116 in profit and loss in the books of lessee?

Under IAS 116, if a lessee capitalizes borrowing costs related to the acquisition, construction, or production of a qualifying asset (such as property, plant and equipment), the unexpired finance charges must be allocated over the period of time during which the lessee incurs borrowing costs.

The allocation of unexpired finance charges in the profit and loss of the books of the lessee would depend on whether the lease is classified as a finance lease or an operating lease.

Finance Lease: If a lease is classified as a finance lease, the lessee recognizes the leased asset and a liability for the lease payments on its balance sheet. The unexpired finance charges related to the borrowing costs incurred by the lessee are added to the carrying amount of the leased asset and amortized over the lease term. The amortization of the unexpired finance charges is recognized as an interest expense in the profit and loss of the lessee.

Operating Lease: If a lease is classified as an operating lease, the lessee does not recognize the leased asset or the related liability on its balance sheet. The unexpired finance charges related to the borrowing costs incurred by the lessee are recognized as an interest expense in the profit and loss of the lessee in the period in which they are incurred.

It's important to note that the lessee must use the same method consistently for all qualifying assets and should apply any change in accounting policy retrospectively. Additionally, the lessee should disclose its accounting policy for borrowing costs in the notes to the financial statements.

At the end of each accounting period that portion of the lease payable, which falls due for payment in the next accounting period has been classified as a current liability. The balance has been shown under secured loans.

From Illustration 11.1 the reader must have noted that the depreciation charge and the finance charge for each accounting period do not add up to the lease rentals for that period. It, therefore, follows that the values of the leased asset and the corresponding liability are unlikely to be equal after the inception of the lease.

To repeat, the method we have followed for allocating the unexpired finance charge is known as the Effective Rate of Interest Method or the Actuarial Method. There are two other methods for allocating the unexpired finance charge and they are the Sum of Years Digits Method and the Straight-Line Method. The allocations based on these methods for Arihant Electronics are presented below respectively.

Allocation of Unexpired Finance Charge under the Sum of Digits Method

Year	Total Finance Charge to be allocated (₹ in lakh)	Weightage	Allocated Charge (₹ in lakh)
1	38.83	5/15	12.94
2		4/15	10.35
3		3/15	7.77
4		2/15	5.18
5		1/15	2.59

Note: The denominator of 15 is the sum of (1 + 2 + 3 + 4 + 5)

Allocation of Finance Charge under the Straight Line Method

Year	Allocated Charge (₹ in lakh)
1	7.77
2	7.77
3	7.77
4	7.76
5	7.76

AS-19 recommends the application of the Actuarial Method for allocating the finance charge, it also states that some form of approximation can be employed in practice to simplify calculations. From the above Tables, we can observe that the Sum of Digits Method (also known as Rule of 78) provides an acceptable approximation.

Regarding disclosure requirements for finance leases, the AS-19 requires the following information to be disclosed:

- Amount of assets that are subject to finance leases on each balance sheet date
- Liabilities related to these assets differentiating between the current and long-term portions
- Commitments for minimum lease payments in the summary form giving the amounts and the periods in which these payments will become due
- Significant financing restrictions, renewal or purchase options, contingent rentals, etc., included in the finance lease contracts

In the Books of the Lessor

The AS-19 recommend the following accounting for finance leases in the books of the lessor:

- The lessor must record the finance lease as a receivable in the balance sheet at an amount equal to the net investment in the lease.
- The lessor must bifurcate the lease rental into two components (i) the capital component representing the return of investment, and (ii) the interest component representing the return on investment in respect of the finance lease. (The effective rate of interest method can be applied for obtaining the required pattern of allocation.)
- The pattern of recognizing the finance income must also reflect the uncertainties associated with the collectability of lease rentals, expectations of the future rates of interest, etc., particularly for long-term leases.

- Initial direct costs such as commission (lease brokerage) and legal fees incurred by the lessor for negotiating and structuring a lease can be either expensed immediately or allocated against the finance income over the lease term. Where the estimated unguaranteed residual value is used in computing the lessor's gross investment, estimates must be reviewed regularly. If there occurs a permanent reduction in value then such reduction in value (in respect of the amounts already accrued) must be charged to income immediately.

Example of the accounting treatment for finance lease transactions in the books of a manufacturer-lessor or a dealer-lessor:

Assuming the fair value of the equipment is ₹ 10,00,000, the lease term is five years, the implicit interest rate in the lease is 8% and the minimum annual lease payments are ₹ 2,00,000 payable at the end of each year.

Initially, the manufacturer-lessor or dealer-lessor records the equipment on their balance sheet as a leased asset with a value equal to the fair value of the equipment, i.e., ₹ 10,00,000.

The lease receivable is recorded as the present value of the minimum lease payments over the lease term, discounted at the implicit interest rate of 8%.

The present value of the minimum lease payments can be calculated using the following formula:

PV of minimum lease payments = A x [(1 - (1 + r)^-n)/r]

Where A = annual lease payment, r = implicit interest rate, n = number of lease payments.

So, in this case, the present value of minimum lease payments is:

PV of minimum lease payments = 2,00,000 x [(1 - (1 + 0.08)^-5)/0.08] = ₹ 8,52,273

The initial recognition of the lease will result in the lessor recognizing an unearned finance income equal to the difference between the fair value of the asset and the present value of the minimum lease payments.

Unearned finance income = Fair value of the equipment - PV of minimum lease payments

Unearned finance income = ₹ 10,00,000 - ₹ 8,52,273 = ₹ 1,47,727

Each year, the lessor will recognize lease revenue equal to the lease payment received and finance income equal to the difference between the lease payment and the interest portion of the lease payment.

In the first year, the lease revenue will be ₹ 2,00,000, and the interest income will be ₹ 68,182, calculated as:

Interest income = Lease receivable at the beginning of the year x implicit interest rate = (₹ 8,52,273 x 0.08) = ₹ 68,182

The lease receivable at the end of the first year will be ₹ 8,84,091, calculated as:

Lease receivable at the end of the year = Lease receivable at the beginning of the year - Lease payment + Interest income

= ₹ 8,52,273 - ₹ 2,00,000 + ₹ 68,182 = ₹ 7,20,455

At the end of the lease term, the leased asset will be removed from the lessor's balance sheet, and any remaining lease receivable will be recognized as income.

In some special types of leasing arrangements like the leveraged lease, the lessor finances the cost of acquisition through a mix of own funds and non-recourse long-term debt. In such cases, the basis for recognition of finance income will be the net cash investment in the lease, i.e., net investment in lease less the non-recourse debt. Since the patterns of income recognition based on the net investment and net cash investment can differ significantly, IAS 116 recommend that the chosen basis must be applied consistently to leases to the same financial character.

Example: Accounting Treatment of Lease – The New ASC-842 Rule (Standard)

The FASB (Financial Accounting Standards Board) mandates companies to track as well as disclose all their leased assets. Even though this was initially intended for implementation only in 2019, due to the Covid-19 outbreak, concessions were granted to businesses, and this rule was delayed. These concessions finally expired by January 2022.

In the first quarter of 2022, Ernst & Young (EY) conducted the 2022 Global lease Accounting Survey where it was reported that 20% of respondents from US private companies were in the process of initiating implementation. 32% of this category adopted early and implemented the rule even before 2022.

Sources: i) https://explore.leaseaccelerator.com/press-release/leaseaccelerator-ey-announce-2022-global-lease-accounting-survey-results/, dated 31 Mar 2022. (Accessed on 14 Aug 2022)

ii) https://www.leasinglife.com/news/52-take-up-in-us-of-post-enron-lease-accounting-rules/, dated 5 Apr 2022. (Accessed on 14 Aug 2022)

Activity 11.1

Raju took one machine on lease whose fair market value (FMV) was ₹ 1,00,000. Agreed lease rentals were:

Y0	10.000
Y1	39,000
Y2	26,000
Y3	34,000

Guaranteed residual value on the lease was ₹ 10,000. Rate of interest (ROI) 10%, Expenses on lease nil, Tax rate 30%, life of machine three years Calculate the value of machine based on Fair Market Value (FMV) and Present Value (PV) of minimum lease payments from the perspective of the lessee.

Check Your Progress - 1

1. Which of the following accounting standards deals with the accounting and reporting framework for lease transactions?
   a. AS 11
   b. AS 15
   c. AS 29
   d. AS 19
   e. AS 10
2. Which of the following is not a salient feature regarding lease accounting and reporting?
   a. Treatment similar to IAS 17
   b. Lessor must recognize the lease as receivable in his books
   c. Lessor is supposed to capitalize leased assets in his books
   d. Lessee is not supposed to capitalize leased assets in his books
   e. Lessee to claim depreciation on leased assets
3. How are lease rentals shown in the books of accounts of the lessor?
   a. Fixed asset
   b. Current liability
   c. Current asset
   d. Quick asset
   e. Contingent liability
4. According to AS 19, which of the following is not recommended for accounting for finance leases in the books of the lessor?
   a. The lessor must record the finance lease as a receivable in the balance sheet at an amount equal to the net investment in the lease
   b. The lessor must record the finance lease as an account payable in the balance sheet at an amount equal to the net investment in the lease

c. The lessor must bifurcate the lease rental into two components (i) the capital component and (ii) the interest component

d. The pattern of recognizing the finance income must also reflect the uncertainties associated with the collectability of lease rentals

e. Where the estimated unguaranteed residual value is applied for determining the lessor's gross investment, estimates must be reviewed regularly

5. In the case of lessee, which of the following disclosures is not as per requirement under AS 19?

a. Information regarding assets that are subject to finance leases on each balance sheet date

b. Information regarding liabilities related to these assets differentiating between the current and long-term portions

c. Information regarding commitments for minimum lease payments in summary form

d. Regarding significant financing restrictions

e. Regarding the present value of leased assets once in six months

In the Books of the Manufacturer-Lessor

We have so far discussed the accounting treatment for a finance lease in the books of a third-party lessor. Now let us look at the accounting treatment for such transactions in the books of a manufacturer-lessor or a dealer-lessor.

From the standpoint of manufacturer-lessor or a dealer-lessor, a finance lease gives rise to two types of income (a) the profit or loss resulting from an outright sale of similar equipment at the normal selling price, and (b) the finance income inherent in the transaction. The AS-19 recommends the following procedure for estimating the sale revenue associated with the transaction:

Step 1: Determine the present value of the minimum lease payments plus the unguaranteed residual value at the commercial rate of interest.

Step 2: Estimate the fair market value of the leased equipment.

Step 3: Set the sale revenue equal to the present value determined in step 1 or the fair market value estimated in step 2, whichever is lower.

Illustration 11.3

Narmada Systems Limited is a dealer lessor in minicomputers. The company sells its products either on a deferred payment basis (hire purchase) or on a five-year non-cancelable lease.

The cash price of a minicomputer is ₹ 6 lakhs, which includes a profit margin of 25 percent on cost. The lease rate is ₹ 24/₹ 1,000 per month and the lease rentals are payable annually in advance. The estimated unguaranteed residual

value of the system at the end of the lease period is 5 percent of the initial cash price. The prevailing market rate of interest for medium-term loans is 15 percent per annum.

a. Determine the sale revenue to be recognized under the finance lease proposal.
b. Prepare a schedule showing the allocation of the finance income over the period.
c. Prepare the relevant ledger accounts in the books of Narmada Systems for the first year of the lease period. Also, show how the transaction will be reflected in the financial statements prepared at the end of the first year of the lease period.

Solution:

a. i. Annual lease rental = 6 x 0.024 x 12 = ₹ 1.73 lakhs

Present Value of the Annual Lease Rental (receivable in advance) plus the unguaranteed residual value discounted @15% per annum is equal to:

1.73 x PVIF $\bar{A}_{(15,5)}$ + 0.3 x PVIF $_{(15,5)}$ = ₹ 6.82 lakhs

ii. Fair market value = ₹ 6 lakhs

Since (ii) < (i), Narmada System must record its sale revenue at ₹ 6 lakhs.

b. The rate of interest implicit in the proposal (r) is given by the equation,

$1.73 \times PVIFA_{(r,5)} + 0.3 \times PVIF_{(r,5)} = 6$

i.e., $1.73 \times (1 + r) \times PVIFA_{(r,5)} + 0.3 \times PVIF_{(r,5)} = 6$

Through the process of trial and error, we find that the Eq., is satisfied at r = 23.92%

Therefore, the rate of interest implicit in the lease proposal is 23.92% p.a.

Unearned Finance Income = [(1.73 x 5) + 0.3] – 6 = ₹ 2.95 lakhs

The allocation of unearned finance income based on the assumption that the lease rental of ₹ 2.14 lakhs (= 1.73 x 1.2392) received annually in arrear is shown in the table given below.

Allocation of Unearned Finance Income

(₹ in lakh)

Year	Investment Outstanding at the Beginning	Rate of Interest	Interest Current	Capital Content	Lease Related Receipt
1	6	23.92%	1.43	0.71	2.14
2	5.29		1.26	0.88	2.14

Contd….

3	4.41		1.05	1.09	2.14
4	3.32		1.09	1.05	2.14
5	1.97		0.47	1.97	2.44

Since the lease rentals are received annually in advance, the annual lease rentals must be adjusted for an interest rebate of ₹ 0.41 lakhs (= 2.14 – 1.73). The allocation of the unearned finance income after effecting this adjustment is shown in the table given below.

Allocation of Unearned Finance Income

(₹ in lakh)

Year	Investment Outstanding at the Beginning	Interest Content	Capital Content	Lease Related Receipt
1	6.00	1.02	0.71	1.73
2	5.29	0.85	0.88	1.73
3	4.41	0.64	1.09	1.73
4	3.32	0.38	1.35	1.73
5	1.97	0.06	1.97	2.03

c.

Dr. **Finance Income a/c** Cr.

Year	Particulars	Amount (₹ in lakh)	Year	Particulars	Amount (₹ in lakh)
1	To Inventory a/c (6 x 0.80)	4.80	1	By Profit and Loss a/c	4.80

Dr. **Finance Income a/c** Cr.

Year	Particulars	Amount (₹ in lakh)	Year	Particulars	Amount (₹ in lakh)
1	To Profit and Loss a/c	1.02	1	By Unearned finance income a/c	1.02

Disclosure in the Financial Statements:

Dr. **Profit & Loss a/c** Cr.

Particulars	Amount (₹ in lakh)	Particulars	Amount (₹ in lakh)
Cost of goods sold	4.8	Sales income	6
		Finance income	1.02

Balance Sheet

Liabilities	Amount (₹ in lakh)	Assets	Amount (₹ in lakh)
		Current Assets:	
		Net investment in lease (6 – 0.71)	5.29

Example of Accounting for a Finance Lease – Asset returned to Lessor

Suppose Company A enters into a finance lease agreement with Lessor B for a piece of machinery. The terms of the lease are as follows:

Fair value of the machinery is ₹ 1,00,000

Lease term = 3 years

Lease payments are ₹ 30,000 per year, payable at the end of each year

Interest rate implicit in the lease is 8%

At the end of the second year of the lease, Company A decides to return the machinery to Lessor B due to financial difficulties. The fair value of the machinery at the end of the second year is estimated to be ₹ 50,000.

