

For help on exactly how to use the PDF version of your Workbooks, please visit: (all lower case) <http://www.harounventures.com/workbook-help>. I recommend downloading the **free** Adobe Reader version (not the Acrobat Pro Trial version) of the Adobe Acrobat reader from this link: <https://get.adobe.com/reader/>

Please have the Excel spreadsheet from this website open for today's class (Chris will tell you what to do with it; thanks): <http://www.harounventures.com/fa-1-9> (all lower-case).

INTERNET LINKS*:

[CALENDAR](#) [MBA HOME PAGE](#) [WORKBOOKS](#) [MBA OFFICE HOURS](#) [CLASS REPLAYS](#)

LINKS IN THIS DOCUMENT:

[TOPIC 1](#) [TOPIC 2](#) [EXERCISE FA-1-9-2-1](#) for Topic 1** [EXERCISE FA-1-9-2-2](#)
[EXERCISE FA-1-9-2-3](#) [EXERCISE FA-1-9-2-4](#) [EXERCISE FA-1-9-2-5](#) [EXERCISE FA-1-9-2-6](#)
[EXERCISE FA-1-9-2-7](#) [EXERCISE FA-1-9-2-8](#) [TOPIC 3](#) [EXERCISE FA-1-9-3-1](#)
[EXERCISE FA-1-9-3-2](#) [EXERCISE FA-1-9-3-3](#) [EXERCISE FA-1-9-3-4](#) [EXERCISE FA-1-9-3-5](#)
[EXERCISE FA-1-9-3-6](#) [HOMEWORK](#)

* If prompted for a password, use the password that was emailed to you.

FA-1-9-2-1 Means FA **SEMESTER 1 **CLASS 9** **TOPIC 2** EXERCISE 1

WORKBOOK FOR FINANCE & ACCOUNTING SEMESTER #1 & CLASS #9 (ALSO CALLED FA-1-9***)

3 TOPICS COVERED IN THIS LESSON: (Brief Recaps in Brackets. Click the text to jump to the page in this workbook where we cover the Topics).

- 1** [FA-1-9-1: INTRO. TO ADVANCED MODELING & VALUATION + 25 BEST PRACTICES FOR MODELING & VALUING COMPANIES](#) (Overview of advanced financial modeling and 25 important rules to help you value and model companies)
- 2** [FA-1-9-2: ADVANCED MODELING OF FINANCIAL STATEMENTS](#) (How to do more advanced modeling with the included modeling & valuation template)
- 3** [FA-1-9-3: ADVANCED VALUATION](#) (How to do more advanced valuation with the included modeling & valuation template)

Please have this workbook open during the FA-1-9*** lecture and fill in the blanks or answer the questions in this workbook when Chris asks you to do so during the live lesson (or during the replay of the live lesson). The homework for all lessons is always listed on the last page.

If you are watching a live version of this lesson, please let Chris explain the concepts and then we will have many opportunities for live Q&A when he mentions: "Does Anyone Have Any Questions?" You can also ask Chris questions about the concepts taught in this class during his weekly *For MBA Degree Program Students Only Weekly Q&A Webcast*, which is available at the following [link](#) using the password that was emailed to you.

Please note that after the class is finished, Chris will direct you where to go online in order to take a quiz based on the concepts taught in FA-1-9. If you can't watch this class live, then Chris' team will have an edited [replay](#) of the lesson online within one day after this class has ended.

TOPIC 1 OF 3: FA-1-9-1: Intro. to Advanced Modeling & Valuation + 25 Best Practices for Modeling & Valuing Companies

Optional: Type your notes for Topic #1 in this box:

Optional: How can you apply what you have learned about Topic #1 today to enhance your career (or to make you happier and more successful in general)?

Optional: Type a question(s) below that you want to ask Chris on the live webcast about Topic #1. If you are watching the live webcast of this lesson, after Chris finishes discussing each Topic, he will say “Does anyone have any questions about Topic #1. At that point you can copy and paste the text that you type below into the YouTube message box to ask him a question. If you are not on the live webcast, you can also ask him your questions during the [MBA Only Students Office Hours Webcast](#) (use the password that was emailed to you). Before asking the question about Topic #1, please look at the first page of this document to see what he will discuss in Topic #2 and Topic #3 (in case your question will be addressed during Topic #2 and Topic #3). Thanks:

TOPIC 2 OF 3: FA-1-9-2: Advanced Modeling of Financial Statements

Optional: Type your notes for Topic #2 in this box:

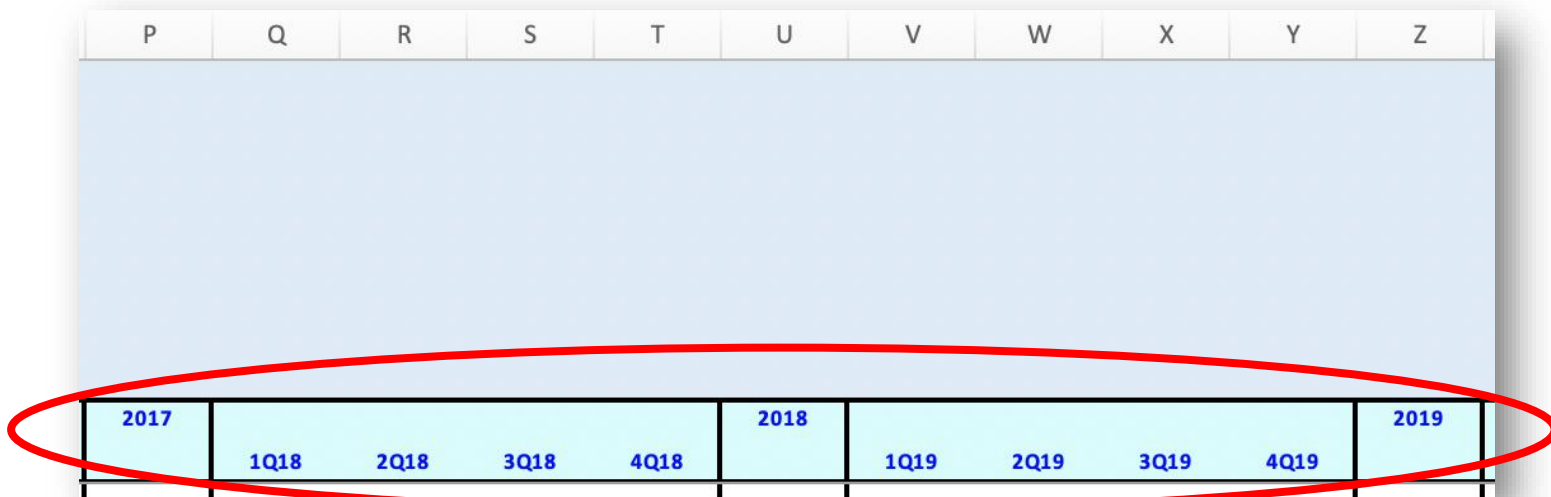
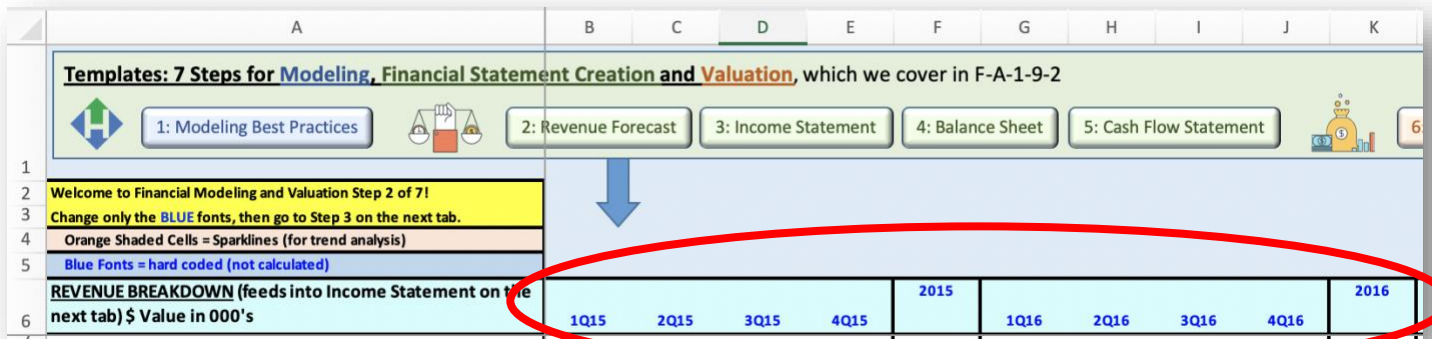
Optional: How can you apply what you have learned about Topic #2 today to enhance your career (or to make you happier and more successful in general)?

