

Quiz 1: Valuation

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

1. You have been asked to assess estimate the value of an investment that Adobe Software is planning to make in generative AI, and have been provided with the expected cash flows on that investment:

	1	2	3
Net Income (\$ mil)	\$150	\$200	\$250
+ Depreciation (\$ mil)	\$60	\$60	\$60
- Debt Payments (\$ mil)	\$100	\$50	\$25
Free Cash Flow (\$ mil)	\$110	\$210	\$285

Adobe has a cost of equity of 10.5% and a cost of capital of 9%, but companies that operate in the AI space face a cost of equity of 12% and a cost of capital of 10%. **Estimate the present value of the expected cash flows.** (2 points)

2. Lagos Technology is a Nigeria-based technology company that operates in three African countries, with 50% of its revenues coming from Nigeria, 20% from Zambia and 30% from South Africa. The table below provides information on the three countries:

	Currency	Govt Bond Rate	Default Spread
Nigeria	Naira	15%	5%
Zambia	Kwacha	25%	8%
South Africa	Rand	12%	3%

If you assume that the equity risk premium for a mature market is 5% and that emerging market equities are 1.25 times more volatile than emerging market government bonds, **estimate the cost of equity for Lagos Technology in Nigerian Naira.** (You can assume that the beta for technology companies is 1.40) **(3 points)**

3. You are trying to estimate the beta for Irwin Chemicals, which operates in two businesses – fertilizers and basic chemicals, and have collected the following information:

		<i>Industry Averages</i>	
	<i>EBITDA from Business (\$ millions)</i>	<i>Unlevered Beta</i>	<i>EV/EBITDA</i>
Fertilizer	\$800	0.8	6.00
Basic Chemicals	\$400	1.2	8.00

If Irwin Chemicals has a market capitalization of \$ 5 billion, and debt outstanding of \$3 billion, estimate the levered beta for the company. (The marginal tax rate is 25%) (2 points)

4. Corinthian Inc, is a company that makes flooring, and you have been given the following information:

	Most recent year	Next year
Revenues (in millions)	\$1,000	\$1,250
EBITDA (in millions)	\$450	\$550
Operating Income (in millions)	\$300	\$375
Net Income (in millions)	\$180	\$220

Corinthian faces an effective tax rate of 20%, expects to make \$235 million in capital expenditures next year and to maintain total non-cash working capital at the 20% of total revenue that it was in the most recent year. Estimate the free cash flow to the firm for next year. (3 points)