



Excel Fundamentals - Formulas for Finance

Excel Crash Course

[Company Name]

Profit and Loss (P&L) Statement
[USD \$ millions]

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Full Year
Revenue stream 1	587.0	596.3	605.8	615.4	625.2	635.1	645.2	655.4	665.8	676.4	687.1	698.0	7,692.6
Revenue stream 2	145.6	147.9	150.2	152.6	155.0	157.5	160.0	162.5	165.1	167.7	170.4	173.1	1,907.8
Returns, Refunds, Discounts	(21.0)	(21.3)	(21.7)	(22.0)	(22.4)	(22.7)	(23.1)	(23.5)	(23.9)	(24.2)	(24.6)	(25.0)	(275.2)
Total Net Revenue	711.6	722.9	734.3	746.0	757.8	769.9	782.1						
Cost of Goods Sold	269.6	273.9	278.2	282.7	287.1	291.7	296.3						
Gross Profit	442.0	449.0	456.1	463.3	470.7	478.2	485.7						
Expenses													
Advertising & Promotion	18.7	19.1	19.5	19.8	20.2	20.6	21.0						
Depreciation & Amortization	108.7	110.9	113.1	115.3	117.6	119.9	122.3						
Insurance	1.1	1.1	1.1	1.2	1.2	1.2	1.2						
Maintenance	5.7	5.8	5.9	6.0	6.2	6.3	6.4						
Office Supplies	2.8	2.9	2.9	3.0	3.0	3.1	3.2						
Rent	5.8	5.9	6.0	6.2	6.3	6.4	6.5						
Salaries, Benefits & Wages	251.2	256.2	261.3	266.5	271.8	277.2	282.7						
Telecommunication	1.5	1.5	1.6	1.6	1.6	1.7	1.7						
Travel	2.3	2.3	2.4	2.4	2.5	2.5	2.6						
Utilities	1.4	1.4	1.5	1.5	1.5	1.5	1.6						
Other Expense 1	3.8	3.9	4.0	4.0	4.1	4.2	4.3						
Other Expense 2	-	-	-	-	-	-	-						
Total Expenses	403.0	411.0	419.2	427.5	436.0	444.7	453.5						
Earnings Before Interest & Taxes	39.0	38.0	36.9	35.8	34.7	33.5	32.2						
Interest Expense	2.5	2.5	2.5	2.5	2.5	2.5	2.5						
Earnings Before Taxes	36.5	35.5	34.4	33.3	32.2	31.0	29.7						
Income Taxes	10.9	10.6	10.3	10.0	9.7	9.3	8.9						
Net Earnings	25.5	24.8	24.1	23.3	22.5	21.7	20.8						

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FINANCIAL STATEMENTS

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Balance Sheet Check	OK									

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Cash Flow Statement

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Operating Cash Flow										
Net Earnings	2,474	11,791	21,075	26,713	28,227	35,156	38,389	41,521	44,643	47,765
Plus: Depreciation & Amortization	19,500	18,150	17,205	16,544	16,080	15,008	15,005	15,005	15,005	15,005
Less: Changes in Working Capital	9,003	1,702	775	303	827	375	611	611	611	611
Cash from Operations	12,971	28,239	37,505	42,354	43,480	49,789	52,783	56,111	59,421	62,733
Investing Cash Flow										
Investments in Property & Equipment	15,000	15,000	15,000	15,000	15,000	15,000	10,000	25	25	25
Cash from Investing	15,000	15,000	15,000	15,000	15,000	15,000	10,000	25	25	25
Financing Cash Flow										
Issuance (repayment) of debt	-	-	(20,000)	-	-	-	-	(20,000)	(20,000)	(20,000)
Issuance (repayment) of equity	170,000	-	-	-	-	-	-	-	-	-
Cash from Financing	170,000	-	(20,000)	-	-	-	-	(20,000)	(20,000)	(20,000)
Net Increase (decrease) in Cash	167,971	13,239	2,505	27,354	28,480	34,789	42,783	11	11	11
Opening Cash Balance	-	167,971	181,210	183,715	211,069	239,550	274,339	317,122	328	328
Closing Cash Balance	167,971	181,210	183,715	211,069	239,550	274,339	317,122	328		
Check	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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DCF Model