Optional: Type a question(s) below that you want to ask Chris on the live webcast about Topic #2. If you are watching the live webcast of this lesson, after Chris finishes discussing each Topic, he will say “Does anyone have any questions about Topic #2. At that point you can copy and paste the text that you type below into the YouTube message box to ask him a question. If you are not on the live webcast, you can also ask him your questions during the [MBA Only Students Office Hours Webcast](#) (use the password that was emailed to you). Before asking the question about Topic #2, please look at the first page of this document to see what he will discuss in Topic #3 (in case your question will be addressed during Topic #3). Thanks:

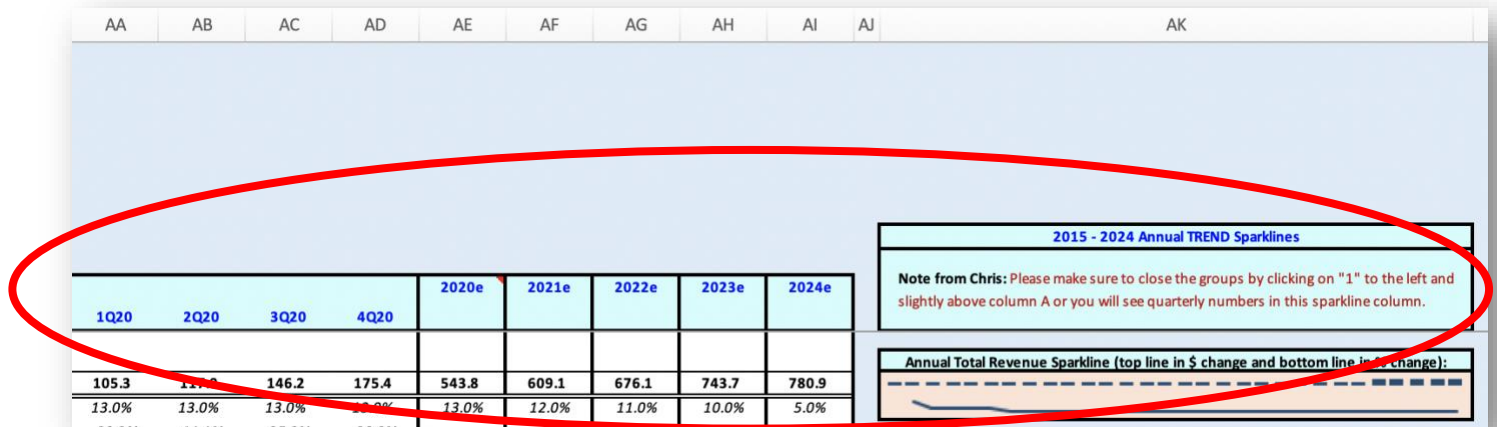
EXERCISE FA-1-9-2-1: PART 1 OF BUILDING THE REVENUE FORECAST IN THE TAB CALLED “STEP 2 REVENUE FORECAST”

This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 2 Revenue Forecast”:

- In cell A13, enter: Big Cow Bells
- In cell A18, enter: Small Cow Bells
- Enter in the dates as show in the red circles in the 3 images below (meaning the blue font):



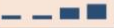


Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)






EXERCISE FA-1-9-2-2: PART 2 OF BUILDING THE REVENUE FORECAST IN THE TAB CALLED “STEP 2 REVENUE FORECAST”




This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 2 Revenue Forecast”:

- In the images below you will see blue text for the revenue for several quarters and years. Only update your spreadsheet with the blue shaded fonts in the 6 images below:




REVENUE BREAKDOWN (feeds into Income Statement on the next tab) \$ Value in 000's					2015
	1Q15	2Q15	3Q15	4Q15	
Sector Breakdown of Revenue					
Total Revenue	\$ 15	\$ 30	\$ 45	\$ 60	\$ 150
<i>YOY change</i>	N/A	N/A	N/A	N/A	
<i>QOQ change</i>	N/A	100.0%	50.0%	33.3%	
Quarterly Total Revenue Seasonality Sparkline (click + to see it)					
Big Cow Bells	10.0	20.0	30.0	40.0	\$ 100.0
<i>YOY change</i>	N/A	N/A	N/A	N/A	N/A
<i>QOQ change</i>	N/A	100.0%	50.0%	33.3%	
<i>% of total</i>	66.7%	66.7%	66.7%	66.7%	66.7%
Quarterly Revenue Line Item 1 of 2 Seasonality Sparkline (click + to see it)					
Small Cowbells	5.0	10.0	15.0	20.0	\$ 50.0
<i>YOY change</i>	N/A	N/A	N/A	N/A	
<i>QOQ change</i>	N/A	100.0%	50.0%	33.3%	
<i>% of total</i>	33.3%	33.3%	33.3%	33.3%	33.3%
Quarterly Revenue Line Item 2 of 2 Seasonality Sparkline (click + to see it)					




Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

REVENUE BREAKDOWN (feeds into Income Statement on the next tab) \$ Value in 000's					2016
	1Q16	2Q16	3Q16	4Q16	
Sector Breakdown of Revenue					
Total Revenue	\$ 53	\$ 60	\$ 75	\$ 90	\$ 278
YOY change	250.0%	100.0%	66.7%	50.0%	85.0%
QOQ change	-12.5%	14.3%	25.0%	20.0%	
Quarterly Total Revenue Seasonality Sparkline (click + to see it)					
Big Cow Bells	35.0	40.0	50.0	60.0	\$ 185.0
YOY change	250.0%	100.0%	66.7%	50.0%	85.0%
QOQ change	-12.5%	14.3%	25.0%	20.0%	
% of total	66.7%	66.7%	66.7%	66.7%	66.7%
Quarterly Revenue Line Item 1 of 2 Seasonality Sparkline (click + to see it)					
Small Cowbells	17.5	20.0	25.0	30.0	\$ 92.5
YOY change	250.0%	100.0%	66.7%	50.0%	85.0%
QOQ change	-12.5%	14.3%	25.0%	20.0%	
% of total	33.3%	33.3%	33.3%	33.3%	33.3%
Quarterly Revenue Line Item 2 of 2 Seasonality Sparkline (click + to see it)					




REVENUE BREAKDOWN (feeds into Income Statement on the next tab) \$ Value in 000's					2017
	1Q17	2Q17	3Q17	4Q17	
Sector Breakdown of Revenue					
Total Revenue	\$ 68	\$ 75	\$ 94	\$ 113	\$ 349
YOY change	28.6%	25.0%	25.0%	25.0%	25.7%
QOQ change	-25.0%	11.1%	25.0%	20.0%	
Quarterly Total Revenue Seasonality Sparkline (click + to see it)					
Big Cow Bells	45.0	50.0	62.5	75.0	\$ 232.5
YOY change	28.6%	25.0%	25.0%	25.0%	25.7%
QOQ change	-25.0%	11.1%	25.0%	20.0%	
% of total	66.7%	66.7%	66.7%	66.7%	66.7%
Quarterly Revenue Line Item 1 of 2 Seasonality Sparkline (click + to see it)					
Small Cowbells	22.5	25.0	31.3	37.5	\$ 116.3
YOY change	28.6%	25.0%	25.0%	25.0%	25.7%
QOQ change	-25.0%	11.1%	25.0%	20.0%	
% of total	33.3%	33.3%	33.3%	33.3%	33.3%
Quarterly Revenue Line Item 2 of 2 Seasonality Sparkline (click + to see it)					

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

REVENUE BREAKDOWN (feeds into Income Statement on the next tab) \$ Value in 000's					2018
	1Q18	2Q18	3Q18	4Q18	
Sector Breakdown of Revenue					
Total Revenue	\$ 81	\$ 90	\$ 113	\$ 135	\$ 419
YOY change	20.0%	20.0%	20.0%	20.0%	20.0%
QOQ change	-28.0%	11.1%	25.0%	20.0%	
Quarterly Total Revenue Seasonality Sparkline (click + to see it)					
Big Cow Bells	54.0	60.0	75.0	90.0	\$ 279.0
YOY change	20.0%	20.0%	20.0%	20.0%	20.0%
QOQ change	-28.0%	11.1%	25.0%	20.0%	
% of total	66.7%	66.7%	66.7%	66.7%	66.7%
Quarterly Revenue Line Item 1 of 2 Seasonality Sparkline (click + to see it)					
Small Cowbells	27.0	30.0	37.5	45.0	\$ 139.5
YOY change	20.0%	20.0%	20.0%	20.0%	20.0%
QOQ change	-28.0%	11.1%	25.0%	20.0%	
% of total	33.3%	33.3%	33.3%	33.3%	33.3%
Quarterly Revenue Line Item 2 of 2 Seasonality Sparkline (click + to see it)					

REVENUE BREAKDOWN (feeds into Income Statement on the next tab) \$ Value in 000's					2019
	1Q19	2Q19	3Q19	4Q19	
Sector Breakdown of Revenue					
Total Revenue	\$ 93	\$ 104	\$ 129	\$ 155	\$ 481
YOY change	15.0%	15.0%	15.0%	15.0%	15.0%
QOQ change	-31.0%	11.1%	25.0%	20.0%	
Quarterly Total Revenue Seasonality Sparkline (click + to see it)					
Big Cow Bells	62.1	69.0	86.3	103.5	\$ 320.9
YOY change	15.0%	15.0%	15.0%	15.0%	15.0%
QOQ change	-31.0%	11.1%	25.0%	20.0%	
% of total	66.7%	66.7%	66.7%	66.7%	66.7%
Quarterly Revenue Line Item 1 of 2 Seasonality Sparkline (click + to see it)					
Small Cowbells	31.1	34.5	43.1	51.8	\$ 160.4
YOY change	15.0%	15.0%	15.0%	15.0%	15.0%
QOQ change	-31.0%	11.1%	25.0%	20.0%	
% of total	33.3%	33.3%	33.3%	33.3%	33.3%
Quarterly Revenue Line Item 2 of 2 Seasonality Sparkline (click + to see it)					

