

FIN 413
Corporate Finance

Leasing Policy

Evgeny Lyandres
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Definition

- Lease: debt instrument in which the owner of an asset, the lessor, gives the right to use the asset to another party, the lessee, in return for a set contractually fixed payment
- Almost any asset that can be bought can be leased
- The contract between the lessor and the lessee defines:
 - The length of time for which the lessee can or must use the asset
 - The party responsible for maintenance of the asset.
 - Whether the lessee has the right to buy the asset at the end of the leasing period, and if so, at what purchase price.

Types of Leases

- Operating Lease (maintenance or service lease)
 - short-term (less than 5 years)
 - lessor supplies maintenance or service
 - often cancelable
- Financial Lease (capital lease)
 - long-term
 - lessee supplies service and maintenance
 - usually not cancelable

Types of leases

- For operating leases the decision centers on “Lease versus Buy”
- For financial leases the decision amounts to “Lease versus Borrow”
 - Financial leases extend over most of the economic life of the leased equipment
 - Thus, financial leases make sense when the company is prepared to take on the business risk of owning and operating the leased asset

Financial Lease

- Financial Leases Include
 - The leveraged lease where the asset purchase is financed by a third party.
 - The direct lease where the asset purchase is financed by the manufacturer of the asset (e.g. IBM, Xerox.)
 - The sale and leaseback where the asset is purchased from the lessee by the lessor.

Financial Lease

- Financial leases are a source of financing
 - There is an immediate cash inflow because the lessee is relieved from having to pay for the asset
 - The lessee assumes a binding obligation to make the payments specified in the lease contract

⇒ The cash-flow consequences of leasing and borrowing are similar. In either case, the firm raises cash now and pays it back later

Leasing

- Modigliani/Miller theorem implies that with
 - no taxes,
 - no contracting costs,
 - and a fixed investment and operating policies,leasing policy should not affect firm value.

Why lease?

- Short-term leases are convenient (ex: car or truck)
- Cancellation options are valuable (ex: computer equipment)
- Maintenance is provided (ex: full-service lease)
- Standardization leads to low administrative and transaction costs
- Tax shields can be used (the lessor can deduct the depreciation of the leased asset from its taxable income and pass on some of the tax benefits to the lessee)

Why lease? – The wrong reasons

- Avoiding capital expenditure controls
- Preserving capital
- Off-balance sheet financing (not in the U.S.)
- Affecting financial ratios

Financial lease – an example

- Your firm needs a new truck that costs \$100,000
- You can either borrow to buy the truck or lease it
- The lease contract implies 8 annual payments of \$16,900 each
- Even if the firm leases the truck, it is responsible for maintenance, insurance, and operating expenses.
- In case of purchase, the borrowing rate is 10%.

Cash flow consequences

- The firm does not have to pay for the truck. This is equivalent to a cash inflow of \$100,000
- The firm does not own the truck. Therefore it gives up a valuable depreciation tax shield.
- The firm must pay \$16,900 per year to the lessor for 8 years.
- However, these lease payments are fully tax-deductible. (We assume that the firm will pay taxes at the full 35 percent marginal tax rate.)

Cash flow consequences

Year	0	1	2	3	4	5	6	7
Cost of new truck	+100							
Lost. Dep. Tax shield	0	-7	-11.2	-6.72	-4.03	-4.03	-2.02	0
Lease payment	-16.9	-16.9	-16.9	-16.9	-16.9	-16.9	-16.9	-16.9
Tax shield of lease payment	+5.92	+5.92	+5.92	+5.92	+5.92	+5.92	+5.92	+5.92
Cash flow of lease	+89.0	-18	-22.2	-17.7	-15	-15	-13	-11

Who really owns the leased asset?

- The lessor is clearly the legal owner of the asset
- However, from an economic point of view, the user is the real owner since he faces the risks and receives the rewards of ownership.
- In many respects, a financial lease is equivalent to a secured loan. However
 - legal ownership makes a difference when a financial lease expires because the lessor gets the salvage value of the asset
 - in bankruptcy, lessors and secured creditors may be treated differently

What discount rate to use?

