



# Modeling with Estimates

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## What are Consensus Estimates And Why are They Important?



## Consensus Estimate

Is an estimate of a company's performance based on many analysts estimates aggregated together

Analysts use their expertise to estimate a company's future performance

	Dec '20	Dec '21	Mar '22E Q1	Jun '22E Q2	Sep '22E Q3	Dec '22E Q4	Dec '22E	Mar '23E Q1	Jun '23E Q2	Sep '23E Q3	Dec '23E Q4	Dec '23E	Dec '24E
Sales	33,000	38,658	9,830	10,804	10,907	10,268	41,752	10,278	11,276	11,448	10,805	43,925	46,420
Guidance (Low)	-	-	-	-	-	-	41,364	-	-	-	-	-	-
Guidance (High)	-	-	-	-	-	-	41,751	-	-	-	-	-	-
Cost of Sales	13,498	15,410	3,932	4,228	4,280	4,326	16,766	4,040	4,358	4,457	4,508	17,487	18,511
Gross Income	19,501	23,248	5,890	6,522	6,634	5,961	24,839	6,150	6,812	6,982	6,285	26,231	28,016
EBITDA	11,306	12,561	3,348	3,801	3,747	2,917	13,607	3,557	4,040	3,989	3,092	14,511	15,813
Operating Income	9,770	11,109	2,947	3,348	3,302	2,453	12,062	3,135	3,546	3,504	2,634	12,903	13,929

### Available Figures

Three financial statements, EPS, dividends, ratios and multiples, etc

### Useful for

Modelers

Investors

Traders

And many others

### Alternatively

If we have access to **company management**, we can ask for **their estimates of future performance**

## Using Estimates in Models

## Modeling

	Hist.	Hist.	Hist.	Proj.	Proj.	Proj.	Proj.
	31-Dec-53	31-Dec-54	31-Dec-55	31-Dec-56	31-Dec-57	31-Dec-58	31-Dec-59
1.0	Case 1	Case 2	Case 3				
Base	Base	Upside	Downside				
<b>Income Statement Assumptions</b>							
Revenues (historical and consensus)	467.4	527.2	547.7	576.9	618.9	664.7	
Growth rate - base case				5.3%	7.3%	7.4%	6.0%
Growth rate - upside case				6.3%	8.3%	8.4%	7.0%
Growth rate - downside case				4.3%	6.3%	6.4%	5.0%
Growth rate selected				5.3%	7.3%	7.4%	6.0%

Modeler's own estimates for **year 4+**

3 years of consensus estimates for **revenue**

Year 1 - 3 revenue growth calculated from **consensus estimates**

Years 1 - 3 and year 4+ are **formatted differently** to delineate between calculated figures (Y1 - Y3) and **modeler's assumptions (Y4+)**

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Income statement extract	Year 1 E	
Revenue	576.9	From estimates
Operating costs excl. D&A	176.9	Revenue less EBITDA
EBITDA	300.0	From estimates
Depreciation	80.0	EBITDA - EBIT - Amortization
Amortization	20.0	From assumptions
EBIT	200.0	From estimates

Make sensible assumptions to fill in the blanks

Consensus estimates often only available for **3 years**

Analyst's own forecast required from **year 4 onwards**

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# Assumptions – What are Scenarios and How to Use the INDEX Function

Scenarios allows modelers to quickly put **different assumptions into models** and see **the outcomes**

	A	B	C	D	E	F
1	Modeling		Hist.	Hist.	Hist.	Proj.
2			31-Dec-53	31-Dec-54	31-Dec-55	31-Dec-56
3						
4		1.0	Case 1	Case 2	Case 3	
5	Base		Base	Upside	Downside	
6						
7	Income Statement Assumptions					
8	Revenues (historical and consensus)		467.4	527.2	547.7	576.9
9	Growth rate - base case					5.3%
10	Growth rate - upside case					6.3%
11	Growth rate - downside case					4.3%
12	Growth rate selected					5.3%

Scenarios allow modelers to **see different outcomes** given **changes in events**, both **favourable** and **unfavourable**

The INDEX function returns a value from a table or array

=INDEX(array, row\_num, [column\_num])

=INDEX(F9:F11,\$B\$4)

# Income Statement

	Forecast
<b>Net interest expense</b>	Leave blank until the end due to circular nature of formula
<b>Non recurring items</b>	Assume zero unless explicit information is available
<b>Earnings before tax</b>	
<b>Income tax expense</b>	Use expected effective tax rate
<b>Net income</b>	
<b>Diluted EPS</b>	
<b>Dividends per share</b>	Make a reasonable assumption about dividend policy – check MD&A
<b>Basic WASO</b>	Use latest outstanding share count – assume no new issuances / repurchases
<b>Diluted WASO</b>	Assume ratio of basic to diluted remains constant