The ROU is an asset and it will be shown as a non-current asset in the balance sheet at the net present value of lease payments after adjusting for incentives and initial direct costs.

Initial Recognition of Lease at Lease Commencement:

8%	Lease paid at the end of the year	PV of lease at 8%
0.9259	30000	27778
0.8573	30000	25720
0.7938	30000	23815
		77313

i. Accounting Entry

Lease Liability Dr. 77,313

ROU Asset Cr. 50,000

Cash/Creditors Cr. 27,313

Lease Liability is recognized at the present value of the lease payments over the lease term, which is ₹ 77,313. ROU Asset is recognized at the fair value of the machinery, which is ₹ 50,000. Cash or creditors is recognized for the initial payment made or payable, which is the difference between the Lease Liability and the ROU Asset, i.e., ₹ 27,313.

ii. Annual Lease Payment at the End of Year 1:

Lease Liability Dr. 30,000

Cash/Creditors Cr. 30,000

Lease Liability is increased by the annual lease payment of ₹ 30,000. Cash or creditors is decreased by the same amount as it is the payment made to the Lessor.

iii. Annual Lease Payment at the End of Year 2:

Lease Liability Dr. 30,000

Cash/Creditors Cr. 30,000

Lease Liability is increased by the annual lease payment of ₹ 30,000. Cash or creditors is decreased by the same amount as it is the payment made to the Lessor.

iv. Impairment of ROU Asset at the End of Year 2:

Loss on Impairment Dr. 20,000

ROU Asset Dr. 30,000

Cash/Creditors Cr. 50,000

Loss on Impairment is recognized for the difference between the estimated fair value of the machinery at the end of year 2 (₹ 50,000) and the carrying amount of the ROU Asset (₹ 30,000).

ROU Asset is decreased to its estimated fair value of ₹ 50,000. Cash or creditors is adjusted to reflect the impairment loss.

Return of Machinery to Lessor at the End of Year 2:

ROU Asset Dr. 50,000

Lease Liability Dr. 25720

Cash/Creditors Cr. 75720

ROU Asset is decreased to zero as the machinery is returned to the lessor.

Lease liability is decreased to its remaining balance after the impairment loss (₹ 25720).

Cash or creditors is adjusted to reflect the settlement of the remaining lease liability.

The foregoing example illustrated a situation where the asset was to be returned to the lessor. Another situation exists (under BPO or transfer of title) where the asset is expected to remain with the lessee. Remember that leased assets are amortized over their useful life when title transfers or a bargain purchase option equals the guaranteed residual value, the bargain purchase option price, or a termination penalty.

Example of accounting for finance Lease-Asset ownership transferred to lessee and Fair Market Value (FMV) of the leased asset lower than the Present Value (PV) of the minimum lease payments.

Let's say a company (lessee) wants to lease a machine from another company (lessor) that has an FMV of ₹ 5,00,000. The lease term is four years, and the implicit interest rate is 10%. The minimum lease payments over the lease term are ₹ 1,30,000 per year, payable at the end of each year.

The PV of the minimum lease payments can be calculated as follows:

PV = 130000 * [(1 - (1 + .10) ^-4) / 10%]= 130,000*3.16986544635=₹ 412083

Where PV is the present value of the minimum lease payments, PMT is the periodic lease payment, r is the implicit interest rate per period, and n is the number of periods.

In this case, the lease term is four years, so the number of periods n = 4

The implicit interest rate per period is: r = 10% / 1 = 10%

The periodic lease payment = ₹ 1,30,000

Using the formula, the PV of the minimum lease payments is: PV = ₹ 412083

Since the FMV of the leased asset is lower than the PV of the minimum lease payments, it meets the criteria for a finance lease where the ownership of the leased asset is transferred to the lessee.

The lessee should record the leased asset on its balance sheet at the lower of the FMV of the asset or the PV of the minimum lease payments, which in this case is the FMV of ₹ 5,00,000. The lessee should also record a liability for the present value of the minimum lease payments, which is ₹ 412083.

The journal entries to record the lease would be:

At the inception of the lease:

Leased asset: Dr ₹ 5,00,000

Lease liability: Cr ₹ 412083

Cash/Bank: Cr ₹ 87917 (the FMV of the asset - PV of the minimum lease payments)

At the end of each year:

Lease expense: Dr ₹ 1,30,000

Lease liability: Cr ₹ 1,30,000

At the end of the lease term:

Lease liability: Dr ₹ 1,30,000

Interest expense: Dr ₹ 41208 (412083*10%)

Leased asset: Cr ₹ 5,00,000

Note that the interest expense is the difference between the lease liability at the end of the lease term (₹ 1,30,000) and the present value of the lease payments ₹ 412083. This represents the interest expense incurred by the lessee over the lease term.

Impairment of Leased Asset: The original IAS:17 did not address the issue of how impairments of leased assets are to be assessed or, if determined to have occurred, how they would need to be accounted for. IAS 116 was operative from 1st Jan 2019.

- Ind AS 116 is applicable to all leases, including leases of right-of-use assets in a sublease, except for some identified leases related IPR, minerals etc.
- Short Term lease is defined as a lease that, at the commencement date, has a lease term of 12 months or less. However, a lease that contains an option to purchase the asset is not a short-term lease.
- Under IAS 116 if a lessee elects to opt for the recognition exemption for either short-term leases or leases for which the underlying asset is of low value, the lessee shall recognize the lease payments associated with those leases as an expense on either a straight-line basis over the lease term or another systematic basis.

The following provides the basis upon which a lease can be identified as an operating or finance lease.

Identification of Lease as Operating or Finance Lease

Whether a lease can be identified as an operating lease or finance lease depends on the following:

Whether a lease is a finance lease or an operating lease depends on the substance of the transaction rather than the form of the contract.

Lease classification is made at the inception date and is reassessed only if there is a lease modification.

A lessor shall classify a lease as a finance lease if it transfers substantially all the risks and rewards incidental to ownership of an underlying asset and it is classified as an operating lease if it does not transfer substantially all the risks and rewards incidental to ownership of an underlying asset.

At the commencement date, a lessor shall recognize assets held under a finance lease in its balance sheet and present them as a receivable at an amount equal to the net investment in the lease. The lessor shall use the interest rate implicit in the lease to measure the net investment in the lease

Example of Accounting for Sale-leaseback Transaction

Example of accounting for a sale-leaseback transaction under IAS 116:

GT Ltd., a manufacturing unit, went into a sale and lease back transaction with GL Limited. The sale-leaseback transaction has the following details:

The fair value of the plant = ₹10,00,000.

The carrying amount of the plant on GT Ltd's balance sheet = ₹ 8,00,000.

Lease Period = 5 years; the lease payment = ₹ 2,00,000 per year.

Implicit interest rate in the lease = 8%.

There is no bargain purchasing option.

Solution:

Step 1: Is it a finance lease or an operating lease?

GT Limited has to consider the following factors.

Status of ownership: This is an operating lease. Because

- The leaseback arrangement indicates that GT Limited retains the right to use the plant, ownership is not transferred. Hence the lease is an operating lease.
- Since there is no bargain purchase option in the lease agreement it is not a finance lease.
- The lease term is five years and the economic life of the plant is much higher than 5 years.

PV = lease payment x [1 - (1 + r)^-n] / r

Where,

r = implicit interest rate

n = lease period

PV = present value of lease payments

Plugging in the given values, we get:

r = 8% = 0.08

n = 5 years

Lease payment = ₹2,00,000

PV = ₹2,00,000 x [1 - (1 + 0.08) ^-5] / 0.08

PV = ₹8,51,333

This is less than the fair value of the plant. Hence it is an operating lease.

Step 2: Accounting for the sale of the plant

The gain for GT Ltd on the sale:

The fair value of the plant ₹ 10,00,000 - carrying amount ₹ 8,00,000 = ₹ 2,00,000.

This gain will reflect in its income statement in the year of the sale.

Step 3: Accounting for the leaseback arrangement

GT Ltd will recognize the leaseback arrangement as an operating lease. GT Ltd. will recognize a right-of-use asset on its balance sheet equal to the present value of the lease payments ₹ 8,51,333. It will be lease liability.

GT Ltd will recognize lease payments of ₹ 2,00,000 per year on its income statement over the lease term of five years. GT Ltd will also recognize interest expense on the lease liability. This will decrease over time as the lease liability is paid off.

11.5 Accounting and Reporting for Operating Lease

In the case of an operating lease, the risks and rewards incidental to asset ownership remain with the lessor. Consequently, accounting for such transactions in the books of the lessee and the lessor is uncomplicated.

A lessor shall recognize lease payments from operating leases as income on either a straight-line basis or another systematic basis. A lessor shall recognize costs, including depreciation in accordance with Ind AS 16 and impairment in accordance with Ind AS 36, incurred as an expense.

11.5.1 In The Books of the Lessee

The lessee treats the lease rental payable over the lease term as a charge to the profit and loss account. AS-19 states that the lease rentals must be allocated to each accounting period in a manner that is representative of the time pattern of the user's benefit.

11.5.2 In The Books of the Lessor

In the books of the lessor, the asset given on an operating lease will be treated as a depreciable asset and the lease rentals as income. In the case of a manufacturer or dealer-lessor, it needs to be noted that there is no selling profit realized because the operating lease is not equivalent to a sale. The AS-19 recommends as follows. (i) Rental income (excluding receipts for services provided such as insurance and maintenance) must be recognized on a straight-line basis over the lease term, unless some other systematic basis is more representative of the earning process contained in the lease. (ii) Costs including depreciation incurred in earning the rental income must be charged to income. (iii) The basis for charging depreciation on the leased asset should be consistent with the lessor's normal depreciation policy for similar assets. (iv) Initial direct costs can be written off either in the period in which they are incurred or treated as deferred revenue expenditure or treated as deferred revenue expenditure and written off over the lease term in proportion to the recognition of rental income. These guidelines also recommend disclosure of the leased assets in the balance sheet by each major class of asset.

11.6 Accounting for Leasehold Land and Buildings

So far, we have discussed accounting for leases of depreciable assets. What about the accounting for leasehold land?

When a lease includes land and buildings elements, a lessor shall assess the classification of each element as a finance lease or an operating lease separately. Whenever necessary in order to classify and account for a lease of land and buildings, a lessor shall allocate lease payments (including any lump-sum upfront payments) between the land and the buildings elements in proportion to their relative fair values at the inception date. If the lease payments cannot be allocated reliably between these two elements, the entire lease is classified as a finance lease, unless it is clear that both elements are operating leases. For a lease of land and buildings in which the amount for the land element is immaterial to the lease, a lessor may treat the land and buildings as a single unit for the purpose of lease classification and classify it as a finance lease or an operating lease. In such a case, a lessor shall regard the economic life of the buildings as the economic life of the entire underlying asset.

A characteristic feature of land is that it has an indefinite useful life and if the title is not expected to pass to the lessee on the expiry of the lease term, the lessee is deemed not to have received substantially all the risks and rewards incident to ownership. Therefore, the lease will be treated as an operating lease and the accounting guidelines discussed above will apply. This is so even if a premium is paid for the leasehold. The premium must be treated as a pre-paid rental charge and amortized over the lease term.

Likewise, in the case of long-term leases of buildings where the title is not expected to pass to the lessee on the expiry of the lease term and/or the terms provide for periodically indexing the rentals to market rates, the lessor is deemed to have retained a significant portion of the rewards and risks associated with ownership. Therefore, such leases are also regarded as operating leases.

Example: Ramifications of the COVID-19 Pandemic for Leases of Land and Buildings

As many premises other than health care and institutions that provide "essential services" were to be shut down due to COVID-19 restrictions, many businesses essentially just shut down and were unable to pay the rent. That is when landlords started to offer rent deferrals and abatements. The lease would still be in effect, but rent payments for a specified amount of time would be postponed or lowered until a mutually convenient time when the business restrictions would be removed. In 2020 to help the general public the staff of FASB issued Q&A guidance with the understanding of the accounting for such rent deferral arrangements and other pandemic-related lease concessions.

Source: https://www.journalofaccountancy.com/news/2021/sep/nonpublic-organizations-lease-accounting-standards-implementation.html, dated: 9 Sept 2021. (Accessed on 14 Aug 2022)

11.7 View of the Indian Leasing Industry

Before we conclude this chapter let us listen to what the leasing industry has to say on the current accounting practices and the accounting norms. A questionnaire-based survey conducted in this regard with ample size of 43 leasing companies has revealed the following:

- The respondents (who were senior executives of leasing companies in the private sector) felt that lease accounting must be subjected to mandatory accounting standards evolved by an independent board comprising representatives from the accounting profession, business, regulatory authorities like the stock exchanges and the academia. The respondents disagreed with the contention that the accounting standard will result in additional paperwork and administrative burden.
- Most of the respondents were opposed to capitalization of finance leases in the balance sheet of the lessee but all of them agreed on disclosure of the lease commitments as a part of the note to the financial statements. About 50 percent of the respondents felt that capitalization of a finance lease in the lessee's balance sheet could be followed if the revenue (income tax) authorities provide a tacit assurance that capital allowances will remain with the lessor and are not transferred to the lessee.
- More than half of the respondents concurred with the view that the income from the finance lease must be recognized using the effective rate of interest (actuarial) method. About ninety percent of them agreed that the accounting standard must specify the method of depreciation to be followed by the leasing companies.
- The majority of the respondents agreed with the view that lease capitalization in the books of the lease will enhance the user's ability to judge the financial leverage and apprise the debt capacity of the lessee. However, many respondents felt that the lessees will not favor capitalization of finance lease in their books and will approach leasing companies for restructuring the lease proposals in such a way that they can be treated as "off-balance sheet" transactions.

Example: The Bouncing Back of the Indian Leasing Industry after COVID-19

According to property consultant JLL, across seven major cities viz., Delhi-NCR, Mumbai, Bengaluru, Chennai, Hyderabad, Pune, and Kolkata, in April 2022, the gross leasing of office spaces increased by 28%. By the end of March 2022, India's office Grade A (premium) space stood at 732 million square feet, while that of other grades was 370 million square feet, making the total rented space 1.1 billion square feet in total.

Contd….

In May 2021, when the second wave of the COVID epidemic had severely impacted demand, the number of lease transactions for office buildings (for all grades) was at 2.2 million square feet. But after offices and other work premises started to open, the demand improved and total office leasing activities across those seven cities rose to 6.1 million square feet registering a 3-fold increase in demand.

Source: https://www.business-standard.com/article/companies/total-office-space-leasing-in-may-jumps-nearly-3-fold-across-7-cities-jll-122062400562_1.html, dated 25 Jun 2022. (Accessed on 14 Aug 2022)

Activity 11.2

Shanthi Corporation sells equipment that has a book value of ₹ 1,60,000 and a fair value of ₹ 2,00,000 to Durable corporation (lessor) and then immediately leases it back under the following conditions:

The sale date was January 1, 2017, and the equipment had a fair value of ₹ 2,00,000 on that date and an estimated useful life of 15 years.