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Assumptions										
Tax Rate	25%									
Discount Rate	12%									
Perpetual Growth Rate	3%									
EV/EBITDA Multiple	7.0x									
Transaction Date	12/31/2017									
Fiscal Year End	6/30/2018									
Current Price	25.00									
Shares Outstanding	20,000									
Debt	30,000									
Cash	239,550									
Capex	15,000									

Market Value vs Intrinsic Value

Market Value	Upside	Intrinsic Value
\$25.00	\$9.72	\$34.72

Supporting Schedules

Charts and Graphs

Earnings (2012 - 2016)

Year	Revenue	Gross Profit	Earnings Before Tax
2012	\$100,000	\$40,000	\$60,000
2013	\$110,000	\$45,000	\$65,000
2014	\$120,000	\$50,000	\$70,000
2015	\$130,000	\$55,000	\$75,000
2016	\$140,000	\$60,000	\$80,000

Cash Flows (2012 - 2016)

Year	Operating	Investing	Financing
2012	\$150,000	\$-50,000	\$0
2013	\$130,000	\$-30,000	\$20,000
2014	\$140,000	\$-40,000	\$30,000
2015	\$150,000	\$-50,000	\$40,000
2016	\$160,000	\$-60,000	\$50,000

Discounted Cash Flow

Entry	2018	2019	2020	2021	2022	Exit
Date	12/31/2017	6/30/2018	6/30/2019	6/30/2020	6/30/2021	6/30/2022
Time Periods	0	1	2	3	4	
Year Fraction	0.50	1.00	1.00	1.00	1.00	
EBIT	47,814	51,095	55,861	58,693	63,039	
Less: Cash Taxes	11,954	12,774	13,965	14,673	15,760	
Plus: D&A	15,008	15,005	15,003	15,002	15,001	
Less: Capex	15,000	15,000	15,000	15,000	15,000	
Less: Changes in NWC	375	611	398	511	272	
Unlevered FCF	35,494	37,715	41,501	43,510	47,008	
(Entry)/Exit	(290,450)					534,295
Transaction CF	(290,450)	17,747	37,715	41,501	43,510	47,008

Terminal Value

Perpetual Growth	522,311
EV/EBITDA	546,278
Average	534,295

Intrinsic Value

Enterprise Value	484,769
Plus: Cash	239,550
Less: Debt	30,000
Equity Value	694,319

