Financial Modelling Fundamentals

Practical Exercise

Operational | Working Capital | Taxation | Financial Statements | Capital

Assets | Outputs | Checks
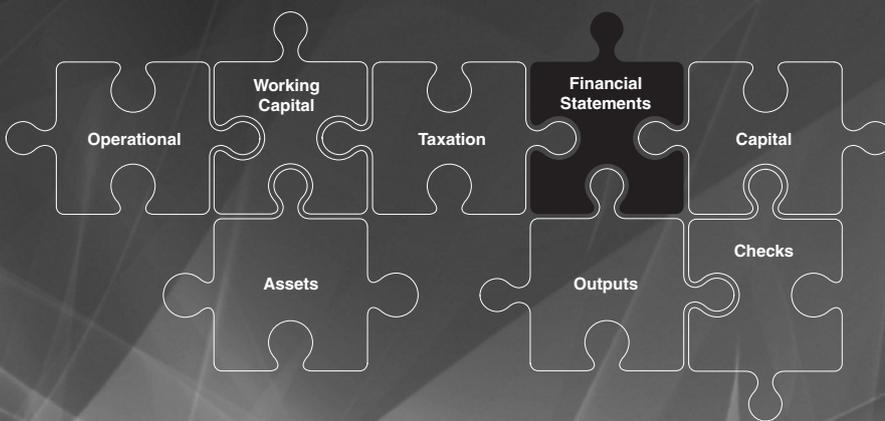
FINANCIAL MODELLING FUNDAMENTALS TRAINING COURSE

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IMPORTANT NOTICES

Many of the examples provided throughout this commentary and examples book have been created within Microsoft Excel using bpmToolbox® – a best practice add-in available from Best Practice Modelling (www.bestpracticemodelling.com). The SSRB is of the opinion that the use of bpmToolbox within Microsoft Excel is the most efficient and effective means of implementing the Best Practice Spreadsheet Modelling Standards. A free trial of bpmToolbox may be downloaded from the Best Practice Modelling website at www.bestpracticemodelling.com/software/bpmToolbox.
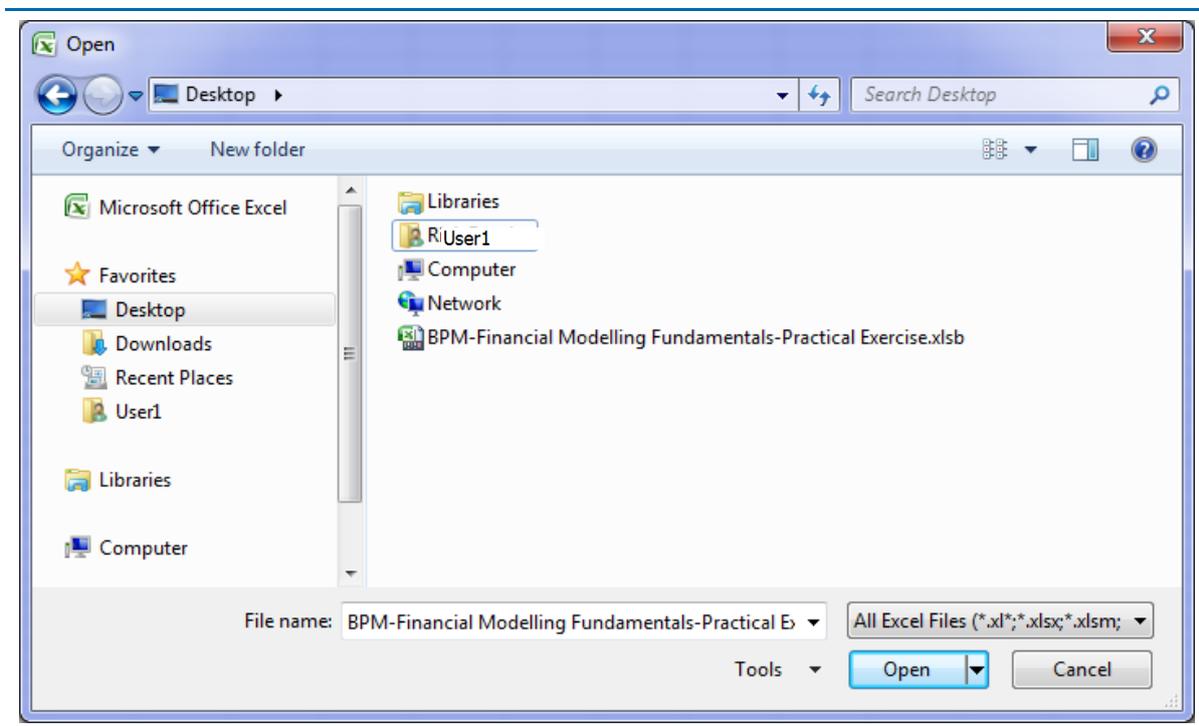
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Chapter 1.

Introduction

1.1.   Open Financial Statements - Practical Exercise Workbook

Open the Financial Statements Modelling Exercise Excel workbook.

Opening the Practical Exercise Workbook

Chapter 2.

Preliminary Financial Statements Development

2.1.   Important Comment

This practical spreadsheet modelling exercise has been constructed by BPM Financial Modelling in order to provide a guide to understanding the development of dynamic, linked three-way financial statements – i.e. Income Statement, Balance Sheet and Cash Flow Statement. It has been designed to enable participants to understand and compartmentalise the different areas of a business and how they each impact the financial statements, and ultimately always have a balancing impact on the Balance Sheet.