The lease term is fifteen years and non-cancelable. It requires equal rental payments of ₹ 26,218 at the beginning of each year.

Shanthi Corporation has the option annually to renew the lease at the same rental payments on the expiration of the original lease and obligation to pay all executory costs. The annual rental payments provide the lessor with a 12% return on investment and the incremental borrowing rate of Shanthi Corporation is 12%. Shanthi Corporation depreciates similar equipment on a written down value basis.

What Journal entries would Shanthi Corporation (lessee) and Durable Corporation (lessor) would make in their books during the second year of the lease?

Answer:

Check Your Progress - 2

6. Which of the following is not a feature of Operating Lease?
   a. The Asset is treated by the lessor as a depreciable asset.
   b. Costs including depreciation incurred in earning the rental income are charged to Income.

c. Initial direct costs are usually charged to income at the inception of the lease.

d. Rentals receivables are included in the income over the lease term.

e. Initial direct costs are either deferred or written off in the period in which they are incurred.

7. Which of the following is not true regarding accounting for leases in the financial statements of the lessors with regard to finance leases?

   a. An asset held under a finance lease should be recorded in the balance sheet as a receivable.

   b. An asset held under a finance lease should be recorded in the balance sheet not as property, plant and equipment.

   c. The charge to income under an operating lease should be the rental expense for the accounting period.

   d. Manufacturer or dealer lessors shall include selling profit or loss in an income. This should be in line with the policy ordinarily followed by an enterprise for outright sales.

   e. Initial direct costs should be charged to income at the inception of the lease.

8. Which of the following is not true in respect of accounting for sale and leaseback transactions?

   a. In a sale and leaseback transaction resulting in a finance lease, any excess of sales proceeds over the carrying amount should be immediately treated as income and recorded in the profit and loss account.

   b. In a sale and leaseback transaction resulting in a finance lease, any excess of sales proceeds over the carrying amount treated as income require to be amortized over the lease term (i.e. period).

   c. If the sale price is in excess of fair value then the excess should be deferred and amortized over the useful life of the asset.

   d. If a sale and leaseback transaction results in an operating lease and the transaction is established at fair value, any profit or loss should be recognized immediately with certain exceptions.

   e. If a sale and leaseback transaction results in an operating lease and it is clear that the transaction is established at fair value, any profit or loss should be recognized immediately if the loss is compensated by future rentals at above market price.

9. To which of the following does Accounting Standard 19 not apply?

   a. Lease agreement to explore for mineral rights.

   b. Lease agreements to explore for timber.

c. Lease agreements to explore natural resources.

d. Lease agreements to use lands.

e. Agreements that transfer the right to use assets even though substantial services by the lessor may be called for, in connection with the operation or maintenance of such assets.

10. Which of the following statements is false regarding Leases?

a. In Finance Lease all risks and rewards incident to ownership of an asset is transferred.

b. A lease is an agreement whereby the lessor conveys to the lessee in return for a payment or series of payments the right to use an asset for an agreed period.

c. AS 19 applies to lease agreements of lands.

d. AS 19 is not applicable to lease agreements to explore for or use natural resources.

e. The lessee as per AS -6 should depreciate the leased assets.

11.8 Summary

- The first accounting standard for lease accounting was issued by the Financial Accounting Standards Board (FASB) of the US (FASB Statement 13: Accounting of Leases).
- The guidelines require the following. (a) The asset and liability to be recorded at the inception of the lease at an amount equal to the fair market value of the asset or, if lower, at the present value of the minimum lease payments. (b) The rentals to be apportioned into interest and capital contents using the effective rate of interest (actuarial) method or any other acceptable approximation. (c) Expense the interest (finance) charge. (d) Depreciate the asset in line with the depreciation policy pursued in respect of the assets owned. The leased asset must be fully depreciated over the shorter of the lease term or its useful life.
- The accounting standards prescribed by IASC and ICAI are similar for an operating lease. The lessee is required to allocate the aggregate rental over the lease period on a straight-line basis or on any other systematic basis, which is more representative of the time pattern of the user's benefit.
- Ind AS 116 is applicable to all leases, including leases of right-of-use assets in a sublease, except for some identified leases related IPR, minerals etc.
- Under IAS 116 if a lessee elects to opt for the recognition exemption for either short-term leases or leases for which the underlying asset is of low value, the lessee shall recognize the lease payments associated with those leases as an expense on either a straight-line basis over the lease term or another systematic basis.

- A lessor shall classify a lease as a finance lease if it transfers substantially all the risks and rewards incidental to ownership of an underlying asset and it is classified as an operating lease if it does not transfer substantially all the risks and rewards incidental to ownership of an underlying asset.
- Whether a lease is a finance lease or an operating lease depends on the substance of the transaction rather than the form of the contract.
- When a lease includes land and buildings elements, a lessor shall assess the classification of each element as a finance lease or an operating lease separately.

11.9 Glossary

Actuarial Method is the process of distributing payments made on a debt between the amounts provided as fund and to the finance charge in accordance to which a payment is used first to the appended finance charge.

Capital Lease - A long term lease in which the lessee must record the leased item as an asset on his/her balance sheet and record the present value of the lease payments as debt. Additionally, the lessor must record the lease as a sale on his/her own balance sheet. A capital lease may last for several years and is not callable. It is treated as a sale for tax purposes. It is also called a financial lease.

Effective Rate of Interest is the interest rate on a loan or financial product restated from the nominal interest rate as an interest rate with annual compound interest payable in arrears.

Financial Accounting Standards Board (FASB) is the accounting standard board of the US that is entrusted with the setting of accounting standards in the USA and implementation of GAAP.

Financial Lease – It is an arrangement where the lessor receives lease payments to cover its ownership costs. The lessee is responsible for maintenance, insurance and taxes.

Institute of Chartered Accountants of India (ICAI) is the professional accounting standards setting body in India constituted under an Act and responsible for setting Indian accounting standards.

Interest Rate Implicit in the Lease is the discount rate that, at the inception of the lease, causes the aggregate present value of (a) the minimum lease payments and (b) the unguaranteed residual value to be equal to the sum of (i) the fair value of the leased asset and (ii) any initial direct costs of the lessor.

International Accounting Standards Board (IASB) is an independent, private-sector body that develops and approves International Financial Reporting Standards (IFRSs).

Operating Lease: It is a contract where the lessor would permit the lessee to use an asset for a particular period that is shorter than the economic life of the asset without any transfer of ownership rights.

Sale Leaseback: In a sale leaseback arrangement, an owner sells his or her property and then immediately leases it back from the buyer as a part of the same transaction. By doing so the seller gets the profits from sale while keeping possession and use of the property, while the buyer is assured immediate long-term income on the property.

Vacancy Rate: It is the percentage of the built-in space in the markets that are currently unoccupied or are available for rent.

11.10 Self - Assessment Test

1. "The accounting treatment of sale and leaseback transaction depends upon the type of lease involved". Discuss with reference to IAS17.
2. How are leases classified as per Accounting Standard 19?
3. How is the finance lease dealt with in the books of the lessee as per Accounting Standard 19?
4. Discuss how leasehold land and buildings are accounted for in the books of lessor and lessee.
5. What are the views of the Indian leasing industry on accounting practices and accounting norms?

11.11 Suggested Reading/Reference Material

1. Anthony Saunders, Marcia Millon Cornett, Anshul Jain (2021), Financial Markets and Institutions, 7th edition, Tata McGraw-Hill Education.
2. Prasanna Chandra (2020), Fundamentals of Financial M, 7th edition, Tata McGraw-Hill Education.
3. Devie Mohan (2020), The Financial Services Guide to Fintech, 1st edition, Kogan Page Limited.
4. Siddhartha Sankar Saha (2021). Indian Financial System. 2nd edition, Tata McGraw-Hill Education.
5. DR. R. Shanmugham (2020). Financial Services. 2nd edition. Wiley India.

11.12 Answers to Check Your Progress Questions

1. (d) AS – 19

AS -19 is the accounting standard that deals with the accounting and reporting framework for lease transactions.

2. (d) Lessor is not supposed to capitalize leased assets in his books

The salient features regarding the lease accounting and reporting practices followed by the lessees and the lessors, based on the AS -19:

a. The lessee is supposed to capitalize the assets leased into his books of accounts as fixed assets and claim depreciation on the same.

b. The lessor has to recognize the lease as a receivable in his books of accounts at an amount equal to the net investment in the lease i.e., gross investment in the lease less unearned finance income.

c. The treatment adopted is similar to IAS-17.

3. (c) Current Asset

Lease rentals are shown as a current asset in the books of accounts of the lessor.

4. (b) The lessor must record the finance lease as an account payable in the balance sheet at an amount equal to the net investment in the lease

The lessor must record the finance lease as a receivable in the balance sheet at an amount equal to the net investment in the lease.

5. (e) Regarding the present value of leased assets once in six months

This disclosure is not required as per AS 19/IAS 17.

6. (c) Initial direct costs are usually charged to income at the inception of the lease

Initial direct costs are usually charged to income at the inception of the lease by manufacturers or dealers who do finance leasing.

7. (c) The charge to income under an operating lease should be the rental expense for the accounting period

This is a false statement as the question asked is on finance leases.

8. (a) In a sale and leaseback transaction resulting in a finance lease, any excess of sales proceeds over the carrying amount should be immediately treated as income and recorded in the profit and loss account

This is a false statement as any excess of sales proceeds over the carrying amount should not be immediately recognized as income and taken to profit and loss account. If such an excess is recognized, it should be deferred and amortized over the lease term.

9. (e) Agreements that transfer the right to use assets even though substantial services by the lessor may be called for regarding the operation or maintenance of such assets

AS – 19 applies to all other situations except for agreements that transfer the right to use assets even though substantial services by the lessor may be called for in connection with the operation or maintenance of such assets.

10. (c) AS 19 applies to lease agreements of lands

AS – 19 does not apply to lease agreements of lands. Hence, option c is a false statement.

History of IAS 17	
October 1980	Exposure Draft E19 Accounting for Leases
September 1982	IAS 17 Accounting for Leases
1 January 1984	Effective date of IAS 17 (1982)
1994	IAS 17 (1982) was reformatted
Apr 1997	Exposure Draft E56, Leases
December 997	IAS 17 Leases
1 January 1999	Effective date of IAS 17 (1997) Leases
18 December 2003	Revised version of IAS 17 issued by the IASB
1 January 2005	Effective date IAS 17 (Revised 2003)
16 April 2009	IAS 17 amended for Annual improvements to IFRSs 2009 about classification of land leases
1 January 2010	Effective date of the April 2009 revisions to IAS 17, with early application permitted (with disclosure)
1 January 2019	IAS 17 will be superseded by IFRS 16 Leases

Unit 12

Hire Purchase

Structure

"Sometimes, instead of purchasing a commodity out and out, people want to buy only the use of it, for a longer or shorter period. The price paid for such temporary use is commonly called hire."

- John Buchanan Robinson

12.1 Introduction

Having explained what hire purchase is, in simple words of Robinson; let's delve deep into the concept of hire purchase.

In the previous unit, we discussed lease accounting procedures and reporting aspects. Major aspects of lease accounting are within the framework of AS 19 and IFRS 16 /IAS116. We briefly discussed these accounting standards. This unit deals with another financial services activity - Hire purchase.

Hire purchase is a type of installment credit under which the hire purchaser, called the hirer agrees to take goods on hire at a stated rental that is inclusive of the repayment of principal as well as interest with an option to purchase.

Among the alternative asset-based financing plans offered by the finance companies, hire purchase is one of the popular plans. In India, the market for hire purchase has been dominated by road transport operators and hire purchase has

been always associated with the financing of commercial vehicles. However, in the last few years, hire purchase as a means of financing equipment has come into popular use. Given a choice between industrial hire purchase and equipment leasing, the question before the hirer (lessee) is: Which one should I choose? A similar question before the finance company (lessor) is: Which one is more profitable?

12.2 Objectives

After going through this unit, you should be able to:

- Discuss the concept of hire purchase
- Explain the characteristics of Hire Purchase
- Elaborate the various calculation models for computing effective rate in hire purchase
- Analyze the legal aspects in a Hire Purchase transaction
- Discuss the tax aspects in a HP transaction

12.3 Concept and Characteristics of Hire Purchase

Hire purchase can be defined as a contractual arrangement under which the owner lets his goods on hire to the hirer and offers an option to the hirer for purchasing the goods in accordance with the terms of the contract. According to the Hire Purchase Act, 1972 an agreement that fulfills the following conditions is also a Hire Purchase Agreement: (i) the possession of goods is delivered by the owner thereof to a person on condition that such person pays the agreed amount in periodic installments; (ii) the property in such goods is to pass to such person on the payment on the last of such installments; (iii) such person has the right to terminate the agreement at any time before the property so passes on.

Legal aspects of Hire Purchase

In the absence of any specific law, the hire purchase transactions are governed by the provisions of the Indian Contract Act and the Sale of Goods Act.

Original Hire Purchase Act was passed in Year 1972.

Repeal of Hire Purchase Act 1972

The Hire Purchase Act, 1972 was enacted to regulate the rights and duties of parties to hire-purchase agreements. The Act, inter alia, provides for a ceiling on hire-purchase charges. The Law Commission examined the matter vide its 168th Report and recommended comprehensive amendments to the Act including statutory hire-purchase charges @ 18% per annum or a lower rate as specified by the Central Government. On examination of this Report, it was felt that the mathematical formula as provided in the Act and the formula as recommended by the Commission for calculating hire-purchase charges were too mathematical for

a common man to understand, and that the hire-purchase charges and rate of interest may better be left to the market conditions in the changed economic scenario, because loans are available from banks and financial institutions on borrower-friendly terms. In view of this, the Hire Purchase Act, 1972 has lost its relevance. Hence, it has been decided to repeal the Hire Purchase Act, 1972. The Hire-Purchase (Repeal) Bill, 2005, a bill to repeal the Hire Purchase Act, 1972 was present in March 2005 in Rajya Sabha and was passed in 2005 June. This was also referred as Act 31 of 2005.

Concept of Hire Purchase: The two distinct features of a hire purchase transaction are (i) the option to purchase the goods at any time during the term of the agreement and the (ii) the right available to the hirer to terminate the agreement at any time before the payment of the last installment. Therefore, from the hirer's angle, a hire purchase contract can be compared to a cancelable lease contract with a call (purchase) option.

The call option and the right of termination available with the hirer form the basis for distinguishing a hire purchase transaction from other asset-financing plans like installment sale and conditional sale where the buyer is committed to paying the full price.

A hire purchase differs from installment sale on one more count. In installment sale, the ownership of the asset is transferred to the buyer on payment of the first installment whereas in a hire purchase the ownership is transferred to the hirer only when he exercises the option to purchase or on payment of the last installment.

Characteristics of Hire Purchase

The following are the characteristics of hire purchase:

- It is a credit purchase.
- In the hire purchase system, price is paid in installments over a specified period.
- The goods under hire purchase are delivered to the purchaser at the time of commencement of the hire purchase agreement.
- The property in the goods passes to the hirer on payment of the last installment.
- The hire purchaser has a right to use goods under hire as a bailee.
- Each installment is treated as hire charges so that if a default is made in the payment of any installment, the seller becomes entitled to take away the goods.