Market Value

Market Cap	500,000
Plus: Debt	30,000
Less: Cash	239,550
Enterprise Value	290,450

Rate of Return

Target Price Upside	39%
Internal Rate of Return (IRR)	26%

Market Value vs Intrinsic Value

Market Value	Upside	Intrinsic Value
25.00	9.72	34.72

FMVA™ Certification

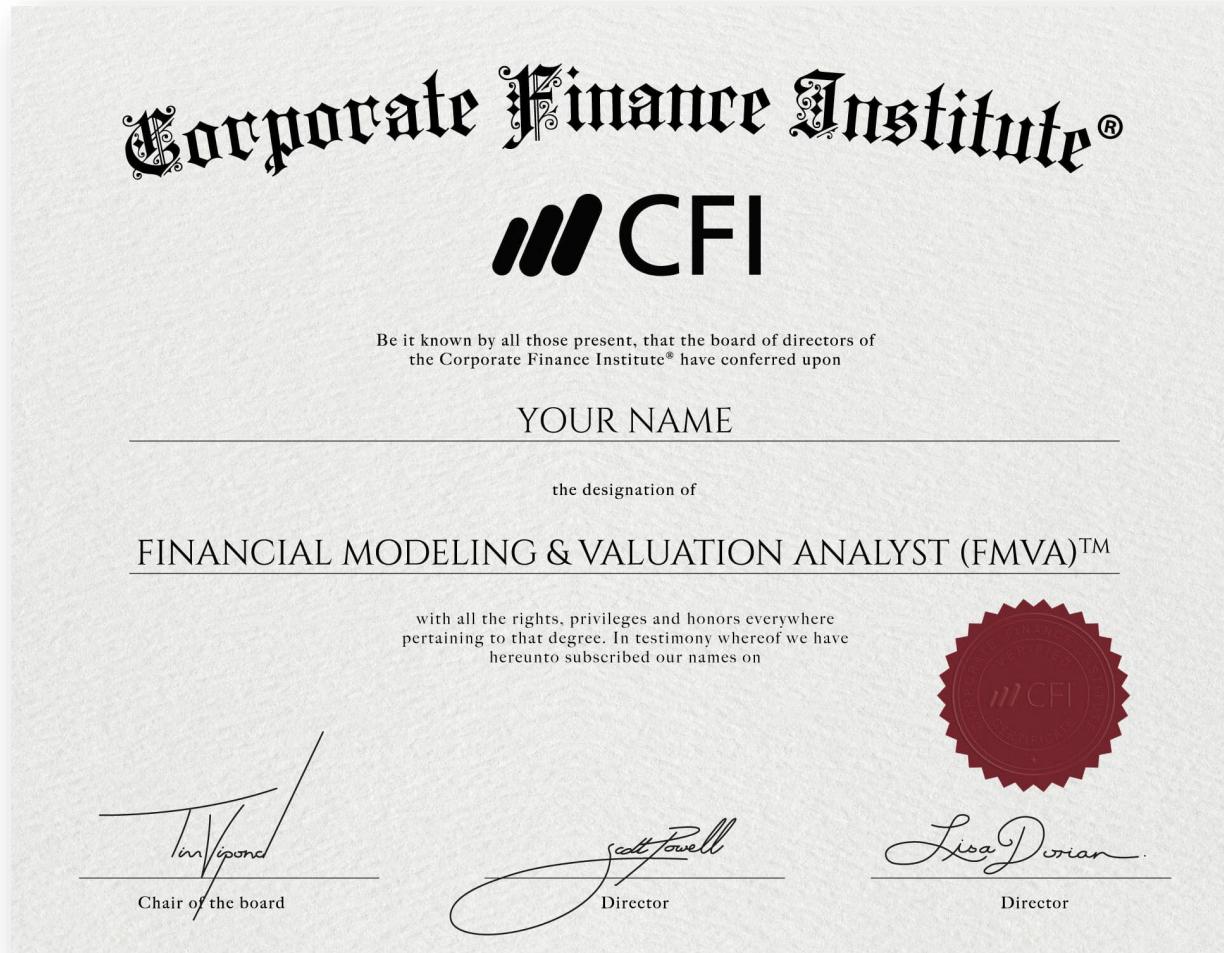


Table of Contents



Introduction



Advanced
financial
analysis
setup



Excel layout



Basic functions
and formulas



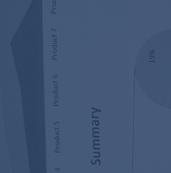
Excel setup



Wrap-up



Basic financial
analysis setup



CFI Instructors



Meet the global team of CFI instructors



Tim Vipond

CEO & Instructor
Vancouver



Justin Sanders

Instructor
London



Lisa Dorian

Director & Instructor
New York



Ryan Spendelow

Instructor
Hong Kong



Scott Powell

Director & Instructor
Vancouver



Key Learning Objectives



About this course

Designed for financial analysts in investment banking, equity research,
FP&A, corporate development

Teaches Excel 2016, 2013 and 2010

Review of the basics

Advanced functions so experts will learn a lot too

Session objectives



Follow industry best practices



Dramatically speed up your financial modeling



Make your analysis more powerful and dynamic



Be a world class financial analyst

Keyboard over the mouse

Professionals use the keyboard over the mouse to:

Save time

Move around more easily

Its kind of fun too

IB training programs actually unplug your mouse
(Challenge yourself to unplug or not use your mouse)