In order to maximise the efficiency and effectiveness of this practical exercise, calculations are undertaken *within* the financial statements – e.g. Tax Expense is calculated on the Income Statement by multiplying Net Profit Before Tax (NPBT) by an assumed corporate tax rate. **This approach is not consistent with Modular Spreadsheet Development principles, and is not recommended by BPM Financial Modelling as an approach that should be used when developing whole-of-business financial models.**

Whilst the approach adopted in this practical exercise is not technically in breach of the Best Practice Spreadsheet Modelling Standards, it would create potential errors and unnecessary complexity when used during the development of spreadsheet models containing financial statements outside of this exercise.

2.2. Core Income Statement Infrastructure

This section involves the insertion of the Income Statement infrastructure, including the main statement heading and the ultimate Net Profit After Tax (NPAT) output line item.

1) Select the Income Statement worksheet.

2) Insert the following mixed heading into cell B16:

Heading Cell	Formula in Heading Cell
B16	=B1& " (" &TS_Denom_Label& ")"

3) Add the Net Profit After Tax (NPAT) line in row 39 of the Income Statement, as follows:

   a) Insert the Net Profit After Tax (NPAT) heading as follows:

Row Heading	Heading Cell
Net Profit After Tax (NPAT)	C39

   b) Insert the following formula into the period cells (Columns J – N) of row 39 as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Profit After Tax (NPAT)	39	=0

2.3. Core Cash Flow Statement Infrastructure

This section involves the insertion of the core Cash Flow Statement infrastructure, including the main statement heading, major statement section headings and totals.

1) Select the Cash Flow Statement worksheet.

2) Insert the following mixed heading into cell B16:

Heading Cell	Formula in Heading Cell
B16	=B1&" ("&TS_Denom_Label&")"

To save time, the corresponding formula from the Income Statement may be copied to the Cash Flow Statement.

3) Insert the following headings:

Row Heading	Heading Cell
Operating Cash Flows	C18
Cash Receipts	D22
Cash Payments	D26
Net Operating Cash Flows	D31
Investing Cash Flows	C33
Net Investing Cash Flows	D37
Financing Cash Flows	C39
Net Financing Cash Flows	D46
Net Increase / (Decrease) in Cash Held	C48

a) Group the two Cash Receipts, i.e. rows 20 and 21. (Select both rows and press Alt+Shift+RightArrow).

b) Group the three Cash Payments rows, i.e. rows 23, 24 and 25. (Select all three rows and press Alt+Shift+RightArrow).

4) Insert the following formulae:

Row Heading	Row	Formula in Column J (and copy across)
Net Operating Cash Flows	31	=0
Net Investing Cash Flows	37	=0
Net Financing Cash Flows	46	=0
Net Increase / (Decrease) in Cash Held	48	=SUM(J31,J37,J46)

2.4. Core Balance Sheet Infrastructure

This section involves the insertion of the core Balance Sheet infrastructure, including the main Balance Sheet heading, major section headings and totals.

This section also involves the creation of the Cash and Retained Profits sections of the Balance Sheet, which link in the Change in Cash Held and Net Profit After Tax from the Cash Flow Statement and Income Statement respectively.

1) Select the Balance Sheet worksheet.

2) Insert the following mixed heading into cell B16:

Heading Cell	Formula in Heading Cell
B16	=B1&" ("&TS_Denom_Label&")"

3) Insert the following headings and formulae:

Row Heading	Heading Cell
Current Assets	C18
Total Current Assets	D25
Non-Current Assets	C27
Total Non-Current Assets	D33
Total Assets	C35
Current Liabilities	C37
Total Current Liabilities	D44
Non-Current Liabilities	C46
Total Non-Current Liabilities	D51
Total Liabilities	C53
Net Assets	C55
Equity	C57
Total Equity	C65

Row Heading	Row	Formula in Column J (and copy across)
Total Assets	35	=SUM(J25,J33)
Total Liabilities	53	=SUM(J44,J51)
Net Assets	55	=J35-J53
Total Equity	65	=0

4) On the Balance Sheet, build the Cash sub-section of the Current Assets section of the Balance Sheet, as follows:

a) Insert the Cash calculation rows as follows:

Row Heading	Heading Cell
Opening Cash	E20
Net Change in Cash Held	E21
Cash	D22

b) Insert the following formulae:

Row Heading	Row	Formula in Column J (and copy across)
Opening Cash	20	=IF(J$12=1,Cash_Open,I22)
Net Change in Cash Held	21	=CFS_TO!J48
Cash	22	=SUM(J20:J21)

c) Group the top two cash rows, i.e. rows 20 and 21. (Select both rows and press Alt+Shift+RightArrow).

d) Insert the following formula into the period cells (Columns J – N) of row 25 to equal Cash, as follows (this will be adjusted as additional current asset categories are included in the Balance Sheet):

Row Heading	Row	Formula in Column J (and copy across)
Total Current Assets	25	=J22

5) Build the Retained Profits sub-section of the Equity section of the Balance Sheet, as follows:

a) Insert the Retained Profits calculation headings as follows:

Row Heading	Heading Cell
Opening Retained Profits	E60
Net Profit During Period	E61
Ordinary Equity Dividends Declared	E62
Retained Profits	D63

b) Insert the following formulae:

Row Heading	Row	Formula in Column J (and copy across)
Opening Retained Profits	60	=IF(J$12=1,RP_Open,I63)
Net Profit During Period	61	=IS_TO!J39
Ordinary Equity Dividends Declared	62	=0
Retained Profits	63	=SUM(J60:J62)

c) Group the top three rows, i.e. rows 60 to 62. (Select these rows and press Alt+Shift+RightArrow).

d) Insert the following formula into the period cells (Columns J – N) of row 65 to equal retained Profits, as follows (this will be adjusted as additional Total Equity categories are included in the Balance Sheet):

Row Heading	Row	Formula in Column J (and copy across)
Total Equity	65	=J63

6) Add Cash opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Cash	J11	50.0

The Balance Sheet should remain balanced after completing these steps. This can be determined by checking for errors within the Model Name, in cell B2.