The hire purchaser has a right to terminate the hire purchase agreement at any time in the capacity of a hirer and is free to return the goods without being required to pay any further installments falling due after the return.

The salient features of a hire purchase transaction are therefore as follows:

i. The finance company (the counterpart of the lessor) purchases the equipment from the equipment supplier and lets it on hire to the hirer.

ii. The hirer is required to make a down payment of 20 to 25 percent of the equipment cost and repay the balance with interest in Equated Monthly Installments spread over 36 to 48 months either in advance or in arrears.

iii. As an alternative to the down-payment plan, some finance companies offer a deposit-linked plan. Under this plan, the hirer is required to invest 20 to 25 percent of the equipment cost in the fixed deposits of the company. In return, the hirer is provided with a hundred percent finance that has to be repaid with interest in equated monthly installments spread over 36 to 48 months. On payment of the last installment, the deposit with accumulated interest is returned to the hirer.

iv. The interest component of each hire purchase installment is calculated based on a flat rate of interest. The rate of interest charged usually lies in the band of 13-15% p.a.

v. During the currency of the contract (hire period), the hirer can opt for early repayment and purchase the asset. The hirer, exercising this option, is required to pay the remaining amount of hire purchase installments (installments that have not fallen due) less an interest rebate. The interest rebate is calculated in different ways that are discussed in the following part.

vi. Theoretically the hirer can exercise the cancelable option and terminate the contract after giving due notice to the finance company. However, in practice, such terminations are few and far in between because the hirer loses the tax shields on capital allowances (like depreciation) by exercising this option.

Example: Characteristic Differences of Hire Purchase with Leasing

Characteristic Difference	Leasing	Hire Purchase
Ownership	Lies with the Finance Company which is the lessor. The lessee doesn't have an option to purchase the equipment.	The ownership is transferred to the hirer on payment of the last installment.
Depreciation	Lessor is entitled to claim it as an expense	The hirer is entitled to claim it
Payments	Lease payments are included while computing tax liability by the lessee	In the books of the hirer, only interest payments can be included for calculating tax liability

Contd….

Assets	Generally, for big assets. Fixed Assets	Generally, for small assets. Stock in trade, receivables, etc.
Duration	Generally, for a longer duration	Generally, for a smaller duration
Maintenance responsibility	Financial lease: Lessee Operating lease: Lessor	Hirer's responsibility
Down Payment	Not required	Required
Extent of financing	Complete	Partial

Sources: i) https://efinancemanagement.com/sources-of-finance/difference-between-lease-financing-vs-hire-purchase, dated: 10 Jun 2022, (Accessed on14 Aug 2022)

ii) https://www.iris.co.uk/blog/misc/difference-between-leasing-vs-hire-purchase-what-is-the-difference-0/, dated: 21 Sept 2017, (Accessed on14 Aug 2022)

12.4 Mathematics of Hire Purchase

We said that the interest included in the hire purchase installments is calculated with reference to a flat rate of interest. We are also aware that interest charged based on a flat rate overlooks the fact that the original amount of the loan is repaid in installments over the term of the loan.

12.4.1 Calculation of Effective Rate

On the other hand, the effective rate of interest is applied to the declining balances of the original loan amount for determining the interest component of each installment. It, therefore, follows that for a given flat rate of interest, the equivalent effective rate of interest must be higher. To determine the effective rate of interest, we can either apply the trial and error approach or use an approximation formula.

Illustration 12.1

Narmada Finance offers a hire purchase plan for its corporate borrowers on the following terms:

Rate of Interest	:	13% flat
Repayment Period	:	3 years
Frequency of Payment	:	Monthly in Arrear
Down Payment	:	20%

a. Calculate the effective rate of interest per annum or the Annual Percentage Rate (APR) using (i) the trial and error approach and (ii) the approximation formula.

b. Assume that the payments must be made in advance, calculate the APR using the approaches mentioned in (a).

Solution:

a. We will work with an investment cost of ₹ 1,000

Amount of loan = 0.8 x 1,000 = ₹ 800

Total charge for credit = 800 x 0.13 x 3 = ₹ 312

Monthly installment = (800 + 312)/36= ₹ 30.89

i. Define i as the effective rate of interest per annum or the APR. The value of i can be obtained from the equation.

$(30.89 \times 12) \times PVIFA_{m\,(i,\,3)} = 800$

i.e., $370.68 \times \frac{i}{i^{(12)}} \times PVIFA_{(i,\,3)} = 800$

i.e., $\frac{i}{i^{(12)}} \times PVIFA_{(i,\,3)} = 2.158$

From the tables, we can find that

At i = 0.24, LHS of the equation = 2.191

i = 0.26, LHS of the equation = 2.143

Interpolating in the range, we get i = 0.2538 or 25.38%

ii. As an alternative to the trial and error approach, we can employ the following approximation formula:

$$i = \frac{n}{n+1}.2F \qquad \text{Eq. (1)}$$

where n = total number of repayments

and F = flat rate of interest per unit time.

Applying eq. (1), we get

$$i = \frac{36}{37} \times 2 \times 0.13 = 0.253 \text{ or } 25.3\%$$

b. The value of i can be obtained from the equation

$(30.89 \times 12) \times PVIF\,\overline{A}_{m\,(i,\,3)} = 800$

i.e., $\frac{i}{d^{(12)}} \times PVIFA_{(i,\,3)} = 2.158$

At i = 0.26, LHS of the equation = 2.185

i = 0.28, LHS of the equation = 2.141

Interpolation in the range yields i = 0.2723 or 27.23%

If payments are made in advance, we should use the following modified version of eq. (1).

$$i_{app} = \frac{n}{n-1} 2F \qquad \text{Eq. (2)}$$

Using eq. (2), we get

$$i_{app} = \frac{36}{35} \times 2 \times 0.13 = 0.2674 \text{ or } 26.74\%$$

We find that a change in the profile of monthly payments from 'arrear' to 'advance' has increased the effective rate of interest by almost two percentage points.

The annual percentage rate of a conventional hire purchase plan involving a down payment can be calculated along the previously mentioned lines. However, in the case of deposit-linked hire purchase plans, the calculation of APR involves the following steps:

Step 1: Define the periodic cash flows over the repayment period.

Step 2: Equate the present value of the cash outflows to the present value of the cash inflows and solve for the unknown rate of interest (i).

The value of i reflects the APR.

Illustration 12.2

Vindhya Financial Services offers a hire purchase plan under which the hirer is provided with a hundred percent finance on the following terms:

Rate of Interest	:	13%
Repayment Period	:	3 Years
Frequency of Payment	:	Monthly in Arrear

The hirer is required to invest 20% of the investment cost in the cumulative fixed deposit scheme of the company for a period of 3 years. The company offers a rate of interest of 15% p.a. compounded monthly.

a. Calculate the APR of the scheme.

b. Compare this scheme with the scheme offered by Narmada Finance in illustration 12.1. Which one would you prefer? Why?

Solution:

a. We will work with an investment cost of ₹ 1,000

The total charge for credit = ₹ (1,000 x 0.13 x 3) = ₹ 390

Monthly installment $= \frac{1,390}{36} =$ ₹ 38.61

Amount of deposit at time '0'= 200

Accumulated value of the deposit after 3 years

$$= 200\left(1+\frac{0.15}{12}\right)^{36} = ₹\ 312.79$$

Define i as the effective rate of interest (APR) of the plan. To obtain the APR, we shall first define the net cash flows over the repayment period. (See below given Table).

Monthly Cash Flows

(In ₹)

Month (1)	Loan Amount (2)	Initial Deposit (3)	Installment Amount (4)	Acc. Value of Deposit (5)	Net Cash Flow (6) – (2) – (3) – (4) + (5)
0	1,000	200			800
1			38.61		(–) 38.61
2			38.61		(–) 38.61
.			.		.
.			.		.
.			.		.
35			38.61		(–) 38.61
36			38.61	312.79	274.18

Setting the present value of the cash outflows equal to the present value of the cash inflows at rate of interest i, we get,

$$= 12 \text{ x } 38.61 \text{ x } \text{PVIFA}_{m\left(i,\frac{35}{12}\right)} = 800 + 274.18 \text{ x } \text{PVIF}_{(i,\ 3)}$$

$$\text{i.e., } 463.32 \text{ x } \frac{i}{i^{(12)}} \text{ x } \text{PVIFA}_{(i,\ 2.9167)} = 800 + 274.18 \text{ x } \text{PVIF}_{(i,\ 3)}$$

At i = 0.32, (LHS – RHS) of the equation = – 4.14

i = 0.30, (LHS – RHS) of the equation = 9.53

Interpolating in the range we get,

$$i = \left[0.3 + 0.02 \times \frac{9.53}{13.67}\right] = 0.3139 \text{ or } 31.39\%.$$

b. Comparing the Deposit Linked (DL) plan of Vindhya Financial Services with the Down Payment (DP) plan of Narmada Finance, we find that, under both plans, the hirer parts with an amount of ₹ 200 at time 0. While under the down payment plan, the amount contributed by the hirer goes towards reducing the amount of debt finance, under the deposit-linked plan, the same amount is

invested by the hirer in a fixed deposit scheme. Since the down payment made by the hirer under the DP plan goes towards reducing the amount of debt whose interest cost is more than what the hirer can earn by keeping the same amount in fixed deposit, we find that the effective rate of interest implied by the DP plan to be less than the effective rate of interest implied by the DL Plan.

Banks charge market related interest rates on hire purchase loans (for example car loans).

[11]For example as on December 2022 ICICI Bank charges a maximum of 12.5% on new car loans subject to other services changes on overdue EMIs 2% per month.

12.4.2 Calculation of Interest Rebate

Another aspect of the hire purchase mathematics relates to the calculation of the interest rebate for early repayment. From a purely economic angle, the finance company will try to allow the minimum interest rebate while the hirer will like to avail of the maximum possible rebate. While the true and fair interest rebate can be determined by applying the Effective Rate of Interest Method, the finance companies follow methods that favor the lender rather than the borrower. We will briefly discuss the mechanics of the Effective Rate of Interest Method and two other methods followed by the finance companies in practice.

12.4.3 Effective Rate of Interest Method

Under the Effective Rate of Interest Method, the interest rebate is equal to the total amount of outstanding (but not due) installments less the discounted value of the outstanding installments as on the date of early repayment. Some finance companies refer to this method of granting interest rebate as the IRR Method.

Illustration 12.3

Consider the data provided in Illustration 12.1. Immediately after paying the 24th monthly installment, the borrower wishes to repay the outstanding loan and purchase the equipment. Calculate the interest rebate according to the Effective Rate of Interest Method.

Solution:

Total amount of installments outstanding on the date of repayment

= 30.89 x 12 = ₹ 370.68 … (A)

Discounted value of the outstanding installments as on the date of repayment

= 30.89 x PVIF$\bar{A}_{m\,(25.38,\,1)}$

[11] https://www.icicibank.com/personal-banking/loans/car-loan/service-charges

$= 30.89 \times 12 \times \frac{0.2538}{0.2283} \times PVIFA_{(25.38, 1)} = 30.89 \times 12 \times \frac{0.2538}{0.2283} \times 0.7976$

= ₹ 328.68 … (B)

Interest Rebate = (A) – (B) = ₹ 42

Illustration 12.4

Agra Tanneries Limited (ATL) is contemplating to purchase equipment worth ₹ 50 lakhs. The equipment attracts a tax-relevant rate of depreciation rate of 25% and has a salvage value of 15% of the initial amount at the end of the useful life of 5 years. ATL approaches Mathura Finance Limited (MFL) to structure a hire-purchase arrangement for the said asset. The hire-purchase scheme offered by MFL provides for the following arrangements:

Down payment	25%
Duration	5 years
Frequency of payments	Monthly in arrears

MFL also shows interest in structuring a lease agreement for the above equipment with the same duration and frequency of payment.

The cost of capital for the MFL is 15%. It is in the tax bracket of 35%. MFL follows the Sum of the Years Digits Method (SOYD) method for recognition of finance income.

You are required to:

a. Determine the minimum flat rate of interest to be charged by MFL on the above plan.

b. Determine the lease rental at which MFL is indifferent between the hire purchase plan and lease plan. Assume the hire rentals as arrived in (a) above.

Solution:

a. NPV(HP)

A. Down payment = 0.25 X50 = ₹ 12.5 lakhs

Amount financed = 50 – 12.5 = ₹ 37.5 lakhs

Let flat rate of interest be F%.

$$MHR = \frac{37.5 \times \frac{F}{100} \times 5 + 37.5}{60} = \frac{1875 + 37.5}{60}$$

At i = 15%

B. PV of hire rental = $12 (0.03125F + 0.625) \times \frac{i}{i^{12}} \times PVFA_{(15\%, 5)}$

= $(0.375F + 7.5)\ 1.067 \times 3.352$

= ₹ (1.341F + 26.824) lakhs

C. Unexpired Finance Income = ₹ 37.5 × $\frac{F}{100} \times 5 = 1.875F$

Interest Allocation				
Year	SOYD	Annual Income	PV	₹ in lakh
1.	$\frac{654}{1830} = 0.357$	0.669F	0.87	0.582F
2	$\frac{510}{1830} = 0.279$	0.523F	0.756	0.395F
3.	$\frac{366}{1830} = 0.2$	0.375F	0.658	0.247F
4.	$\frac{222}{1830} = 0.121$	0.227F	0.372	0.130F
5.	$\frac{78}{1830} = 0.043$	0.081F	0.497	0.040F
				1.394F

PV of interest tax on finance income of HP = 1.394F × 0.35 = 0.488F

NPV (HP) = – A + B – C = –37.5 + (1.341F + 26.824) – 0.488F

NPV (HP) = 0

0.853F = 10.676

F = 12.5%

b. NPV (HP) = NPV (Lease) = 0

A. Initial investment = ₹ 50 lakhs

B. PV of lease rentals = 12L x $\frac{i}{i^{12}} \times PVFA_{(15\%,5)}$ = ₹ 42.919 L lakhs

c. PV of tax on lease rentals = 12L x $PVIFA_{i,5} \times 0.35$ = ₹ 14.078L lakhs

d. PV of depreciation tax shield:

= (12.5 $PVIF_{15,1}$ + 9.375 $PVIF_{15,2}$ + 7.031 $PVIF_{15,3}$

+ 5.273 $PVIF_{15,4}$ + 3.955 $PVIF_{15,5}$) 0.35 = ₹ 9.65 lakhs

e. PV of NSV = 0.15 x 50 PVIF 15, 5 = ₹ 3.728 lakhs

Minimum lease rentals is the value of L in the following:

– A + B – C + D + E = 0

– 50 + 42.919L – 14.078L + 9.65 + 3.728 = 0

28.841L = 36.622

L = ₹ 1.27 lakhs/month.

12.4.4 "Rule of 78" Method

In practice, many finance companies use an alternative procedure known as the "Rule of 78" (also known as the Sum of the Years Digits Method) to calculate the interest rebate on loans made based on a flat rate of interest.