Slower in short run; much faster in long run



Excel Layout

Session objectives



Workbook



Worksheets



Cell name



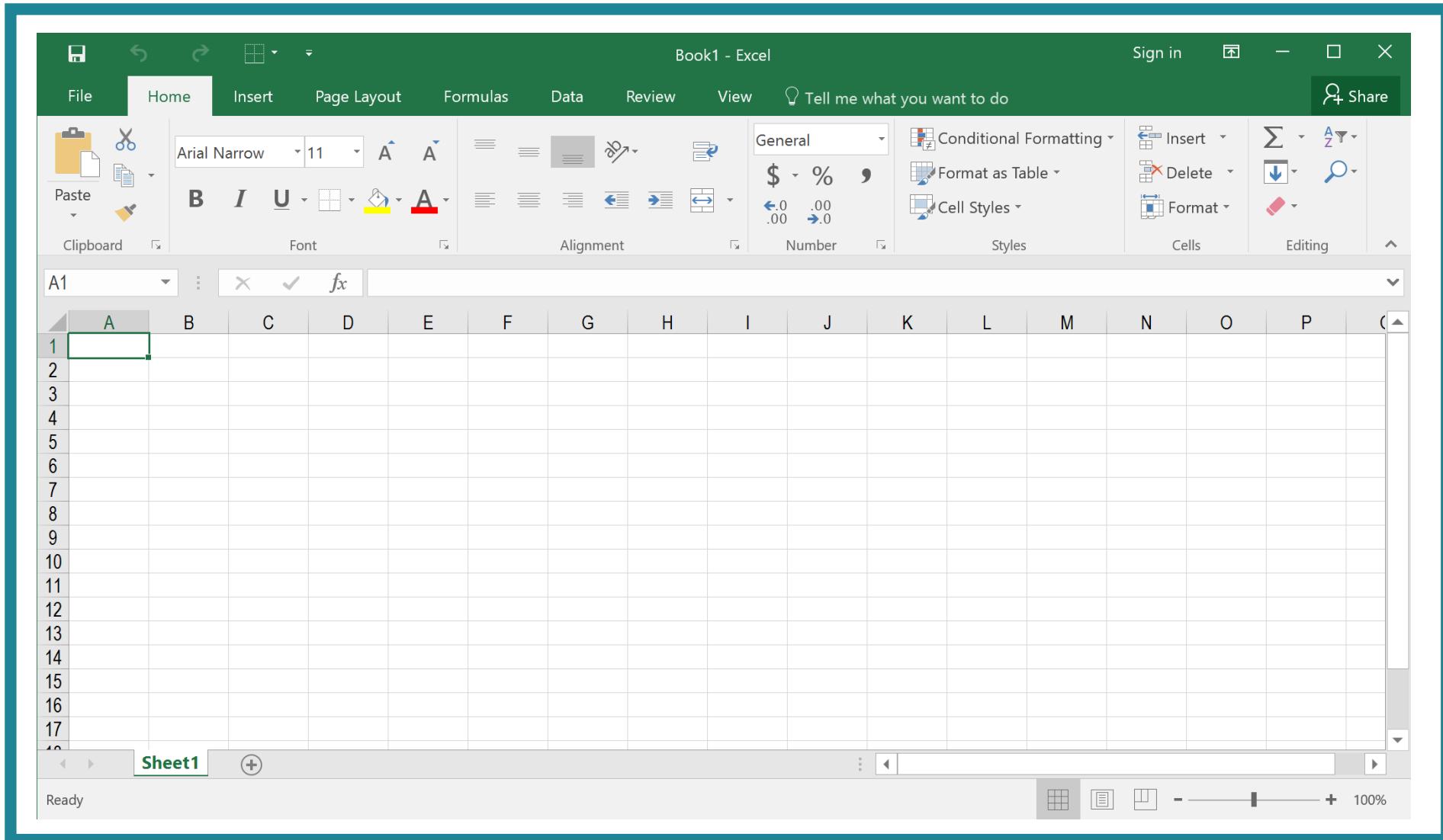
Formula bar



Ribbon

Excel Layout

Workbook



Excel Layout

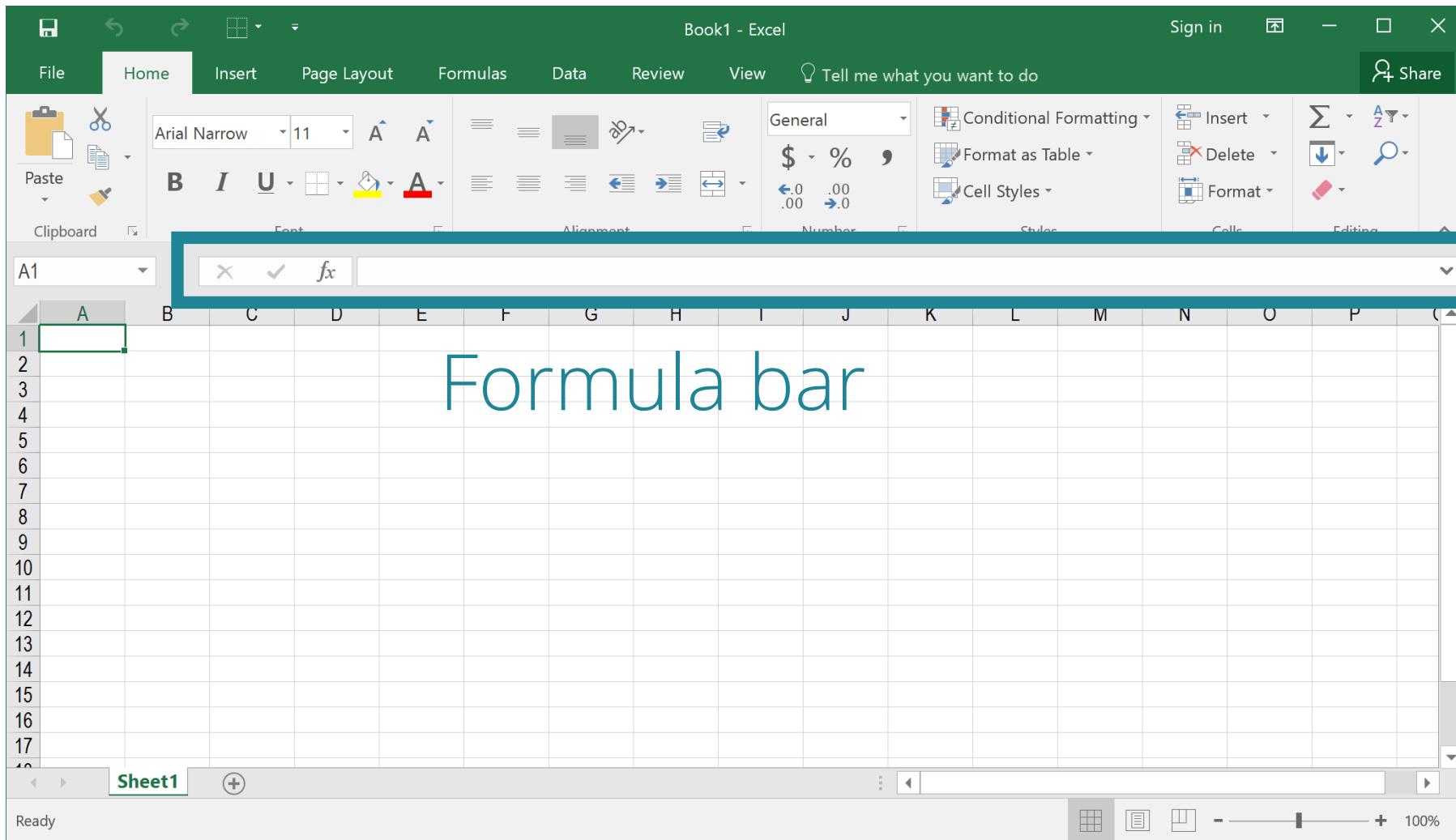
The screenshot shows a Microsoft Excel interface with the following details:

- Top Bar:** The title "Book1 - Excel" is centered above the ribbon. On the right side of the ribbon, there are "Sign in", "Share" (with a "Share" button), and window control buttons.
- Ribbon:** The "Home" tab is selected, indicated by a thicker border. Other tabs include "File", "Insert", "Page Layout", "Formulas", "Data", "Review", and "View". A "Tell me what you want to do" search bar is located between the tabs.
- Clipboard Group:** Contains icons for "Paste" (with dropdown arrow), "Clipboard" (with dropdown arrow), and other clipboard-related functions.
- Font Group:** Includes "Arial Narrow", "11", bold ("B"), italic ("I"), underline ("U"), and alignment controls.
- Alignment Group:** Includes horizontal alignment (left, center, right) and vertical alignment (top, middle, bottom) buttons.
- Number Group:** Includes "General", currency (\$), percentage (%), and decimal (,) buttons.
- Styles Group:** Includes "Conditional Formatting", "Format as Table", "Cell Styles", and "Format" buttons.
- Cells Group:** Includes "Insert", "Delete", "Format", and "Cells" buttons.
- Editing Group:** Includes "Sum", "Sort", "Filter", and "Find & Select" buttons.
- Address Bar:** Shows "A1" as the active cell.
- Worksheet Area:** The main area displays the word "Worksheet" in large blue font. The grid shows columns A through P and rows 1 through 17.
- Bottom Bar:** Shows "Ready" in the status bar, along with zoom controls (100%) and orientation controls.