Error in Balance Sheet Example

The checks (including the check to determine whether the Balance Sheet is balanced) can be viewed by clicking the Checks Hyperlinks on row 4 (☒ ⌇ ☷) of each worksheet, except the Cover, Section and Sub-section worksheets.

Chapter 3.

Revenue & Operating Receivables

3.1. Revenue

This section involves the incorporation of revenue (e.g. Sales) into the financial statements, entering via the Income Statement and Cash Flow Statement.

1) Add revenue to the Income Statement using the Base Period & Growth Rates method, as follows:

    a) Select the Income Statement worksheet.

    b) Insert the revenue (Sales) heading link to the Projected Assumptions sheet, and the revenue calculation in cell J18, as follows:

Row Heading	Heading Cell	Formula (1ˢᵗ Period Column)
Sales (=*Proj_Ass_TA!D18*)	D18	=IF(J$12=1,Proj_Ass_TA!J18, I18*(1+Proj_Ass_TA!J18))

    c) Insert the following formula into the period cells (Columns J – N) of row 39 to equal Sales, as follows (this will be adjusted as additional Income Statement items are included in the Income Statement):

Row Heading	Row	Formula in Column J (and copy across)
Net Profit After Tax (NPAT)	39	=J18

The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Add revenue to the Cash Flow Statement by linking to the revenue calculation on the Income Statement, as follows:

    a) Select the Cash Flow Statement worksheet.

    b) Insert the revenue (Sales) heading link to the Projected Assumptions sheet, and link to the revenue on the Income Statement, as follows:

Row Heading	Heading Cell	Formula (1ˢᵗ Period Column)
Sales (=*Proj_Ass_TA!D18*)	E20	=IS_TO!J18

    c) Insert the following formula into the period cells (Columns J – N) of row 22 to equal Sales, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Cash Receipts	22	=J20

d) Insert the following formula into the period cells (Columns J – N) of row 31 to equal Cash Receipts (temporarily) as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Operating Cash Flows	31	=J22

The Balance Sheet should become balanced after completing these steps.

e) Save Model (Ctrl + S).

3.2. Operating Receivables

This section involves the incorporation of Operating Receivables (e.g. Accounts Receivable) into the financial statements, entering via the Balance Sheet and Cash Flow Statement.

1) Add Accounts Receivable to the Balance Sheet using the Debtors Days method, as follows:

a) Select the Balance Sheet worksheet.

b) Insert the Accounts Receivable heading link to the Opening Balance Sheet Assumptions sheet, and the Account Payable calculation in cell J23, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Accounts Receivable (=Op_Rec_Name)	D23	=IS_TO!J18*Proj_Ass_TA!J31/(J\$9-J\$8+1)

c) Insert the following formula into the period cells (Columns J – N) of row 25 to include Cash + Accounts Receivable, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Current Assets	25	=SUM(J22:J23)

The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Allow for the cash flow impact of Accounts Receivable by adding an adjustment line to the Cash Receipts sub-section of the Cash Flow Statement, as follows:

a) Select the Cash Flow Statement worksheet.

b) Insert the Decrease in Accounts Receivable heading and associated calculation into row 21, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Decrease in Accounts Receivable	E21	=IF(J$12=1,Op_Rec_Open,BS_TO!I23)-BS_TO!J23

c) Insert the following formula into the period cells (Columns J – N) of row 22 to include Sales + Decrease in Accounts Receivable, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Cash Receipts	22	=SUM(J20:J21)

The Balance Sheet should become balanced after completing these steps.

3) Add the Account Receivable opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Accounts Receivable	J12	10.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

Chapter 4.

Operating Expenses & Operating Payables

4.1.	Cost of Goods Sold

This section involves the incorporation of Cost of Goods Sold into the financial statements, entering via the Income Statement and Cash Flow Statement.

1) Add Cost of Goods Sold to the Income Statement using the % of Sales method, as follows:

   a) Select the Income Statement worksheet.

   b) Insert the Cost of Goods Sold heading link to the Projected Assumptions sheet, and the revenue calculation in cell J19, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Cost of Goods Sold (=Proj_Ass_TA!D20)	D19	=-J18*Proj_Ass_TA!J20

   c) Insert a Gross Margin row into the Income Statement, summing revenue and cost of goods sold, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Gross Margin	C21	=SUM(J18:J19)

   d) Insert the following formula into the period cells (Columns J – N) of row 39 to equal Gross Margin (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Profit After Tax (NPAT)	39	=J21

The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Add Cost of Goods Sold to the Cash Flow Statement by linking to the Cost of Goods Sold calculation on the Income Statement, as follows:

   a) Select the Cash Flow Statement worksheet.

b) Insert the Cost of Goods Sold heading link to the Projected Assumptions sheet, and calculation link to Cost of Goods Sold on the Income Statement, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Cost of Goods Sold (=Proj_Ass_TA!D20)	E23	=IS_TO!J19

c) Insert the following formula into the period cells (Columns J – N) of row 26 to equal Cost of Goods Sold (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Cash Payments	26	=J23

d) Insert the following formula into the period cells (Columns J – N) of row 31 to equal Cash Receipts + Cash Payments (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Operating Cash Flows	31	=SUM(J22,J26)

The Balance Sheet should become balanced after completing these steps.

e) Save Model (Ctrl + S).