The interest rebate under this method (Refer Appendix for a description of this method) is calculated as follows:

$$R = \frac{t(t+1)}{n(n+1)} \times D \qquad \text{Eq. (3)}$$

Where,

t = number of level installments that are not due and outstanding,

n = total number of level installments,

D = total charge for credit, and

R = interest rebate.

Illustration 12.5

Consider the data provided in Illustration 12.1 and the additional information provided in Illustration 12.3. Calculate the interest rebate according to the 'Rule of 78' Method.

Solution:

Total charge for credit = ₹ (800 x 0.13 x 3) = ₹ 312

$$\text{Interest Rebate} = \frac{12 \times 13}{36 \times 37} \times 312 = ₹\ 36.54$$

Comparing the answers obtained in Illustrations 12.3 and 12.4, we find that the interest rebate offered under the 'Rule of 78' Method is less than what is offered under the Effective Rate of Interest Method and therefore the 'Rule of 78' works to the advantage of the lender. Can we generalize this result? The answer is "Yes". A formal mathematical proof is provided in the Appendix.

What is the implication to the hirer? Obviously, a lower interest rebate means that a higher effective rate of interest on the completed transaction. Put differently the hirer who opts for early repayment and gets an interest rebate calculated based on 'Rule of 78' will pay an effective rate of interest higher than what was implied by the original transaction.

Illustration 12.6

Consider the data provided in Illustration 12.1 and the additional information provided in Illustration 12.3. Calculate the effective rate of interest implied by the completed transaction if the interest rebate is calculated according to

a. Effective Rate of Interest Method, and

b. 'Rule of 78' Method

Solution:

a. Define i_1 as the effective rate of interest implied by the completed transaction. The value of i_1 can be obtained from the equation:

$$30.89 \times 12 \times PVIFA_{m\,(i_1,\,2)} + (370.68 - 42) \times PVIF_{(i_1,\,2)} = 800$$

$$\text{i.e., } 30.89 \times 12 \times \frac{i_1}{i_1^{(12)}} \times PVIFA_{(i_1,\,2)} + 328.68 \times PVIF_{(i_1,\,2)} = 800$$

At $i_1 = 25.38\%$, LHS of equation = 800

Therefore, the rate of interest implied by the completed transaction is the same as the rate of interest implicit in the original transaction if interest rebate is calculated according to the Effective Rate of Interest Method.

b. If the interest rebate is calculated based on 'Rule of 78', the value of i_1 can be obtained from the equation:

$$30.89 \times 12 \times PVIFA^{m\,(i_1,\,2)} + (370.68 - 36.54) \times PVIF^{(i_1,\,2)} = 800$$

$$\text{i.e., } 30.89 \times 12 \times \frac{i_1}{i_1^{(12)}} \times PVIFA_{(i1,\,2)} + 334.14 \times PVIF_{(i1,\,2)} = 800$$

At $i_1 = 26\%$, LHS of equation will be

$$[370.68 \times 1.114 \times 1.424] + [334.14 \times 0.630] = 799$$

Therefore, the effective rate of interest implicit in the completed transaction is about 26% – marginally higher than what is implied by the original transaction.

In practice, some finance companies use modified versions of the Rule of 78, which allow for a deferment period and thereby further reduce the interest rebate made available to the hirer. The general formula for calculating the interest rebate based on the modified 'Rule of 78' is:

$$\text{Interest Rebate} = \frac{(t-\alpha)(t-\alpha+1)}{n(n+1)} \times D; \text{ if } \alpha < t \le n \; = 0 \qquad \text{Eq. (4)}$$

$$\text{if } t \le \alpha$$

Where,

α = deferment period and the other symbols are as defined in Eq. (3).

Illustration 12.7

Consider the data provided in Illustration 12.1. Assume that the hirer wants to repay the outstanding loan immediately after paying the 24th installment and the

finance company calculates the interest rebate based on the modified 'Rule of 78' which provides for a deferment period of 3 months.

a. Calculate the interest rebate granted to the hirer and the effective rate of interest on the completed transaction.

b. Assume that the borrower wants to repay the outstanding loan after paying the 33rd installment. Calculate the amount of interest rebate and the rate of interest on the completed transaction.

Solution:

a. Interest Rebate = $\frac{(12 - 3)(12 - 3 + 1)}{36 \times 37} \times 312 = \frac{9 \times 10}{36 \times 37} \times 312 =$ ₹ 21.08

The reader can verify that the rate of interest implied by the completed transaction is 27% p.a.

b. Since the number of installments remaining unpaid is equal to the deferment period, interest rebate will be equal to zero. The effective rate of interest (i_1) on the completed transaction can be obtained from the equation

$30.89 \times 12 \times PVIFA_{m\,(i_1,\,2.75)} + 92.67 \times PVIF_{(i_1,\,2.75)} = 800$

The reader can verify that the rate of interest implied by the completed transaction is about 26% p.a.

Illustration 12.8

Mr. Ambrish wants to avail himself of the credit plan offered by Tristar Finance Company (TFC). According to the plan, TFC will give a loan of ₹ 1,00,000 on 31st March. 2019, which is to be repaid by a single installment of ₹ 1,25,000 on 31 March 2020. In case Mr. Ambrish wishes to repay the loan early, the interest rebate shall be proportional from the date of the loan to the originally specified repayment date. On 31st January 2020,Mr.Ambrish opts for the early settlement.

You are required to:

a. Calculate the annual percentage rate on the completed transaction if Mr. Ambrish pays the final settlement amount on 31st January 2020.

b. Calculate the amount payable on final settlement assuming that loan was to be repaid in 12 equal monthly installments of ₹ 10,000 each and interest rebate is calculated according to the modified rule of 78 method with a deferment period of 1 month.

Solution:

a. The settlement date is taken to be 31.01.2020

The total charge for credit is 25,000 & the interest rebate allowed for early settlement = 25,000 X 2/12 = ₹ 4,167

Amount payable on early settlement = ₹ 1,25,000 – ₹ 4,167 = ₹ 1,20,833

The annual percentage rate on completed transaction is

= 1,00,000 $(1+i)^{10/12}$ = 1,20,833 = 25.5%

b. Total charge for credit = 10,000 X 2 = 1,20,000 – 1,00,000 = ₹ 20,000

Deferment period = 1 month

$$\frac{(t-\alpha)(t-\alpha+1)}{n(n+1)}$$

Interest rebate = $\frac{(3-1)(3-1+1)}{12(12+1)} \times D$

Interest rebate per month = (3-1)(3-1+1)/[12(12+1)]} D

Here D = 2 as party is closing 2 months early and gets 2 months rebate

= [6/(12*13)*2 = .076923%

Equated monthly instalment is 10,000 hence rebate = 10,000*.076923 = 769.23

Amount payable on final settlement=30,000 – 769.23 = ₹ 29,230.77

Illustration 12.9

Suleiman Financial Services Ltd. offers car loans to customers on the following terms and conditions:

a. Deposit of 25% of the cost of the asset should be made at the inception of the transaction.

b. 36 EMIs must be made each at the beginning of every month.

c. Deposit carries an interest of 12% p.a. compounded monthly and it would be repaid on the payment of the last installment.

d. A service fee of ₹ 1,500 is charged.

e. Suleiman Financial Services also offers an interest rebate at four-fifths of the rebate calculated in accordance with the Modified Rule of 78 method with $\alpha = 2$.

Mr. Somanko wants to purchase an Alto car, the cost of which is approximately ₹ 4 lakhs. One of his colleagues suggested him to go for a car loan from Suleiman Financial Services. Mr. Somanko is a software engineer and does not have much idea about finance. He approaches you for some advice. With some effort, you could make out that Somanko's effective cost of funds is 20% p.a.

You are required to advise Somanko in calculating:

a. Maximum monthly payments that Somanko needs to make.

b. Flat rate of interest of the above transaction. (You can assume the EMIs as obtained in (a) above).

c. Effective interest rate on the completed transaction if Somanko likes to make the prepayment at the end of 30 months. (You can assume the EMIs as obtained in (a) above).

Solution:

a. i. Cost = ₹ 4 lakhs

ii. Deposit = 4×0.25 = ₹ 1 lakh

Let Monthly Installment be ₹ M lakh

iii. PV of Installments = $12M \times i/d_{12}$ PVIFA $_{20\%,3}$ = ₹ 27.933M lakhs

iv. Service charge = ₹ 0.015 lakh

Accumulated value of deposit = 1 FVIF $_{1\%, 36}$ = ₹ 1.431 lakhs

v. PV of deposit to be collected at the end

= 1.431 PVIF $_{20\%, 3}$ = ₹ 0.828 lakhs

Hence, (i) – (ii) – (iii) – (iv) + (v) = 0

4 – 1 – 27.933M – 0.015 + 0.828 = 0

27.933M = 3.813

∴ M = 3.813/27.933 = ₹ 0.13651 lakhs

b. Flat rate of interest:

Total charge for credit = 0.13651 x 36 – 4 = ₹ 0.914 lakhs

Flat rate = 0.914 / (4 x 3) = 7.62%

c. Total charge for credit = ₹ 0.914 lakhs

Interest rebate as per Modified Rule of 78

= [{(6 – 2)(6 –2 + 1)}/(36 x 37)] x 0.914 = ₹ 0.0137 lakhs

Amount payable on early settlement

= 0.13651 x 6 – 0.0137 = ₹ 0.8053 lakhs

Accumulated value of deposit by the end of 30 months

= 1 FVIF$_{1\%, 30}$ = ₹ 1.3478 lakhs

Effective rate of interest is 'i' is the following:

$$4 - 1 - 0.13651 \times 12 \times \text{PVIFA}_{i,2.5} \times \frac{i}{d^{12}} - 0.015 - 0.8053\ \text{PVIF}_{i,2.5} + 1.3478$$

PVIF $_{i,2.5}$ = 0

At I = 18%, we get,

4 –1 – (0.13651 x 12x 1.883 x 1.0950) – 0.015 – (0.8053 x 0.661) + (1.3478 x 0.661)

= 3 – 3.378 – 0.015 – 0.532 + 0.891 = – ₹ 0.034 lakh.

At I = 20%, we get,

4 – 1 – (0.13651 x 12 x 1.830 x 1.1053) – 0.015 – (0.8053 x 0.634) + (1.3478 x 0.634)

= 3 – 3.313 – 0.015 – 0.511 + 0.854 = ₹ 0.015 lakhs.

By, interpolation, we get, I = 19.39% p.a.

Hence, effective rate of interest on completed transaction, to Mr. Somanko will be 19.39% p.a.

12.4.5 Other Methods

The Hire Purchase Act, 1972 defines the following formula for calculating the minimum interest rebate as:

$$\text{Interest Rebate} = \frac{2}{3} \times \frac{t}{n} \times D \qquad \text{Eq. (5)}$$

According to Section 9 of this Act, if the terms of the hire purchase agreement entitle the hirer to a rebate higher than that allowed under this section, the hirer should be entitled to the rebate provided by the hire purchase agreement.

Does the interest rebate calculated as per 'Rule of 78' exceed the minimum interest rebate provided for by eq. (5)? The answer is- It depends upon the number of the unpaid and not-due installments (t) as on the date of early repayments. In general, if t exceeds 2/3 (n – 1) the Rule of 78 will provide an interest rebate higher than the amount obtained as per eq. (5).

There are finance companies that adopt variants of eq. (5) to calculate the interest rebate. For instance, one of the better-known companies in this industry uses a simple formula like:

$$\text{Interest Rebate} = \frac{t - \alpha}{n} \times D$$

Where, α is the deferment period. Incidentally, the amendment proposed to the Hire Purchase Act, 1972 requires the interest rebate to be calculated as per the 'Rule of 78' method.

Activity 12.1

A road contractor took on hire purchase a heavy machinery whose cash down price was ₹ 10 crores. Monthly installment fixed by the financier was ₹ 40 lakhs. Compute the flat rate of interest applied by the financier.

12.5 Legal Aspects of Hire Purchase

As on date, there is no legislation that exclusively deals with hire purchase transactions. The Hire Purchase Act, was passed in 1972, This Act was repealed by passing The Hire Purchase (Repeal) Bill, 2005 in the Parliament in 2005. The legal aspects of the hire purchase transaction have to be ascertained from the relevant provisions of the Indian Contract Act, 1872, Sale of Goods Act, 1930 and the judgments pronounced by the courts on issues related to these types of contracts.

The salient legal aspects of hire purchase transactions are as follows:

1. Under a hire purchase contract, the owner has the following obligations:
    i. He must have a title to the goods let on hire at the time of delivering the goods.
    ii. He must ensure that the hirer has quiet possession of the goods and this quiet possession is not tampered with either by him or by the lawful acts of third parties.
    iii. He must deliver possession of the goods to the hirer because the hiring does not commence until the goods have been delivered (the place of delivery can be the place of business of the owner).
    iv. He must ensure that the goods are of merchantable quality and that they are reasonably fit for the purpose for which they are to be used. The obligation relating to ensuring fitness arises only where the hirer has made known to the owner the purpose for which the goods are required.
    v. Where goods are let by description, the owner is required to ensure that the goods let on hire answer the description. Similarly, in cases where the goods are let by reference to a sample, the owner has to ensure that the bulk corresponds with the sample and afford an opportunity to the hirer to compare the bulk with the sample.
2. Under a hire purchase contract, the hirer has the following implied obligations: (i) The hirer must take reasonable care of the goods. (ii) The hirer cannot sell, pledge or use the goods for a purpose different from that stipulated in the contract during the currency of the contract. (iii) The hirer must pay the sums stated in the contract at the specified points of time and in the manner prescribed by the contract. The reader is required to note that in the absence of any express provision to the contrary, the time of payment is not regarded as the essence of the contract. Therefore, some occasional delays in payment over the hire period do not empower the owner to terminate the contract unless the default(s) can be linked to an intention on the part of the hirer to repudiate the contract.