Excel Layout

The screenshot shows a Microsoft Excel window titled "Book1 - Excel". The ribbon at the top has tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, and View. The Home tab is selected. A search bar says "Tell me what you want to do". Below the ribbon is the formula bar with "A1" selected. The main area shows a grid from A1 to C17. Cell A1 contains the text "Cell name". The status bar at the bottom shows "Ready" and "100%". A large teal box highlights the cell A1.

Excel Layout



Excel Layout

Ribbon

The screenshot shows the Microsoft Excel ribbon interface. The ribbon is a horizontal bar at the top of the application window, divided into several tabs: File, Home, Insert, Page Layout, Formulas, Data, Review, and View. The 'Home' tab is currently selected. Below the ribbon is the 'Tell me what you want to do' search bar. The main workspace below the ribbon shows a blank spreadsheet with rows labeled 1 through 18 and columns labeled A through P. Cell A1 is selected and contains the letter 'A'. The status bar at the bottom right indicates 'Ready' and shows zoom levels from 100% to 400%.



Excel Settings

Session objectives



Options



Formatting



Formulas



Advanced



Protection



Basic Financial Analysis Setup

Key learning objectives

Layout and structure is the most important part of financial modeling and analysis
(What separates great work from the rest?)

Clean formatting

Easy to follow and understand

Easy to audit

Dynamic

Detailed

Accurate

Easy to make changes



Advanced Financial Analysis Setup

Session objectives



Handle more complex situations



Make your analysis more dynamic



Make your analysis more detailed and precise



Produce professional grade output



Formulas & Functions

Session objectives



Functions are a very important and powerful part of model building



Don't get overly complicated, still want an overall simple model



Makes model more dynamic, more sophisticated, more detailed



Designed specifically for financial analysis and financial modeling



Advanced Formulas & Functions

Session objectives



Create scenarios



Dynamic data queries



Automatic sorting



Finance specific
functions



What If Analysis and Goal
Seek



Charts & Graphs

Session objectives



Create a separate dashboard area



Use charts to tell a story



What do you need to communicate to the reader?



Pick the most appropriate graph



Macros

Session objectives



Record a macro



Speed up modeling



More powerful
shortcuts



Keep Practicing

Keep Practicing

Best courses to practice are:

Excel Modeling
Fundamentals

Building a Financial
Model in Excel

FP&A Rolling Cash
Flow Forecast

Startup / eCommerce
Financial Model

Real Estate Financial
Model

Sensitivity Analysis

More Advanced Models

[Company Name]
Profit and Loss (P&L) Statement
[USD \$ millions]

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Full Year
Revenue stream 1	587.0	596.3	605.8	615.4	625.2	635.1	645.2	655.4	665.8	676.4	687.1	698.0	7,692.6
Revenue stream 2	145.6	147.9	150.2	152.6	155.0	157.5	160.0	162.5	165.1	167.7	170.4	173.1	1,907.8
Returns, Refunds, Discounts	(21.0)	(21.3)	(21.7)	(22.0)	(22.4)	(22.7)	(23.1)	(23.5)	(23.9)	(24.2)	(24.5)	(24.8)	(275.2)
Total Net Revenue	711.6	722.9	734.3	746.0	757.8	769.9	782.1						
Cost of Goods Sold	269.6	273.9	278.2	282.7	287.1	291.7	296.3						
Gross Profit	442.0	449.0	456.1	463.3	470.7	478.2	485.7						
Expenses													
Advertising & Promotion	18.7	19.1	19.5	19.8	20.2	20.6	21.0						
Depreciation & Amortization	108.7	110.9	113.1	115.3	117.6	119.9	122.3						
Insurance	1.1	1.1	1.1	1.2	1.2	1.2	1.2						
Maintenance	5.7	5.8	5.9	6.0	6.2	6.3	6.4						
Office Supplies	2.8	2.9	2.9	3.0	3.0	3.1	3.2						
Rent	5.8	5.9	6.0	6.2	6.3	6.4	6.5						
Salaries, Benefits & Wages	251.2	256.2	261.3	266.5	271.8	277.2	282.7						
Telecommunication	1.5	1.5	1.6	1.6	1.6	1.7	1.7						
Travel	2.3	2.3	2.4	2.4	2.5	2.5	2.6						
Utilities	1.4	1.4	1.5	1.5	1.5	1.5	1.6						
Other Expense 1	3.8	3.9	4.0	4.0	4.1	4.2	4.3						
Other Expense 2	-	-	-	-	-	-	-						
Total Expenses	403.0	411.0	419.2	427.5	436.0	444.7	453.5						
Earnings Before Interest & Taxes	39.0	38.0	36.9	35.8	34.7	33.5	32.2						
Interest Expense	2.5	2.5	2.5	2.5	2.5	2.5	2.5						
Earnings Before Taxes	36.5	35.5	34.4	33.3	32.2	31.0	29.7						
Income Taxes	10.9	10.6	10.3	10.0	9.7	9.3	8.9						
Net Earnings	25.5	24.8	24.1	23.3	22.5	21.7	20.8						

