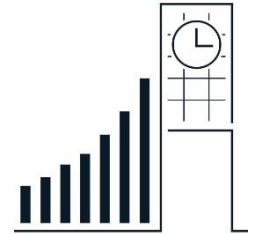


# ACCOUNTING PART 2

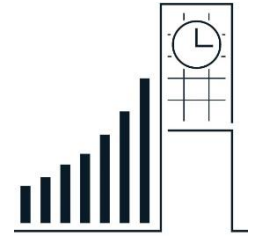
SPRING 2024

# AGENDA



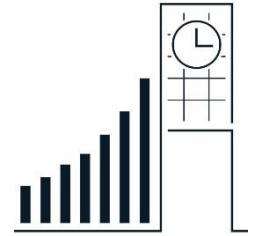
- ▶ Ratio Analysis
- ▶ Understanding Free Cash Flow to Firm
- ▶ Projecting the income statement
- ▶ Adjusting the income statement
- ▶ Projecting cash flow statement items
- ▶ Net working capital
- ▶ Projecting net working capital
- ▶ Enterprise value
- ▶ Deliverable

# RATIO ANALYSIS



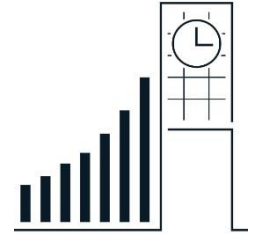
- ▶ What is a financial ratio?
  - Financial ratios show relationships between line items and help financial analysts compare companies
- ▶ Profitability
  - Demonstrates how profitable a company is (i.e., how much does it make in profit for each dollar of revenue?)
- ▶ Leverage
  - Demonstrates how much debt a company has; shows riskiness of a business
- ▶ Asset turnover
  - Measures efficiency of a company's assets (i.e., how much revenue does this factory produce each year?)

# RATIO ANALYSIS CONT.



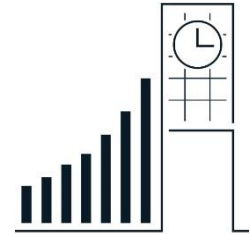
- ▶ Profitability
  - Operating Profit / Sales
  - COGS / Sales
  - SG&A / Sales
- ▶ Leverage
  - Debt / Equity
  - Debt / EBITDA
- ▶ Asset turnover
  - Sales / Property, Plant, and Equipment
  - Sales / Accounts Receivables

# FREE CASH FLOW TO FIRM



- ▶ FCFF, also called ‘unlevered free cash flow’, is essentially a pure measure of a company’s profitability after all its expenses and reinvestments have been incurred
- ▶ Cash available to pay investors after a company pays its costs of doing business

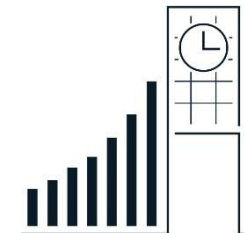
# CALCULATING FCFF



- ▶ **FCFF = EBIT x (1 - t) + D&A - CapEx - ΔNWC**
- ▶ Start with tax affected EBIT
- ▶ Add back non-cash expenses from income statement
- ▶ Subtract out cash expenses not on income statement
- ▶ Subtract additions to net working capital
  - $NWC = \text{Current Assets} - \text{Current Liabilities}$

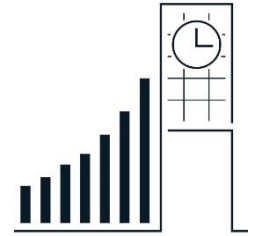
(\$mm)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	\$2,000.0	\$2,160.0	\$2,289.6	\$2,381.2	\$2,452.6	\$2,501.7
Revenue growth		8.0%	6.0%	4.0%	3.0%	2.0%
EBIT	1,000.0	1,080.0	1,144.8	1,190.6	1,226.3	1,250.8
EBIT margin	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
NOPAT	\$600.0	\$648.0	\$686.9	\$714.4	\$735.8	\$750.5
Plus: D&A	95.0	103.7	111.0	116.7	121.4	125.1
Less: CapEx	(100.0)	(108.0)	(114.5)	(119.1)	(122.6)	(125.1)
Less: Δ NWC		(8.0)	(6.5)	(4.6)	(3.6)	(2.5)
<b>FCFF</b>	<b>\$595.0</b>	<b>\$635.7</b>	<b>\$677.0</b>	<b>\$707.4</b>	<b>\$731.0</b>	<b>\$748.0</b>

# PROJECTING THE INCOME STATEMENT



- ▶ **FCFF = EBIT  $\times$  (1 - t) + D&A - CapEx -  $\Delta$ NWC**
- ▶ Revenues – assign a growth rate for each projection year
  - Look at historical growth and what the growth drivers are (store count, personal income growth, etc.)
- ▶ Expenses – assign a margin to each expense
  - Project COGS as a % of sales (pay attention to major changes in this over time)
  - Project SG&A as a % of sales (does the company need additional SG&A expense moving forward?)
- ▶ Taxes – look at historical effective tax rate
- ▶ Unusual items
  - Eliminate unusual line items or straight-line them

