Women in Finance

Valuation Overview

Time Value of Money Overview

A dollar today is worth more than a dollar tomorrow

Money is worth more currently than that same nominal amount would be in the future

Why?
1. Inflation erodes the purchasing power of a dollar over time
2. Money you have today can be invested to generate even more value

**Inflation = a general increase in prices and falling in the purchasing value of money

Future Value of a Single Sum Invested Today

- Future Value (FV) = value of funds invested at an annual interest rate for a period of time

- Represents what a current cash flow will be worth at time in the future

$$FV = PV(1 + r)^n$$

- FV = future value
- PV = present value
- r = annual interest rate
- n = number of periods

Present Value of a Single Sum in the Future

- Present Value (PV) = value of what you would pay today for a future cash flow

$$PV = FV \frac{1}{(1 + r)^n}$$

(Rearrange the FV formula)

- FV = future value
- PV = present value
- r = annual interest rate
- n = number of periods

Interest Rate

- In TVM calculations, r is also called:
  - Discount rate
  - Cost of capital
  - Required rate of return
  - Interest rate
- Discount Rate – the rate at which you expect to earn on the cash flow or investment

Different Valuation Methodologies

Valuing a Business or Asset

Market Approach (Relative Value)

Public Companies Comparables

Precedent Transactions

Discounted Cash Flow (Intrinsic Value Approach)

Forecast Future Cash Flows

Discounted Cash Flow (DCF)

Discounted Cash Flows (DCF)

- Intrinsic valuation – using metrics internal to the company (cash flows)

- Project with the cash flow of the company will be in the future

- Main Principle = money in the future is worth less today
  - As a result, you must find what that money in the future is worth today (**discount it back** using the present value formula)

- Assumes that company exists into perpetuity (forever) $PV = FV \dfrac{1}{(1+r)^n}$
  - Terminal Year – last year that is projected (most likely 3-10 years in the future)
  - Terminal Value – what all the years past the projection period is worth

DCF First Steps

1. Project out FCFF (free cash flow to the firm)
   - Use your EBIT (earnings before interest and taxes) projection
   - **EBIT * (1-Tax Rate) + Depreciation & Amortization – Capital Expenditures – Change in Net Working Capital = FCFF**

2. Find the Terminal Value

3. Discount both FCFF and Terminal Value to the present day and add them together to get the Company's Enterprise Value

Enterprise Value vs. Equity Value

- Simply put, the enterprise value is the entire value of the business and equity value is the total value of a business that is attributable to the shareholders

Enterprise Value = Equity Value + Debt - Cash

DCF Next Steps

4. Move from Enterprise Value to Equity Value
   - **Enterprise Value – Debt + Cash - Non Controlling Interests = Equity Value**

5. Divide Equity Value by Diluted Shares Outstanding to get **<u>Share Price</u>**
   - Equity Value – total value of the part of the company that shareholders can own
   - Diluted Shares Outstanding – how many shares (small piece of ownership) of the company are available in the stock market

DCF Done in Two Ways

- Free cash flow is only projected for 3-10 years. However, what about the free cash flow that will be generated after this projection period?

- As a result, calculate a terminal value (the sum value after the projection period)

- Two ways to calculate this terminal value: **Gordon Growth & Multiple Method**

$$\frac{[\text{Terminal Cash Flow} * (1+\text{growth rate})]}{\text{WACC} - \text{growth rate}}$$

Terminal Value Calculation				
Gordan Growth		**Multiple method**		
Terminal Cash Flow	583,520	Terminal EBITDA	915,941	
WACC	6.74%	WACC	6.74%	
Terminal growth rate	1.50%	EV/EBITDA	13.00x	
Terminal value	11,309,371	Terminal value	11,907,230	
PV of terminal value	8,433,752	PV of terminal value	8,879,595	
Enterprise value	**10,694,755**	**Enterprise value**	**11,140,597**	
Debt	2,041,086	Debt	2,041,086	
Cash	185,961	Cash	185,961	
Equity value	**8,839,630**	**Equity value**	**9,285,472**	
Diluted shares outstanding	82,899	Diluted shares outstanding	82,899	
Price/share	**106.63**	**Price/share**	**112.01**	

Chose EBITDA as a good representation of the company

Chosen multiple taken from Comparable Companies Analysis

Terminal EBITDA * Terminal Multiple (EV/EBITDA)

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Comparable Companies Analysis

Comparable Companies

- **the process of comparing companies based on similar metrics to determine their enterprise value**

- A company's valuation ratio determines whether it is overvalued or undervalued

- Why is comparable companies analysis used?

