Exam ID ____________

Law School of Harvard University / 2019-2020

Maximizing Joint Gains: How Taxes Affect Business Decisions
Professor Abrams
Wednesday, December 11
2:00pm - 5:00pm

This exam is 3 pages long. Please check to see that you have all 3 pages.

This examination consists of six problems, and you must answer each problem. Each problem includes a suggested time, and the problems will be weighted in proportion to those suggested times. **You have three hours in which to complete the examination.** You must turn in your bluebooks and the examination itself to receive credit for the class.

The exam mode is OPEN. You will not be able to cut and paste text from any document on your hard drive or the Internet into your exam answer. Please use the provided bluebooks for your equations; you may write text in the bluebooks, into the Exam4 software, or into any combination of the two. *Even if all your work is in bluebooks, you must open Exam4 at the start of the examination and submit an exam file at the end. If you work exclusively in bluebooks, please put a statement to that effect in your Exam4 file.*

When you are asked to provide an equation or equations, you may generate the equation yourself or reference one in the book. Be certain to include values for all variables in your equations for which values have been provided. You do not need to solve or simplify your equations. Your equations may define required values explicitly or implicitly.

If any facts are not given which you believe you need, please state the facts and explain their relevance.

You may have with you any material you desire *other than* commercially prepared secondary material not required for the course. No material may be shared by any students during the examination. You may use any type of calculator if you desire. You may not access the Internet.

Exam4 will automatically put your Anonymous ID on the exam copy.

Good luck!

DO NOT TURN TO PAGE TWO UNTIL THE PROCTOR TELLS YOU TO BEGIN.

Problem 1 (Suggested Time = 10 minutes)

Stock of X Corp. currently sells for $100 per share. There is a one-quarter probability that, in one year, the shares will be trading at $84 per share and a three-quarters probability that the shares will be trading at $112. **(a)** What is the expected pre-tax gain or loss in one year for someone who purchases one share for $100? **(b)** What is the expected pre-tax value in one year of a stock appreciation right, issued immediately and payable in one year? **(c)** What is the expected pre-tax gain or loss in one year of a stock option, issued immediately and exercisable in one year with a strike price of $100?

Problem 2 (Suggested Time = 45 minutes)

Employer is willing to pay Employee a $1,000 bonus at the end of the current year (year 1). **(a)** What amount of deferred compensation paid at the end of year 5 will make Employer indifferent between the immediate bonus and the deferred compensation? **(b)** What amount makes Employer indifferent between the immediate bonus and an immediate contribution to Employee's qualified deferred compensation plan? **(c)** What is the minimum contribution to her qualified pension plan that Employee is willing to accept in lieu of the immediate bonus?

Assume the following facts. Employer's current tax rate is 21%. Employer's expected tax rate in years 4 and 5 is 30%. Employee's tax rate on ordinary income equals 35% in the current year and is expected to be 31% in years 4 and 5. Employer can earn 10% before taxes on its investment while Employee can earn 8% before taxes on her investments.

Problem 3 (Suggested Time = 30 minutes)

B Corp. can maintain its effective tax rate at 15%. B Corp. wishes to raise additional capital, and it can do so by issuing new stock or new debt. Assume that it must issue all debt or all equity. **(a)** Which is the most tax-efficient way to raise the needed capital, assuming the newly equity or debt will be purchased entirely by C Corporations having a tax rate of 21% and no single buyer will own more than 10% of B Corp. after the issuance? **(b)** How does your answer change if the newly issued securities (debt or equity) will be acquired by individuals subject to a tax rate of 35% on interest income and 20% on dividend income?

Problem 4 (Suggested Time = 10 minutes)

T invests $100 in an investment returning $500 in 4 years. Assume half of the cost of the investment is immediately deductible and that $450 of the return will be taxed at 20% in year 4. What is T's internal rate of return from this investment?

Problem 5 (Suggested Time = 45 minutes)

T Corp. is a C corporation entirely owned by P Corp., itself a C corporation. A Corp., another C corporation, is willing to pay $100,000 for the stock of T Corp. without an election under §338(h)(10). P Corp's basis in its T stock is $80,000 and T's basis in its assets is $45,000. T Corp. has claimed depreciation of $7,000 in its assets. **(a)** Should P Corp. and A Corp. agree to file an election under §338(h)(10)? **(b)** If so, how should the cost of the stock change?

Problem 6 (Suggested Time = 40 minutes)

X has $100,000 invested in a traditional IRA that generates a pre-tax return of 7% per year. X also has $50,000 invested in a savings account generating 8% per year. X's tax rate is 35%. **(a)** Should X convert the traditional IRA into a Roth IRA, paying the conversion tax charge out of the IRA funds? **(b)** Should X convert the traditional IRA into a Roth IRA using funds from the savings account? **(c)** How does your answer to (b) change if X will face an early withdrawal penalty of $5,000 when removing funds from the savings account?