4.2. Operating Expenditure

This section involves the incorporation of Operating Expenditure into the financial statements, entering via the Income Statement and Cash Flow Statement.

1) Add Operating Expenditure to the Income Statement using the Base Period & Growth Rates method, as follows:

   a) Select the Income Statement worksheet.

   b) Insert the Operating Expenditure heading link to the Projected Assumptions sheet, and the Operating Expenditure calculation in cell J23, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Operating Expenditure (=Proj_Ass_TA!D23)	D23	=IF(J$12=1,-Proj_Ass_TA!J23, I23*(1+Proj_Ass_TA!J23))

2) Insert an EBITDA ("Earnings Before Interest, Tax, Depreciation & Amortisation") row into the Income Statement, summing Gross Margin and Operating Expenditure, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
EBITDA	C25	=SUM(J21,J23)

a) Insert the following formula into the period cells (Columns J – N) of row 39 to equal EBITDA (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Profit After Tax (NPAT)	39	=J25

The Balance Sheet should become (temporarily) unbalanced after completing these steps.

3) Add Operating Expenditure to the Cash Flow Statement by linking to the Operating Expenditure calculation on the Income Statement, as follows:

a) Select the Cash Flow Statement worksheet.

b) Insert the Operating Expenditure heading link to the Projected Assumptions sheet, and link Operating Expenditure on the Income Statement, as follows:

Row Heading	Heading Cell	Formula (1ˢᵗ Period Column)
Operating Expenditure (=Proj_Ass_TA!D23)	E24	=IS_TO!J23

c) Insert the following formula into the period cells (Columns J – N) of row 26 to equal Cost of Goods Sold + Operating Expenditure (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Cash Payments	26	=SUM(J23:J24)

The Balance Sheet should become balanced after completing these steps.

d) Save Model (Ctrl + S).

4.3.   Operating Payables

This section involves the incorporation of Operating Payables (e.g. Accounts Payable) into the financial statements, entering via the Balance Sheet and Cash Flow Statement.

1) Add Accounts Payable to the Balance Sheet using the Creditors Days method, as follows:

a) Select the Balance Sheet worksheet.

b) Insert the Accounts Payable heading link to the Opening Balance Sheet Assumptions sheet, and the Accounts Payable calculation in cell J39, as follows:

Row Heading	Heading Cell	Formula (1ˢᵗ Period Column)
Accounts Payable (=Op_Pay_Name)	D39	=-IS_TO!J23*Proj_Ass_TA!J33/(J$9-J$8+1)

c) Insert the following formula into the period cells (Columns J – N) of row 44 to equal Accounts Payable (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Current Liabilities	44	=J39

The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Allow for the cash flow impact of Accounts Payable by adding an adjustment line to the Cash Payments sub-section of the Cash Flow Statement, as follows:

a) Select the Cash Flow Statement worksheet.

b) Insert the Increase in Accounts Payable heading and associated calculation into row 25, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Increase in Accounts Payable	E25	=BS_TO!J39-IF(J$12=1,Op_Pay_Open,BS_TO!I39)

c) Insert the following formula into the period cells (Columns J – N) of row 26 to equal Cost of Goods Sold + Operating Expenditure + Increase in Accounts Payable, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Cash Payments	26	=SUM(J23:J25)

The Balance Sheet should become balanced after completing these steps.

3) Add the Accounts Payable opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Accounts Payable	J28	8.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

Chapter 5.

Assets

5.1.	Book Assets

This section involves the incorporation of Book Assets into the financial statements, entering all 3 financial statements – i.e. the Income Statement, Balance Sheet and Cash Flow Statement.

1) Add Book Assets Capital Expenditure to the Investing Cash Flows section of the Cash Flow Statement, directly linking it from the Projected Assumptions sheet, as follows:

    a) Select the Cash Flow Statement worksheet.

    b) Insert the Book Assets (PP&E) Capital Expenditure heading and formula links to the Projected Assumptions sheet into row 35, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Capital Expenditure – PP&E (*=Proj_Ass_TA!D25*)	D35	*=-Proj_Ass_TA!J25*

    c) Insert the following formula into the period cells (Columns J – N) of row 37 to equal Capital Expenditure - PP&E, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Investing Cash Flows	37	=J35

    The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Add Book Assets Depreciation to the Income Statement using the % of Capital Expenditure method, as follows:

    a) Select the Income Statement worksheet.

    b) Insert the Depreciation heading link to the Projected Assumptions sheet and the depreciation calculation into row 27, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Depreciation – PP&E (*=Proj_Ass_TA!D40*)	E27	*=Proj_Ass_TA!J40*CFS_TO!J35*

    - Apply Level 2 Grouping to row 27 (Select row 27 and press Alt+Shift+RightArrow).

c) Insert a Total Depreciation & Amortisation row into row 29 of the Income Statement, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Total Depreciation & Amortisation	D29	=J27

d) Insert an EBIT ("Earnings Before Interest & Tax") row into the Income Statement, summing EBITDA and Total Depreciation & Amortisation, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
EBIT	C31	=SUM(J25,J29)

e) Insert the following formula into the period cells (Columns J – N) of row 39 to equal EBIT (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Profit After Tax (NPAT)	39	=J31

The Balance Sheet should remain (temporarily) unbalanced after completing these steps.