  - Similar companies provide a relevant reference point

  - Designed to reflect valuation based on current market conditions

- Can be inaccurate when markets are irrational

What Makes A Comp Good?

- **A good comp is as similar to the target as possible in both an operational and financial perspective**
- Similar business profiles
  - Sector / industry
  - Products and services
  - Customers and end markets
  - Distribution channels and geography
- Similar financial profiles
  - Size (revenue)
  - Profitability
 - Growth profile
  - Capital structure

Example

Ticker	Share Price	Market Cap	Shares Outstanding	Cash	Total Debt	Enterprise Value	Last 12 Months									
							Revenue	EBITDA	EBIT	EPS	FCFF	EV/Revenue	EV/EBITDA	EV/EBIT	EV/FCFF	P/E
UAA	$ 6.73	3,205,230	476,260	1,049,413	1,454,000	3,609,817	5,558,027	386,547	246,722	0.02	(168,943)	0.65	9.34	14.63	-21.37	336.50
NKE	$ 83.55	131,257,050	1,571,000	8,574,000	12,627,000	135,310,050	46,306,000	7,939,000	7,198,000	3.83	6,457,000	2.922	17.044	18.80	20.956	21.815
LULU	$ 279.56	35,923,460	128,500	1,259,900	1,594,300	36,257,860	7,930,600	1,778,000	1,525,500	8.57	237,600	4.572	20.392	23.77	152.600	32.621
VFC	$ 29.91	11,614,053	388,300	1,275,900	6,798,500	17,136,653	11,908,900	2,259,700	2,570,200	2.58	220,100	1.439	7.584	6.67	77.858	11.593

	EV/Revenue	EV/EBITDA	EV/EBIT	EV/FCFF	P/E
Minimum	0.65	7.58	6.67	-21.37	11.59
Quartile 1	1.24	8.90	12.64	10.37	19.26
Median	2.18	13.19	16.71	49.41	27.22
Quartile 3	3.33	17.88	20.04	96.54	108.59
Maximum	4.57	20.39	23.77	152.60	336.50
Average	2.40	13.59	15.97	57.51	100.63

Minimum	6.73	5.31	2.60	6.73	0.23
Quartile 1	13.64	6.37	5.70	-4.53	0.39
Median	24.60	9.86	7.81	-18.38	0.54
Quartile 3	38.07	13.66	9.53	-35.10	2.17
Maximum	52.51	15.70	11.46	-54.98	6.73
Average	27.11	10.18	7.42	-21.25	2.01

Multiplied by denominator to get Enterprise Value
Added Cash
Subtracted Debt
Divided by diluted shares outstanding

Multiplied by EPS
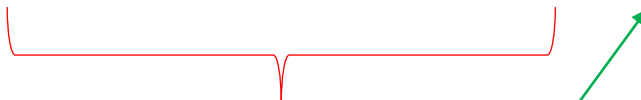
Next Steps

- Submit an Excel file with the company's correctly formatted and inserted formulas on the 3 financial statements, a built-out Revenue Build, Net Working Capital projections, and WACC and beta calculations

- Due Sunday, October 15th at 11:59 PM

- Email to bingwomeninfinance@gmail.com with the subject "Deliverable 2 – Team #"

- Following deliverable will be completed DCF and Comparable Companies Analysis due Sunday, October 21st at 11:59PM

- Tuesday, October 24th will be a general help session

- 1st round will be Friday, October 27th

Thank You!

Questions?

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