Leases

Objectives

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.

The **o**wner 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 is the accounting criteria for capitalizing a lease?

How objectively can each lease criterion be applied? What judgement enters into each assessment?

Economic Rationale for Leases

Operational advantages to the lessee:

- Leasing ready-to-use equipment may 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 for short periods provides protection against obsolescence.

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 provides tax advantages from accelerated depreciation and interest expense.

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.
- 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 hides 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 essentially owns the property. Lessee records the leased asset in the balance sheet (i.e. capitalized) together with the corresponding lease obligation.

Where do we draw the line between renting and "essential ownership?"

Accounting criteria for lease capitalization

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

1. **Essential transfer of ownership at the end of lease term**
   - No payment for leased asset, or
   - Bargain purchase option (BPO) - payment below market value after the lease term

2. **Minimum present value of lease payments (including BPO, if any) at least 90% of asset's market value**

3. **Lease term is 75% of assets remaining useful life**

Operating and Capital Leases: An Example

GE Capital leases an airplane to Delta Airlines.

Assume 1) The airplane has a current cost of $30,000,000
2) The expected life equals the lease term of 20 years
3) The salvage value at the end of 20 years is $0
4) Delta's borrowing rate is 16%

What payment would GE Capital require from Delta at the end of each year?

Lease Payment = $30,000,000 / (Annuity Factor, 20 periods, 16%)

= $30,000,000 / 5.9288 $\leftarrow \dfrac{1-(1+r)^{-n}}{r}$

= $5,060,000 per year

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 aggreement is signed and lessee begins using the asset:

A	=	L	+	E
No entry				

During the lease (as payments are made):

Cash	Retained Earnings	
(PP)	(PP)	(rent exp)

PP = periodic lease payment

Operating Leases: An Example

Delta transactions

If treated as an operating lease

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

A	=	L	+	E
No entry				

During the lease (as payments are made):

	Cash	Retained Earnings	
Y1	(5060)	(5060)	(rent exp)
Y2	(5060)	(5060)	(rent exp)
Y3	(5060)	(5060)	(rent exp)
	•	•	
	•	•	
	•	•	
	•	•	
Y20	(5060)	(5060)	(rent exp)

Accounting for capital leases--Lessee's Books

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

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

Leased Property	Lease Obligation
PVL	PVL

During the lease (as payments are made)

Cash	-Acc. Depr.	Lease Obligation	Retained Earnings	
(PP)		(PP - Int)	(Int)	(int. exp.)
	Depr		(Depr)	(dep. exp.)

PVL = present value of periodic lease payments = (PV of ordinary annuity, n payments, r %) * PP

PP = periodic lease payment

Int = beginning lease liability * r%,

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

Depr = depreciation expense

Capital Leases: An Example

Delta transactions:

