Final Exam

15.518

Spring 2001

Professor Gil Manzon

(Note of credit: Some of the questions were adapted from the Scholes, Wolfson, Erickson, Maydew, and Shevlin text)

By submitting this exam for grading you are asserting that you have not made use of any materials while preparing your responses other than 2 pages of self-prepared notes.

Problem #1

The Sung Ahn Corporation is presented with two options:

1. Invest in fully taxable corporate bonds yielding 10% pretax
2. Invest in preferred stock of another company with a dividend yielding 8% pretax.

Assume no differences in the riskiness of the two investment alternatives.

a. At what marginal tax rate is Sung Ahn indifferent between the two investment alternatives?

Problem #2

Jason Ham has two compensation alternatives from which to choose:

1. Accept current compensation of $100 and invest in assets that generate income that is taxable each year at an ordinary rate of 39.6%.
2. Accept a $100 contribution to a deferred savings vehicle that will generate income taxable only when withdrawn at ordinary tax rates. The expected annual rate of return to money kept in the deferred savings vehicle is 10%. All money invested in the deferred savings vehicle (direct and reinvested returns) will be withdrawn after 30 years of accumulation and be immediately taxed at a rate of 28%.

a. What pretax rate of return on invested current compensation will make Jason indifferent between the two alternatives?

Problem #3

You have just taken over as CFO of Sean Hwang Industries, a large U.S. based firm doing business only in the U.S. Reviewing the economic balance sheet of the firm, you notice that the firm leases the majority of the assets it employs and has significant outstanding borrowing (total interest bearing debt is 70% of the sum of interest bearing debt plus the market value of equity).

a. Do these two positions make sense from a tax standpoint?
b. Offer two coherent reasons for these two positions to exist simultaneously.

Problem #4

Stanford Lin is saving for his 14 year old son's college education. He faces a 39.6% marginal tax rate and his son faces a tax rate of 15%.

a. What can he do to increase the funds available for son's college education?
b. Are there any problems with the plan you advocate?

Problem #5

The Laurent Renard corporation has net operating losses available to offset taxable income of $1 billion. Laurent Renard anticipates generating taxable income in each of the next 10 years of $200 million. The tax rate faced by all corporations is 35%. Laurent Renard's after tax cost of capital is 12%.

a. What is your best estimate of Laurent Renard's marginal tax rate?

Problem 6:

Chris Pun made a killing with non-qualified stock options. Specifically, he just exercised 1,000,000 options at a strike price of $1. The current price of the stock is $20. Chris wanted to exercise the options now because, as he says, the stock is going to go through "the roof" and he wanted to get the clock started on capital gains. Chris faces a marginal tax rate of 39.6% on ordinary income and a marginal tax rate of 20% on capital gains income.

a. What advice would you give Chris so that he would remain relatively wealthy in the event the stock price dropped precipitously and had him enjoying the increase in value of the stock if, indeed, it went through the roof?

Problem 7:

Mark Roszkowski is self-employed and works at home. All home office expenses he incurs are tax-deductible and his marginal tax rate is 39.6%.

a. If he buys a chair for $3,000 and deducts the cost of the chair on his tax return, what is the after-tax cost of the chair to him?

Problem 8:

Jennifer Cooke Industries is a U.S. corporation with a wholly owned Australian subsidiary. The Australian subsidiary has $600 million in accumulated earnings and profits. In the past, Jennifer Cooke Industries has reinvested foreign earnings in the country in which they were earned, but is currently reassessing this policy. Assume Jennifer Cooke Industries can obtain a 20% pretax return in the United States where the corporate tax rate is 35%,or it can obtain a 16% pretax return by investing in a 10 year project in Australia, where the tax rate is 30%.

a. Should Jennifer Cooke Industries repatriate earnings or invest them in Australia for 10 years and then repatriate them? Quantify your answer.
b. Assume the investment horizon is 20 years and not 10 years. Does this change Jennifer Cooke Industries decision? Quantify your answer.
c. Continuing from part a, assume that at the beginning of year 10, Congress reduces the U.S. corporate rate from 35% to 22%. Does this change affect your decision to reinvest versus repatriate? Quantify your answer.

Problem #9

Josh Burack Inc. is a U.S. based multinational manufacturing company. In 2001, Josh Burack Inc. earned $100 million of Canadian-source income, which was taxed at the Canadian rate of 40%. Josh Burack's U.S. source income was negative $30 million in 2001 due to a casualty loss from a fire in its primary warehouse, giving Josh Burack Inc. total income of $70 million. The U.S. rate is 35%.

For 2002, Josh Burack Inc. anticipates earning $100 million of Canadian-source income, which will be taxed at the Canadian rate of 40% and U.S. source income of $150 million, giving Josh Burack Inc. total income of $250 million.

a. What is Josh Burack Inc.'s foreign tax credit in 2001?
b. What is Josh Burack Inc.'s foreign tax credit in 2002?
c. Suppose you could accelerate $30 million of U.S. source income from 2002 into 2001. How would this change your response to questions a and b?

Problem #10

The following facts relate to the purchase of an S corporation and a C corporation. These two corporations have identical tax bases and are similar in every respect except for their organizational form. An acquirer is willing to pay $10,000 to purchase the stock of each corporation.

Facts:

Stock purchase price		$10,000
Net tax basis in assets		500
Historical cost of assets		2,000
Accumulated Depreciation		1,500
Shareholder’s basis in target stock		500
Liabilities of target		0
Corporate tax rate	=	35%
Tax rate on individual ordinary income	=	40%
Tax rate on capital gain income	=	20%
Discount rate	=	10%
Number of periods over which mark ups are written down	=	10

a. What is the maximum price that an acquirer will pay to acquire the target C corporation in a taxable asset sale given that it will pay $10,000 in a taxable stock acquisition?
b. What is the maximum price that an acquirer will pay to acquire the target S corporation in a taxable stock sale followed by a Section 338(h)(10) election given that it will pay $10,000 in a taxable stock acquisition without the election?
c. What is the minimum price that the target’s shareholders will accept under part a?
d. What is the minimum price that the target’s shareholders will accept under part b?
e. Given your answers to parts a and c, should a taxable asset sale structure be employed in the sale of the C corporation?
f. Given your answers to parts b and d, should a taxable asset sale structure be employed in the sale of the S corporation?
g. How much more cash after tax can shareholders of the S corporation get, relative to the shareholders of the C corporation, assuming the acquirer pays the maximum price that it will pay in a Section 338(h)(10) transaction?

Problem #11

Assume the following factors in assessing the value of preserving NOLs in the acquisition of a target C corporation.

- The target has NOLs of $800.
- The NOLs expire in 20 years
- The net asset basis of the target is $300
- The cash price that an acquirer is willing to pay for the stock of the target is $1,000
- Target shareholders have a basis target stock of $200
- The corporate tax rate is 35%
- The capital gains tax rate is 20%
- The after-tax discount rate is 10%
- Any step up in basis is amortized over 15 years
- The long-term tax –exempt rate is 5% for purposes of section 382

a. Should the acquirer make a Section 338 election? Quantify your position.

Problem #12

In a tax-free acquisition, some and perhaps all selling shareholders accept stock in the acquiring corporation.

a. When will these shareholders pay tax on the difference between the basis in the shares they surrender and the value of the shares they acquire?
b. Is it *possible* that these selling shareholders will never pay tax on the difference between the value of the shares they accept in trade and the basis in the shares they exchange? Be specific.