3) Add Book Assets to the Non-Current Assets section of the Balance Sheet as follows:

a) Select the Balance Sheet worksheet.

b) Insert the Book Assets (PP&E) heading link to the Opening Balance Sheet Assumptions sheet, and the book assets closing balance calculation in cell J29, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
PP&E (=Assets_Bk_Name)	D29	=IF(J$12=1,Assets_Bk_Open,I29)-CFS_TO!J35+IS_TO!J27

c) Insert the following formula into the period cells (Columns J – N) of row 33 to equal PP&E (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Non-Current Assets	33	=J29

The Balance Sheet should become balanced after completing these steps.

4) Add the Property, Plant and Equipment opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
PP&E	J18	250.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

5.2. Book Intangibles

This section involves the incorporation of Book Intangibles into the financial statements, entering all 3 financial statements – i.e. the Income Statement, Balance Sheet and Cash Flow Statement.

1) Add Book Intangibles Capital Expenditure to the Investing Cash Flows section of the Cash Flow Statement, directly linking it from the Projected Assumptions sheet, as follows:

   a) Select the Cash Flow Statement worksheet.

   b) Insert the Book Intangibles (Intangibles) Capital Expenditure heading and formula links to the Projected Assumptions sheet into row 36, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Capital Expenditure – Intangibles (=Proj_Ass_TA!D26)	D36	*=-Proj_Ass_TA!J26*

   c) Insert the following formula into the period cells (Columns J – N) of row 37 to equal Capital Expenditure – PP&E + Capital Expenditure - Intangibles, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Investing Cash Flows	37	=SUM(J35:J36)

   The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Add Book Intangibles Amortisation to the Income Statement using the % of Capital Expenditure method, as follows:

   a) Select the Income Statement worksheet.

   b) Insert the Amortisation heading link to the Projected Assumptions sheet and the amortisation calculation into row 28, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Amortisation – Intangibles (=Proj_Ass_TA!D41)	E28	*=Proj_Ass_TA!J41*CFS_TO!J36*

   - Apply Level 2 Grouping to row 28 (select row 28 and press Alt+Shift+RightArrow).

c) Adjust the calculation in the Total Depreciation & Amortisation row in row 29 as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Total Depreciation & Amortisation	D29	=SUM(J27:J28)

The Balance Sheet should remain (temporarily) unbalanced after completing these steps.

3) Add Book Intangibles to the Non-Current Assets section of the Balance Sheet as follows:

a) Select the Balance Sheet worksheet.

b) Insert the Book Intangibles (Intangibles) heading link to the Opening Balance Sheet Assumptions sheet, and the book intangibles closing balance calculation in cell J30, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Intangibles (=Intan_Bk_Name)	D30	=IF(J$12=1,Intan_Bk_Open,I30)-CFS_TO!J36+IS_TO!J28

c) Insert the following formula into the period cells (Columns J – N) of row 33 to equal PP&E + Intangibles, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Non-Current Assets	33	=SUM(J29:J30)

The Balance Sheet should become balanced after completing these steps.

4) Add the Intangibles opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Intangibles	J19	100.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

Chapter 6.

Capital Structure

6.1.   Debt

This section involves the incorporation of Debt into the financial statements, entering all 3 financial statements – i.e. the Income Statement, Balance Sheet and Cash Flow Statement.

6.1.1. Debt Balances

This section involves the incorporation of Debt balances into the financial statements, entering the Non-Current Liabilities section of the Balance Sheet and Financing Cash Flows section of the Cash Flow Statement.

1) Add Debt Drawdowns to the Financing Cash Flows section of the Cash Flow Statement, directly linking it from the Projected Assumptions sheet, as follows:

   a) Select the Cash Flow Statement worksheet.

   b) Insert the Debt Drawdowns heading and formula links to the Projected Assumptions sheet into row 41, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Debt Drawdowns (=Proj_Ass_TA!D48)	D41	*=Proj_Ass_TA!J48*

   c) Insert the following formula into the period cells (Columns J – N) of row 46 to equal Debt Drawdowns (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Financing Cash Flows	46	=J41

   The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Add Debt Repayments to the Financing Cash Flows section of the Cash Flow Statement, directly linking it from the Projected Assumptions sheet, as follows:

   a) Make sure the Cash Flow Statement worksheet is the active worksheet.

   b) Insert the Debt Repayments heading and formula links to the Projected Assumptions sheet into row 42, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Debt Repayments (=Proj_Ass_TA!D49)	D42	*=-Proj_Ass_TA!J49*

c) Insert the following formula into the period cells (Columns J – N) of row 46 to equal Debt Drawdowns + Debt Repayments (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Financing Cash Flows	46	=SUM(J41:J42)

The Balance Sheet should remain unbalanced after completing these steps.

3) Add Debt to the Non-Current Liabilities section of the Balance Sheet as follows:

a) Select the Balance Sheet worksheet.

b) Insert the Debt heading link to the Opening Balance Sheet Assumptions sheet, and the debt closing balance calculation in cell J48, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Debt (=*Debt_Name*)	D48	=IF(J$12=1,Debt_Open,I48) +CFS_TO!J41+CFS_TO!J42

c) Insert the following formula into the period cells (Columns J – N) of row 51 to equal Debt (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Non-Current Liabilities	51	=J48

The Balance Sheet should become balanced after completing these steps.

