Graded Homework #4: Finance, Part 2, Entrepreneurial Finance (Counts 5% of Course Grade)

Started: Jul 10 at 11:54pm

Quiz Instructions

Question 1

1 pts

Underline Electronics had a free cash flow for FY 2018 of $2,150 (all amounts are in $000). Rand McDandy, CEO, projected a free cash flow growth of 3% per year for the next 5 fiscal years (FY2019 - FY2023). Beginning at the end of FY2023, free cash flow was expected to slow grow at only .5% in perpetuity. McDandy expected Underline Electronics cost of capital to remain constant at 6.12% until the end of FY2023. He also projected that beginning in FY2024 the cost of capital will lower 4.25% and remain at 4.25% in perpetuity. Considering this forecast he asked his CFO (you) to determine the fair market value (NPV) of the company. Choose the best answer from the list of options below.

For this question consider FY2019 as Year 1 and FY2023 as Year 5. HINT: Note that the Cost of Capital is consistent for the years leading up to and including FY2023. The cost of capital then changes at the point that the Terminal Value is calculated.

- ○ $66,797
- ● $59,471
- ○ $43,073
- ○ $64,696
- ○ $63,702

Question 2

1 pts

Angie Ghent a local prominent Business Angel has expressed a keen interest in Razor Wire Productions ("RWP"), a large manufacturing of industrial fencing products. Angie estimates that RWP will have after tax earnings of $3.5 million in 2020 (year 1), $4.75 million in 2021, and $9.25 million in 2022 (year 3). In 2022 RWP is expected to have about 8.12 ROA, $12 million in total debt, and approximately $14 million in capital assets. Angie intends to value the firm as of year 2022 (her expected timeframe for exiting the investment) and is using an earnings multiple of 9 times. Angie's required rate of return is 60%. The US tax rate is expected to remain constant at 21% for foreseeable future. Ralph Smithson owns RWP. Ralph is the sole owner and has 1.75 million shares of stock. If Angie invests $4 million into the RWP what percentage ownership of RWP should Angie receive in return? HINT: Not all of the data provided in this problem is relevant to the solution.

- ○ 21.82%
- ○ 28.25%
- ● 19.68%
- ○ 13.00%
- ○ 15.17%

Question 3 — 1 pts

Continuing with the question above, how many shares of stock and at what stock price should be issued to Angie upon closing the deal with Ralph Smithson? For the purpose of this question assume RWP has a fair market value of $23.50 million (this was determined by determining the net present value of RWP's terminal value). **DO NOT USE THE ANSWER YOU DETERMINED IN THE QUESTION ABOVE FOR THIS PROBLEM. ALL PROBLEM DATA IS UNCHANGED.**

- ○ 2,108,968 shares at $1.90/share
- ○ 1,750,129 shares at $2.29/share
- ● 358,947 shares at $11.14/share
- ○ 297,850 shares at $13.43/share
- ○ 875,000 shares at $4.71/share

Question 4

0.5 pts

After several discussions with other investors, Angie has decided to demand dilution protection by insisting that her diluted equity position still provide her a 60% return on investment in the event that future rounds of funding are necessary. In fact Angie now believes that an additional 10% of the company will have to be sold to raise an extra $3.25 million in funds in 2021, and 5% of the company for $3 million in 2022. What % ownership will Angie require now to insure that after the next rounds of funding her ownership position will be protected. For this question assume that RWP has a fair market value of $31 million (determined by discounting of RWPs terminal value). **DO NOT USE THE ANSWER YOU DETERMINED IN THE QUESTION ABOVE FOR THIS PROBLEM.**

- ○ 15.64%
- ○ 14.19%
- ○ 12.90%
- ◉ 14.90%
- ○ 17.13%

Question 5

1 pts

Railback Battery Systems

Following is the seven-year forecast for a new venture called Railback Battery Systems: (all amounts in $000)

	2020	2021	2022	2023	2024	2025	2026
EBIT	$(1000)	$(900)	$200	$1,200	$2,500	$3000	$3,050
Capital Expenditures	$550	$350	$200	$175	$175	$160	$150
Changes in Working Capital	$400	$300	$200	$100	$100	($100)	($100)
Depreciation	$40	$80	$125	$150	$150	$150	$150

Beginning after year 2026 the annual growth in EBIT is expected to be 1.5%, a rate that is projected to be constant over Railback's life as an enterprise. Beginning in 2026 Railback's capital expenditures and depreciation are expected to offset each other (capex - depreciation = 0) and year to year changes in working capital are expected to be zero (working capital levels remain constant year over year). For discounting purposes consider 2020 as year 1.

Assume a tax rate is 21% and a cost of capital of 7.75%

Question: Determine the NPV of Railback Battery Systems Free Cash Flow for the years 2020 - 2026. HINT: Remember to account for loss carry-forwards when determining income taxes. The answer to this question was determined in Excel. Your answer may deviate slightly depending upon differences in truncation and rounding. Answers below are in $000.

- ○ $4,545
- ○ $4,045
- ● $2,105
- ○ $960
- ○ $1,761

Question 6

0.5 pts

Calculate the fair market value (NPV) for Railback Battery Systems. For this problem assume that the Net Present Value of Railback's free cash flow for the period 2020 - 2026 is $3000 (**NOTE its not $3000** but make this assumption in case the answer you determined in the first question was incorrect. Assume no underlying changes to any of the data in the problem. **DO NOT USE YOUR ANSWER FROM THE QUESTION ABOVE. All ANSWERS ARE IN $000**

- ● $26,206
- ○ $22,089
- ○ $24,536
- ○ $21,830

- $34,476

Quiz saved at 8:00am

Submit Quiz