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

	REVENUE BREAKDOWN (feeds into Income Statement on the next tab) \$ Value in 000's				2020e	2021e	2022e	2023e	2024e				
	1Q20	2Q20	3Q20	4Q20									
6													
7													
8	Sector Breakdown of Revenue												
9	Total Revenue				105.3	117.0	146.2	175.4	543.8	609.1	676.1	743.7	780.9
10	YOY change				13.0%	13.0%	13.0%	13.0%	13.0%	12.0%	11.0%	10.0%	5.0%
11	QOQ change				-32.2%	11.1%	25.0%	20.0%					
12	Quarterly Total Revenue Seasonality Sparkline (click + to see it)												
13	Big Cow Bells				\$ 70.2	\$ 78.0	\$ 97.5	\$ 117.0	362.6	406.1	450.7	495.8	520.6
14	YOY change				13.0%	13.0%	13.0%	13.0%	13.0%	12.0%	11.0%	10.0%	5.0%
15	QOQ change				-32.2%	11.1%	25.0%	20.0%					
16	% of total				66.7%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%
17	Quarterly Revenue Line Item 1 of 2 Seasonality Sparkline (click + to see it)												
18	Small Cowbells				\$ 35.1	\$ 39.0	\$ 48.7	\$ 58.5	181.3	203.0	225.4	247.9	260.3
19	YOY change				13.0%	13.0%	13.0%	13.0%	13.0%	12.0%	11.0%	10.0%	5.0%
20	QOQ change				-32.2%	11.1%	25.0%	20.0%					
21	% of total				33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
22	Quarterly Revenue Line Item 2 of 2 Seasonality Sparkline (click + to see it)												

EXERCISE FA-1-9-2-3: PART 1 OF BUILDING THE INCOME STATEMENT FORECAST IN THE TAB CALLED “STEP 3 INCOME STATEMENT FORECAST”


This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 3 Income Statement Forecast”:


- In the images below you will see blue text for the revenue for several quarters and years. Only update your spreadsheet with the blue shaded fonts in the 8 images below:


REVENUE BREAKDOWN (feeds into Income Statement on the next tab) \$ Value in 000's					2020e	2021e	2022e	2023e	2024e
	1Q20	2Q20	3Q20	4Q20					
Sector Breakdown of Revenue									
Total Revenue	105.3	117.0	146.2	175.4	543.8	609.1	676.1	743.7	780.9
YOY change	13.0%	13.0%	13.0%	13.0%	13.0%	12.0%	11.0%	10.0%	5.0%
QOQ change	-32.2%	11.1%	25.0%	20.0%					
Quarterly Total Revenue Seasonality Sparkline (click + to see it)									
Big Cow Bells	\$ 70.2	\$ 78.0	\$ 97.5	\$ 117.0	362.6	406.1	450.7	495.8	520.6
YOY change	13.0%	13.0%	13.0%	13.0%	13.0%	12.0%	11.0%	10.0%	5.0%
QOQ change	-32.2%	11.1%	25.0%	20.0%					
% of total	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%
Quarterly Revenue Line Item 1 of 2 Seasonality Sparkline (click + to see it)									
Small Cowbells	\$ 35.1	\$ 39.0	\$ 48.7	\$ 58.5	181.3	203.0	225.4	247.9	260.3
YOY change	13.0%	13.0%	13.0%	13.0%	13.0%	12.0%	11.0%	10.0%	5.0%
QOQ change	-32.2%	11.1%	25.0%	20.0%					
% of total	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Quarterly Revenue Line Item 2 of 2 Seasonality Sparkline (click + to see it)									

INCOME STATEMENT \$ Value in 000's					1Q15	2Q15	3Q15	4Q15	2015
Revenue					15.0	30.0	45.0	60.0	150.0
YOY change					N/A	N/A	N/A	N/A	
QOQ change					N/A	100.0%	50.0%	33.3%	
Quarterly Revenue Sparkline (click '2' above A1 to see it).									
COGS					5.0	10.0	15.0	20.0	50.0
% of Revenue					33.3%	33.3%	33.3%	33.3%	33.3%
Gross profit					10.0	20.0	30.0	40.0	100.0
Gross margin					66.7%	66.7%	66.7%	66.7%	66.7%


Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)


7	INCOME STATEMENT \$ Value in 000's	1Q16	2Q16	3Q16	4Q16	2016
8	Revenue	52.5	60.0	75.0	90.0	277.5
9	YOY change	250.0%	100.0%	66.7%	50.0%	85.0%
10	QOQ change	-12.5%	14.3%	25.0%	20.0%	
11	Quarterly Revenue Sparkline (click '2' above A1 to see it).					
12						
13	COGS	17.5	20.0	25.0	30.0	92.4
14	% of Revenue	33.3%	33.3%	33.3%	33.3%	33.3%
15	Gross profit	35.0	40.0	50.0	60.0	185.1
16	Gross margin	66.7%	66.7%	66.7%	66.7%	66.7%

7	INCOME STATEMENT \$ Value in 000's	1Q17	2Q17	3Q17	4Q17	2017
8	Revenue	67.5	75.0	93.8	112.5	348.8
9	YOY change	28.6%	25.0%	25.0%	25.0%	25.7%
10	QOQ change	-25.0%	11.1%	25.0%	20.0%	
11	Quarterly Revenue Sparkline (click '2' above A1 to see it).					
12						
13	COGS	22.5	25.0	31.2	37.5	116.1
14	% of Revenue	33.3%	33.3%	33.3%	33.3%	33.3%
15	Gross profit	45.0	50.0	62.5	75.0	232.6
16	Gross margin	66.7%	66.7%	66.7%	66.7%	66.7%

7	INCOME STATEMENT \$ Value in 000's	1Q18	2Q18	3Q18	4Q18	2018
8	Revenue	81.0	90.0	112.5	135.0	418.5
9	YOY change	20.0%	20.0%	20.0%	20.0%	20.0%
10	QOQ change	-28.0%	11.1%	25.0%	20.0%	
11	Quarterly Revenue Sparkline (click '2' above A1 to see it).					
12						
13	COGS	27.0	30.0	37.5	45.0	139.4
14	% of Revenue	33.3%	33.3%	33.3%	33.3%	33.3%
15	Gross profit	54.0	60.0	75.0	90.0	279.1
16	Gross margin	66.7%	66.7%	66.7%	66.7%	66.7%

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	1Q19	2Q19	3Q19	4Q19	2019
8	Revenue	93.2	103.5	129.4	155.3	481.3
9	YOY change	15.0%	15.0%	15.0%	15.0%	15.0%
10	QOQ change	-31.0%	11.1%	25.0%	20.0%	
11	Quarterly Revenue Sparkline (click '2' above A1 to see it).					
12						
13	COGS	31.0	34.5	43.1	51.7	160.3
14	% of Revenue	33.3%	33.3%	33.3%	33.3%	33.3%
15	Gross profit	62.1	69.0	86.3	103.6	321.0
16	Gross margin	66.7%	66.7%	66.7%	66.7%	66.7%




7	INCOME STATEMENT \$ Value in 000's	1Q20	2Q20	3Q20	4Q20	2020e
8	Revenue	105.3	117.0	146.2	175.4	543.8
9	YOY change	13.0%	13.0%	13.0%	13.0%	13.0%
10	QOQ change	-32.2%	11.1%	25.0%	20.0%	
11	Quarterly Revenue Sparkline (click '2' above A1 to see it).					
12						
13	COGS	35.1	38.9	48.7	58.4	181.1
14	% of Revenue	33.3%	33.3%	33.3%	33.3%	33.3%
15	Gross profit	70.2	78.0	97.5	117.0	362.7
16	Gross margin	66.7%	66.7%	66.7%	66.7%	66.7%

7	INCOME STATEMENT \$ Value in 000's	2021e	2022e	2023e	2024e
8	Revenue	609.1	676.1	743.7	780.9
9	YOY change	12.0%	11.0%	10.0%	5.0%
10	QOQ change				
11	Quarterly Revenue Sparkline (click '2' above A1 to see it).				
12					
13	COGS	194.9	209.6	223.1	195.2
14	% of Revenue	32.0%	31.0%	30.0%	25.0%
15	Gross profit	414.2	466.5	520.6	585.7
16	Gross margin	68.0%	69.0%	70.0%	75.0%




EXERCISE FA-1-9-2-4: PART 2 OF BUILDING THE INCOME STATEMENT FORECAST IN THE TAB CALLED “STEP 3 INCOME STATEMENT FORECAST”

This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 3 Income Statement Forecast”:




- In the images below you will see blue text for the revenue for several quarters and years. Only update your spreadsheet with the blue shaded fonts in the 7 images below:

7	INCOME STATEMENT \$ Value in 000's	1Q15	2Q15	3Q15	4Q15	2015
8	Revenue	15.0	30.0	45.0	60.0	150.0
19	Sales and Marketing	1.5	3.0	4.5	6.0	15.0
20	% of Revenue	10.0%	10.0%	10.0%	10.0%	N/A
21	YOY change					N/A
22	QOQ change		100.0%	50.0%	33.3%	
23	Quarterly Sales and Marketing Sparkline (click '2' above A1 to see it).					
24						
25	Research and Development	1.5	3.0	4.5	6.0	15.0
26	% of Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
27	YOY change					N/A
28	QOQ change		100.0%	50.0%	33.3%	
29	Quarterly Research and Development Sparkline (click '2' above A1 to see it).					
30						
31	General and Administrative	1.5	3.0	4.5	6.0	15.0
32	% of Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
33	YOY change					N/A
34	QOQ change		100.0%	50.0%	33.3%	
35	Quarterly General and Administrative Sparkline (click '2' above A1 to see it).					
36						
37	Depreciation	0.0	0.0	0.0	0.0	0.0




Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	1Q16	2Q16	3Q16	4Q16	2016
8	Revenue	52.5	60.0	75.0	90.0	277.5
19	Sales and Marketing	5.3	6.0	7.5	9.0	27.8
20	<i>% of Revenue</i>	10.0%	10.0%	10.0%	10.0%	10.0%
21	<i>YOY change</i>	250.0%	100.0%	66.7%	50.0%	85.0%
22	<i>QOQ change</i>	-12.5%	14.3%	25.0%	20.0%	
23	Quarterly Sales and Marketing Sparkline (click '2' above A1 to see it).					
24						
25	Research and Development	5.3	6.0	7.5	9.0	27.8
26	<i>% of Revenue</i>	10.0%	10.0%	10.0%	10.0%	10.0%
27	<i>YOY change</i>	250.0%	100.0%	66.7%	50.0%	85.0%
28	<i>QOQ change</i>	-12.5%	14.3%	25.0%	20.0%	
29	Quarterly Research and Development Sparkline (click '2' above A1 to see it).					
30						
31	General and Administrative	5.3	6.0	7.5	9.0	27.8
32	<i>% of Revenue</i>	10.0%	10.0%	10.0%	10.0%	10.0%
33	<i>YOY change</i>	250.0%	100.0%	66.7%	50.0%	85.0%
34	<i>QOQ change</i>	-12.5%	14.3%	25.0%	20.0%	
35	Quarterly General and Administrative Sparkline (click '2' above A1 to see it).					
36						
37	Depreciation	0.0	0.0	0.0	0.0	0.0




Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	1Q17	2Q17	3Q17	4Q17	2017
8	Revenue	67.5	75.0	93.8	112.5	348.8
19	Sales and Marketing	6.8	7.5	9.4	11.3	34.9
20	% of Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
21	YOY change	28.6%	25.0%	25.0%	25.0%	25.7%
22	QOQ change	-25.0%	11.1%	25.0%	20.0%	
23	Quarterly Sales and Marketing Sparkline (click '2' above A1 to see it).					
24						
25	Research and Development	6.8	7.5	9.4	11.3	34.9
26	% of Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
27	YOY change	28.6%	25.0%	25.0%	25.0%	25.7%
28	QOQ change	-25.0%	11.1%	25.0%	20.0%	
29	Quarterly Research and Development Sparkline (click '2' above A1 to see it).					
30						
31	General and Administrative	6.8	7.5	9.4	11.3	34.9
32	% of Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
33	YOY change	28.6%	25.0%	25.0%	25.0%	25.7%
34	QOQ change	-25.0%	11.1%	25.0%	20.0%	
35	Quarterly General and Administrative Sparkline (click '2' above A1 to see it).					
36						
37	Depreciation	0.0	0.0	0.0	0.0	0.0




Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	1Q18	2Q18	3Q18	4Q18	2018
8	Revenue	81.0	90.0	112.5	135.0	418.5
19	Sales and Marketing	8.1	9.0	11.3	13.5	41.9
20	% of Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
21	YOY change	20.0%	20.0%	20.0%	20.0%	20.0%
22	QOQ change	-28.0%	11.1%	25.0%	20.0%	
23	Quarterly Sales and Marketing Sparkline (click '2' above A1 to see it).					
24						
25	Research and Development	8.1	9.0	11.3	13.5	41.9
26	% of Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
27	YOY change	20.0%	20.0%	20.0%	20.0%	20.0%
28	QOQ change	-28.0%	11.1%	25.0%	20.0%	
29	Quarterly Research and Development Sparkline (click '2' above A1 to see it).					
30						
31	General and Administrative	8.1	9.0	11.3	13.5	41.9
32	% of Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
33	YOY change	20.0%	20.0%	20.0%	20.0%	20.0%
34	QOQ change	-28.0%	11.1%	25.0%	20.0%	
35	Quarterly General and Administrative Sparkline (click '2' above A1 to see it).					
36						
37	Depreciation	0.0	0.0	0.0	0.0	0.0

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	1Q19	2Q19	3Q19	4Q19	2019
8	Revenue	93.2	103.5	129.4	155.3	481.3
19	Sales and Marketing	9.3	10.4	12.9	15.5	48.1
20	% of Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
21	YOY change	15.0%	15.0%	15.0%	15.0%	15.0%
22	QOQ change	-31.0%	11.1%	25.0%	20.0%	
23	Quarterly Sales and Marketing Sparkline (click '2' above A1 to see it).					
24						
25	Research and Development	9.3	10.4	12.9	15.5	48.1
26	% of Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
27	YOY change	15.0%	15.0%	15.0%	15.0%	15.0%
28	QOQ change	-31.0%	11.1%	25.0%	20.0%	
29	Quarterly Research and Development Sparkline (click '2' above A1 to see it).					
30						
31	General and Administrative	9.3	10.4	12.9	15.5	48.1
32	% of Revenue	10.0%	10.0%	10.0%	10.0%	10.0%
33	YOY change	15.0%	15.0%	15.0%	15.0%	15.0%
34	QOQ change	-31.0%	11.1%	25.0%	20.0%	
35	Quarterly General and Administrative Sparkline (click '2' above A1 to see it).					
36						
37	Depreciation	0.0	0.0	0.0	0.0	0.0
38						

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	1Q20	2Q20	3Q20	4Q20	2020e
8	Revenue	105.3	117.0	146.2	175.4	543.8
19	Sales and Marketing	9.5	10.5	13.2	15.8	48.9
20	<i>% of Revenue</i>	9.0%	9.0%	9.0%	9.0%	9.0%
21	<i>YOY change</i>	1.7%	1.7%	1.7%	1.7%	1.7%
22	<i>QOQ change</i>	-39.0%	11.1%	25.0%	20.0%	
23	Quarterly Sales and Marketing Sparkline (click '2' above A1 to see it).					
24						
25	Research and Development	9.5	10.5	13.2	15.8	48.9
26	<i>% of Revenue</i>	9.0%	9.0%	9.0%	9.0%	9.0%
27	<i>YOY change</i>	1.7%	1.7%	1.7%	1.7%	1.7%
28	<i>QOQ change</i>	-39.0%	11.1%	25.0%	20.0%	
29	Quarterly Research and Development Sparkline (click '2' above A1 to see it).					
30						
31	General and Administrative	5.3	5.8	7.3	8.8	27.2
32	<i>% of Revenue</i>	5.0%	5.0%	5.0%	5.0%	5.0%
33	<i>YOY change</i>	(43.5%)	(43.5%)	(43.5%)	(43.5%)	-43.5%
34	<i>QOQ change</i>	-66.1%	11.1%	25.0%	20.0%	
35	Quarterly General and Administrative Sparkline (click '2' above A1 to see it).					
36						
37	Depreciation	0.0	0.0	0.0	0.0	0.0
38						

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	2021e	2022e	2023e	2024e
8	Revenue	609.1	676.1	743.7	780.9
19	Sales and Marketing	48.7	47.3	44.6	39.0
20	<i>% of Revenue</i>	<i>8.0%</i>	<i>7.0%</i>	<i>6.0%</i>	<i>5.0%</i>
21	<i>YOY change</i>	<i>0%</i>	<i>-3%</i>	<i>-6%</i>	<i>-13%</i>
22	<i>QOQ change</i>				
23	Quarterly Sales and Marketing Sparkline (click '2' above A1 to see it).				
24					
25	Research and Development	42.6	33.8	22.3	15.6
26	<i>% of Revenue</i>	<i>7.0%</i>	<i>5.0%</i>	<i>3.0%</i>	<i>2.0%</i>
27	<i>YOY change</i>	<i>-13%</i>	<i>-21%</i>	<i>-34%</i>	<i>-30%</i>
28	<i>QOQ change</i>				
29	Quarterly Research and Development Sparkline (click '2' above A1 to see it).				
30					
31	General and Administrative	24.4	27.0	29.7	46.9
32	<i>% of Revenue</i>	<i>4.0%</i>	<i>4.0%</i>	<i>4.0%</i>	<i>6.0%</i>
33	<i>YOY change</i>	<i>-10%</i>	<i>11%</i>	<i>10%</i>	<i>58%</i>
34	<i>QOQ change</i>				
35	Quarterly General and Administrative Sparkline (click '2' above A1 to see it).				
36					
37	Depreciation	0.0	0.0	0.0	0.0
38	<i>% of Revenue</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>

EXERCISE FA-1-9-2-5: PART 3 OF BUILDING THE INCOME STATEMENT FORECAST IN THE TAB CALLED "STEP 3 INCOME STATEMENT FORECAST"

This exercise will be done in Excel. Please watch Chris' explanation in the video. He will refer to the following things for you to enter in the tab called "Step 3 Income Statement Forecast":

- In the images below you will see blue text for the revenue for several quarters and years. Only update your spreadsheet with the blue shaded fonts in the 7 images below:

7	INCOME STATEMENT \$ Value in 000's	1Q15	2Q15	3Q15	4Q15	2015
8	Revenue	15.0	30.0	45.0	60.0	150.0
43	Total Expenses	9.5	19.0	28.5	38.0	95.0
44	% of Revenue	63.3%	63.3%	63.3%	63.3%	63.3%
45	Yoy Change					N/A
46	Income (loss) from operations	5.5	11.0	16.5	22.0	55.0
47	% of Revenue	36.7%	36.7%	36.7%	36.7%	36.7%
48	EBITDA	5.5	11.0	16.5	22.0	55.0
49	% of Revenue	36.7%	36.7%	36.7%	36.7%	36.7%
50	Other income (expense), net	0.0	0.0	0.0	0.0	0.0
51	% of Revenue	0.0%	0.0%	0.0%	0.0%	0.0%
52	GAAP Income (loss) before income taxes	5.5	11.0	16.5	22.0	55.0
53	% of Revenue	36.7%	36.7%	36.7%	36.7%	36.7%
54	GAAP Provision (benefit) for income taxes	2.0	4.0	5.9	7.9	19.8
55	Tax Rate	36.4%	36.0%	36.0%	36.0%	36.0%