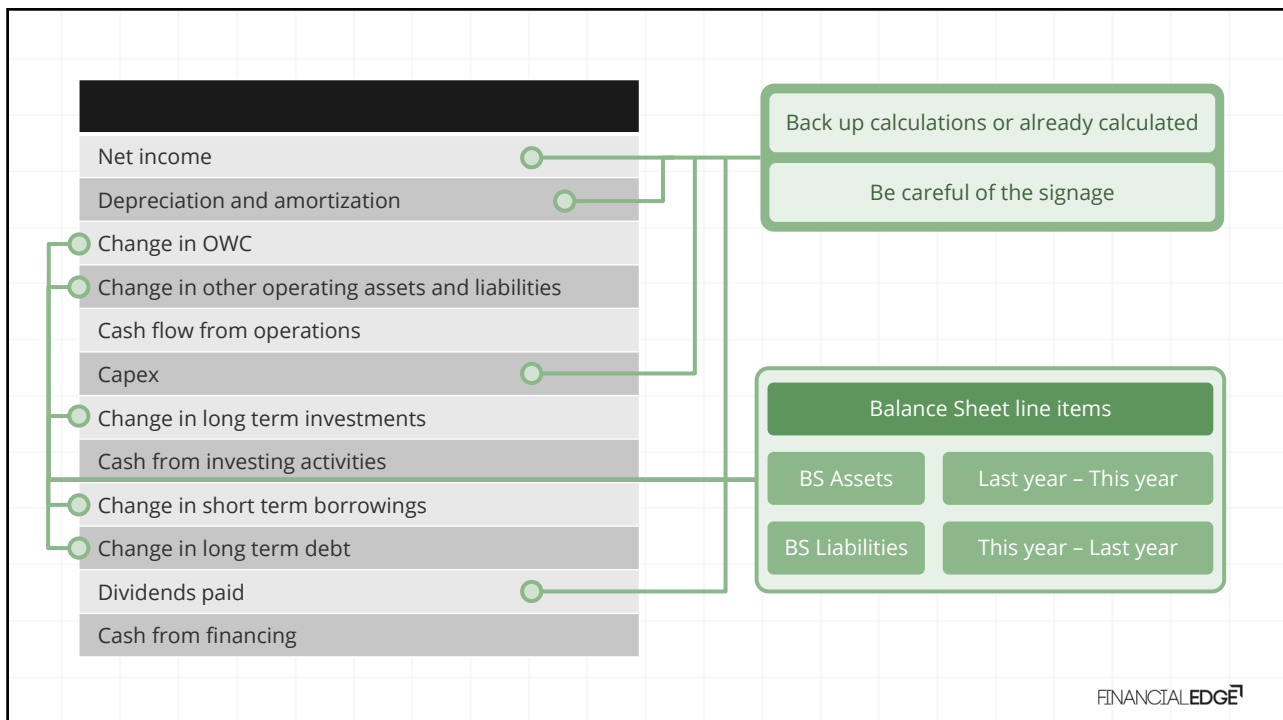
## Model Balance Sheet - Assets

	Forecast
<b>Cash and equivalents</b>	Leave blank for now
<b>Operating current assets</b>	Forecast using reasonable assumptions
<b>Net PP&amp;E</b>	From BASE calculation
<b>Long term Investments</b>	Flatline – doesn't create or use up cash
<b>Goodwill</b>	Flatline – no acquisitions or divestitures
<b>Other intangibles</b>	From back up calculation
<b>Other long term assets</b>	Forecast using reasonable assumptions
<b>Short term borrowings</b>	Leave blank for now
<b>Operating liabilities</b>	Forecast using reasonable assumptions
<b>Long term debt</b>	Issuance / repayment
<b>Other non current liabilities</b>	Forecast using reasonable assumptions
<b>Total equity</b>	From BASE calculation