If treated as an capital lease

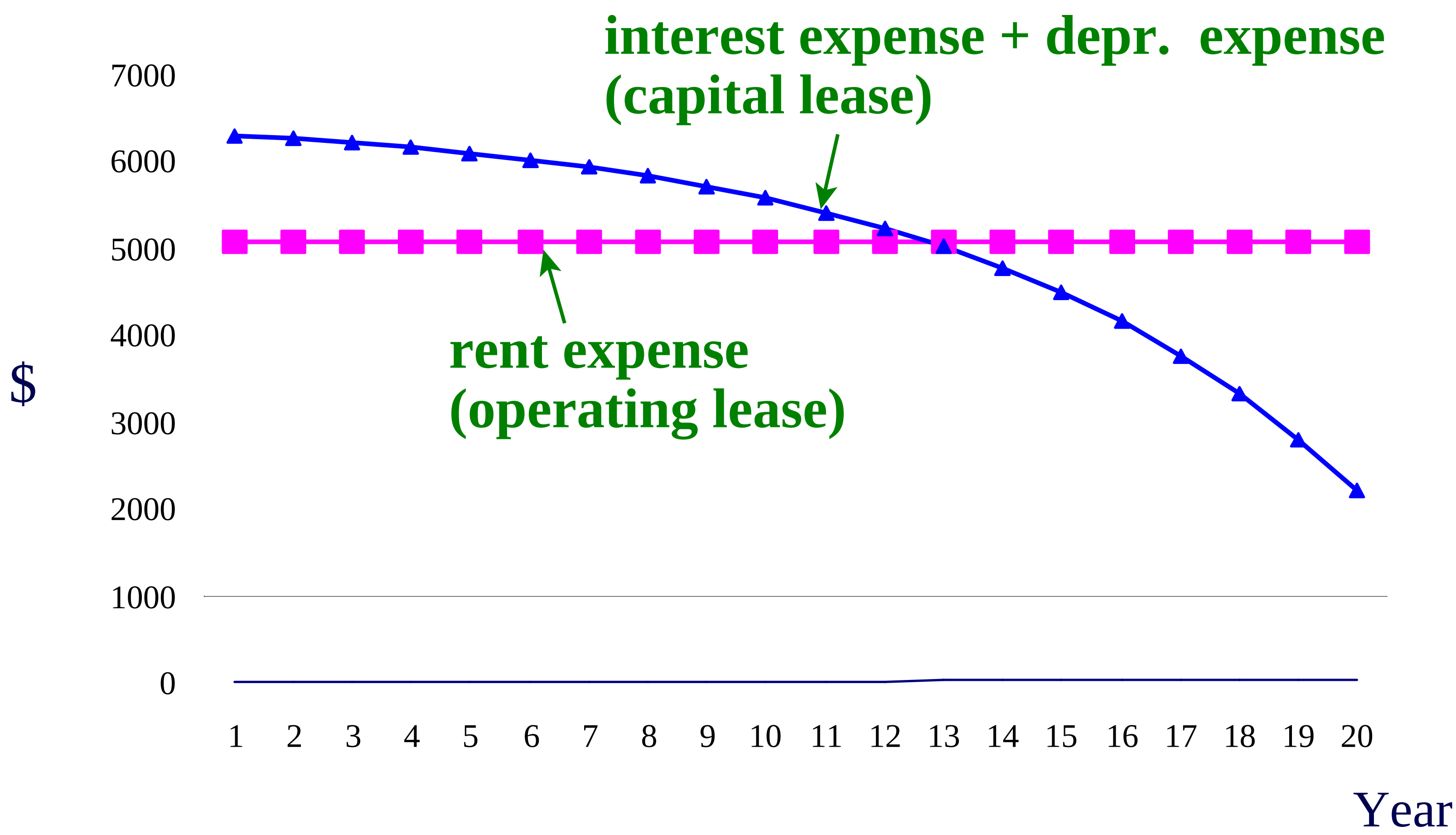
When the lease aggreement is signed and lessee begins using the asset:

Leased Property(A)	Lease Obligation(L)
30,000	30,000

During the lease (as payments are made):