7	INCOME STATEMENT \$ Value in 000's	1Q16	2Q16	3Q16	4Q16	2016
8	Revenue	52.5	60.0	75.0	90.0	277.5
43	Total Expenses	33.2	38.0	47.5	57.0	175.7
44	% of Revenue	63.3%	63.3%	63.3%	63.3%	63.3%
45	Yoy Change	249.8%	100.0%	66.7%	50.0%	85.0%
46	Income (loss) from operations	19.3	22.0	27.5	33.0	101.8
47	% of Revenue	36.7%	36.7%	36.7%	36.7%	36.7%
48	EBITDA	19.3	22.0	27.5	33.0	101.8
49	% of Revenue	36.7%	36.7%	36.7%	36.7%	36.7%
50	Other income (expense), net	0.0	0.0	0.0	0.0	0.0
51	% of Revenue	0.0%	0.0%	0.0%	0.0%	0.0%
52	GAAP Income (loss) before income taxes	19.3	22.0	27.5	33.0	101.8
53	% of Revenue	36.7%	36.7%	36.7%	36.7%	36.7%
54	GAAP Provision (benefit) for income taxes	5.8	6.6	8.3	9.9	30.6
55	Tax Rate	30.0%	30.0%	30.0%	30.0%	30.0%

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	1Q17	2Q17	3Q17	4Q17	2017
8	Revenue	67.5	75.0	93.8	112.5	348.8
43	Total Expenses	42.7	47.5	59.3	71.2	220.8
44	<i>% of Revenue</i>	63.3%	63.3%	63.3%	63.3%	63.3%
45	<i>Yoy Change</i>	28.6%	25.0%	25.0%	25.0%	25.7%
46	Income (loss) from operations	24.8	27.5	34.4	41.3	128.0
47	<i>% of Revenue</i>	36.7%	36.7%	36.7%	36.7%	36.7%
48	EBITDA	24.8	27.5	34.4	41.3	128.0
49	<i>% of Revenue</i>	36.7%	36.7%	36.7%	36.7%	36.7%
50	Other income (expense), net	0.0	0.0	0.0	0.0	0.0
51	<i>% of Revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
52	GAAP Income (loss) before income taxes	24.8	27.5	34.4	41.3	128.0
53	<i>% of Revenue</i>	36.7%	36.7%	36.7%	36.7%	36.7%
54	GAAP Provision (benefit) for income taxes	7.4	8.3	10.3	12.4	38.4
55	<i>Tax Rate</i>	30.0%	30.0%	30.0%	30.0%	30.0%

7	INCOME STATEMENT \$ Value in 000's	1Q18	2Q18	3Q18	4Q18	2018
8	Revenue	81.0	90.0	112.5	135.0	418.5
43	Total Expenses	51.3	57.0	71.2	85.5	264.9
44	<i>% of Revenue</i>	63.3%	63.3%	63.3%	63.3%	63.3%
45	<i>Yoy Change</i>	20.0%	20.0%	20.0%	20.0%	20.0%
46	Income (loss) from operations	29.7	33.0	41.3	49.5	153.6
47	<i>% of Revenue</i>	36.7%	36.7%	36.7%	36.7%	36.7%
48	EBITDA	29.7	33.0	41.3	49.5	153.6
49	<i>% of Revenue</i>	36.7%	36.7%	36.7%	36.7%	36.7%
50	Other income (expense), net	0.0	0.0	0.0	0.0	0.0
51	<i>% of Revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
52	GAAP Income (loss) before income taxes	29.7	33.0	41.3	49.5	153.6
53	<i>% of Revenue</i>	36.7%	36.7%	36.7%	36.7%	36.7%
54	GAAP Provision (benefit) for income taxes	7.4	8.3	10.3	12.4	38.4
55	<i>Tax Rate</i>	25.0%	25.0%	25.0%	25.0%	25.0%

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	1Q19	2Q19	3Q19	4Q19	2019
8	Revenue	93.2	103.5	129.4	155.3	481.3
43	Total Expenses	59.0	65.5	81.9	98.3	304.6
44	% of Revenue	63.3%	63.3%	63.3%	63.3%	63.3%
45	Yoy Change	15.0%	15.0%	15.0%	15.0%	15.0%
46	Income (loss) from operations	34.2	38.0	47.5	57.0	176.6
47	% of Revenue	36.7%	36.7%	36.7%	36.7%	36.7%
48	EBITDA	34.2	38.0	47.5	57.0	176.6
49	% of Revenue	36.7%	36.7%	36.7%	36.7%	36.7%
50	Other income (expense), net	0.0	0.0	0.0	0.0	0.0
51	% of Revenue	0.0%	0.0%	0.0%	0.0%	0.0%
52	GAAP Income (loss) before income taxes	34.2	38.0	47.5	57.0	176.6
53	% of Revenue	36.7%	36.7%	36.7%	36.7%	36.7%
54	GAAP Provision (benefit) for income taxes	8.5	9.5	11.9	14.2	44.2
55	Tax Rate	25.0%	25.0%	25.0%	25.0%	25.0%

7	INCOME STATEMENT \$ Value in 000's	1Q20	2Q20	3Q20	4Q20	2020e
8	Revenue	105.3	117.0	146.2	175.4	543.8
43	Total Expenses	59.3	65.8	82.3	98.8	306.2
44	% of Revenue	56.3%	56.3%	56.3%	56.3%	56.3%
45	Yoy Change	0.5%	0.5%	0.5%	0.5%	0.5%
46	Income (loss) from operations	46.0	51.1	63.9	76.7	237.7
47	% of Revenue	43.7%	43.7%	43.7%	43.7%	43.7%
48	EBITDA	46.0	51.1	63.9	76.7	237.7
49	% of Revenue	43.7%	43.7%	43.7%	43.7%	43.7%
50	Other income (expense), net	0.0	0.0	0.0	0.0	0.0
51	% of Revenue	0.0%	0.0%	0.0%	0.0%	0.0%
52	GAAP Income (loss) before income taxes	46.0	51.1	63.9	76.7	237.7
53	% of Revenue	43.7%	43.7%	43.7%	43.7%	43.7%
54	GAAP Provision (benefit) for income taxes	11.5	12.8	16.0	19.2	59.4
55	Tax Rate	25.0%	25.0%	25.0%	25.0%	25.0%

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	2021e	2022e	2023e	2024e
8	Revenue	609.1	676.1	743.7	780.9
43	Total Expenses	310.6	317.8	319.8	296.7
44	<i>% of Revenue</i>	51.0%	47.0%	43.0%	38.0%
45	<i>Yoy Change</i>	1.5%	2.3%	0.6%	-7.2%
46	Income (loss) from operations	298.5	358.3	423.9	484.2
47	<i>% of Revenue</i>	49.0%	53.0%	57.0%	62.0%
48	EBITDA	298.5	358.3	423.9	484.2
49	<i>% of Revenue</i>	49.0%	53.0%	57.0%	62.0%
50	Other income (expense), net	0.0	0.0	0.0	0.0
51	<i>% of Revenue</i>	0.0%	0.0%	0.0%	0.0%
52	GAAP Income (loss) before income taxes	298.5	358.3	423.9	484.2
53	<i>% of Revenue</i>	49.0%	53.0%	57.0%	62.0%
54	GAAP Provision (benefit) for income taxes	74.6	89.6	127.2	145.2
55	<i>Tax Rate</i>	25.0%	25.0%	30.0%	30.0%

EXERCISE FA-1-9-2-6: PART 4 OF BUILDING THE INCOME STATEMENT FORECAST IN THE TAB CALLED “STEP 3 INCOME STATEMENT FORECAST”

This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 3 Income Statement Forecast”:

- In the images below you will see blue text for the revenue for several quarters and years. Only update your spreadsheet with the blue shaded fonts in the 8 images below:

7	INCOME STATEMENT \$ Value in 000's	1Q15	2Q15	3Q15	4Q15	2015
8	Revenue	15.0	30.0	45.0	60.0	150.0
58	GAAP Net income (loss)	\$ 3.5	\$ 7.0	\$ 10.6	\$ 14.1	\$ 35.2
59	<i>% of Revenue</i>	23.3%	23.5%	23.5%	23.5%	23.5%
60	GAAP EPS*	\$ 0.04	\$ 0.07	\$ 0.11	\$ 0.14	\$ 0.35
61	<i>YOY change</i>	N/A	N/A	N/A	N/A	
62	GAAP Shares (in 000's)	100.0	100.0	100.0	100.0	100.0
63						
64	Non-GAAP EPS (excludes depreciation)	\$0.04	\$0.07	\$0.11	\$0.14	\$0.35
65	<i>YOY change</i>	N/A	N/A	N/A	N/A	
66						

