



Accounting for Leases

15.511 Corporate Accounting
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Agenda

- Understand the rationale for leasing and the distinction between operating and capital leases.
- Understand the Income Statement and Balance Sheet differences between operating and capital leases from the lessee's perspective.



The Nature of Leases

A lease is an agreement conveying the right to use property, plant, or equipment, usually for a stated period of time, in exchange for periodic cash payments.

The owner of the property is referred to as the lessor, and the renter is the lessee.

Lease

Rent

Purchase

- What is the economic rationale for leasing rather than purchasing an asset?
- What is the economic rationale for capitalizing a lease?
- What are the accounting criteria for capitalizing a lease?
- How objectively can each lease criterion be applied? What judgment enters into each assessment?



Economic Rationale for Leases

- Operational advantages to the lessee:
 - Leasing ready-to-use equipment can be more attractive if the asset requires lengthy preparation and set-up.
 - Leasing avoids having to own the asset that will be required only seasonally, temporarily or sporadically (leasing contract can be tailored).
 - Lessor might be better positioned to lease the equipment again.
 - Leasing for short periods protects against obsolescence.
 - But lease payments are accordingly higher.



Economic Rationale for Leases

- Financial advantages to the lessee:
 - Lease payments can be tailored to suit the lessee's cash flows (up to 100% financing, instead of the 80% limit by banks).
 - Properly structured leases may be “off-balance sheet”, avoiding debt-covenant restrictions.
 - Leasing can be tax advantageous when the lessee is unable to take the depreciation tax advantage of owning.



Disadvantages to Leasing

- **Disadvantages to the lessee:**
 - Leased ready-to-use equipment may be of lower quality than custom built (resulting in lower quality products and lower sales)
 - High quality equip. might be unavailable for leasing
 - Seasonal leasing may affect equipment availability and pricing.
 - Premium must be paid for the protection against obsolescence.
- **Disadvantages to financial statement users:**
 - Off-balance sheet financing can hide the true leverage of the firm.



Economic substance of leases

Lease

Rent

Purchase

- Operating lease
 - Lessee rents the property.
 - Lessee accrues rent expense.

- Capital lease
 - lessee economically owns the property.
 - Lessee records the leased asset in the balance sheet (i.e. capitalizes the asset) and reflects the corresponding lease obligation.

Accounting criteria for lease capitalization



A lease is considered a capital lease if **ANY** of the following conditions apply (SFAS 13):

1. Transfer of ownership at the end of lease term
2. Existence of a bargain purchase option (BPO) - payment below market value after the lease term
3. Minimum present value of lease payments (including BPO, if any) at least 90% of asset's market value
4. Lease term is 75% of assets remaining useful life

Accounting for operating leases-- Lessee's Books

An operating lease is recorded as a rental of an asset in the financial statements.

When the lease agreement is signed and lessee begins using the asset:

A = L + SE

No entry

During the lease (as payments are made):

Cash = L + Retained Earnings
(PP) = (PP), as rent expense

PP = Periodic lease payment

Accounting for capital leases-- Lessee's Books

A capital lease is recorded as an asset acquisition with a 100% debt financing in the financial statements.

When the lease agreement is signed and lessee begins using the asset:

$$\begin{array}{ccc} \text{Leased Property} & = & \text{Lease Obligation} \\ \text{PVL} & & \text{PVL} \end{array}$$

During the lease (as payments are made)

$$\begin{array}{ccccccc} \text{Cash} + \text{Leased Property} & -\text{Acc. Depr.} & = & \text{Lease Obligation} & + & \text{RE} & \\ -\text{PP} & & & - (\text{PP} - \text{Int. expense}) & & -\text{Int. expense} & \\ & & & & & & -\text{Depr. Expense} \\ & & & -\text{Depr.} & & & \end{array}$$

PVL = Present Value of Lease = $(PVA, n, r\%) * PP$

PP = Periodic lease payment

Int. expense = beginning lease liability * r%, where

beginning lease liability = present value of remaining payments at r%

Depr. Expense = depreciation expense

Operating and Capital Leases: An Example

Assume GE Capital leases an airplane to Delta Airlines. Assume the airplane has a current cost of \$30,000 K, an expected life of 20 years and zero salvage value. Assume Delta has borrowing rate of 16%.

