

# Example on Leasing



# Financial Leases

## *Example*

Greymore Bus Lines is considering a lease. Your operating manager wants to buy a new bus for \$100,000. The bus has an 8 year life. The bus saleswoman says she will lease Greymore the bus for 8 years at \$16,900 per year, but Greymore assumes all operating and maintenance costs.

Should Greymore buy or lease the bus?

# Financial Leases

Cash flow consequences of the lease contract to Greymore:

- Greymore saves the \$100,000 cost of the bus.
- Loss of depreciation benefit of owning the bus.
- \$16,900 lease payment is due at the start of each year.
- Lease payments are tax deductible.

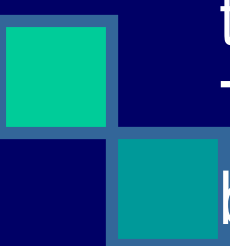
# Financial Leases

## Cash flow consequences of the lease contract to Greymore

	Year							
	0	1	2	3	4	5	6	7
Cost of new bus	100.00							
Lost Depr tax shield		(7.00)	(11.20)	(6.72)	(4.03)	(4.03)	(2.02)	-
Lease payment	(16.90)	(16.90)	(16.90)	(16.90)	(16.90)	(16.90)	(16.90)	(16.90)
Tax shield of lease	5.92	5.92	5.92	5.92	5.92	5.92	5.92	5.92
Cash flow of lease	89.02	(17.98)	(22.18)	(17.70)	(15.01)	(15.01)	(13.00)	(10.98)



## *Example*



Greymore Bus Lines can borrow at 10%, thus the value of the lease should be discounted at 6.5% or  $.10 \times (1 - .35)$ . The result will tell us if Greymore should lease or buy the bus.

## Example - cont

Greymore Bus Lines can borrow at 10%, thus the value of the lease should be discounted at 6.5% or  $.10 \times (1-.35)$ . The result will tell us if Greymore should lease or buy the bus.

$$\begin{aligned}\text{NPV lease} &= 89.02 - \frac{17.99}{1.065} - \frac{22.19}{(1.065)^2} - \frac{17.71}{(1.065)^3} - \frac{15.02}{(1.065)^4} \\ &\quad - \frac{15.02}{(1.065)^5} - \frac{13.00}{(1.065)^6} - \frac{10.98}{(1.065)^7} \\ &= -.70 \text{ or } -\$700\end{aligned}$$



## *Example - cont*

Greymore Bus Lines lease cash flows can also be thought of as loan equivalent cash flows.



	Year							
	0	1	2	3	4	5	6	7
Amount borrowed								
at year end	89.72	77.56	60.42	46.64	34.66	21.89	10.31	0.00
Interest paid @ 10%		-8.97	-7.76	-6.04	-4.66	-3.47	-2.19	-1.03
Tax shield @ 35%		3.14	2.71	2.11	1.63	1.21	0.77	0.36
Interest paid after tax		-5.83	-5.04	-3.93	-3.03	-2.25	-1.42	-0.67
Principal repaid		-12.15	-17.14	-13.78	-11.99	-12.76	-11.58	-10.31
Net cash flow of								
equivalent loan	89.72	-17.99	-22.19	-17.71	-15.02	-15.02	-13.00	-10.98