7	INCOME STATEMENT \$ Value in 000's	1Q16	2Q16	3Q16	4Q16	2016
8	Revenue	52.5	60.0	75.0	90.0	277.5
58	GAAP Net income (loss)	\$ 13.5	\$ 15.4	\$ 19.3	\$ 23.1	\$ 71.3
59	<i>% of Revenue</i>	25.7%	25.7%	25.7%	25.7%	25.7%
60	GAAP EPS*	\$ 0.13	\$ 0.15	\$ 0.19	\$ 0.23	\$ 0.71
61	<i>YOY change</i>	285.4%	118.8%	82.3%	64.1%	102.5%
62	GAAP Shares (in 000's)	100.0	100.0	100.0	100.0	100.0
63						
64	Non-GAAP EPS (excludes depreciation)	\$0.13	\$0.15	\$0.19	\$0.23	\$0.71
65	<i>YOY change</i>	285.4%	118.8%	82.3%	64.1%	102.5%
66						

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	1Q17	2Q17	3Q17	4Q17	2017
8	Revenue	67.5	75.0	93.8	112.5	348.8
58	GAAP Net income (loss)	\$ 17.3	\$ 19.3	\$ 24.1	\$ 28.9	\$ 89.6
59	% of Revenue	25.7%	25.7%	25.7%	25.7%	25.7%
60	GAAP EPS*	\$ 0.17	\$ 0.19	\$ 0.24	\$ 0.29	\$ 0.90
61	YOY change	28.6%	25.0%	25.0%	25.0%	25.7%
62	GAAP Shares (in 000's)	100.0	100.0	100.0	100.0	100.0
63						
64	Non-GAAP EPS (excludes depreciation)	\$0.17	\$0.19	\$0.24	\$0.29	\$0.90
65	YOY change	28.6%	25.0%	25.0%	25.0%	25.7%
66						

7	INCOME STATEMENT \$ Value in 000's	1Q18	2Q18	3Q18	4Q18	2018
8	Revenue	81.0	90.0	112.5	135.0	418.5
58	GAAP Net income (loss)	\$ 22.3	\$ 24.8	\$ 31.0	\$ 37.2	\$ 115.2
59	% of Revenue	27.5%	27.5%	27.5%	27.5%	27.5%
60	GAAP EPS*	\$ 0.22	\$ 0.25	\$ 0.31	\$ 0.37	\$ 1.15
61	YOY change	28.6%	28.6%	28.6%	28.6%	28.6%
62	GAAP Shares (in 000's)	100.0	100.0	100.0	100.0	100.0
63						
64	Non-GAAP EPS (excludes depreciation)	\$0.22	\$0.25	\$0.31	\$0.37	\$1.15
65	YOY change	28.6%	28.6%	28.6%	28.6%	28.6%

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	INCOME STATEMENT \$ Value in 000's	1Q19	2Q19	3Q19	4Q19	2019
8	Revenue	93.2	103.5	129.4	155.3	481.3
58	GAAP Net income (loss)	\$ 25.6	\$ 28.5	\$ 35.6	\$ 42.7	\$ 132.5
59	% of Revenue	27.5%	27.5%	27.5%	27.5%	27.5%
60	GAAP EPS*	\$ 0.26	\$ 0.28	\$ 0.36	\$ 0.43	\$ 1.32
61	YOY change	15.0%	15.0%	15.0%	15.0%	15.0%
62	GAAP Shares (in 000's)	100.0	100.0	100.0	100.0	100.0
63						
64	Non-GAAP EPS (excludes depreciation)	\$0.26	\$0.28	\$0.36	\$0.43	\$1.32
65	YOY change	15.0%	15.0%	15.0%	15.0%	15.0%

7	INCOME STATEMENT \$ Value in 000's	2021e	2022e	2023e	2024e
8	Revenue	609.3	676.3	743.9	781.1
58	GAAP Net income (loss)	\$ 223.9	\$ 268.8	\$ 296.8	\$ 339.0
59	% of Revenue	36.8%	39.8%	39.9%	43.4%
60	GAAP EPS	\$ 2.24	\$ 2.69	\$ 2.97	\$ 3.39
61	YOY change	25.6%	20.1%	10.4%	14.2%
62	GAAP Shares (in 000's)	100.0	100.0	100.0	100.0
63					
64	Non-GAAP EPS (excludes depreciation)	\$2.24	\$2.69	\$2.97	\$3.39
65	YOY change	25.6%	20.1%	10.4%	14.2%

EXERCISE FA-1-9-2-7: PART 1 OF BUILDING THE BALANCE SHEET FORECAST IN THE TAB CALLED “STEP 4 BALANCE SHEET FORECAST”

This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 4 Balance Sheet Forecast”:

- In the images below you will see blue text for the revenue for several quarters and years. Only update your spreadsheet with the blue shaded fonts in the 6 images below:

7	BALANCE SHEET \$ Value in 000's	1Q16	2Q16	3Q16	4Q16	2016
8						
9	Current assets					
10	Cash and cash equivalents	48.7	64.1	83.4	106.5	106.5
11	Short-term investments	0.0	0.0	0.0	0.0	0.0
12	Accounts receivable	5.3	6.0	7.5	9.0	9.0
13	<i>Accounts Receivable as a % of revenue</i>	10.0%	10.0%	10.0%	10.0%	10.0%
14	Inventory	0.0	0.0	0.0	0.0	0.0
15	<i>Inventory as a % of revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
16	Total Current Assets	53.9	70.1	90.9	115.5	115.5
17	Long Term Assets					
18	**Equipment we own, net of accumulated depreciation and inclusive of capex.	0.0	0.0	0.0	0.0	0.0
19	<u>Here is How We Calculate Capex (same as Purchase of Equipment)</u>					
20	Depreciation (linked to the Income Statement)	0.0	0.0	0.0	0.0	0.0
21	Capex (we need to calculate this here as it feeds into the C.F. Statement)	0.0	0.0	0.0	0.0	0.0
22	<i>Capex as a % of revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
23						
24	Total Long Term Assets	0.0	0.0	0.0	0.0	0.0
25	TOTAL ASSETS	53.9	70.1	90.9	115.5	115.5
26						

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	BALANCE SHEET \$ Value in 000's	1Q17	2Q17	3Q17	4Q17	2017
8						
9	Current assets					
10	Cash and cash equivalents	123.8	143.1	167.2	196.1	196.1
11	Short-term investments	0.0	0.0	0.0	0.0	0.0
12	Accounts receivable	6.8	7.5	9.4	11.3	11.3
13	<i>Accounts Receivable as a % of revenue</i>	10.0%	10.0%	10.0%	10.0%	10.0%
14	Inventory	0.0	0.0	0.0	0.0	0.0
15	<i>Inventory as a % of revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
16	Total Current Assets	130.6	150.6	176.6	207.3	207.3
17	Long Term Assets					
18	**Equipment we own, net of accumulated depreciation and inclusive of capex.	0.0	0.0	0.0	0.0	0.0
19	<u>Here is How We Calculate Capex (same as Purchase of Equipment)</u>					
20	Depreciation (linked to the Income Statement)	0.0	0.0	0.0	0.0	0.0
21	Capex (we need to calculate this here as it feeds into the C.F. Statement)	0.0	0.0	0.0	0.0	0.0
22	<i>Capex as a % of revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
23						
24	Total Long Term Assets	0.0	0.0	0.0	0.0	0.0
25	TOTAL ASSETS	130.6	150.6	176.6	207.3	207.3
26						

7	BALANCE SHEET \$ Value in 000's	1Q18	2Q18	3Q18	4Q18	2018
8						
9	Current assets					
10	Cash and cash equivalents	218.4	243.2	274.1	311.3	311.3
11	Short-term investments	0.0	0.0	0.0	0.0	0.0
12	Accounts receivable	8.1	9.0	11.3	13.5	13.5
13	<i>Accounts Receivable as a % of revenue</i>	10.0%	10.0%	10.0%	10.0%	10.0%
14	Inventory	0.0	0.0	0.0	0.0	0.0
15	<i>Inventory as a % of revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
16	Total Current Assets	226.5	252.2	285.4	324.8	324.8
17	Long Term Assets					
18	**Equipment we own, net of accumulated depreciation and inclusive of capex.	0.0	0.0	0.0	0.0	0.0
19	<u>Here is How We Calculate Capex (same as Purchase of Equipment)</u>					
20	Depreciation (linked to the Income Statement)	0.0	0.0	0.0	0.0	0.0
21	Capex (we need to calculate this here as it feeds into the C.F. Statement)	0.0	0.0	0.0	0.0	0.0
22	<i>Capex as a % of revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
23						
24	Total Long Term Assets	0.0	0.0	0.0	0.0	0.0
25	TOTAL ASSETS	226.5	252.2	285.4	324.8	324.8
26						

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	BALANCE SHEET \$ Value in 000's	1Q19	2Q19	3Q19	4Q19	2019
8						
9	Current assets					
10	Cash and cash equivalents	336.9	365.4	401.0	443.8	443.8
11	Short-term investments	0.0	0.0	0.0	0.0	0.0
12	Accounts receivable	9.3	10.4	12.9	15.5	15.5
13	<i>Accounts Receivable as a % of revenue</i>	10.0%	10.0%	10.0%	10.0%	10.0%
14	Inventory	0.0	0.0	0.0	0.0	0.0
15	<i>Inventory as a % of revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
16	Total Current Assets	346.2	375.8	414.0	459.3	459.3
17	Long Term Assets					
18	**Equipment we own, net of accumulated depreciation and inclusive of capex.	0.0	0.0	0.0	0.0	0.0
19	<u>Here is How We Calculate Capex (same as Purchase of Equipment)</u>					
20	Depreciation (linked to the Income Statement)	0.0	0.0	0.0	0.0	0.0
21	Capex (we need to calculate this here as it feeds into the C.F. Statement)	0.0	0.0	0.0	0.0	0.0
22	<i>Capex as a % of revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
23						
24	Total Long Term Assets	0.0	0.0	0.0	0.0	0.0
25	TOTAL ASSETS	346.2	375.8	414.0	459.3	459.3
26						