Delta transactions if treated as an operating lease:

When the lease agreement is signed and lessee begins using the asset:

A = L + SE

No entry

During the lease (as payments are made):

	Cash	=	Retained Earnings	
Y1	-5060		-5060	Rent expense
Y2	-5060		-5060	Rent expense
Y3	-5060		-5060	Rent expense
Y20	-5060		-5060	Rent expense

Operating and Capital Leases: An Example

Delta transactions if treated as a capital lease

When the lease agreement is signed and lessee begins using the asset:

$$\begin{array}{r} \text{Leased Property} \\ 30,000 \end{array} = \begin{array}{r} \text{Lease Obligation} \\ 30,000 \end{array}$$

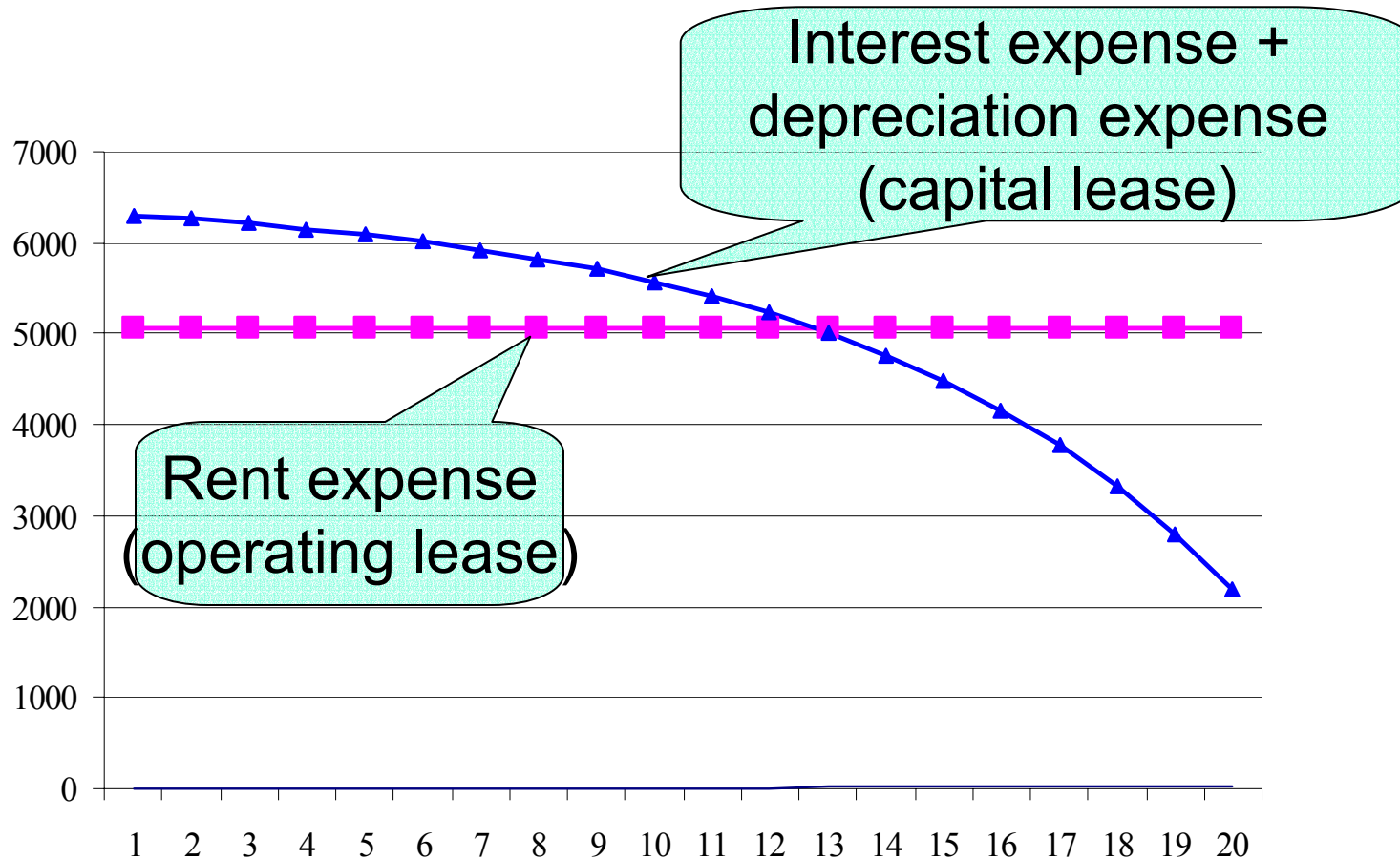
During the lease (as payments are made):