4) Add the Debt opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Debt	J37	196.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

6.1.2. Interest Payable

This section involves the incorporation of Interest Payable, which incorporates Interest Expense and Interest Paid, into the financial statements, entering the Income Statement (Interest Expense), Balance Sheet (Interest Payable), and the Cash Flow Statement (Operating Cash Flows).

1) Add Interest Expense to the Income Statement, using the All-In Interest Rate assumption on the Projected Assumptions sheet, as follows:

a) Select the Income Statement worksheet.

b) Enter the Interest Expense heading calculation into row 33, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Interest Expense	D33	=-BS_TO!J48*Proj_Ass_TA!J51

c) Insert a Net Profit Before Tax (NPBT) row into the Income Statement, summing EBIT and Interest Expense, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Net Profit Before Tax (NPBT)	C35	=SUM(J31,J33)

d) Insert the following formula into the period cells (Columns J – N) of row 39 to equal Net Profit before Tax (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Profit After Tax (NPAT)	39	=J35

The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Add Interest Paid to the Operating Cash Flows section of the Cash Flow Statement, assuming a 1 period delay between interest expense and interest paid, as follows:

a) Select the Cash Flow Statement worksheet.

b) Enter the Interest Paid heading calculation into row 27, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Interest Paid	D27	=IF(J$12=1,-Debt_Int_Pay_Open,IS_TO!I33)

c) Insert the following formula into the period cells (Columns J – N) of row 31 to equal Cash Receipts + Cash Payments + Interest Paid, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Operating Cash Flows	31	=SUM(J22,J26:J27)

The Balance Sheet should remain unbalanced after completing these steps.

3) Add Interest Payable to the Current Liabilities section of the Balance Sheet as follows:

a) Select the Balance Sheet worksheet.

b) Insert the Interest Payable heading and calculation into row 40, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Interest Payable (=Debt_Int_Pay_Name)	D40	=IF(J$12=1,Debt_Int_Pay_Open,I40)-IS_TO!J33+CFS_TO!J27

c) Insert the following formula into the period cells (Columns J – N) of row 44 to equal Accounts Payables + Interest Payables, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Current Liabilities	44	=SUM(J39:J40)

The Balance Sheet should become balanced after completing these steps.

4) Add the Interest Payable opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Interest Payable	J29	2.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

6.2. Ordinary Equity

This section involves the incorporation of Ordinary Equity into the financial statements, entering the Balance Sheet and Cash Flow Statement.

6.2.1. Ordinary Equity Balances

This section involves the incorporation of Ordinary Equity balances into the financial statements, entering the Equity section of the Balance Sheet and Financing Cash Flows section of the Cash Flow Statement.

1) Add Ordinary Equity Raisings to the Financing Cash Flows section of the Cash Flow Statement, directly linking it from the Projected Assumptions sheet, as follows:

a) Select the Cash Flow Statement worksheet.

b) Insert the Equity Issuances heading and formula links to the Projected Assumptions sheet into row 43, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Ordinary Equity Issuances (=Proj_Ass_TA!D59)	D43	=Proj_Ass_TA!J59

c) Insert the following formula into the period cells (Columns J – N) of row 46 to equal Debt Drawdowns + Debt Repayments + Ordinary Equity Issuances (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Financing Cash Flows	46	=SUM(J41:J43)

The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Add Ordinary Equity Buy-Backs to the Financing Cash Flows section of the Cash Flow Statement, directly linking it from the Projected Assumptions sheet, as follows:

   a) Make sure the Cash Flows Statement worksheet is the active worksheet.

   b) Insert the Ordinary Equity Buy-Backs heading and formula links to the Projected Assumptions sheet into row 44, as follows:

Row Heading	Heading Cell	Formula (1ˢᵗ Period Column)
Ordinary Equity Buy-Backs (=Proj_Ass_TA!D60)	D44	=-Proj_Ass_TA!J60

   c) Insert the following formula into the period cells (Columns J – N) of row 46 to equal Debt Drawdowns + Debt Repayments + Ordinary Equity Issuances + Ordinary Equity Buy-Backs (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Financing Cash Flows	46	=SUM(J41:J44)

The Balance Sheet should remain unbalanced after completing these steps.

3) Add Ordinary Equity to the Equity section of the Balance Sheet as follows:

   a) Select the Balance Sheet worksheet.

   b) Insert the Ordinary Equity heading and calculation into row J59, as follows:

Row Heading	Heading Cell	Formula (1ˢᵗ Period Column)
Ordinary Equity (=Ord_Equity)	D59	=IF(J$12=1,Eq_Ord_Open,I59)+CFS_TO!J43+CFS_TO!J44

   c) Insert the following formula into the period cells (Columns J – N) of row 65 to equal Ordinary Equity + Retained Profits, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Equity	65	=SUM(J59,J63)

The Balance Sheet should become balanced after completing these steps.

4) Add the Ordinary Equity opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Ordinary Equity	J48	100.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

6.2.2. Dividends Payable

This section involves the incorporation of Dividends Payable, which includes Dividends Declared and Dividends Paid, into the financial statements, entering the Balance Sheet (Dividends Declared and Interest Payable), and the Cash Flow Statement (Financing Cash Flows).

