Quiz 3: Valuation

Answer all questions and show necessary work. Please be brief. This is an open books, open notes exam.

1. Ledbetter Inc. is a publicly traded company that operates in three businesses and you have been provided with the following information (in millions):

Business	EBIT[1]	DA[2]	Invested Capital[3]	Median EV/EBITDA for sector[4]
Real estate	$150	$50	$500	6.00
Travel	$35	$5	$240	10.00
Spa services	$100	$20	$600	Not available

Ledbetter pays 40% of its income in taxes, and the company has 100 million shares trading at $22/share, $ 800 million in debt and $ 500 million in cash.

a. <u>If you acquire this company at the current market price and the real estate and travel businesses are fairly valued at the median EV/EBITDA for their sectors</u>, estimate the EV/EBITDA multiple that you are paying for the spa business. (1 point)

[1] EBIT = Earnings before interest and taxes
[2] DA = Depreciation and amortization
[3] Invested Capital = BV of debt + BV of equity - Cash
[4] EV = Enterprise value = Market value of equity + Debt - Cash

b. Now assume that the Spa business is in stable growth, growing 2% a year, has a cost of capital of 8% and is expected to generate its current return on capital in perpetuity. On an intrinsic value basis, what EV/EBITDA multiple would you be willing to pay for just the spa business? (2 points)

2. Suzlon Technology is a small technology company with a single, patent-protected product that is extremely profitable. The company is in stable growth, with a 3% growth rate in perpetuity, trades at an EV/Sales ratio of 2.2, and is expected to have a return on capital of 25% and a cost of capital of 9% in perpetuity. Unexpectedly, the company has just lost a lawsuit and will no longer have exclusive rights to its product. <u>This is expected to halve its after-tax operating margin, raise its cost of capital to 10% and bring its return on capital down to 10%</u>. Estimate the EV/Sales ratio for Suzlon Technology with these changes, assuming it stays a stable growth company. (3 points)

3. Potemkin Inc. is a privately owned toy retail chain that is expected to generate $ 20 million in net income next year. Publicly traded toy retailers trade at an average forward PE of 12.5, are in stable growth (growing 3% in perpetuity) and have an average (levered) beta of 1.00. If the correlation between public firm and market is 30%, and Potemkin has a return on equity twice as high as its public competitors, estimate the value of equity in Potemkin Inc. to an undiversified investor who does not care about liquidity. (You can assume that the riskfree rate is 3%, the equity risk premium is 6% and that Potemkin has the same debt ratio as the public retailers). (4 points)