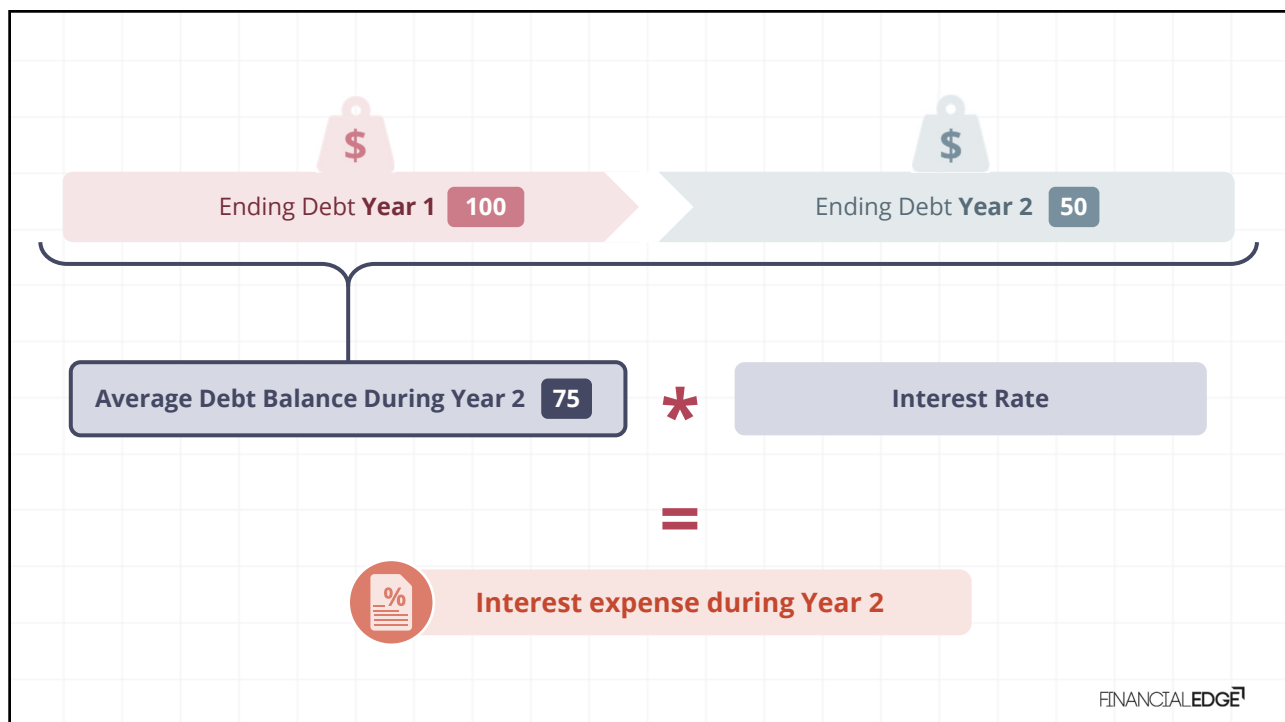
# Model Balance Sheet – Liabilities and Equity

	Forecast
<b>Cash and equivalents</b>	Leave blank for now
<b>Operating current assets</b>	Forecast using reasonable assumptions
<b>Net PP&amp;E</b>	From BASE calculation
<b>Long term Investments</b>	Flatline – doesn't create or use up cash
<b>Goodwill</b>	Flatline – no acquisitions or divestitures
<b>Other intangibles</b>	From back up calculation
<b>Other long term assets</b>	Forecast using reasonable assumptions
<b>Short term borrowings</b>	Leave blank for now
<b>Operating liabilities</b>	Forecast using reasonable assumptions
<b>Long term debt</b>	Issuance / repayment
<b>Other non current liabilities</b>	Forecast using reasonable assumptions
<b>Total equity</b>	From BASE calculation

