

Leases: Capital vs. Operating (Class preparation problem for Tuesday 18 November 2003)

(Try this problem using a spreadsheet program. An Excel spreadsheet template of the attached worksheet is on the web site.) Ignore taxes.

The following example is designed to compare the balance sheet and income statement effects of operating and capital leases. Assume GE Capital leases an airplane to Delta Airlines. Assume the airplane has a current cost of \$30,000 (3 zeros deleted), an expected life of 20 years, and zero salvage value. Assume Delta has borrowing rate of 16%. We can use the present value of a 20-year, 16% annuity of \$1.00 (5.9288) to compute the annual payments. Assume ownership of the plane reverts to GE at the end of the lease.

Delta must either classify this agreement as an operating lease or a capital lease. However, this problem asks for the balance sheet and income statement effects of both methods to compare the financial statement effects of operating lease treatment to capital lease treatment when cash payments are the same. In the present circumstances, Delta's classification of this lease as operating or capital lease depends on its assessment of the useful life and current market value of the plane. For example, if Delta tells its auditor the plane has a market value of \$33,001 and a useful life of 26.7 years, it can use operating lease treatment.

Required:

1. What is the amount of the annual payment?
2. On the spreadsheet fill in the yearly entries for capital and operating lease treatment. In addition, please also fill in the values for the beginning lease liability, beginning book value of the leased asset, and total yearly expenses. (Use straight-line depreciation. For illustrative purposes, you can redo this problem with an accelerated method to see how the results change.)
3. Compare the income statement effects of an operating lease accounting treatment with capital lease accounting treatment.
 - (a) Graph the total annual expenses under capital and operating lease treatment. Where do the lines cross? What does this graph illustrate about the expenses under capital leases compared to expenses under operating leases?
 - (b) Which lease accounting method gives greater total expenses?
4. Compare the shareholders' equity effects of operating lease treatment and capital lease treatment
 - (a) What lease treatment provides a higher shareholders' equity number over the life of the lease? (Hint: compare cumulative expenses under each method in each year)
 - (b) At the end of the lease, when the asset is returned to GE, what lease treatment provides a higher shareholders' equity number?
5. Assume Delta uses operating lease treatment. At the end of eight years, a financial analyst would like to adjust Delta books to capital lease treatment for comparison to other firms using capital lease treatment. What are the required changes to Delta's Assets, Liabilities, and Shareholders' Equity? (This adjustment process is sometimes called **constructive capitalization**.)