

Taxes and Business Strategy (15.518)
Sloan School of Management
Massachusetts Institute of Technology
Fall 2002

Problem Set 2

1. Read "Quabbin Cablevision Company" from the course packet. Assume you are advising Mr. Philips in choosing a business form for his new enterprise. Prepare a memo for him summarizing the key issues along with your recommendation. Be sure to provide a (brief) justification for your recommendation.

A reasonable approach to tackling any choice of entity problem would first identify and rank the objectives of the founders and/or investors. Some type of "ranking" is generally necessary since it's not uncommon for objectives to conflict. Second, each available entity form can be analyzed to determine which best meets the previously determined needs.

2. A taxpayer capitalizes a wholly owned corporation with \$100,000. The corporation invests in a project that earns an annual pretax rate of return of 15% and faces a 15% corporate tax rate. The taxpayer faces a personal tax rate of 40% and expects to liquidate the corporation after 20 years. Assume the tax at liquidation is 40%. The corporation will pay no dividends.
 - a. What is the annual after-tax rate of return to the taxpayer on this investment?
 - b. Assume that the taxpayer is considering using an LLC (taxed as a partnership) to avoid the double tax on income. What is the annual after-tax return to the taxpayer if the investment is made through an LLC?
3. Fully taxable bonds yield 12%. You are the treasurer of the City of Cambridge and would like to issue tax exempt municipal bonds. Assuming your bonds have the same risk and maturity as the 12% taxable bonds the underwriters tell you that your bonds will have to yield 8.5% to attract investors. Compute the marginal tax rate of the marginal investor in your bonds.
4. BigX Corp. currently has outstanding \$1,000,000 par value of preferred stock with a dividend rate of 6% per year. Assume that all of the preferred stock is held by corporations with marginal tax rates of 35% and a dividend received deduction of 70%.

BigX is considering replacing the preferred stock with straight debt. However, the investors in the straight debt would likely be individuals (rather than corporations) with marginal tax rates of 28%. Therefore, the straight debt would have to have a higher yield to give investors the same after-tax return.

- a. What rate would BigX have to pay on the straight debt to give investors the same after-tax return as the old investors received on the old preferred stock?
- b. Considering that BigX will get a tax deduction for the interest payments made on the straight debt, compare the after-tax cost (to BigX) of the preferred stock and the straight debt, assuming the rate on the straight debt is the same as you computed in a above.