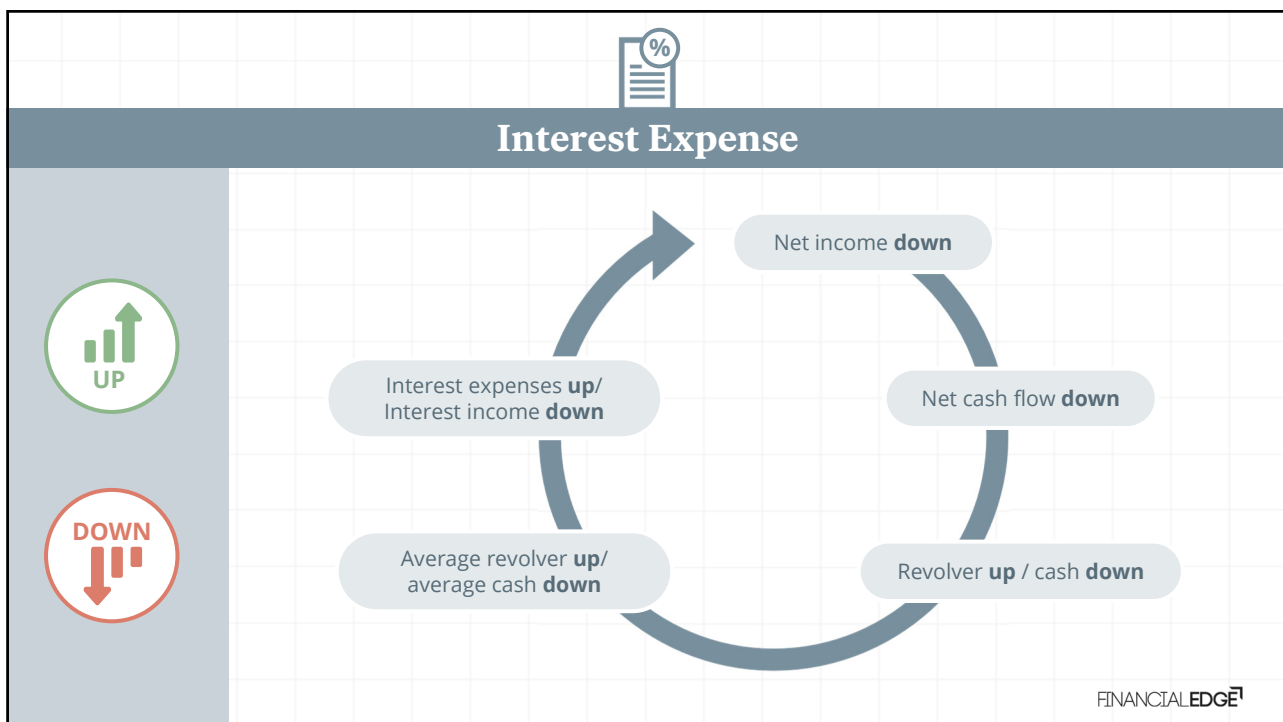
# Model Cash Flow Statement - Operating

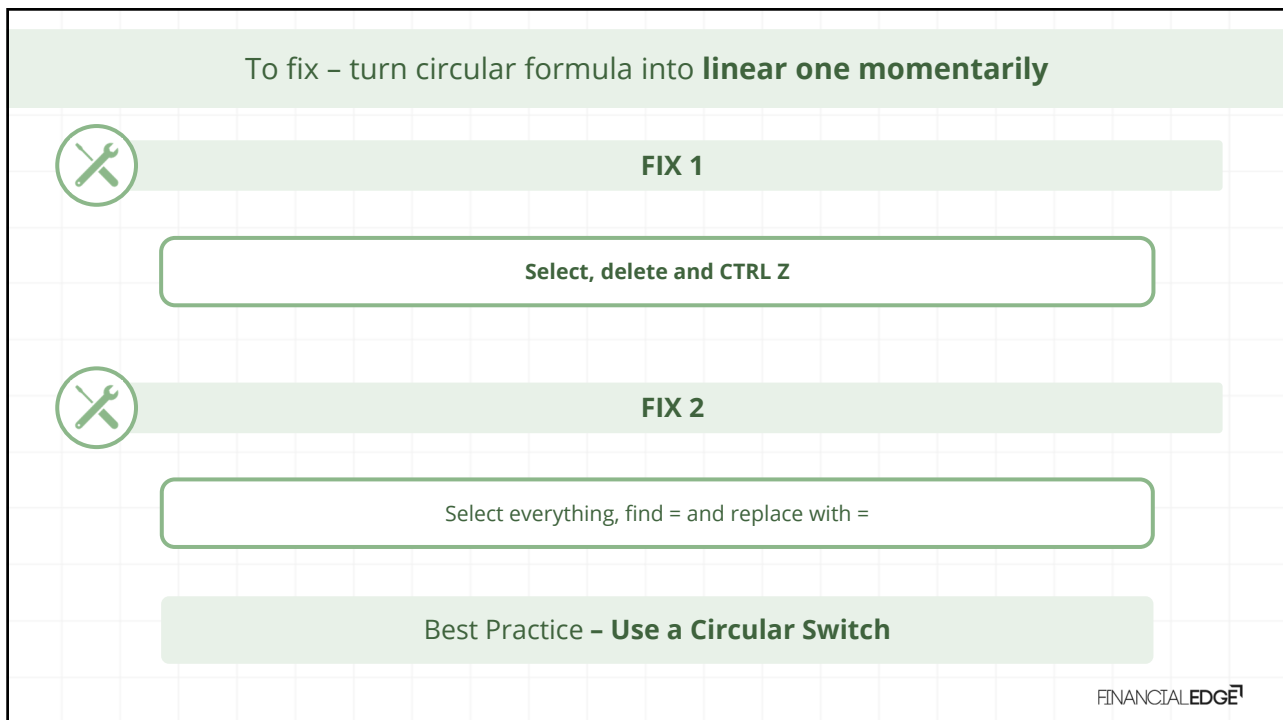
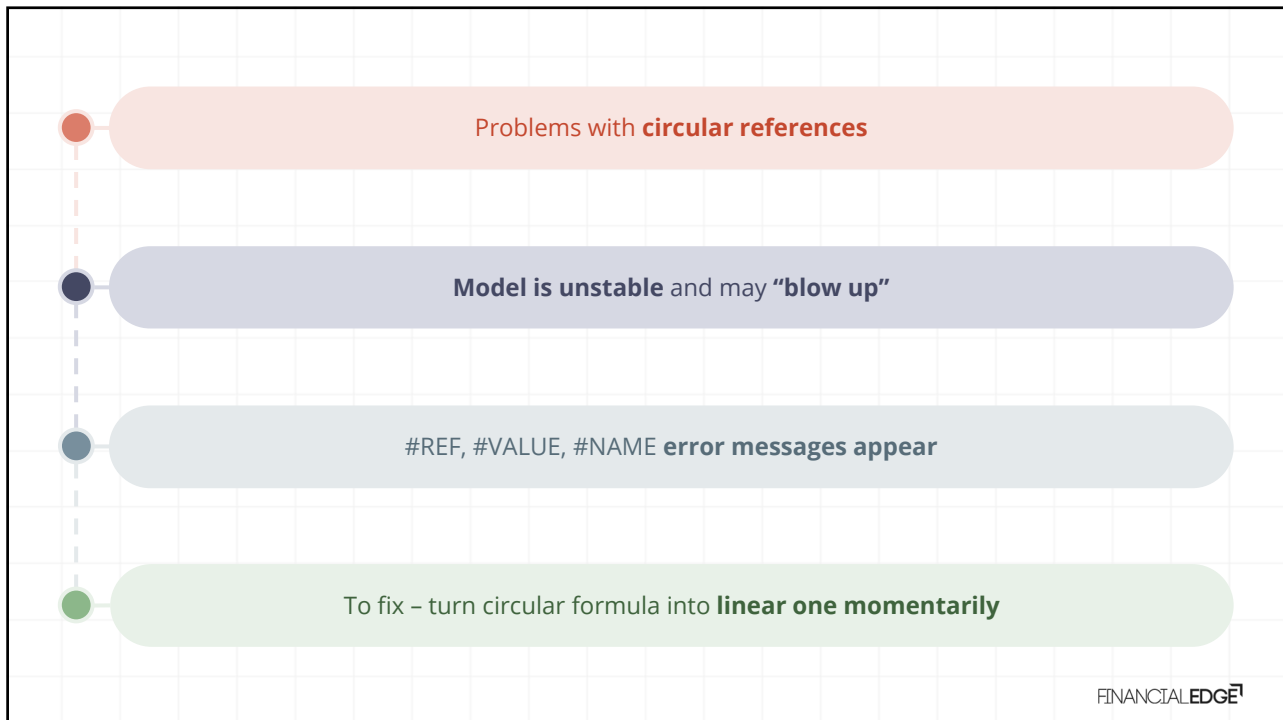


# Iterative Interest Calculations



# Dealing with Circular References





- Remember iteration is set at **OFF**
- Add interest income / expense as the **last step** in the model build
- An **error message** will appear
- The model will **return 0.0** instead of the **interest amount**
- A circular **error message** will appear in the status bar
- Turn iteration **ON** to solve
- Use a **circular switch**

**Circular Reference Warning**  
One or more formulas contain a circular reference and may not calculate correctly. Circular references are any references within a formula that depend upon the results of that same formula. For example, a cell that refers to its own value or a cell that refers to another cell which depends on the original cell value both contain circular references. For more information about understanding, finding, and removing circular references, click Help. If you want to create a circular reference, click OK to continue.

SG&A costs	(10.0)	(11.0)	(11.6)	(18.2)
Operating profit	40.0	44.0	46.2	30.3
Interest income			0.0	0.0
Interest expense			0.0	0.0
Income before tax	40.0	44.0	46.2	30.3
Tax expense	(10.0)	(11.0)	(11.6)	(7.6)
Net income	30.0	33.0	34.7	22.7

**Revolver and interest** Info

Ready Circular References: A7

Formulas  
Proofing  
Save  
Language  
Advanced

Calculation options  
Workbook Calculation  
☒ Automatic  
☐ Automatic except for data tables  
☐ Manual  
☒ Recalculate workbook before saving

Enable iterative calculation  
☒ Enable iterative calculation  
 Maximum iterations: 100  
 Maximum change: 0.001

=IF(SWITCH = 1, return interest, return 0.0)

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