	Cash	-Acc Depr.	=	Lease Obligation	+	Retained Earnings
Y1	-5060	-1500		-260		- 4800 Int. Exp. - 1500 Depr. Exp.
		<i>[Depr = (30,000-0)/20]</i>		<i>[Decrease in LO = 5060-4800]</i>		<i>[Int = 30,000*0.16]</i>
Y2	-5060	-1500		-302		- 4758 Int. Exp. -1500 Depr. Exp.
		<i>[Depr = (30,000-0)/20]</i>		<i>[Decrease in LO = 5060-4758]</i>		<i>[Int = (30,000-260)*0.16]</i>
Y3	-5060	-1500		-350		- 4710 Int exp -1500 Depr. Exp
		<i>[Depr = (30,000-0)/20]</i>		<i>[Decrease in LO = 5060-4710]</i>		<i>[Int = (30,000-260-302)*0.16]</i>

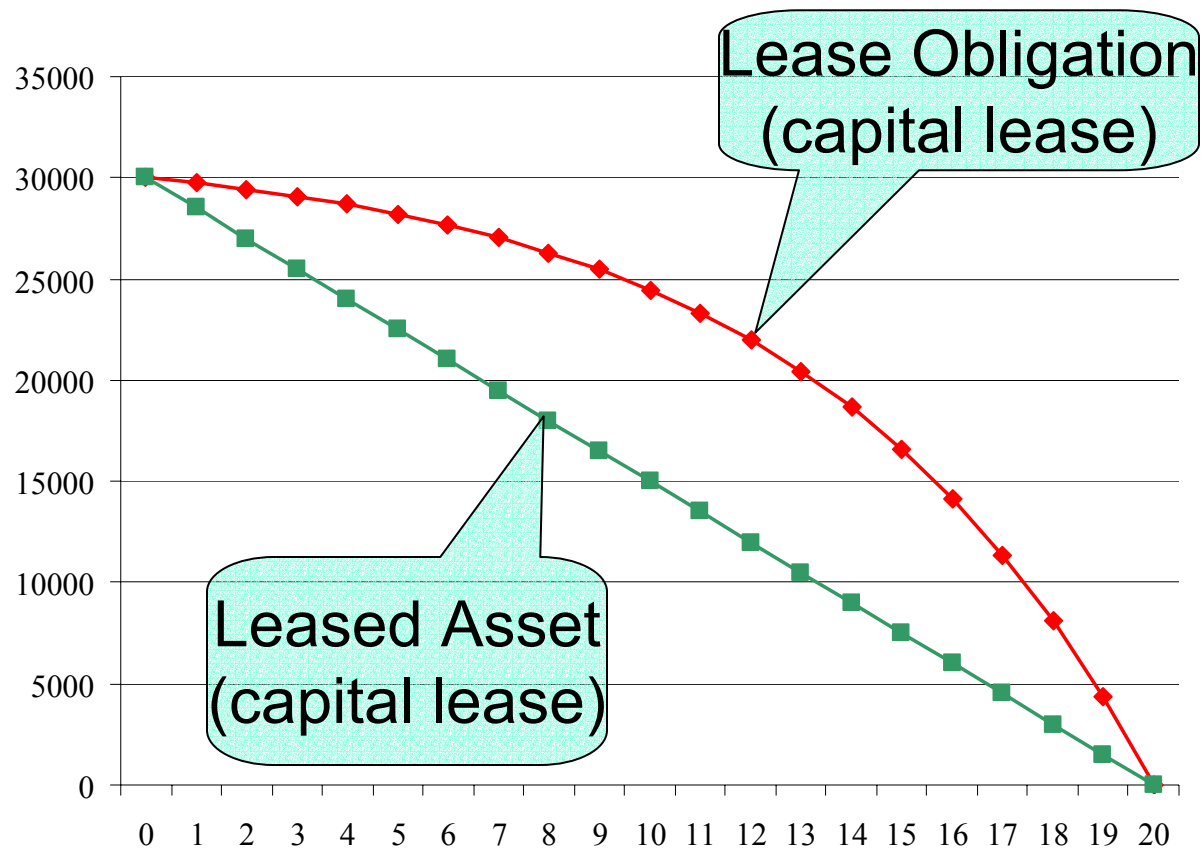
Lease Obligation Calculation Worksheet

Yr	Interest Expense	Lease Pmt	End of Yr Oblig	Yr	Interest Expense	Lease Pmt	End of Yr Oblig
0			30,000	10			24,456
1	4,800	5,060	29,740	11	3,913	5,060	23,309
2	4,758	5,060	29,438	12	3,730	5,060	21,979
3	4,710	5,060	29,089	13	3,517	5,060	20,436
4	4,654	5,060	28,683	14	3,270	5,060	18,645
5	4,589	5,060	28,212	15	2,983	5,060	16,569
6	4,514	5,060	27,666	16	2,651	5,060	14,159
7	4,427	5,060	27,032	17	2,266	5,060	11,365
8	4,325	5,060	26,298	18	1,818	5,060	8,123
9	4,208	5,060	25,445	19	1,300	5,060	4,363
10	4,071	5,060	24,456	20	698	5,060	1

Capital vs. Operating Lease: Income Statement Effects



Capital vs. Operating Lease: Balance Sheet Effects





Financial Statement Disclosures

Assume this is Delta's only lease and they use capital lease treatment. How would their lease footnote look at the end of year 8?

Years Ending	Capital Leases	
Y9	5,060	
Y10	5,060	
Y11	5,060	
Y12	5,060	
Y13	5,060	
Y14 and after	<u>35,420</u>	= 5,060 x 7
Total minimum lease payments	60,720	
<u>Less:</u> amounts representing interest	<u>34,422</u>	= 60,720 - 26,298 (below)
Present value of future minimum capital lease payments	26,298	= 5060 x (PVA, 12yr, 16%)
<u>Less:</u> current obligations under capital leases	<u>852</u>	
Long-term capital lease obligations	25,446	= 26,298 - 852

Actual lease disclosures -- Delta

LEASE OBLIGATIONS (Footnote)

Years Ending June 30, (In Millions)	Capital Leases	Operating Leases
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2001	\$ 57	\$ 1,200
2002	57	1,200
2003	48	1,170
2004	32	1,120
2005	17	1,110
After 2005	23	9,060
Total minimum lease payments	234	\$14,860
Less: Amounts of lease payments that represent interest	44	
Present value of future minimum capital lease payments	190	