7	BALANCE SHEET \$ Value in 000's	1Q20	2Q20	3Q20	4Q20	2020e
8						
9	Current assets					
10	Cash and cash equivalents	478.3	516.6	564.5	622.0	622.0
11	Short-term investments	0.0	0.0	0.0	0.0	0.0
12	Accounts receivable	10.5	11.7	14.6	17.5	17.5
13	<i>Accounts Receivable as a % of revenue</i>	10.0%	10.0%	10.0%	10.0%	10.0%
14	Inventory	0.0	0.0	0.0	0.0	0.0
15	<i>Inventory as a % of revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
16	Total Current Assets	488.8	528.3	579.1	639.5	639.5
17	Long Term Assets					
18	**Equipment we own, net of accumulated depreciation and inclusive of capex.	0.0	0.0	0.0	0.0	0.0
19	<u>Here is How We Calculate Capex (same as Purchase of Equipment)</u>					
20	Depreciation (linked to the Income Statement)	0.0	0.0	0.0	0.0	0.0
21	Capex (we need to calculate this here as it feeds into the C.F. Statement)	0.0	0.0	0.0	0.0	0.0
22	<i>Capex as a % of revenue</i>	0.0%	0.0%	0.0%	0.0%	0.0%
23						
24	Total Long Term Assets	0.0	0.0	0.0	0.0	0.0
25	TOTAL ASSETS	488.8	528.3	579.1	639.5	639.5
26						

7	BALANCE SHEET \$ Value in 000's	2021e	2022e	2023e	2024e
8					
9	Current assets				
10	Cash and cash equivalents	845.8	1,114.6	1,411.3	1,750.2
11	Short-term investments	0.0	0.0	0.0	0.0
12	Accounts receivable	60.9	67.6	74.4	78.1
13	<i>Accounts Receivable as a % of revenue</i>	<i>10.0%</i>	<i>10.0%</i>	<i>10.0%</i>	<i>10.0%</i>
14	Inventory	0.0	0.0	0.0	0.0
15	<i>Inventory as a % of revenue</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>
16	Total Current Assets	906.8	1,182.2	1,485.7	1,828.3
17	Long Term Assets				
18	**Equipment we own, net of accumulated depreciation and inclusive of capex.	0.0	0.0	0.0	0.0
19	<u>Here is How We Calculate Capex (same as Purchase of Equipment)</u>				
20	Depreciation (linked to the Income Statement)	0.0	0.0	0.0	0.0
21	Capex (we need to calculate this here as it feeds into the C.F. Statement)	0.0	0.0	0.0	0.0
22	<i>Capex as a % of revenue</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>
23					
24	Total Long Term Assets	0.0	0.0	0.0	0.0
25	TOTAL ASSETS	906.8	1182.2	1485.7	1828.3
26					

EXERCISE FA-1-9-2-8: PART 2 OF BUILDING THE BALANCE SHEET FORECAST IN THE TAB CALLED “STEP 4 BALANCE SHEET FORECAST”

This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 4 Balance Sheet Forecast”:

- In the images below you will see blue text for the revenue for several quarters and years. Only update your spreadsheet with the blue shaded fonts in the 6 images below:

7	BALANCE SHEET \$ Value in 000's	1Q16	2Q16	3Q16	4Q16	2016
28	Current liabilities					
29	Accounts payable	5.3	6.0	7.5	9.0	9.0
30	Accounts Payable as a % of revenue	10.0%	10.0%	10.0%	10.0%	10.0%
31	Short-term debt	0.0	0.0	0.0	0.0	0.0
32	Total Current Liabilities	5.3	6.0	7.5	9.0	9.0
33	Long Term Liabilities					
34	Long-term debt	0.0	0.0	0.0	0.0	0.0
35	Total Long Term Liabilities	0.0	0.0	0.0	0.0	0.0
36	TOTAL LIABILITIES	5.3	6.0	7.5	9.0	9.0
37						
38						
39	Retained Earnings	48.7	64.1	83.4	106.5	106.5
40	Common Shares	0.0	0.0	0.0	0.0	0.0
41	Additional Paid-in-Capital	0.0	0.0	0.0	0.0	0.0
42	TOTAL SHAREHOLDER'S EQUITY	48.7	64.1	83.4	106.5	106.5
43						
44	TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	53.9	70.1	90.9	115.5	115.5
45	Do Assets = Liabilities + Equity?	YES	YES	YES	YES	YES
46		-	-	-	-	-
47						

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	BALANCE SHEET \$ Value in 000's	1Q17	2Q17	3Q17	4Q17	2017
29	Accounts payable	6.8	7.5	9.4	11.3	11.3
30	<i>Accounts Payable as a % of revenue</i>	10.0%	10.0%	10.0%	10.0%	3.2%
31	Short-term debt	0.0	0.0	0.0	0.0	0.0
32	Total Current Liabilities	6.8	7.5	9.4	11.3	11.3
33	Long Term Liabilities					
34	Long-term debt	0.0	0.0	0.0	0.0	0.0
35	Total Long Term Liabilities	0.0	0.0	0.0	0.0	0.0
36	TOTAL LIABILITIES	6.8	7.5	9.4	11.3	11.3
37						
38						
39	Retained Earnings	123.8	143.1	167.2	196.1	196.1
40	Common Shares	0.0	0.0	0.0	0.0	0.0
41	Additional Paid-in-Capital	0.0	0.0	0.0	0.0	0.0
42	TOTAL SHAREHOLDER'S EQUITY	123.8	143.1	167.2	196.1	196.1
43						
44	TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	130.6	150.6	176.6	207.3	207.3
45	Do Assets = Liabilities + Equity?	YES	YES	YES	YES	YES
46		-	-	-	-	-
47						

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	BALANCE SHEET \$ Value in 000's	1Q18	2Q18	3Q18	4Q18	2018
28	Current liabilities					
29	Accounts payable	8.1	9.0	11.3	13.5	13.5
30	<i>Accounts Payable as a % of revenue</i>	10.0%	10.0%	10.0%	10.0%	10.0%
31	Short-term debt	0.0	0.0	0.0	0.0	0.0
32	Total Current Liabilities	8.1	9.0	11.3	13.5	13.5
33	Long Term Liabilities					
34	Long-term debt	0.0	0.0	0.0	0.0	0.0
35	Total Long Term Liabilities	0.0	0.0	0.0	0.0	0.0
36	TOTAL LIABILITIES	8.1	9.0	11.3	13.5	13.5
37						
38						
39	Retained Earnings	218.4	243.2	274.1	311.3	311.3
40	Common Shares	0.0	0.0	0.0	0.0	0.0
41	Additional Paid-in-Capital	0.0	0.0	0.0	0.0	0.0
42	TOTAL SHAREHOLDER'S EQUITY	218.4	243.2	274.1	311.3	311.3
43						
44	TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	226.5	252.2	285.4	324.8	324.8
45	Do Assets = Liabilities + Equity?	YES	YES	YES	YES	YES
46		-	-	-	-	-
47						

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	BALANCE SHEET \$ Value in 000's	1Q19	2Q19	3Q19	4Q19	2019
27						
28	Current liabilities					
29	Accounts payable	9.3	10.4	12.9	15.5	15.5
30	<i>Accounts Payable as a % of revenue</i>	10.0%	10.0%	10.0%	10.0%	10.0%
31	Short-term debt	0.0	0.0	0.0	0.0	0.0
32	Total Current Liabilities	9.3	10.4	12.9	15.5	15.5
33	Long Term Liabilities					
34	Long-term debt	0.0	0.0	0.0	0.0	0.0
35	Total Long Term Liabilities	0.0	0.0	0.0	0.0	0.0
36	TOTAL LIABILITIES	9.3	10.4	12.9	15.5	15.5
37						
38						
39	Retained Earnings	336.9	365.4	401.0	443.8	443.8
40	Common Shares	0.0	0.0	0.0	0.0	0.0
41	Additional Paid-in-Capital	0.0	0.0	0.0	0.0	0.0
42	TOTAL SHAREHOLDER'S EQUITY	336.9	365.4	401.0	443.8	443.8
43						
44	TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	346.2	375.8	414.0	459.3	459.3
45	Do Assets = Liabilities + Equity?	YES	YES	YES	YES	YES
46		-	-	-	-	-

Workbook for FA-1-9 (Semester #1 and Class #9 for Finance & Accounting)

7	BALANCE SHEET \$ Value in 000's	1Q20	2Q20	3Q20	4Q20	2020e
27						
28	Current liabilities					
29	Accounts payable	10.5	11.7	14.6	17.5	17.5
30	<i>Accounts Payable as a % of revenue</i>	10.0%	10.0%	10.0%	10.0%	10.0%
31	Short-term debt	0.0	0.0	0.0	0.0	0.0
32	Total Current Liabilities	10.5	11.7	14.6	17.5	17.5
33	Long Term Liabilities					
34	Long-term debt	0.0	0.0	0.0	0.0	0.0
35	Total Long Term Liabilities	0.0	0.0	0.0	0.0	0.0
36	TOTAL LIABILITIES	10.5	11.7	14.6	17.5	17.5
37						
38						
39	Retained Earnings	478.3	516.6	564.5	622.0	622.0
40	Common Shares	0.0	0.0	0.0	0.0	0.0
41	Additional Paid-in-Capital	0.0	0.0	0.0	0.0	0.0
42	TOTAL SHAREHOLDER'S EQUITY	478.3	516.6	564.5	622.0	622.0
43						
44	TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	488.8	528.3	579.1	639.5	639.5
45	Do Assets = Liabilities + Equity?	YES	YES	YES	YES	YES
46						

