

PGDM / IB Batch 2013-15
Financial Report Analysis & Valuation
DM-412/IB-406

Trimester – IV, End-Term Examination: September 2014

Time allowed: 2.5 Hours

Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means**. In case of rough work please use answer sheet.

Make assumptions wherever necessary and write them down at the end of solution.

Sections	No. of Questions to attempt	Marks	Marks
A	3 out of 5 (Short Questions)	5 Marks each	$3 \times 5 = 15$
B	2 out of 3 (Long Questions)	10 Marks each	$2 \times 10 = 20$
C	Compulsory Case Study	15 Marks	15
		Total Marks	50

SECTION A

A 1. Why might discounted cash flow valuation be difficult to do for the following types of firms?

A. A cyclical firm, during a recession.

B. A troubled firm, which has made significant losses and is not expected to get out of trouble for a few years.

C. A firm, which is in the process of restructuring, where it is selling some of its assets and changing its financial mix.

A 2. What are the different ways of finding the growth rate if you have to make the predictions purely on the basis of past performance of the company? Discuss.

A 3. You have been asked to assess the economic value added by Music Depot, an electronics retail store, in the last financial year. You note that the after-tax operating

income for the year was INR 50 million, the net income was INR 25 million and the firm paid no dividends. In addition, you note that the book value of equity at the end of the year is INR 300 million and the book value of the debt at the end of the year is also INR 250 million. Finally, you are also told that the firm issued no stock during the year and had a net debt issue (New debt issued – Debt repayments) of INR 50 million. The firm has a market value for equity of INR 800 million and debt with an estimated market value of INR 200 million. The riskfree rate is 5%, the beta for the stock is 1.00 and the firm has a pre-tax cost of borrowing of 10%. (The firm has a tax rate of 40%). Estimate the economic value added last year. Also assume that the firm can increase EVA 4% in perpetuity. What should be value of the firm?

A 4. You are valuing a mining company, with substantial undeveloped reserves. The firm has 100 million shares trading at INR 25 per share, and INR 1.5 billion in debt outstanding. The cost of equity for the firm is 12% and the after-tax cost of debt is 5%. If the existing reserves of the firm are expected to generate INR 300 million in after-tax cash flows each year for the next 10 years, estimate the value being attached to the undeveloped reserves by the market at existing prices.

A 5. Assume that you are an investor comparing banks and that you have collected the following information: Which of the above banks best fits the criteria for an undervalued bank? Also specify your criteria of 'undervalued' stock.

Bank	Price/Book	Beta	Expected Growth	ROE
A.	1.25	1.50	15%	10%
B.	1.80	1.00	15%	20%
C.	1.20	1.00	15%	20%
D.	1.10	1.00	8%	20%
E.	1.75	1.50	8%	20%
F.	1.15	1.50	15%	20%

Section B

B 1. You observe market beat of X Ltd. a ceramic company as 1.38 on the basis of last 36 monthly observations. Relevant industry data follows:

Company	Market Beta	D/E Ratio
A Ltd.	.9	0.5
B Ltd.	1.1	0.7
C Ltd.	1.2	1.2
D Ltd.	1.0	0.9
X Ltd.	1.38	1.1

10 year Government bond yield is 9% nowadays. X Ltd. has a credit rating of AA and current spread is 200 basis points. Company has total Rs. 500 million debt on its books. Expected equity risk premium is 8%.

Calculate the discount rate for the valuation purposes.

B 2. Ultimate Telecommunications Ltd. is a firm in significant financial trouble. The firm reported an EBITDA of - INR 100 million last year on revenues of INR 1000 million. You expect revenues to grow 30% a year for the next 3 years and the EBITDA as a percent of revenues to be -5% in year 1, 5% in year 2 and 25% after that. The firm has substantially over invested in plant and equipment in the last few years and will reduce its capital expenditures to INR 50 million a year for the next 3 years, while depreciation will remain at INR 100 million a year for the next 3 years. Non-cash working capital is expected to be 5% of revenues. After year 3, the firm will grow 4% a year forever, and maintain a return on capital of 10%. The cost of capital will be 12% for the next 3 years and 10% thereafter. Assume no tax benefits of carry forwarded losses. Estimate the value of the firm today.

B 3. In what conditions WACC may not work. Discuss how APV is a better option with a suitable example.

Section C

Hot and Cool Ltd. is a privately owned business that owns a number of small restaurants. The owner of the firm is considering an offer to buy the firm and has asked for your help in evaluating the offer. The income statement for the firm for the most recent year is reported below (in '000s):

Revenues	INR 5,000
- Operating Expenses	3,500
EBIT	1,500
- Interest Expenses	300
- Taxes	480
Net Income	720

The owner did not pay herself a salary last year, but believes that INR 300,000 would be a reasonable salary for a general manager. The firm is in stable growth, and is expected to grow 5% a year for next 5 years and 3% thereafter forever (with a 40% net reinvestment rate). You estimate the unlevered beta of publicly traded restaurants to be 1.2. The average debt to capital ratio for these firms is 30%, and you believe that Hot and Cool will have to operate at close to this average. If the risk free rate is 6%, the market risk premium is 7% and the cost of debt is 10%, estimate the value of Hot and Cool for sale in a private transaction.

Present Value Table

Present value of 1 i.e. $(1 + r)^{-n}$

Where r = discount rate
 n = number of periods until payment

Periods (n)	Discount rate (r)										
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	1
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	2
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	3
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	4
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	5
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	6
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	7
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	8
9	0.941	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	9
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	10
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.305	11
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	12
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	13
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	14
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	15
(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833	1
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694	2
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579	3
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482	4
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402	5
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335	6
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279	7
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233	8
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194	9
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162	10
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135	11
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112	12
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093	13
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078	14
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065	15

Annuity Table

Present value of an annuity of 1 i.e. $\frac{1 - (1 + r)^{-n}}{r}$

Where r = discount rate
 n = number of periods

Periods (n)	Discount rate (r)										
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	1
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	2
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	3
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	4
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	5
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	6
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	7
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	8
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	9
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	10
11	10.37	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	11
12	11.26	10.58	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	12
13	12.13	11.35	10.63	9.986	9.394	8.853	8.358	7.904	7.487	7.103	13
14	13.00	12.11	11.30	10.56	9.899	9.295	8.745	8.244	7.786	7.367	14
15	13.87	12.85	11.94	11.12	10.38	9.712	9.108	8.559	8.061	7.606	15
(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833	1
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528	2
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106	3
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589	4
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991	5
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326	6
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605	7
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837	8
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031	9
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192	10
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327	11
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439	12
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533	13
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611	14
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675	15