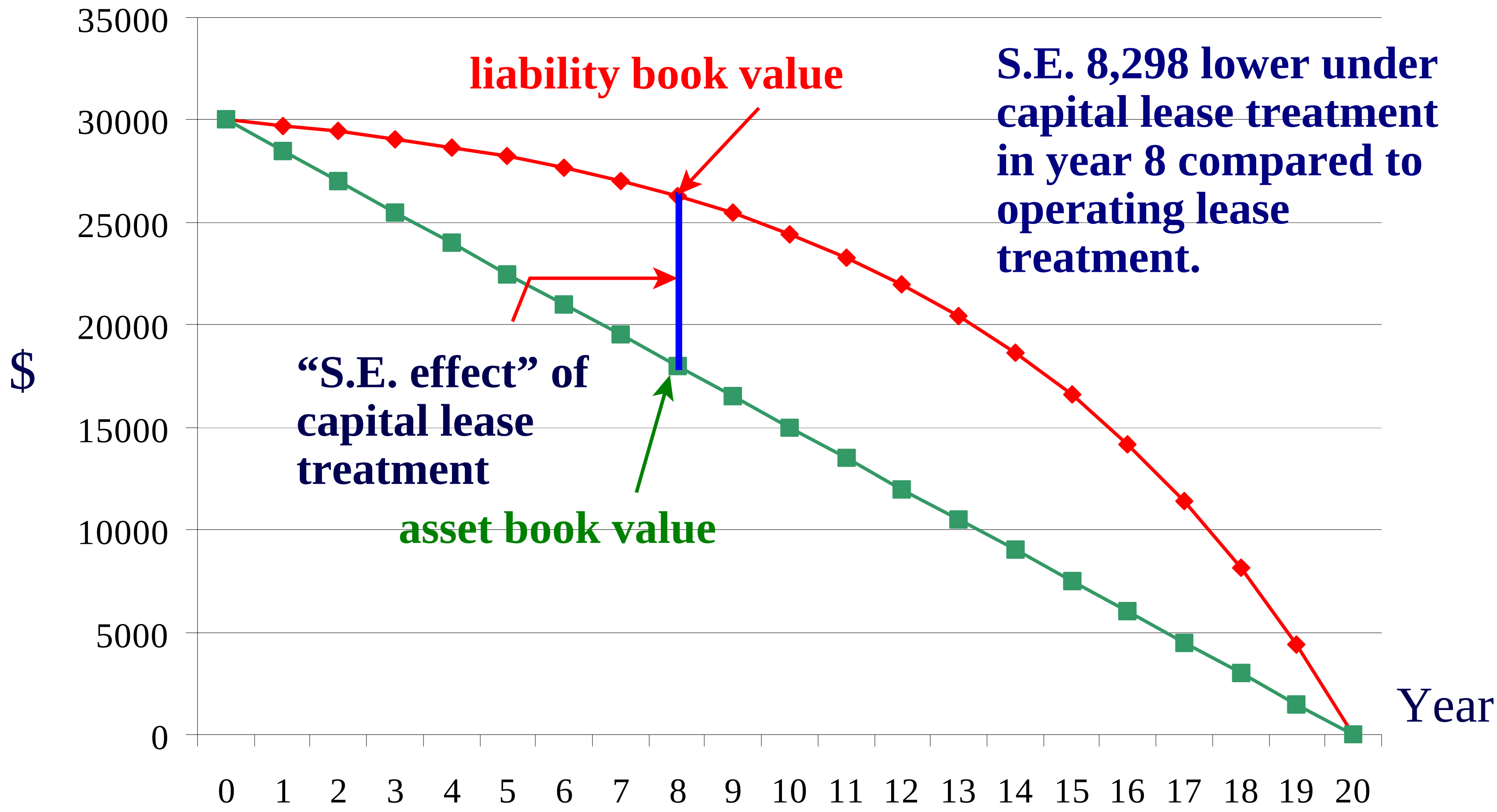
	Cash(A)	Leased Property(A)	-Acc Depr.(A)	Lease Obligation(L)	Retained Earnings(SE)
Y1					
EBY1					
Y2					
EBY2					
Y3					
EBY3					

Capital v Operating Lease: I/S Effects



Capital v Operating Lease: B/S Effects

Pattern annual of asset and liability values over time for capital lease:



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	35,420	(5,060 x 7)
Total minimum lease payments	60,720	
Less: amounts representing interest	34,422	(60,720 - 26,298 (below))
Present value of future minimum capital lease payments	26,298	(5060 x (PVA,12,16%)
Less: current obligations under capital leases	852	
Long-term capital lease obligations	25,446	(26,298 - 852)

Financial statement disclosures-- Target

Future Minimum Lease Payments

(millions)	Operating Leases	Capital Leases
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).
** Includes current portion of $10 million.

This information is rarely given in the footnote.

Financial statement disclosures-- Target

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

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

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?

How could a user derive an estimate of the reporting effects of capitalizing leases?

What financial statement ratios are affected by the lease classification?

Assume that the difference between the future minimum payments after 2004 will be $70M per year for 9 years. In addition, assume that Target's borrowing rate is 9.0% and that payments occur at the end of each year.

Year	*Future payment*	*9% PV(A) factor*	*Beg.2000 value*
2000	*$ 113*	*0.91743*	*$ 103.67*
2001	*105*	*0.84168*	*88.38*
2002	*96*	*0.77218*	*74.13*
2003	*80*	*0.70843*	*56.67*
2004	*70*	*0.64993*	*45.50*
2005-2013	*70/year*	*0.64993x5.99525*	*272.75*
			641.10

Note that this amount is smaller than the 796 computed by Target. The 796 assumes that all payments after 2004 occur in 2005 and that all payments are made in the middle of the year.

Analysis of Target Disclosures

How are financial statements of Target affected if the operating leases were instead classified as capital leases?

If the additional liability is resulting from the capitalization of operating leases is \$641, what is the book value of the associated operating leased asset? Something less than \$641.

What financial ratios are affected?

Target's total liabilities and total equity at 2000 were \$11,461 and \$5,967.

Debt-to-equity ratio $= 11{,}461/5{,}967 \approx 1.92$

Debt-to-equity ratio after capitalization of operating leases $= (11{,}461 + 641)/(5{,}967 + 449 - 641) \approx 2.10$

Assuming the BV asset = 70% of BV liab.

Leasing and Debt Covenants

TCBY

[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.