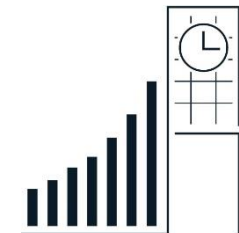
# ADJUSTING UNUSUAL ITEMS



- ▶ Accounting figures are never perfect and need to be adjusted to accurately reflect what a company earned
- ▶ GAAP vs. Adjusted figures
  - GAAP figures follow strict rules that aren't always flexible, and sometimes cause financial data to be unclear
  - We need to remove one-time or non-recurring charges so that we can make accurate projections from historical data



# ADJUSTING INCOME STATEMENT

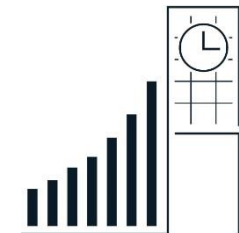


- ▶ Example Co. had a \$5 billion fine in 2012 and a \$1.2 billion dollar expense for their largest warehouse in 2015
- ▶ Why would we adjust these out?
  - It is hard to make sense of GAAP data

**Example Co Income Statement (in millions)**

	2011	2012	2013	2014	2015	2016
Revenue	\$ 10,000	\$ 10,500	\$ 11,235	\$ 12,134	\$ 13,226	\$ 13,887
<i>Growth</i>		5.0%	7.0%	8.0%	9.0%	5.0%
COGS	4,400	4,410	4,494	4,854	5,555	6,110
<i>Margin</i>	44.0%	42.0%	40.0%	40.0%	42.0%	44.0%
SG&A	1,100	1,071	1,124	1,213	1,323	1,389
<i>Margin</i>	11.0%	10.2%	10.0%	10.0%	10.0%	10.0%
Non-recurring expenses	-	(5,000.0)	-	-	(1,200.0)	-
GAAP operating profit	\$ 4,500	\$ 19	\$ 5,618	\$ 6,067	\$ 5,148	\$ 6,388
<i>Margin</i>	45.0%	0.2%	50.0%	50.0%	38.9%	46.0%

# ADJUSTING INCOME STATEMENT EXAMPLE



- ▶ Now that we adjusted this expense out, it is easier to see how the business has changed over time
- ▶ It is now easier to make projections based on this data

**Example Co Income Statement (in millions)**

	2011	2012	2013	2014	2015	2016
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<i>Margin</i>	11.0%	10.2%	10.0%	10.0%	10.0%	10.0%
Non-recurring expenses	-	(5,000.0)	-	-	(1,200.0)	-
Adjusted operating profit	\$ 4,500	\$ 5,019	\$ 5,618	\$ 6,067	\$ 6,348	\$ 6,388
<i>Margin</i>	45.0%	47.8%	50.0%	50.0%	48.0%	46.0%

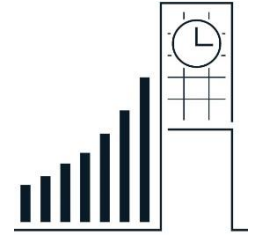
# PROJECTING NECESSARY

## CASH FLOW LINES



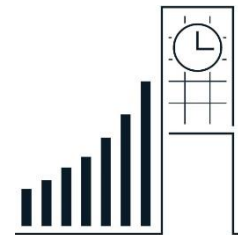
- ▶ **FCFF = EBIT x (1 - t) + D&A - CapEx - ΔNWC**
- ▶ Capital expenditures – project as a % of sales
  - As sales grow you will need to make more expenditures
- ▶ Depreciation
  - % of CapEx
  - CapEx and depreciation should be equivalent in the final year of your DCF
- ▶ Amortization
  - % of intangible assets
  - Amortization spreads out the initial capital cost of intangible assets (e.g., patents, IP, etc.) over the asset’s useful life
  - Look in footnotes of recent financials for specific policies

# NET WORKING CAPITAL

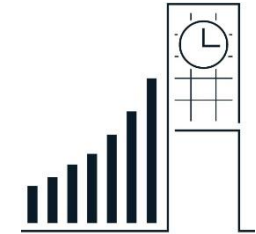


- ▶ **FCFF = EBIT x (1 - t) + D&A - CapEx -  $\Delta$ NWC**
- ▶ Net working capital is used to measure the short-term liquidity and efficiency of a business
  - $NWC = \text{Current Assets} - \text{Current Liabilities}$  (excluding interest bearing assets and liabilities)
- ▶ Current assets (increase in CA decreases cash)
  - Accounts receivables – money owed to the company
  - Inventory – goods held by the company
- ▶ Current liabilities (increase in CL increases cash)
  - Accounts payable – money you owe to other companies
  - Salaries payable – money you owe to employees