7	BALANCE SHEET \$ Value in 000's	2021e	2022e	2023e	2024e
27					
28	Current liabilities				
29	Accounts payable	60.9	67.6	74.4	78.1
30	<i>Accounts Payable as a % of revenue</i>	10.0%	10.0%	10.0%	10.0%
31	Short-term debt	0.0	0.0	0.0	0.0
32	Total Current Liabilities	60.9	67.6	74.4	78.1
33	Long Term Liabilities				
34	Long-term debt	0.0	0.0	0.0	0.0
35	Total Long Term Liabilities	0.0	0.0	0.0	0.0
36	TOTAL LIABILITIES	60.9	67.6	74.4	78.1
37					
38					
39	Retained Earnings	845.8	1,114.6	1,411.3	1,750.2
40	Common Shares	0.0	0.0	0.0	0.0
41	Additional Paid-in-Capital	0.0	0.0	0.0	0.0
42	TOTAL SHAREHOLDER'S EQUITY	845.8	1,114.6	1,411.3	1,750.2
43					
44	TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	906.8	1,182.2	1,485.7	1,828.3
45	Do Assets = Liabilities + Equity?	YES	YES	YES	YES
46		-	-	-	-

TOPIC 3 OF 3: FA-1-9-3: Advanced Valuation

Optional: Type your notes for Topic #3 in this box:

Optional: How can you apply what you have learned about Topic #3 today to enhance your career (or to make you happier and more successful in general)?

Optional: Type a question below that you want to ask Chris on the live webcast about Topic #3. If you are watching the live webcast of this lesson, after Chris finishes discussing each Topic, he will say “Does anyone have any questions about Topic #3. At that point you can copy and paste the text that you type below into the YouTube message box to ask him a question. If you are not on the live webcast, you can also ask him your questions during the [MBA Only Students Office Hours Webcast](#) (use the password that was emailed to you). Thanks:

EXERCISE FA-1-9-3-1: PART 1 OF BUILDING THE DCF TARGET PRICE IN THE TAB CALLED “STEP 6 DCF VALUATION”

This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 6 DCF Valuation”:

- In the image below you will see blue text. Change the blue text value to 100%:

6 Discounted Cash Flow Price Target Model \$ Value in 000's						
7						
8	DCF Calculation Step 1: Get FCF from Cash Flow Statement Tab.					
9		2020e	2021e	2022e	2023e	2024e
10	Free Cash Flow (FCF):	\$178	\$224	\$269	\$297	\$339
11						
12						
13	Step 2: Calculate the Weighted Average Cost of Capital (which is the discount rate we will use to discount our FCFs).					
14						
15	Weighted Average Cost of Capital:					
16	=					
17	+ Cost of Equity x % of the Capital Structure that is Equity (Market Cap)					
18	+ Cost of Debt x % of the Capital Structure that is Debt					
19	=					
20	11.5%					
21	+					
22	0.0000%					
23	=					
24	<u>11.50%</u>					
25						
26						
27						
28						
29						

% of Capital Structure that is Equity	100%
% of Capital Structure that is Debt	0%
Market Cap today =	\$3,000
Stock Price today =	\$30

EXERCISE FA-1-9-3-2: PART 2 OF BUILDING THE DCF TARGET PRICE IN THE TAB CALLED “STEP 6 DCF VALUATION”

This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 6 DCF Valuation”:

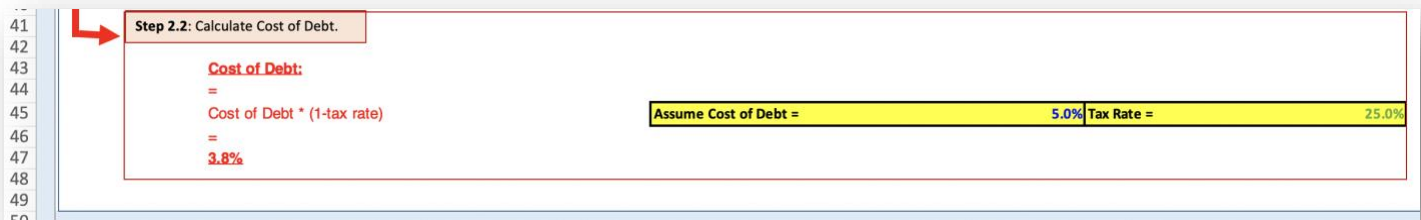
- In the image below you will see blue text. Change the blue text values to the numbers you see in the image below:

Step 2.1: Calculate Cost of Equity.	
Cost of Equity:	
=	
Risk Free Rate	Assume Risk Free Rate = 2.5%
+	
Beta * (Stock Market Return - Risk Free Rate)	Assume Beta= 1.50 Assume Stock Market Return = 8.5%
=	
11.5%	

EXERCISE FA-1-9-3-3: PART 3 OF BUILDING THE DCF TARGET PRICE IN THE TAB CALLED “STEP 6 DCF VALUATION”

This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 6 DCF Valuation”:

- In the image below you will see blue text. Change the blue text value to the number you see in the image below:



EXERCISE FA-1-9-3-4: PART 4 OF BUILDING THE DCF TARGET PRICE IN THE TAB CALLED “STEP 6 DCF VALUATION”

This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 6 DCF Valuation”:

- In the image below you will see blue text. Change the blue text value to the number you see in the image below:

57	Step 4: Calculate Terminal Value.		
58			
59	Long Term Growth =	2%	
60	Terminal Value =	\$3,639	Assume Long Term Growth = 2%
61	TV Discounted =	\$ 2,354	
62			
63			

EXERCISE FA-1-9-3-5: PART 5 OF BUILDING THE DCF TARGET PRICE IN THE TAB CALLED “STEP 6 DCF VALUATION”

This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 6 DCF Valuation”:

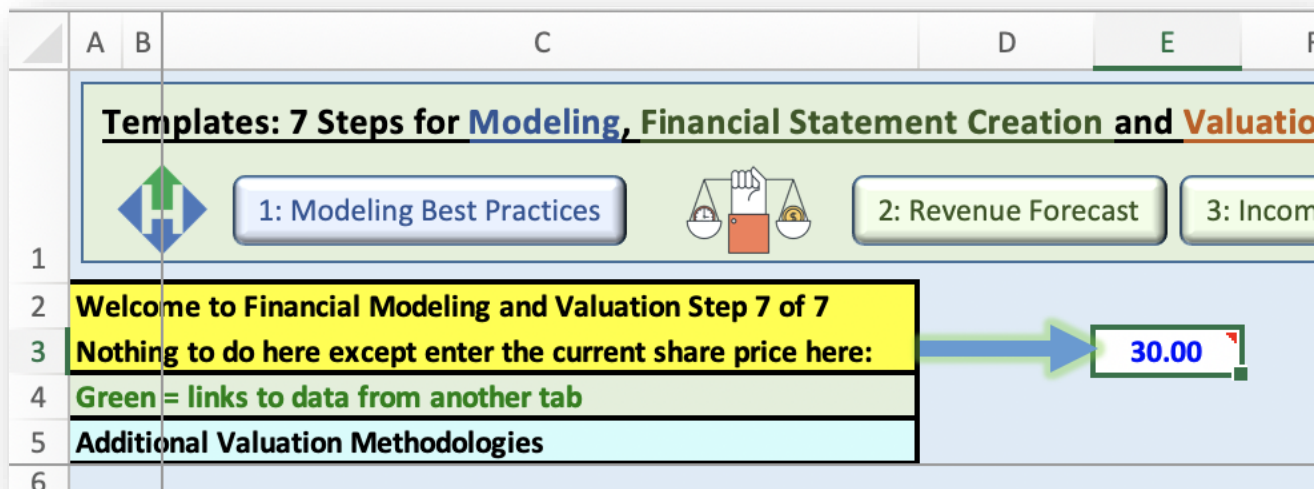
- In the image below you will see blue text. Change the blue text values to the numbers you see in the image below:

Extra Step: Sensitivity Analysis Value.		WACC				
		5.5%	8.5%	11.5%	14.5%	17.5%
Growth	1%	\$72	\$43	\$30	\$23	\$19
	2%	\$91	\$48	\$32.77	\$25	\$20
	3%	\$124	\$56	\$36	\$26	\$20
		Green = Bullish		Orange = Base Case		Red = Bearish Case

EXERCISE FA-1-9-3-6: BUILDING THE OTHER VALUATIONS TARGET PRICES IN THE TAB CALLED “STEP 7 OTHER VALUATIONS + COMPARE”

This exercise will be done in Excel. Please watch Chris’ explanation in the video. He will refer to the following things for you to enter in the tab called “Step 7 Other Valuations + Compare”:

- In the image below you will see blue text. Change the blue text value to the number you see in the image below:



HOMEWORK

After this lecture, please complete the quiz associated with this lecture at this [link](#)* within one week of the day that you took this lecture. Thanks

* If you can't see the quiz link, please refresh the link an hour after class has been completed thanks.