- These cash flows are typically assumed to be about as safe as the interest and principal payment on a secured loan issued by the lessee
- Established, profitable firms find it reasonable to simplify by discounting at a single rate based on the interest rate the firm would pay if it borrowed rather than leased

- Since the firm can borrow at 10%, we should discount the lease cash flows at

$$r = 0.10 (1 - 0.35) = 0.065 \text{ or } 6.5\%$$

which is the net cost of borrowing.

- We obtain

NPV=

- The lease has negative NPV. The firm is better off buying the truck.

- A financial lease is superior to buying and borrowing if the financing provided by the lease exceeds the financing generated by the equivalent loan

- Net value of lease =

$$\text{Initial financing provided} - \sum_{t=1}^T \frac{LCF_t}{(1 + r_D(1 - T_c))^t}$$

where

- * LCF_t is the cash outflow attributed to the lease in period t .

- * T is the maturity of the lease contract.

Remarks

- A positive lease value means that if you acquire the asset, lease financing is advantageous. It does not prove you should acquire the asset
- The formula applies to net financial leases. Any insurance, maintenance, and other operating costs picked up by the lessor have to be evaluated separately and added to the value of the lease.
- If the asset has salvage value at the end of the lease, that value should be taken into account. Salvage value is harder to predict and so it normally deserves a higher discount rate

When does leasing pay?

- As long as the lessor and the lessee are in the same tax bracket, every cash outflow to the lessee is an inflow to the lessor.
- The value of the lease to the truck manufacturer is thus

$$\text{NPV Lease to Lessor} = +0.70$$

When does leasing pay?

- Both lessor and lessee can win if their tax rates differ.
- Suppose company A pays no tax. Then the value of the lease is

$$NPV(lease) = 100 - \sum_{t=0}^7 \frac{16.9}{(1.1)^t} = +0.82$$

- There is a net gain of \$700 to the lessor (who has 35% tax rate) and a net gain of \$820 to the lessee (who pays zero tax)
- The mutual gain is at the expense of the government.

Avoiding Constructive Sale Rules

- Term must be less than 30 years.
- Lessee should not have option to buy for less than fair market value.
- No early balloon payments.
- Lessor must make fair market return absent tax benefits.
- Lessor should not limit lessee's ability to pay dividends or issue debt.
- Renewal option must reflect fair market value.

Questions about leasing yet to be answered

- Asset characteristics
- Lessee characteristics
- Lessor characteristics
- Typical contract provisions

Asset characteristics

- Period of use in relation to useful life
- Sensitivity to use and maintenance decisions
 - Owners internalize the costs of these decisions. Since a lessee does not have a claim on the residual value of the asset, he has incentives to abuse or under maintain the asset
 - Adverse selection in leasing decisions

Controlling asset abuse (typical provisions)

- Penalty clause (security deposit)
- Option to buy
- Third party monitoring of maintenance
- Service lease
- Metering

Lessors characteristics

- Tax incentives to lease
- Bonding quality by manufacturer (lease with option to cancel)

Lessee characteristics

- Tax incentives to lease
- Capital structure issues
 - Leases are senior claims and can create claim dilution. Limited in bond contracts.
 - Leases have characteristics similar to secured debt. Can reduce underinvestment problem.
 - Long-term noncancelable leases commit the firm to use the asset over the life of the lease. Can reduce asset substitution problem.

Lessee characteristics

- Compensation-related issues
 - Leasing can affect return on invested capital and payments to bonus pool
 - If lease is fully amortized, this problem is reduced

Lessee characteristics

- In the US, the FASB requires that all capital (financial) leases be capitalized.
- This means that the present value of the lease payments must be shown on the RHS of the balance sheet. The same amount must be shown as an asset on the LHS.
- A lease is a capital lease for the FASB if
 - the lease agreement transfers ownership of the asset to the lessee before the lease expires, or
 - the lessee can purchase the asset for a bargain price when the lease expires, or
 - the lease lasts for at least 75% of the asset's estimated economic life, or
 - the PV of the lease payments is at least 90% of the asset's value