3. Apart from the implied obligations of the hirer, the hire purchase agreement expressly imposes certain obligations on the hirer: (a) He is required to arrange for a comprehensive insurance cover for the goods hired. The cover can be taken in the joint names of the owner and the hirer or in the name of the hirer bearing an endorsement recording the owner's interest in the goods. The hirer is required to pay the insurance premiums and do everything that is necessary to keep the insurance policy in force. (b) He is required to indemnify the owner against any loss or damage that results from his negligence. (c) He must obtain all permits and consents necessary for the use of goods and not contravene any law or regulation that has a bearing on the usage of the asset. (d) He is required to bear all costs incurred regarding maintaining the goods in serviceable condition.
4. Usually, a hire purchase agreement provides for the owner's right for repossession of the goods upon breach of the hire purchase agreement by the hirer. The courts have held that in the absence of a specific enactment governing hire purchase transactions, the owner is entitled to repossess the goods through means specified in the hire purchase agreement and in the process, he is entitled to use such physical force as may be necessary.
5. A hire purchase agreement usually provides for (i) the right of the hirer to determine (terminate) the hire purchase contract at any time before the final payment and (ii) the right of the hirer to purchase the goods at any time before the final payment. In the former case, the agreement provides for the mode of terminating the contract and in the latter case, it provides for the method to be followed for calculating the interest rebate.
6. Since the owner, in a typical hire purchase transaction is a finance company that does not deal with the class of goods that are let on hire, usually the implied obligations of the owner as stated in (iv) and (v) of (1) are not relevant. To prevent the possibility of the hirer invoking these implied conditions, an 'exclusion clause' is included in the hire purchase agreement. which states that no liability can be attached to the owner if (i) the goods are not of merchantable quality; (ii) the goods are unfit for the particular purpose for which they are required; (iii) the goods fail to correspond with the description; (iv) the bulk does not correspond with the sample; (v) there is a violation of the conditions, warranties or representations made by a dealer or a supplier (provided the dealer or the supplier is not acting as an agent of the owner).
7. One of the legal issues relating to a tripartite hire purchase transaction is the legal relationship between the hirer and the dealer (or supplier). Clearly, there is no direct contractual relationship between the hirer and the dealer. The question is- Can the hirer hold the dealer liable for the express warranties made by him? There is no legislative provision that says 'Yes'. But there are some English case laws that state that when the hirer has entered into a hire purchase

contract placing reliance on the promises or representations made by the dealer regarding the nature, quality, or quantity of goods, it gives rise to a collateral contract between the hirer and the dealer and the hirer is entitled to claim damages for breach of warranty comprised in the collateral contract.

Example: Supreme Court's Verdict on the Legal Aspects of Hire Purchase

In October 2020, the Supreme Court held that the financier continued to remain the owner of a vehicle, covered by a hire purchase agreement, until all the installments are paid. Earlier the National Commission had directed Magma Fincorp Ltd to pay ₹ 2,23,335 to the complainant, along with interest at 10 percent per annum and ₹ 10,000 for taking repossession of the hired vehicle on the failure of the complainant to pay the full installments.

The bench of the Supreme Court stated that the Financier is the owner of the vehicle, and it could keep the vehicle possession until all the hire installments were paid. Examining whether proper notice is to be served for repossession of a vehicle, the bench ruled that it would be the subject matter of a Hire Purchase Agreement, and hence would depend on the terms and conditions of the Hire Purchase Agreement.

Source: https://www.indialegallive.com/constitutional-law-news/courts-news/financier-remains-owner-of-vehicle-in-a-hire-purchase-agreement-till-all-hire-installments-are-paid-supreme-court/, dated: 2 Oct 2020. (Accessed on 15th Aug 2022)

Check Your Progress - 1

1. Which of the following is not a feature of hire purchase?
   a. Generally, finance company purchases the equipment and lets it on hire to the hirer.
   b. Generally, hirer is required to make some percentage of the cost of equipment as down payment.
   c. Generally, hirer is required to repay balance remaining after down payment in equated monthly installments of contracted period.
   d. During the hire period, hirer cannot opt for an early repayment and purchase the asset.
   e. Interest component of each hire purchase installment is calculated based on a flat rate of interest.
2. Which of the following statements is true in respect of hire purchase system?
   a. The hire purchaser has no right to terminate the agreement at any time before the property so passes.
   b. Though the installments of a hire purchase agreement may be equal, the interest element in each installment is not the same.

c. If the amount of each installment is equal, the total interest can be allocated to different installments by the fixed installment method.

d. Under installment payment system, the buyer gets immediate possession but not ownership of the asset.

e. Under installment payment system, the seller can repossess the asset for non-payment of installments.

3. Godavari Ltd. announced a plan to give tractor on hire whose cost of unit is ₹ 5 lakhs. The terms of hire purchase are down payment 20%, rate of interest 13% flat with 36 monthly installments. What would be the monthly installment?

   a. ₹ 14,356

   b. ₹ 12,356

   c. ₹ 15,445

   d. ₹ 13,445

   e. ₹ 16,356.

4. In a hire purchase contract, which of the following obligation is incorrect in respect of the owner?

   a. He must ensure that the hirer has quiet possession of the goods.

   b. He need not have a title to the goods on hire at the time of delivering the goods.

   c. Goods must be delivered to the possession of the hirer.

   d. In case where the goods are let by reference to a sample, the owner must ensure that the bulk corresponds with the sample.

   e. He has to ensure that the goods are of merchantable quality and must reasonably fit the purpose for which they are to be used.

5. Which of the following is not an Exclusion clause in the hire purchase agreement?

   a. No Liability can be attached to the owner if altogether different material is supplied to the hirer.

   b. No liability can be attached to the owner if the goods are unfit for the particular purpose for which they are required.

   c. No liability can be attached to the owner if bulk does not correspond with the sample.

   d. No liability can be attached to the owner if there is violation of the conditions or warranties or the supplier is not acting as an agent of the owner.

   e. No liability can be attached to the owner if goods are **NOT OF** merchantable quality.

12.6 Tax Aspects

Hire purchase comes under Goods and Services Tax purview. Let us go into some details on these tax aspects.

12.6.1 GST on Hire Purchase Transaction

We have already learnt that in the hire purchase system the buyer in the initial stage is not the owner of the product but pays installments for the product regularly while enjoying the possession of it. However, on full payment of all the installments, the title passes on to the buyer.

To understand whether the hire purchase transaction falls under the ambit of GST, we have to analyze whether hire purchase transactions come under the definition of supply of goods or supply of services under Schedule II of the CGST Act. Schedule II of the GST Act stipulates that if the property in goods shall pass at a future date upon payment of full consideration as per the agreement, it be considered as supply of goods. This effectively means that any agreement that results in the transfer of title in goods falls under the ambit of the supply of goods and attracts GST. Based on this definition, hire purchase attracts GST as the ownership of the goods will be transferred to the buyer on payment of the last installment and thus the hire purchase transaction is covered under section 1 (c) of Schedule II of CGST Act. Hence, the seller has to charge GST on the full value of the goods in a hire purchase transaction when he issues the invoice for the first installment.

12.6.2 GST on Interest Charged

In a hire purchase transaction, the buyer is liable to pay the amount in installments that includes principal and interest component. As per notification no. 12/2017-CGST (Rate), in case both these components (Principal and interest) are not shown separately and shown as EMI, GST is payable on both. In case the interest amount is separately shown and collected from the buyer, GST is not payable which happens rarely. Hence, all components of the supply made under a hire purchase agreement are taxable regardless of whether the credit component and interest component are separately shown. Any other fees and charges, such as late payment fees, etc. will also attract GST.

12.6.3 GST Credits on Hire Purchases

If the transaction is on Non-cash accrual basis, the buyer can claim the full GST credit on the hire purchase agreement in the tax periods. If it is on a cash accrual basis and if the purchase agreements were entered into on or after 1 July 2012, the buyer may claim input tax credits upfront instead of waiting until each installment is paid.

12.6.4 GST

GST rates are fixed for all goods and services by the government under a 4-tier tax structure under the slabs- 5%, 12%, 18% and 28%. Since most of the goods under the hire purchase scheme are Capital goods and industrial intermediaries, they attract an 18 % GST slab.

In case of hire purchase, as the property in goods shall pass at a future date upon payment of full consideration as per the agreement to the buyer, it is considered as supply of goods and it attracts the GST as per the appropriate rates. As the number of installments (including interest) under hire purchase is in phased manner (monthly, quarterly or half-yearly), GST is collected on each payment as per the prescribed rates.

Example: The Financer in a Hire Purchase Agreement has to Pay Tax on the Vehicle after Taking Possession

In February 2022, the Supreme Court upheld the full bench judgment of Allahabad High Court about the tax liability of the financer in a hire purchase agreement. The financier who is in the possession of a motor vehicle or a transport vehicle on which a hire-purchase or lease or hypothecation agreement has been entered is liable to tax under U.P. Motor Vehicles Taxation Act, 1997. This liability arises for the financer in the hire purchase or hypothecation agreement, from the date of taking possession of the said vehicle. The Supreme Court however said that if the vehicle is not used for more than a month, the owner, after the payment of tax, under section 12 of the 1997 Act, may apply for a refund but has to comply with all the requirements for seeking such a refund.

Source: i) https://www.livelaw.in/top-stories/supreme-court-financiar-possession-hire-purchase-hypothecation-up-motor-vehicles-taxation-act-mahindra-and-mahindra-financial-services-ltd-vs-state-of-up-192587#:~:text=Upholding%20a%20Full%20bench%20judgment,Motor%20Vehicles%20Taxation%20Act%2C%201997. Dated: 23 Feb 2022. (Accessed on 15th Aug 2022)

ii) https://theprint.in/india/financier-of-transport-vehicle-liable-to-tax-under-1997-up-act-from-date-of-taking-possession-sc/842856/, dated: 22 Feb 2022. (Accessed on 15th Aug 2022)

12.7 Accounting Aspects

To understand better the accounting aspect, the following are dealt hereunder:

12.7.1 In the Books of the Hirer

The accounting mechanics from the hirer's angle is as follows:

1. The cash purchase price of the asset is capitalized and the capital content of the hire purchase installments (the cash purchase price less the down payment) is recorded as a liability.
2. Depreciation is charged on the cash purchase price of the asset in line with the depreciation policy pursued by the hirer regarding other owned (similar) assets.

3. The total charge for credit or the unmatured finance charge at the inception of the hire purchase transaction is allocated over the hire period using one of the following methods:

- Effective Rate of Interest Method.
- Sum-of-the-Years Digits (SOYD) Method.
- Straight Line Method.

Illustration 12.10

Kaviya Petrochemicals (KPCL) has recently acquired equipment worth ₹ 300 lakhs under the industrial hire purchase scheme offered by Avinash Financial Services (AFSL). The salient features of the scheme are as follows:

- Rate of Interest : 13% (flat)
- Frequency of Payment: Monthly in Advance
- Number of Payments : 48
- Pattern of Payment : Equated
- Down Payment : 25%

KPCL follows the WDV method of depreciation and applies a rate of 30% p.a. on assets of a similar nature.

a. Compute the finance charge to be allocated to the accounting periods assuming that the hirer follows: (i) Effective Rate of Interest Method (ii) SOYD Method and (iii) Straight Line Method.

b. Show how the transaction will be referred to in the financial statements for the first two years.

Note: Assume that the net salvage value of the equipment after four years is insignificant.

Solution:

a. Total charge for credit = 225 x 0.13 x 4 = ₹ 117 lakhs.

Monthly installment = (225 + 117)/48 = ₹ 7.125 lakhs

i. The **Effective Rate of Interest** per annum (i) can be found from the equation:

$$7.125 \times 12 \times \overline{PVIFA}_{12\,(i,\,4)} = 225 \text{ i.e.,}$$

$$7.125 \times 12 \times \frac{i}{d^{(12)}} \times PVIFA_{(i,\,4)} = 225 \text{ i.e.,}$$

$$\frac{i}{d^{(12)}} \times PVIFA_{(i,\,4)} = 2.632$$

At i = 28%, LHS of equation = 2.568
i = 26%, LHS of equation = 2.635

Interpolating in the range (26%, 28%) we get i = 26.1%

The allocation of the total charge for credit based on the effective rate of interest method will be as follows:

Allocation of Total Charge for Credit

(₹ in lakh)

Year	Amount Outstanding at the Beginning	Interest Content	Capital Content	Installment
1	225	47.08	38.42	85.5
2	186.58	37.05	48.45	85.5
3	138.13	24.40	61.10	85.5
4	77.03	8.45	77.03	85.48

Note 1: The annual installment equivalent to the value of twelve-monthly payments is determined as follows:

$$7.125 \text{ x } 12 \text{ x } \frac{i}{d^{(12)}} \text{ where, } i = 0.261$$

= 7.125 x 12 x 1.1363 = ₹ 97.15 lakh

Note 2: i. The annual installment and interest content have been netted for an interest amount equal to ₹ [97.15 – (7.125 x 12)] lakh = ₹ 11.65 lakhs

ii. The allocation of the total charge for credit-based on the SOYD will be as follows:

Allocation of Total Charge for Credit (SOYD Method)

(₹ in lakh)

Year	installment (= 7.125 x 12)	Finance Charge	Capital Content
1	85.5	$\frac{48+47+.....+37}{48+47+.....+1}\times 117 = 50.74$	34.76
2	85.5	$\frac{36+35+.....+25}{48+47+.....+1}\times 117 = 36.41$	49.09
3	85.5	$\frac{24+23+.....+13}{48+47+.....+1}\times 117 = 22.09$	63.41
4	85.5	$\frac{12+11+.....+1}{48+47+.....+1}\times 117 = 7.76$	77.74

iii. The equated annual finance charge under the **Straight-Line Method**

$$= \frac{117}{4} = ₹ 29.25 \text{ lakhs}$$

b. **Presentation in Financial Statements**

Year 1:

Income Statement

(₹ in lakh)

Expenses		Income
Depreciation (300 x 0.3)	90	
Finance Charge	47.08	

Balance Sheet

(₹ in lakh)

Liabilities	₹	Assets	₹
Secured Loans:		Fixed Assets	
H.P Outstanding (falling due after one year)	138.13	Equipment on H.P. – Gross Block	300
Current Liabilities		– Less: Acc. Dep.	90
H.P. Outstanding (falling due within one year)	48.45	– Net Block	210

Year 2:

Income Statement

(₹ in lakh)

Expenses	₹	Income
Depreciation (210 x 0.3)	63	
Finance Charge	37.05	

Balance Sheet

(₹ in lakh)

Liabilities	₹	Assets	₹
Secured Loans:		Fixed Assets:	
H.P Outstanding (falling due after one year)	77.03	Equipment on Hire Purchase	
Current Liabilities:		Gross Block	300
H.P Outstanding (falling due within one year)	61.1	Less: Accumulated Depreciation	153
		Net Block	147

12.7.2 In the Books of the Finance Company

In the books of the finance company, (owner) the accounting treatment will be as follows:

1. At the inception of the transaction, the finance company records the hire purchase installments receivable as a current asset (stock on hire) and the (unearned) finance income component of these installments as a current liability under the head "Unmatured Finance Charges".
2. At the end of each accounting period, the finance company recognizes an appropriate part of the "Unmatured Finance Income" as current income of the period. The methods that are followed for allocating the unmatured finance income over the relevant accounting periods are the ones we are familiar with – Effective Rate of Interest Method, SOYD Method, and Straight-Line Method.
3. At the end of each accounting period, the hire purchase price less the installments received is shown as a receivable (stock on hire) and the finance income component of these installments is shown as a current liability (Unmatured Finance Charges).
4. The direct costs associated with setting up the transaction are either expensed immediately or allocated against the finance income over the hire period.

Illustration 12.11

Consider the data provided in Illustration 12.10. Show how the transaction will be reflected in the financial statements of Avinash Financial Services for the first two years assuming that the company follows the Effective Rate of Interest Method for allocating the finance income. The initial direct cost of setting up the transaction is ₹ 2.4 lakhs.