1) Add Ordinary Equity Dividends Declared to the Equity section of the Balance Sheet as follows:

   a) Select the Balance Sheet worksheet.

   b) Insert the Ordinary Equity Dividends Declared calculation into row J62, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Ordinary Equity Dividends Declared	E62	=-MAX(IS_TO!J39,0)*Proj_Ass_TA!J62

   The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Add Dividends Paid to the Financing Cash Flows section of the Cash Flow Statement, assuming a 1 period delay between Dividends Declared and Dividends Paid, as follows:

   a) Select the Cash Flow Statement worksheet.

   b) Enter the Dividends Paid heading calculation into row 45, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Dividends Paid	D45	=IF(J$12=1,-Eq_Ord_Div_Pay_Open,BS_TO!I62)

   c) Insert the following formula into the period cells (Columns J – N) of row 46 to equal Debt Drawdowns + Debt Repayments + Ordinary Equity Issuances + Ordinary Equity Buy-Backs + Dividends Paid, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Financing Cash Flows	46	=SUM(J41:J45)

   The Balance Sheet should remain unbalanced after completing these steps.

3) Add Dividends Payable to the Current Liabilities section of the Balance Sheet as follows:

   a) Select the Balance Sheet worksheet.

b) Insert the Interest Payable heading and calculation into row 41, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Dividends Payable (=Eq_Ord_Div_Pay_Name)	D41	=IF(J$12=1,Eq_Ord_Div_Pay_Open, I41)-J62+CFS_TO!J45

c) Insert the following formula into the period cells (Columns J – N) of row 44 to equal Accounts Payable + Interest Payable + Dividends Payable, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Current Liabilities	44	=SUM(J39:J41)

The Balance Sheet should become balanced after completing these steps.

4) Add the Dividends Payable opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Dividends Payable	J30	1.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

Chapter 7.

Taxation

This section involves the incorporation of Taxation into the financial statements, entering all 3 financial statements – i.e. the Income Statement, Balance Sheet and Cash Flow Statement.

1) Add Tax Expense to the Income Statement, using the Corporate Taxation Rate assumption on the Projected Assumptions sheet, as follows:

   a) Select the Income Statement worksheet.

   b) Enter the Tax Expense heading calculation into row 37, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Tax Expense	D37	=-J35*Proj_Ass_TA!J71

   c) Insert the following formula into the period cells (Columns J – N) of row 39 to equal Net Profit before Tax (NPBT)+ Tax Expense, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Profit After Tax (NPAT)	39	=SUM(J35,J37)

   The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Add Tax Paid to the Operating Cash Flows section of the Cash Flow Statement, allowing for timing differences, as follows:

   a) Select the Cash Flow Statement worksheet.

   b) Insert the Tax Paid heading and calculation into row 28, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Tax Paid	D28	=MIN(0,-(IS_TO!J35+Proj_Ass_TA!J73)*Proj_Ass_TA!J71)

   c) Insert the following formula into the period cells (Columns J – N) of row 31 to equal Cash Receipts + Cash Payments + Interest Paid + Tax Paid (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Operating Cash Flows	31	=SUM(J22,J26:J28)

The Balance Sheet should remain unbalanced after completing these steps.

3) Add Deferred Tax Assets to the Non-Current Assets section of the Balance Sheet, assuming Deferred Tax Assets remain unchanged over time, as follows:

a) Select the Balance Sheet worksheet.

b) Insert the Deferred Tax Assets heading and calculation in row 37, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Deferred Tax Assets (=Tax_DTA_Name)	D31	=DTA_Open

c) Insert the following formula into the period cells (Columns J – N) of row 33 to equal PP&E + Intangibles + Deferred Tax Assets (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Non-Current Assets	33	=SUM(J29:J31)

The Balance Sheet should remain unbalanced after completing these steps.

4) Add Income Tax Payable to the Current Liabilities section of the Balance Sheet, assuming Income Tax Payable remains unchanged over time, as follows:

a) Insert the Income Tax Payable heading and calculation in row 42, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Income Tax Payable (=Tax_Pay_Name)	D42	=Tax_Pay_Open

b) Insert the following formula into the period cells (Columns J – N) of row 44 to equal Accounts Payables + Interest Payables + Dividends Payables + Income Tax Payable (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Current Liabilities	44	=SUM(J39:J42)

The Balance Sheet should remain unbalanced after completing these steps.

5) Add Deferred Tax Liabilities to the Non-Current Liabilities section of the Balance Sheet as follows:

a) Insert the Deferred Tax Liabilities heading link to the Opening Balance Sheet Assumptions sheet, and the Deferred Tax Liabilities closing balance calculation into row 49, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Deferred Tax Liabilities (=Tax_DTL_Name)	D49	=IF(J$12=1,DTL_Open,I49)-IS_TO!J37+CFS_TO!J28

b) Insert the following formula into the period cells (Columns J – N) of row 51 to equal Debt + Deferred Tax Liabilities, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Non-Current Liabilities	51	=SUM(J48:J49)

The Balance Sheet should become balanced after completing these steps.

6) Add the Deferred Tax Assets, Deferred Tax Liabilities and Income Tax Payable opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Deferred Tax Assets	J20	5.0
Deferred Tax Liabilities	J38	12.0
Income Tax Payable	J31	6.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

Chapter 8.

Other Balance Sheet Items

8.1.   Other Current Assets

This section involves the incorporation of projected Other Current Assets, assuming that increases in Other Current Assets cause a decrease in Operating Cash Flows, and vice versa.

