Lease Financing

- Types of leases
- Tax treatment of leases
- Effects on financial statements
- Lessee’s analysis
- Lessor’s analysis
- Other issues in lease analysis

Who are the two parties to a lease transaction?

- The lessee, who uses the asset and makes the lease, or rental, payments.
- The lessor, who owns the asset and receives the rental payments.
- Note that the lease decision is a financing decision for the lessee and an investment decision for the lessor.

What are the five primary lease types?

- Operating lease
  - Short-term and normally cancelable
  - Maintenance usually included
- Financial lease
  - Long-term and normally noncancelable
  - Maintenance usually not included
- Sale and leaseback
- Combination lease
- "Synthetic" lease

How are leases treated for tax purposes?

- Leases are classified by the IRS as either guideline or nonguideline.
- For a guideline lease, the entire lease payment is deductible to the lessee.
- For a nonguideline lease, only the imputed interest payment is deductible.
- Why should the IRS be concerned about lease provisions?

How does leasing affect a firm's balance sheet?

- For accounting purposes, leases are classified as either capital or operating.
- Capital leases must be shown directly on the lessee's balance sheet.
- Operating leases, sometimes referred to as off-balance sheet financing, must be disclosed in the footnotes.
- Why are these rules in place?

What impact does leasing have on a firm's capital structure?

- Leasing is a substitute for debt.
- As such, leasing uses up a firm's debt capacity.
- Assume a firm has a 50/50 target capital structure. Half of its assets are leased. How should the remaining assets be financed?

Assume that Lewis Securities plans to acquire some new equipment having a 4-year useful life.

- If the equipment is leased:
  - Firm could obtain a 4-year lease which includes maintenance.
  - Lease meets IRS guidelines to expense lease payments.
  - Rental payment would be $280,000 at the beginning of each year.

- Other information:
  - Equipment cost: $1,000,000.
  - Loan rate on equipment = 10%.
  - Marginal tax rate = 40%.
  - 3-year MACRS life.
  - If company borrows and buys, 4 year maintenance contract costs $20,000 at beginning of each year.
  - Residual value at t = 4: $100,000.

Time Line: After-Tax Cost of Owning (In Thousands)

	0	1	2	3	4
AT loan pmt		-60	-60	-60	-1,060
Dep shld		132	180	60	28
Maint	-20	-20	-20	-20	
Tax sav	8	8	8	8	
RV					100
Tax					-40
NCF	-12	60	108	-12	-972

- Note the depreciation shield in each year equals the depreciation expense times the lessee's tax rate. For Year 1, the depreciation shield is

  $330,000(0.40) = $132,000.

- The present value of the cost of owning cash flows, when discounted at 6%, is -$639,267.

Why use 6% as the discount rate?

- Leasing is similar to debt financing.
  - The cash flows have relatively low risk; most are fixed by contract.
  - Therefore, the firm's 10% cost of debt is a good candidate.
- The tax shield of interest payments must be recognized, so the discount rate is

  $10\%(1 - T) = 10\%(1 - 0.4) = 6.0\%.$

Time Line: After-Tax Cost of Leasing (In Thousands)

	0	1	2	3	4
Lease pmt	-280	-280	-280	-280	
Tax sav	112	112	112	112	
NCF	-168	-168	-168	-168	

PV cost of leasing @ 6% = -$617,066.

What is the net advantage to leasing (NAL)?

- NAL = PV cost of leasing - PV cost of owning
  = - $617,066 - (-$639,267)
  = $22,201.
- Should the firm lease or buy the equipment? Why?

- Note that we have assumed the company will not continue to use the asset after the lease expires; that is, project life is the same as the term of the lease.
- What changes to the analysis would be required if the lessee planned to continue using the equipment after the lease expired?

Assume the RV could be $0 or $200,000, with an expected value of $100,000. How could this risk be reflected?

- The discount rate applied to the residual value inflow (a positive CF) should be increased to account for the increased risk.
- All other cash flows should be discounted at the original 6% rate.

(More...)

- If the residual value were included as an outflow (a *negative* CF) in the cost of leasing cash flows, the increased risk would be reflected by applying a lower discount rate to the residual value cash flow.
- Again, all other cash flows have relatively low risk, and hence would be discounted at the 6% rate.

What effect would increased uncertainty about the residual value have on the lessee's decision?

- The lessor owns the equipment when the lease expires.
- Therefore, residual value risk is passed from the lessee to the lessor.
- Increased residual value risk makes the lease more attractive to the lessee.

How should the lessor analyze the lease transaction?

- To the lessor, writing the lease is an investment.
- Therefore, the lessor must compare the return on the lease investment with the return available on alternative investments of similar risk.

Assume the following data for Consolidated Leasing, the lessor:

- $300,000 rental payment instead of $280,000.
- All other data are the same as for the lessee.

Time Line: Lessor's Analysis (In Thousands)

	0	1	2	3	4
Cost	-1,000				
Dep shld		132	180	60	28
Maint	-20	-20	-20	-20	
Tax sav	8	8	8	8	
Lse pmt	300	300	300	300	
Tax	-120	-120	-120	-120	
RV					100
RV tax					-40
NCF	-832	300	348	228	88

- The NPV of the net cash flows, when discounted at 6%, is $21,875.
- The IRR is 7.35%.
- Should the lessor write the lease? Why?

Find the lessor's NPV if the lease payment were $280,000.

- With lease payments of $280,000, the lessor's cash flows would be equal, but opposite in sign, to the lessee's NAL.
- Thus, lessor's NPV = -$22,201.
- If all inputs are symmetrical, leasing is a zero-sum game.
- What are the implications?

What impact would a cancellation clause have on the lease's riskiness from the lessee's standpoint? From the lessor's standpoint?

- A cancellation clause would lower the risk of the lease to the lessee but raise the lessor's risk.
- To account for this, the lessor would increase the annual lease payment or else impose a penalty for early cancellation.

Other Issues in Lease Analysis

- Do higher residual values make leasing less attractive to the lessee?
- Is lease financing more available or “better” than debt financing?
- Is the lease analysis presented here applicable to real estate leases? To auto leases?

(More...)

- Would spreadsheet models be useful in lease analyses?
- What impact do tax laws have on the attractiveness of leasing? Consider the following provisions:
  - Investment tax credit (when available)
  - Tax rate differentials between the lessee and the lessor
  - Alternative minimum tax (AMT)

Numerical analyses often indicate that owning is less costly than leasing. Why, then, is leasing so popular?

- Provision of maintenance services.
- Risk reduction for the lessee.
  - Project life
  - Residual value
  - Operating risk
- Portfolio risk reduction enables lessor to better bear these risks.