Solution:

The effective rate of interest is 26.1% (Refer Illustration 12.10) and the allocation of the unearned finance income is as follows:

Allocation of Unearned Finance Income

(₹ in lakh)

Year	Amount Outstanding at the Beginning	Interest Content	Capital Content	Installment Amount
1	225	47.08	38.42	85.5
2	186.58	37.05	48.45	85.5
3	138.13	24.40	61.10	85.5
4	77.03	8.45	77.03	85.48

Presentation in Financial Statements

Year 1:

Income Statement

(₹ in lakh)

Expenses	₹	Income	₹
Direct Costs	2.4	Hire Finance Income	47.08

Balance Sheet

(₹ in lakh)

Liabilities	₹	Assets	₹
Current Liabilities		Current Assets	
Unmatured Finance Income	69.90	Stock-on-hire under Hire Purchase Agreements (at agreement values less amounts received)	256.48

Year 2:

Income Statement

(₹ in lakh)

Expenses	Income	₹
	Hire Finance Income	37.05

Balance Sheet

(₹ in lakh)

Liabilities	₹	Assets	₹
Current Liabilities		Current Assets	
Unmatured Finance Income	32.85	Stock-On-Hire under Hire Purchase Agreements (at agreement values less amounts received)	170.98

12.8 Framework for Financial Evaluation

In the first part of this section, we will evaluate the economics of a hire purchase transaction vis-á-vis a finance lease from the hirer's point of view. In the next part, we will discuss the same aspect from the standpoint of the finance company.

12.8.1 The Hirer's Angle

From the hirer's angle, the financial evaluation will involve the following steps:

Step 1: Define the Cost of Hire Purchase (COHP).

COHP = Down Payment + PV (Hire Payments discounted at

kD) + Service Fee – PV (Depreciation Tax Shields discounted at kC) – PV (Net Salvage Value discounted at kC)

Eq. (6)

Step 2: Define the Cost of Leasing (COL)

COL = Lease Management Fee + PV (Lease Payments discounted at kD) – PV (Tax Shields on Lease Management Fee and Payments discounted at kC) + PV (Interest Tax Shields on Displaced Debt discounted at kC) + PV (Differential Interest Tax Shields associated with H.P. discounted at kC)

Eq. (7)

Step 3: Compare COHP with COL

i. If COL exceeds COHP, Hire Purchase is to be preferred.

ii. If COL is less than COHP, leasing is to be preferred.

Before we illustrate the previously mentioned framework, let us clarify some points about the framework per se. The reader might recall that the framework we have employed here is somewhat like the lease evaluation model proposed by Bower. There are however some differences between the two. First, unlike the Bower's Model, we have specified the discount rate to be employed for discounting the tax shields. Second, the actual tax shields associated with hire purchase need not have a one-to-one correspondence with the interest tax shields on the displaced debt for the following three reasons:

a. The marginal cost of debt to the hirer (included in the computation of kC) and the effective rate of interest implied by the hire purchase transaction need not be equal.

b. The lease term and the hire period (under the HP Plan) need not be identical.

c. The method employed for allocating the total charge for credit under hire purchase plan (for tax purposes) can be different from the method employed for allocating the unexpired finance charge under the lease plan.

In addition, the Bower Model assumes that leasing displaces an equal amount of debt whereas the hire purchase plan assumes a down payment.

To build in the point that the present value of the interest tax shields on displaced debt need not be equal to the present value of the hire purchase related interest tax shields, we have introduced an additional term in eq. (5) with a "plus or minus symbol $\pm$" to account for the differential tax shields.

A closer examination of eq. (5) reveals that the sum:

$$\frac{\text{PV (Interest Tax Shields on Displaced Debt)} \pm \text{(Differential Tax Shields associated with hire purchase)}}{\text{PV (Interest Tax Shields on hire purchase)}}$$

Therefore, Equations 6 and 7 can be rewritten as:

COHP = Down Payment + PV (Hire Payments) + Service Fee – PV (Tax Shields on charge for credit of Hire Payments & Service Fee) – PV (Tax Shields on Depreciation) – PV (Net Salvage Value) Eq. (7a)

COL = PV (Lease Payments) + Lease Management Fee – PV (Tax Shields on Lease Payments & Lease Management Fee) Eq. (7b)

Illustration 12.12

Rama Financial Services (RFS) offers both leasing and hire purchase plans to its corporate clientele. The salient features of these plans are as follows:

A.	**Lease Plan**		
	Primary Period	:	5 years
	Lease Rate	:	₹ 28 ptpm
	Frequency of Payment	:	Monthly in Advance
B.	**Hire Purchase Plan**		
	Hire Period	:	3 years
	Rate of Interest	:	16% flat
	Frequency of Payment	:	Monthly in Advance
	Down Payment	:	20%

Sowmya Industrial Corporation (SIC) which is contemplating a capital expenditure of ₹ 360 lakhs on modernization and technology upgradation is evaluating the financial desirability of the two plans. Given the following information, which plan will you recommend? Why?

A.	Tax Relevant Rate of Depreciation	:	25%
B.	Marginal Rate of Tax	:	46%
C.	Marginal Cost of Capital	:	16%
D.	Marginal Cost of Debt	:	20%

Assume that SIC follows the SOYD method for spreading the total charge for credit under the hire purchase plan. The planning horizon is five years. The net

salvage value of the plant and machinery after five years is expected to be ₹ 45 lakhs.

Solution:

Cost of Leasing (COL) can be determined as follows:

A. Present value of lease payments =

$$360 \times 0.028 \times 12 \times \frac{i}{d^{(12)}} \times PVIFA_{(20,5)}$$

Where,

i = 0.2

= 360 x 0.028 x 12 x 1.105 x 2.991 = ₹ 399.78 lakhs.

B. Present value of tax shield on lease payments @16%

= 360 x 0.028 x 12 x $PVIFA_{(16,5)}$ x 0.46 = ₹ 182.17 lakhs

C. Total charge for credit = 360 x 0.8 x 0.16 x 3 = ₹ 138.24 lakhs

The allocation of the total charge for credit based on the SOYD method is presented in the following table:

Allocation of Total Charge for Credit

Year	SOYD Factor	Annual Credit Charge (₹ in lakh)
1	$\frac{36+35+.....+25}{36+35+.....+1} = \frac{366}{666}$	75.97
2	$\frac{24+23+.....+13}{36+35+.....+1} = \frac{222}{666}$	46.08
3	$\frac{12+11+.....+1}{36+35+.....+1} = \frac{78}{666}$	16.19

D. Present Value of Tax Shield on Charge for Credit 16% p.a.

= [(75.97 x 0.862) + (46.08 x 0.743) + (16.19 x 0.641)] x 0.46

= ₹ 50.65 lakhs.

E. Cost of Leasing = A – B = ₹ 217.61 lakhs.

Cost of Hire Purchase (COHP) can be ascertained as follows:

F. Down Payment = ₹ 72 lakhs

G. Monthly Hire Purchase installment

$$= \frac{288+(288\times0.16\times3)}{36} = ₹ 11.84 \text{ lakhs.}$$

H. Present Value of Hire Purchase installments

$$= 11.84 \times 12 \times \frac{i}{d^{(12)}} \times PVIFA_{(20,3)} = ₹ 330.64 \text{ lakhs.}$$

where,

i = 0.20

I. Present value of depreciation tax shields @16%

= $[90 \times PVIF_{(16,1)} + 67.5 \times PVIF_{(16,2)} + 50.62 \times PVIF_{(16,3)} + 37.97 \times PVIF_{(16,4)} + 28.48 \times PVIF_{(16,5)}] \times 0.46$

= ₹ 89.56 lakh.

J. Present value of net salvage value = $45 \times PVIF_{(16,5)}$ = ₹ 21.42 lakhs

K. COHP = [F + H – D – I – J] = ₹ 241.01 lakhs.

Since the Cost of Leasing (COL) is less than the Cost of Hire Purchase (COHP), the assets are to be acquired under the lease plan.

Since the net salvage value of the asset under consideration can sometimes significantly influence the economics of leasing versus hire purchase, it may be worthwhile spending some time on the measures of asset valuation[12] and the mechanics involved in establishing the residual value.

For valuing an asset, J.C. Bronbright defines 'value' as follows: "The value of a property (or asset) to its owner should be identical to the loss, direct and indirect, the owner might expect to suffer if he is deprived of the property (or asset)". He suggests that one of the following measures of value can reflect the "loss on deprivation":

a. **Replacement Cost:** The cost incurred to replace the asset.

b. **Realizable Value:** The value that can be realized on the disposal of the asset. It can be measured as the prevailing fair market value or in terms of the amount likely to be realized if the asset is sold under conditions adverse to the seller.

c. **Economic Value:** The value derived from the economic use of the asset. This, in turn, can be in terms of the value related to the earning potential of the asset or in terms of the value of the asset for a purpose other than the purpose for which it is currently employed, or in terms of its value to the firm concerned assuming that the firm is a "going concern".

Let us denote the three measures of value as RC, RV and EV respectively. We can think of the following relationships between these three measures:

A. RV > EV > RC

B. RV > RC > EV

C. EV > RC > RV

D. EV > RV > RC

E. RC > EV > RV

F. RC > RV > EV

[12] Prasanna Chandra, "Financial Management: Theory & Practice"; McGraw-Hill; Tenth Edition; 20 April 2019

The question is: Which is the most appropriate measure in each of the previously mentioned situations?

Under situations (A) and (B), as the realization value the exceeds economic value, it appears that the firm should disinvest and therefore RV is the most appropriate measure. However, on applying the criterion of "loss suffered on deprivation", it is clear that the replacement cost is the appropriate measure under situation (A) because the firm must incur this cost to restore the deprivation suffered by it. Under situation (B), the firm will not be keen on replacing the asset because RC exceeds EV. Hence, the appropriate measure will be Economic Value.

Under situations (C) and (D), the loss suffered by the firm on deprivation is the replacement cost. Under situation (E), the firm will not be keen on replacing the deprived asset because replacement cost exceeds the economic value. Hence, the loss suffered by the firm if it is deprived of the asset is the economic value of the asset. Under situation (F), the loss suffered by the firm on deprivation is the realization value.

In practice, we are unlikely to encounter situations portrayed by (A), (B) and (F) where the realizable value exceeds the economic value. Hence, we are left with just three situations (C), (D) and (E).

Illustration 12.13

Consider the data provided in Illustration 12.12. The finance manager of Sowmya Industrial Corporation provides you with the following information for estimating the net salvage value of the plant and machinery five years hence:

a. There has been an escalation of 12% p.a., on an average with respect to the cost of capital equipment similar to the one under consideration.

b. The market value of similar capital equipment that has been used for a period of five years is about 15 percent of their original cost.

c. The projected incremental EBDIT (Earnings before Depreciation, Interest and Taxes) attributable to the usage of the asset is about ₹ 90 lakhs per annum.

d. The pre-tax cost of funds to the company is 24% p.a.

e. The search costs, commission and other transaction costs associated with the disposal of used capital equipment is about 20 percent of their fair market value.

f. The estimated economic life is seven years.

Based on the revised estimate of net salvage value, which plan will you recommend?

Solution:

A. To calculate the replacement cost of the asset five years hence, we will assume that the investment cost will continue to escalate at 12% p.a.

The replacement cost five years hence = $360 \times (1.12)^5 \times 0.15$ = ₹ 95 lakhs.

B. The realizable value of the asset = 0.8 of the replacement cost = ₹ 76 lakhs.

C. Economic value of the asset = 90 x PVIFA $_{(24, 2)}$ = ₹ 131 lakhs.

Since EV > RC > RV, it is advantageous to use the asset rather than disposing it off. However, the loss suffered by SIC on deprivation is not EV but RC. Therefore, the appropriate measure of net salvage value will be the replacement cost of ₹ 95 lakhs.

Factoring the estimated residual value of ₹ 95 lakhs in Illustration 12.12, we find that the cost of hire purchase is ₹ 217.21 lakhs. Since COHP and COL are more or less equal, SIC will be indifferent between the two asset-based financing plans. Put differently, it can choose either the lease or hire purchase option.

12.8.2 The Finance Company's Angle

From the stand-point of the finance company (the financial intermediary), the evaluation of a lease plan vis-á-vis a hire purchase plan boils down to a comparison of the NPVs of the two plans which can be defined as follows:

NPV (Lease Plan) = – Initial Investment – Initial Direct Costs + PV (Lease Rentals) + Lease Management. Fee – PV (Tax Shields on Initial Direct Costs & Depreciation) + PV (Net Salvage Value) – PV (Tax Liability on Lease Rentals and Lease Management Fee).
Eq. (8)

NPV (HP Plan) = – Loan Amount – Initial Direct Costs + Documentation & Service Fee + PV (HP installments) – PV (Interest Tax on Finance Income, i.e., it is the tax paid on the interest charged) – PV (Income Tax on Finance Income netted for Interest Tax)
+ PV (Tax Shield on Initial Direct Costs) – PV (Income Tax on Documentation & Service Fee)
Eq. (9)

The plan with a higher NPV is the plan that is financially more attractive.

Illustration 12.14

Consider the data provided in Illustration 12.12. RFS estimates its front-end cost of structuring to be 0.5 percent of the amount financed. The marginal costs of debt and equity are 16% and 20% respectively. RFS wants to maintain a debt to equity ratio of 4:1 over the long haul. The marginal rate of tax (inclusive of surcharge) is 46%.

a. Which plan is financially more attractive to RFS?

b. Calculate the monthly lease rental to be charged by RFS if it wants the two financing plans to generate the same NPV.

Assume a residual value of 10% of the original cost after five years.

Solution:

a. We will work with an investment cost of ₹ 1,000.