1) Add Other Current Assets to the Current Assets section of the Balance Sheet, allowing for movements in Other Current Assets as assumed on the Projected Assumption sheet, as follows:

a) Select the Balance Sheet worksheet.

b) Insert the Other Current Assets heading and calculation in row 24, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Other Current Assets (=OCA_Name)	D24	=Proj_Ass_TA!J88

c) Insert the following formula into the period cells (Columns J – N) of row 25 to equal Cash + Accounts Receivable + Other Current Assets, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Current Assets	25	=SUM(J22:J24)

The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Add Decrease / (Increase) in Other Current Assets to the Operating Cash Flows section of the Cash Flow Statement, as follows:

a) Select the Cash Flow Statement worksheet.

b) Insert the Decrease / (Increase) in Other Current Assets heading and calculation into row 29, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Decrease / (Increase) in Other Current Assets	D29	=IF(J$12=1,OCA_Open,BS_TO!I24)-BS_TO!J24

c) Insert the following formula into the period cells (Columns J – N) of row 31 to equal Cash Receipts + Cash Payments + Interest Paid + Tax Paid + Decrease / (Increase) in Other Current Assets (temporarily), as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Operating Cash Flows	31	=SUM(J22,J26:J29)

The Balance Sheet should become balanced after completing these steps.

3) Add the Other Current Assets opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Other Current Assets	J13	5.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

8.2.   Other Non-Current Assets

This section involves the incorporation of projected Other Non-Current Assets, assuming that Other Non-Current Assets remain flat over time, and therefore have no earnings or cash flow impact.

1) Add Other Non-Current Assets to the Non-Current Assets section of the Balance Sheet, assuming that projected Non-Current Assets remain at their opening balance levels, as follows:

a) Select the Balance Sheet worksheet.

b) Insert the Other Non-Current Assets heading and calculation in row 32, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Other Non-Current Assets (=ONCA_Name)	D32	=ONCA_Open

c) Insert the following formula into the period cells (Columns J – N) of row 33 to equal PP&E + Intangibles + Deferred Tax Assets + Other Non-Current Assets, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Non-Current Assets	33	=SUM(J29:J32)

The Balance Sheet should remain balanced after completing these steps.

2) Add the Other Non-Current Assets opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Other Non-Current Assets	J21	12.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

8.3.   Other Current Liabilities

This section involves the incorporation of projected Other Current Liabilities, assuming that increases in Other Current Liabilities cause a increase in Operating Cash Flows, and vice versa.

1) Add Other Current Liabilities to the Current Liabilities section of the Balance Sheet, allowing for movements in Other Current Liabilities as assumed on the Projected Assumption sheet, as follows:

   a) Select the Balance Sheet worksheet.

   b) Insert the Other Current Liabilities heading and calculation in row 43, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Other Current Liabilities (=OCL_Name)	D43	=Proj_Ass_TA!J90

   c) Insert the following formula into the period cells (Columns J – N) of row 44 to equal Accounts Payable + Interest Payable + Dividends Payable + Income Tax Payable + Other Current Liabilities, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Current Liabilities	44	=SUM(J39:J43)

The Balance Sheet should become (temporarily) unbalanced after completing these steps.

2) Add Increase / (Decrease) in Other Current Liabilities to the Operating Cash Flows section of the Cash Flow Statement, as follows:

   a) Select the Cash Flow Statement worksheet.

   b) Insert the Increase / (Decrease) in Other Current Liabilities heading and calculation into row 30, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Increase / (Decrease) in Other Current Liabilities	D30	=BS_TO!J43- IF(J$12=1,OCL_Open,BS_TO!I43)

c) Insert the following formula into the period cells (Columns J – N) of row 31 to equal Cash Receipts + Cash Payments + Interest Paid + Tax Paid + Decrease / (Increase) in Other Current Assets + Increase / (Decrease) in Other Current Liabilities, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Net Operating Cash Flows	31	=SUM(J22,J26:J30)

The Balance Sheet should become balanced after completing these steps.

3) Add the Other Current Liabilities opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Other Current Liabilities	J32	2.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

8.4.   Other Non-Current Liabilities

This section involves the incorporation of projected Other Non-Current Liabilities, assuming that Other Non-Current Liabilities remain flat over time, and therefore have no earnings or cash flow impact.

1) Add Other Non-Current Liabilities to the Non-Current Liabilities section of the Balance Sheet, assuming that projected Non-Current Liabilities remain at their opening balance levels, as follows:

a) Select the Balance Sheet worksheet.

b) Insert the Other Non-Current Liabilities heading and calculation in row 50, as follows:

Row Heading	Heading Cell	Formula (1st Period Column)
Other Non-Current Liabilities (=ONCL_Name)	D50	=ONCL_Open

c) Insert the following formula into the period cells (Columns J – N) of row 51 to equal Debt + Deferred Tax Liabilities + Other Non-Current Liabilities, as follows:

Row Heading	Row	Formula in Column J (and copy across)
Total Non-Current Liabilities	51	=SUM(J48:J50)

The Balance Sheet should remain balanced after completing this step.

2) Add the Other Non-Current Liabilities opening balance into the Opening Balance Sheet Assumptions worksheet:

Row Heading	Cell	Value
Other Non-Current Liabilities	J39	6.0

The Balance Sheet should remain balanced after completing this step.

a) Save Model (Ctrl + S).

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