# NET WORKING CAPITAL

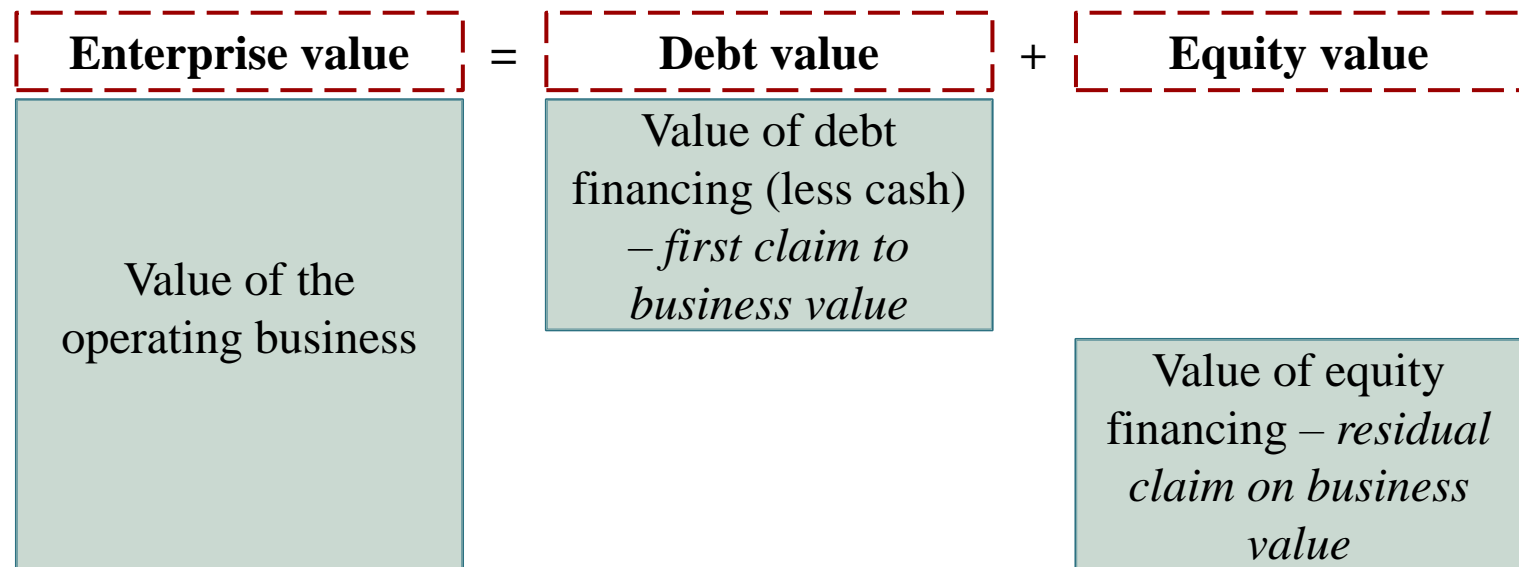


- ▶ We need to project out NWC because it affects the cash flow of the company
- ▶ We project these using turnover measurements
- ▶ Asset side:
  - $\frac{AR}{Sales} = \frac{AR\ Days}{365}$ ;  $AR\ Days = \frac{AR}{Sales} * 365$
  - $\frac{Inv}{COGS} = \frac{Inv\ Days}{365}$ ;  $Inv\ Days = \frac{Inv}{COGS} * 365$
  - Prepaid expenses can be projected as a % of SG&A
- ▶ Liabilities side:
  - $\frac{AP}{COGS} = \frac{AP\ Days}{365}$ ;  $AP\ Days = \frac{AP}{COGS} * 365$
  - Accrued liabilities can be projected as a % of SG&A

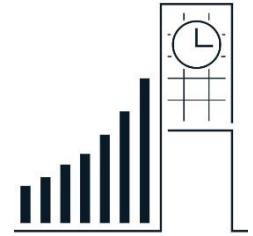


# ENTERPRISE VALUE (EV)

- ▶ Buying a share in a business grants you ownership of the **equity**, not the **enterprise**
- ▶ EV represents the value of the **entire firm's** operating assets available to **all suppliers of capital** to the firm



# ENTERPRISE VALUE EXAMPLE

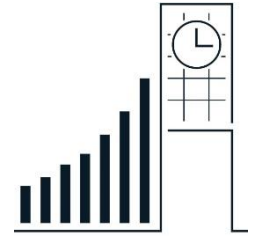


- ▶ What's the enterprise value for ExampleCo?

**ExampleCo Balance Sheet**

Cash \$200	Debt \$400
Enterprise Value ???	Equity \$400

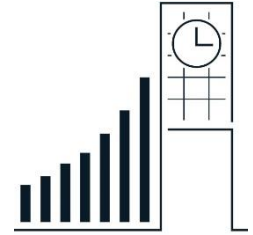
# DELIVERABLE 1



- ▶ 1-2 Paragraphs summarizing an overview of your investment idea in Microsoft Word
  - Let us know how you're thinking about approaching your stock pitch (i.e. what makes this an attractive investment opportunity)
- ▶ Put Financial Statements into Excel (IS, BS, CFS)
  - We will be covering how to do this next meeting
- ▶ Due on Monday, March 11<sup>th</sup> at 11:59 PM
  - This deliverable is **mandatory**
- ▶ Email it to [bingfinancesociety@gmail.com](mailto:bingfinancesociety@gmail.com)
  - Subject line must be: Team [number] – Deliverable 1



# QUESTIONS?



- ▶ Check out our website: [bingfinance.org](http://bingfinance.org)
- ▶ Email us at:
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