The marginal cost of capital of RFS is:

$$\left[\frac{4}{5}\times 0.16\times 0.54\right]+\left[\frac{1}{5}\times 0.20\right] = 0.1091 \text{ or } 10.91\%$$

The NPV of the lease plan is as follows:

A. Initial Investment = 1,000

B. Initial Direct Costs = 5

C. Present Value of Lease Receipt

= 1,000 x 0.028 x 12 x PVIF$\bar{A}_{m(10.91,5)}$

= 1,000 x 0.028 x 12 x 1.058 x 3.704 = ₹ 1,316.73

D. Present Value of Income Tax on Lease Receipts

= 1000 x 0.028 x 12 x PVIFA $_{(10.91, 5)}$ x 0.46 = ₹ 572.49

E. Present Value of Depreciation Tax Shields

= [250 x PVIF $_{(10.91, 1)}$ + 187.5 x PVIF $_{(10.91,2)}$

+ 140.62 x PVIF $_{(10.91, 3)}$ + 105.47 x PVIF $_{(10.91, 4)}$

+ 79.1 x PVIF $_{(10.91,5)}$] x 0.46 = ₹ 275.02

F. Present Value of Tax Shield on Initial Direct Costs

= 5 x PVIF$_{(10.91, 1)}$ x 0.46 = ₹ 2.07

G. Present Value of Residual Value = 100 x PVIF$_{(10.91, 5)}$ = ₹ 59.6

NPV (Lease Plan) = [– A – B + C – D + E + F + G] = ₹ 75.93

The NPV of the hire purchase plan can be determined as follows:

H. Amount Financed = ₹ 800

I. Initial Direct Costs = ₹ 4

J. Monthly HP installment = $\frac{800+(800\times 0.16\times 3)}{36}$ = ₹ 32.89.

K. Present value of monthly hire purchase installments

= 32.89 x PVIF$\bar{A}$ $_{m\ (10.91, 3)}$ = 32.89 x 12 x 1.058 x PVIFA $_{(10.91, 3)}$

= 32.89 x 12 x 1.058 x 2.448 = ₹ 1,022.21

L. Unexpired Finance Income at Inception = 800 x 0.16 x 3 = ₹ 384

M. The allocation of the unexpired finance income based on the SOYD method will be as follows:

Year	SOYD Factor	Annual Finance Income (₹)
1	$\frac{36+35+....+25}{36+35+....+1}=\frac{366}{666}$	211.03
2	$\frac{24+23+....+13}{36+35+....+1}=\frac{222}{666}$	128
3	$\frac{12+11+....+1}{36+35+....+1}=\frac{78}{666}$	44.97

N. Interest Tax on the annual finance incomes will be as follows:

Incidence of Interest Tax & Income Tax

Year	Gross Finance Income (₹)	Interest Tax @3% (₹)	Net Finance Income (₹)	Income Tax @ 46% (₹)
1	211.03	6.33	204.7	94.16
2	128.00	3.84	124.16	57.11
3	44.97	1.35	43.62	20.07

O. Present value of interest tax on hire purchase – Related finance incomes @10.91%

= (6.33 x 0.902) + (3.84 x 0.813) + (1.35 x 0.733) = ₹ 9.82

P. Present value of income tax on net finance income

= (94.16 x 0.902) + (57.11 x 0.813) + (20.07 x 0.733) = ₹ 146.07

Q. Present value of tax shield on initial direct costs

= 4 x 0.902 x 0.46 = ₹ 1.66

R. NPV (Hire Purchase Plan) = [– H – J + K – O – P + Q] = ₹ 63.98

b. Define L as the monthly lease rental at which the two plans generate the same NPV. The value of L can be obtained from the equation:

– 1,000 – 5 + (12L x 1.058 x 3.704) – (12L x 3.704 x 0.46) + 275.02

+ 2.07 + 59.6 = 63.98

i.e., 26.58 L = 732.29 or

L = ₹ 27.55 ptpm

Illustration 12.15

Mahesh Industries Ltd. (MIL) is considering an investment in a machinery costing ₹ 50 lakhs exclusive of GST. The useful life of the machinery is 5 years after which its salvage value is estimated to be 20% of its book value. The machine is depreciated at the rate of 10% on straight-line basis in the company's books. However, the tax-relevant rate of depreciation is 10% on WDV basis.

MIL has received a proposal from Beta Financial Services Ltd. to either lease finance or hire purchase the machine from Beta. The lease terms are ₹ 80 ptpq and the flat rate of interest on hire purchase transaction is 12%. Both lease and hire rentals are payable quarterly in arrears over a period of 5 years. The marginal cost of debt and equity are 16% and 24% respectively. The debt-equity of MIL is 3:1. MIL is in the tax bracket of 35%.

MIL allocates interest based on the SOYD Method in case of hire purchase.

You are required to evaluate the three options – purchase, lease and hire purchase and determine the option that MIL should choose. Use Weingartner's Model for lease evaluation.

Solution:

To determine which option MIL should choose, first, lease vs. purchase option should be evaluated.

Lease vs. Purchase based on Weingartner's Model:

Cost of capital $= \frac{3}{4} \times 0.16 \times 0.65 + \frac{1}{4} \times 0.24 = 0.078 + 0.06 = 13.8\%$

A. Investment cost = 50(1.04) = ₹ 52 lakhs

B. Cost of machine to the lessor = 50(1.1) = ₹ 55 lakhs.

PV of lease rentals

$= 0.08 \times 55 \times 4 \text{ x PVIFA}_{13.8\%,5} \times \frac{i}{i^4}$

= 4.4 x 4 x 3.4496 x 1.0504 = ₹ 63.77 lakhs.

C. PV of tax shield on lease rentals

$= 4 \text{ x } 4.4. \text{ x PVIFA}_{13.8,5} \times 0.35$

= 17.6 x 3.4496 x 0.35= ₹ 21.25 lakhs.

D. PV of DTS @ 10% WDV: Cost of asset is taken as ₹ 52 lakhs.

(₹ in lakh.)

Year	Depreciation	PVIF @13.8%	PV
1	5.20	0.879	4.57
2.	4.68	0.772	3.61
3.	4.21	0.678	2.85
4.	3.79	0.596	2.26
5.	3.41	0.524	1.79
			15.08

PV of DTS = 15.08 × 0.35 = ₹ 5.28 lakh.

E. PV of NSV $= 0.2(52 - 5.2 \times 5) \text{ PVIF}_{13.8,5} = ₹ 5.2 \times \text{PVIF}_{13.8,5} = ₹ 2.72$ lakhs.

NAL = A – B + C – D – E

= 52 – 63.77 + 21.25 – 8.92 – 2.72 = ₹ 1.48 lakhs.

As NAL is positive, lease is a better option than purchase.

Lease Vs HP

Cost of Lease:

F. PV of LR $= 4 \times 4.4 \times \text{PVIFA}_{16,5} \times \frac{i}{i^4}$

$= 4.4 \times 4 \times 3.2743 \times 1.0581 =$ ₹ 60.98 lakh.

G. PV of tax shield on LR $= 4.4 \times 4 \times \text{PVIFA}_{13.8,5} \times 0.35 =$ ₹ 21.25 lakhs.

COL = F – G = ₹ 60.98 – 21.25 = R s.39.73 lakhs.

Cost of Hire Purchase

$\text{EQI} = \frac{55 \times 0.12 \times 5 + 55}{5 \times 4} = \frac{33 + 55}{20}$ = ₹ 4.4 lakhs.

H. PV of hire rentals

$= 4 \times 4.4 \times \text{PVIFA}_{16,5} \times \frac{i}{i^4}$

$=17.6 \times 3.2743 \times 1.0581 =$ ₹ 60.98 lakhs.

I. PV of DTS (calculated earlier) = ₹ 5.28 lakhs.

J. PV of NSV (calculated earlier) = ₹ 2.72 lakhs.

Allocation of Interest:

Total charge for credit = ₹ 55 x 0.12 x 5 = ₹ 33 lakhs.

(₹ in lakh.)

Year	SOYD factor	Interest	PV
1.	$\frac{20+19+18+17}{20+19+.....+1} = \frac{74}{210}$	11.63	10.218
2.	$\frac{16+15+14+13}{20+19+.....+1} = \frac{58}{210}$	9.11	7.034
3.	$\frac{12+11+10+9}{20+19+....+1} = \frac{42}{210}$	6.60	4.478
4.	$\frac{8+7+6+5}{20+19+....+1} = \frac{26}{210}$	4.09	2.439
5.	$\frac{4+3+2+1}{20+19+....+1} = \frac{10}{210}$	1.57	0.822
			24,991

K. PV of tax shield on finance charges = 24.991 x 0.35 = ₹ 8.75 lakh.

COHP = H – I – J – K = 60.98 – 5.28 – 2.73 – 8.75 = ₹ 44.22 lakhs.

As COL < COHP and COP > COL, lease option should be chosen.

Comments

At the given lease rate of ₹ 28 ptpm payable monthly in advance, the lease investment is financially more attractive than the hire purchase investment. But the given lease rate is on the higher side of the prevailing range and the lease rental which produces an indifference point between the lease and hire purchase plans is also close to ₹ 28 ptpm. This implies that at the lower end of the prevailing range of ₹ 25-28 ptpm, the lease investment will be less attractive than the HP investment. Given the level of competition in this industry and the progressive reduction in interest rates that implies availability of cheaper alternative sources of long-term finance, the finance companies may be forced to offer lease products at lower lease rates. Therefore, such companies are likely to tilt their product portfolios in favor of industrial hire purchase and consumer finance plans.

Activity 12.2
How lease transaction differs from hire purchase transaction?

Check Your Progress - 2

6. Which of the following is an incorrect entry in the books of the finance company in respect of hire purchase transactions?
   a. The finance company records the hire purchase installments receivable as a current asset (stock on hire) and the (unearned) finance income component as a current liability.
   b. The finance company records the hire purchase installments receivable as a capital asset (stock on hire) and the (unearned) finance income of that accounting year only as a current liability.
   c. The hire purchase price less the installments received is shown as a receivable at the end of each accounting period.
   d. At the end of each accounting period, finance income component of installments is shown as a current liability (unmatured finance charges).
   e. The direct costs associated with setting up the transaction are either expensed immediately or allocated against the finance income over the hire period.

7. Identify the incorrect statement as regards from the accounting point of books of hirer
   a. The cash purchase price of the asset is capitalized.
   b. The capital content of the hire purchase installments is recorded as a liability.
   c. Depreciation is charged on the cash purchase price of the asset in line with the depreciation policy regarding other owned assets.
   d. The total charge for credit or the unmatured finance charge at the inception of the hire purchase transaction is allocated over the hire period using only SOYD Method.
   e. The total charge for credit or the unmatured finance charge at the inception of the hire purchase transaction is allocated over the hire period using effective Rate of Interest Method or straight-line method or SOYD method.
8. Which of the following statements is false?
   a. If the Cost of Leasing (COL) is more than the Cost of Hire Purchase (COHP), then one can acquire assets under the lease plan.
   b. Realizable value can be measured as the prevailing fair market value or in terms of the amount likely to be realized if the asset is sold under conditions adverse to the seller.
   c. Net salvage value of the asset under consideration can significantly influence the economics of leasing versus hire purchase.
   d. Replacement cost is the cost incurred to replace the asset.
   e. Economic value is the value derived from the economic use of the asset.
9. Formula for interest rebate followed by finance companies which is known as "Rule of 78" is (t = number installments that are not due and outstanding, n=total number of installments, D= total charge for credit, R= interest rebate)
   a. $R = t (t-1) \times D/n (n+1)$
   b. $R = t (t-1) \times D/n (n-1)$
   c. $R = t (t+1) \times D/n (n+1)$
   d. $R = t (t+1) \times D/n (n+2)$
   e. $R = t (t-1) \times D/n (n+2)$.
10. Apart from the implied obligations of the hirer, the hire purchase agreement expressly imposes certain obligations on the hirer. Which of the following is an incorrect obligation of the hirer?
    a. The hirer cannot sell the goods or use them for a purpose different from that stipulated in the contract during the currency of the contract.
    b. The hirer cannot sell, pledge or use the goods for a purpose different from that stipulated in the contract during the currency of the contract.

c. The hirer has to take reasonable care of the goods.

d. The hirer can pledge the goods.

e. The hirer must pay the sums stated in the contract at the specified points of time and in the manner prescribed by the contract.

12.9 Summary

- Hire purchase can be defined as a contractual arrangement under which the owner lets his goods on hire to the hirer and offers an option to the hirer to purchase the goods in accordance with the terms of the contract.
- The two distinct features of a hire purchase transaction are: (i) the option is provided to the hirer to purchase the goods at any time during the term of the agreement; and (ii) the right available to the hirer to terminate the agreement at any time before the payment of the last installment. Hire purchase plans can be of two types: (i) Down Payment Plan, and (ii) Deposit Linked Plan.

  The rate of interest quoted on a hire purchase transaction is always a flat rate.
- As far as the legal aspects are concerned, the Hire Purchase Act, 1972 (repealed in 2005) provides comprehensive coverage.
- The hire purchase transactions are governed by the provisions of the Indian Contract Act, 1872 Sale of Goods Act, 1930 and the judgments pronounced by the English and the Indian Courts from time to time.
- The income tax aspects of hire purchase transactions are governed by the provisions of a circular issued by the Central Board of Direct Taxes in 1943.

12.10 Glossary

Equated Monthly Installment (**EMI**)**:** A fixed payment amount made by a borrower to a lender at a specified date each calendar month.

Flat rate of interest: Interest charged on the loan without taking into consideration that periodic payments reduce the amount loaned.

Hire purchase: Possession of goods transferred immediately but payment is made in installments.

Net Present Value (NPV) is the difference between the present value of cash inflows and the present value of cash outflows.

12.11 Self-Assessment Test

1. In Hire purchase transactions, how do you calculate interest rebate on early repayment?
2. Discuss the effective rate of interest method.
3. What is the sum of the years' digits method? Elaborate.
4. Discuss legal aspects of hire purchase.

5. What are the steps involved in the financial evaluation of hire purchase transaction vis-á-vis a finance lease from the hirer's angle?
6. Explain the accounting treatment in the books of the finance company in respect of a hire purchase transaction in detail.

12.12 Suggested Reading/Reference Material

1. Anthony Saunders, Marcia Millon Cornett, Anshul Jain (2021), Financial Markets and Institutions, 7th edition, Tata McGraw-Hill Education.
2. Prasanna Chandra (2020), Fundamentals of Financial M, 7th edition, Tata McGraw-Hill Education.
3. Devie Mohan (2020), The Financial Services Guide to Fintech, 1st edition, Kogan Page Limited.
4. Siddhartha Sankar Saha (2021). Indian Financial System. 2nd edition, Tata McGraw-Hill Education.
5. DR. R. Shanmugham (2020). Financial Services. 2nd edition. Wiley India.

12.13 Answers to Check Your Progress Questions

1. (d) During the hire period, hirer cannot opt for early repayment and purchase the asset.

The above sentence is not a feature of the hire purchase agreement. During the currency of the contract (hire period), the hirer can opt for early repayment and purchase the asset. The hirer, exercising this option, is required to pay the remaining amount of hire purchase installments (installments that have not fallen due) less an interest rebate.

2. (b) Though the installments of a hire purchase agreement may be equal, the interest element in each installment is not the same.

3. (c) ₹ 15,445.

Loan per thousand ₹ 800. Interest @13% for 3 years ₹ 312. Monthly installment (₹ 800+₹ 312)/36 = ₹ 30.89. For 500 thousand, the installment is ₹ 500 x 30.89 = ₹ 15,445.

4. (b) He need not have a title to the goods on hire at the time of delivering the goods.

Owner need not have title to the goods on hire at the time of delivering the goods, is incorrect.

5. (a) No Liability can be attached to the owner if altogether different material is supplied to the hirer

Because liability can be attached to the owner if altogether different material is supplied to the hirer.

6. **(b) The finance company records the hire purchase installments receivable as a capital asset (stock on hire) and the (unearned) finance income of that accounting year only as a current liability.**

7. **(d) The total charge for credit or the unmatured finance charge at the inception of the hire purchase transaction is allocated over the hire period using only SOYD Method**.

8. **(a) If the Cost of Leasing (COL) is more than the Cost of Hire Purchase (COHP), then one can acquire assets under a lease plan**.

   The above statement is incorrect. If the Cost of Leasing (COL) is less than the Cost of Hire Purchase (COHP), then one can acquire assets under lease plan.

9. **(c) R = t (t+1) x D/n (n+1)**

   R = t (t+1) x D/n (n+1) is the formula for interest rebate followed by finance companies.

10. **(d) The hirer can pledge the goods.**

    "The hirer can pledge the goods", is an incorrect statement.

Financial Services

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