Less: Current obligations under capital leases	43	
Long-term capital lease obligations	\$147	



Financial disclosures -- Target

Future Minimum Lease Payments

(millions)	<u>Operating Leases</u>	<u>Capital Leases</u>
2000	\$ 113	\$ 22
2001	105	21
2002	96	21
2003	80	19
2004	70	18
After 2004	634	124
Total future minimum lease payments	\$ 1,098	\$ 225
Less: interest*	(302)	(90)
Present value of minimum lease payments	\$ 796	\$ 135 **

*Calculated using the interest rate at inception for each lease (the weighted average interest rate was 8.8 percent). **RARELY provided in the footnotes.**

** Includes current portion of \$10 million.



Financial statement disclosures-- Target

Based on information in the lease footnote, what value does Target show for lease liability on its Balance sheet?

- \$135 million = PV of lease pmts on capital leases, \$125 million under Long-Term Obligations, \$10 million under Current Liabilities

The footnote says Target's borrowing rate is 8.8 percent. Could this amount be independently computed?

$$\text{Capital lease oblig}_t \times r = \text{interest expense}_{t+1}$$

$$\text{Capital lease oblig}_t \times r = LP_{t+1} - \text{principle reduction}_{t+1}$$

$$r = (22 - 10) / 135 = 12/135 = 8.89\%$$



Financial statement disclosures-- Target

- Why might a user wish to know the effect on Target's balance sheet and income statement of capitalizing the leases mentioned in this note?
 - To determine the effect of off-balance sheet financing
- How could a user derive an estimate of the reporting effects of capitalizing leases?
 - By treating all operating leases as capital leases.



Leasing and Debt Covenants

Example

Borrower agrees that it will not create, incur, assume or suffer to exist any Lien, encumbrance, or charge of any kind (including any lease required to be capitalized under GAAP) upon any of its properties and/or assets other than Permitted Liens.



Off Balance Sheet Financing

- What is the definition of liabilities in GAAP?
 - Probable future sacrifices of resources
 - Little or no discretion to avoid the sacrifice
 - Transaction or event giving rise to the obligation has occurred
- Classification on a continuum
- Examples:
 - Operating leases
 - Contingencies, i.e., lawsuits....
- Motivation for off balance sheet financing?