1. Capital Budgeting (45 pts)

A proposal to invest in new white table wine-making equipment has been developed. The following information is now provided:

 1. Equipment cost (installed) is $2 million

2. Revenues of $1M, $1.2M, 1.3 and $1.4M/yr for each of the next four years.

 3. Satyr consulting generated the forecasts; their fee is $250,000

 4. Operating costs are 30% of sales.

5. Net working capital is expected to be 20% of the **following year’s** sales (ie-NWC at t=0 is 20% of t=1 sales).

6. Assume that all new equipment will be depreciated straight line to zero over the period of t=1-4 (25% per year)

7. Introduction of the white table wine is expected to increase sales of “complementary products” such as olive oil, corkscrews, and wine glasses produced by the firm, resulting in additional pre-tax operating profits of $50,000 per year.

8. Project acceptance will require that $250,000 of debt be issued, resulting in interest payments of $20,000 per year over the life of the project

9. At project termination (t=4), all equipment will be sold for $50,000, and 75% of NWC will be recovered (the other 25% will be lost due primarily to inventory obsolescence).

 10. Assume a 40% marginal tax rate and a 12% cost of capital.

 a) What is the project’s NPV? **Show all work**. (42)

b) Assume that 12% is in fact the firm’s WACC. Do you think it was the correct rate to use for this project? Explain briefly. (3)

***EXTRA CREDIT***

Alternative equipment costing an additional $300,000 is available; projected operating costs and revenues are the same as the equipment described in (a) above, but this alternative equipment can easily be adapted to make rose table wine as well as white wine (the original equipment cannot be adapted to make rose). Marketing estimates indicate that the market for white table wine is superior, though, and your managers believe the additional $300K for this equipment isn’t worth it. Do you agree? Discuss. (10 pts)

 2. Firm Valuation (25 pts)

XCL Corp has projected free cash flows (FCFs) of: $-2.5M, $.5M, and $1.5M at time t=1,2, and 3 respectively. They expect FCF to have a **real** growth rate of 2% indefinitely after t=3; in addition, inflation is expected to average 2.5% in the foreseeable future. XCL has debt of $3M, WACC of 14%, and 1M shares outstanding.

 a) Estimate the price per share. (17)

b) XCL is not publicly traded; however, publicly traded firms that are similar to XCL has a P/E ratio of 15x and an V/EBIT (V=Firm Value) ratio of 5x. XCL has Net Income of $500,000 and EBIT of $2,000,000. Estimate the value of a share of XCL via:

 1) the P/E multiple method (2)

 2) the V/EBIT multiple method (3)

c) What are the primary limitations of using the FCF method of part (a) to value a company? Be very brief. (2)

d) What is the primary limitation of using the “multiples” method of part (b) to value a company? Be very brief. (1)

 3. Cost of Capital (20 pts)

 Wegs Corp has the following balance sheet (in ‘000’s):

 Current Assets 60,000 A/P & Accruals 15,000

 Fixed Assets 120,000 Notes Payable 25,000

 L-T Debt 50,000

 Common Stock 10,000

 Retained Earnings 80,000

Long term debt consists of 50,000 bonds, each of which has a par value of $1,000, carries a 9% coupon rate paid semi-annually, and matures in May of 2020. The yield to maturity on this bond is currently 8%. Weg’s beta is estimated to be about 1.5, the risk free rate is 4%, and the expected market risk premium is 6%. Weg’s most recent dividend for the year was $.47, and earnings and dividends are expected to grow at a rate of 6.5% indefinitely. The common stock sells for $50/share, and has a par value of $1. The firm’s marginal tax rate is 40%. (20 pts)

a) Estimate the firm’s WACC; state clearly any relevant assumptions. (18)

b) Project Z is under consideration, and it has a rate of return 1% less than the WACC you calculated in (a). Should you accept or reject it? Explain very briefly. (2)