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Historical Results		Forecast Period									
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Balance Sheet Check	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK

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Cash Flow Statement		DCF Model									
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Cash from Operations	12,971	28,239	37,505	42,354	43,480	49,789	52,783	56,000	59,000	61,000	63,000
Cash from Investing	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Cash from Financing	170,000	-	(20,000)	-	-	-	-	-	(20,000)	-	-
Net Increase (decrease) in Cash	167,971	13,239	2,505	27,354	28,480	34,789	42,783	47,783	51,783	54,783	57,783
Opening Cash Balance	-	167,971	181,210	183,715	211,069	239,550	274,339	317,122	328,122	338,122	348,122
Closing Cash Balance	167,971	181,210	183,715	211,069	239,550	274,339	317,122	328,122	338,122	348,122	358,122
Check	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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Supporting Schedules		Assumptions									
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Tax Rate	25%										
Discount Rate	12%										
Perpetual Growth Rate	3%										
EV/EBITDA Multiple	7.0x										
Transaction Date	12/31/2017										
Fiscal Year End	6/30/2018										
Current Price	25.00										
Shares Outstanding	20,000										
Debt	30,000										
Cash	239,550										
Capex	15,000										

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Discounted Cash Flow		Market Value vs Intrinsic Value						
		Entry	2018	2019	2020	2021	2022	Exit
Date	12/31/2017	6/30/2018	6/30/2019	6/30/2020	6/30/2021	6/30/2022	6/30/2022	
Time Periods		0	1	2	3	4		
Year Fraction		0.50	1.00	1.00	1.00	1.00		
EBIT	47,814	\$1,095	\$5,861	\$8,693	\$13,039			
Less: Cash Taxes	11,954	12,774	13,965	14,673	15,760			
Plus: D&A	15,008	15,005	15,003	15,002	15,001			
Less: Capex	15,000	15,000	15,000	15,000	15,000			
Less: Changes in NWC	375	611	398	511	272			
Unlevered FCF	35,494	37,715	41,501	43,510	47,008			
(Entry)/Exit	(290,450)					534,295		
Transaction CF	(290,450)	17,747	37,715	41,501	43,510	47,008	534,295	

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Intrinsic Value		Terminal Value					
		2018	2019	2020	2021	2022	
Enterprise Value	484,769						Perpetual Growth
Plus: Cash	239,550						EV/EBITDA
Less: Debt	30,000						Average
Equity Value	694,319						
Equity Value/Share	34.72						
Market Value	500,000						
Upside	9.72						
Intrinsic Value	34.72						

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Rate of Return		Market Value vs Intrinsic Value					
		2018	2019	2020	2021	2022	
Target Price Upside							39%
Internal Rate of Return (IRR)							26%
Market Value	25.00						
Upside	9.72						
Intrinsic Value	34.72						

Earnings (2012 - 2016)

Year	Revenue	Gross Profit	Earnings Before Tax
2012	\$100,000	\$40,000	\$0
2013	\$110,000	\$45,000	\$0
2014	\$120,000	\$50,000	\$0
2015	\$130,000	\$55,000	\$0
2016	\$140,000	\$60,000	\$0

Cash Flows (2012 - 2016)

Year	Operating	Investing	Financing
2012	\$150,000	\$0	\$0
2013	\$130,000	\$0	\$0
2014	\$120,000	\$0	\$0
2015	\$110,000	\$0	\$0
2016	\$100,000	\$0	\$0

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FMVA™ Certification

