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Three-Statement Modeling

Build and Link the Income Statement, Balance Sheet and Cash Flow Statement

Course Book

Six modules, thirty lessons, one running case, every figure computed.

Educational material. AI-assisted. Not investment advice.

About this course

This course builds, line by line, the model every finance professional is expected to know: an income statement, a balance sheet and a cash flow statement that are forecast together and stay consistent in every year. You start from three years of reported statements, turn them into drivers, forecast the income statement, build the schedules behind the balance sheet, link the cash flow statement with a revolver that draws when cash runs short, and finish with checks, a debugging routine and three scenarios. It is written for analysts in investment banking, private equity, credit, equity research, transaction services and corporate FP&A.

What you have

- This Course Book: six modules of five lessons, each with objectives, a worked example step by step, the classic pitfalls, a summary, the cells to build in the workbook and three practice questions (answers at the back).
- The Case Workbook: the finished model of the running case, twelve sheets in live formulas with a master check, and a scenario switch.
- Step Files: a start file and a solution file for each module. The start file has the cells of the module empty and shaded orange.
- The Exercise Workbook: one tab per module, 55 answers in yellow cells, checked automatically, with hidden solution tabs.
- The Quiz App: 100 questions with explanations, offline in any browser. The certificate exam is taken online.

How to work through it

1. Read the module (online, in the reader of your learner account, or here).
2. Open the start file of the module and build the orange cells, using the table Build it in the workbook at the end of the module. Compare with the solution file.
3. Do the module tab of the Exercise Workbook without looking at the solution, then practice the module in the Quiz App until you score 80% or more.
4. After module 6, take the certificate exam online. Most learners need between one and a half and two and a half hours of reading and building, plus the exercises.

The running case at a glance

Item	Value
Company (fictional)	Larkfield Packaging Corp., rigid plastic and fiber containers, listed in the United States
2025 actuals	Revenue $1,164.0m, EBITDA $235.3m (20.2%), net income $118.0m, EPS $2.35
Balance sheet at 31 Dec 2025	Total assets $1,145.5m, debt $475.0m, cash $119.9m, net debt / EBITDA 1.51x
Financing	Term loan $225.0m at 6.25%, notes $250.0m at 5.50% due 2031, $200m revolver at 6.75%
Forecast	2026 to 2030, annual, in three scenarios; capex program of 7.5% and 7.0% of revenue in 2026 and 2027
Base case 2030	Revenue $1,489.8m, EPS $3.78, revolver $23.1m after a peak of $51.4m

Conventions

MODULE 1

How the three statements fit together

Objectives

- Say what each of the three statements measures, over a period or at a date, and how they connect.
- Write the identities that hold in every period of a three-statement model and test them on reported figures.
- Explain why net income and cash differ, with accruals, non-cash charges and working capital.
- Follow one sale and one capital purchase through the income statement, the balance sheet and the cash flow statement.
- Read the map of the course model: twelve sheets, one column per year, and the order in which they feed each other.

1.1 Three statements, one company

A three-statement model is a forecast of a company in which the income statement, the balance sheet and the cash flow statement are built together and stay consistent. Analysts in investment banking, private equity, credit, equity research and corporate FP&A build one for the same reason: a forecast of profit alone cannot tell you whether the company can pay its debt, fund its capex and keep paying its shareholders. The three statements answer three different questions.

- **The income statement** measures performance over a period: revenue earned, less the costs of earning it, down to net income. It is built on accrual accounting.
- **The balance sheet** is a position at a date: what the company owns (assets) and how it is financed (liabilities and shareholders' equity). It always balances.
- **The cash flow statement** explains the change in cash over the period, in three sections: operating, investing and financing activities.

For Larkfield Packaging Corp., the fictional company of this course, the 2025 figures are: revenue of $1,164.0m and net income of $118.0m over the year; total assets of $1,145.5m at 31 December 2025; and $161.1m of cash generated by operations during the year. Each number comes from a different statement, and each statement needs the other two to be complete. Net income feeds equity on the balance sheet and is the first line of the cash flow statement; the cash flow statement ends with the cash balance that sits at the top of the balance sheet.

Presentation rules matter less to the model than the links, but they shape what you read in a filing. A US company reports under US GAAP, where the cash flow statement is governed by ASC 230 and earnings per share by ASC 260. A company reporting under IFRS presents its cash flows under IAS 7 and, for annual periods beginning on or after 1 January 2027, its income statement under IFRS 18 (issued by the IASB in April 2024), which adds required subtotals such as operating profit and classifies income and expenses into operating, investing and financing categories. The model in this course follows a US layout; the links are the same under both frameworks.

1.2 The identities that hold every period

A handful of identities hold in every period of every three-statement model. They are the checks you will build in module 6, and they are the reason the statements cannot drift apart if every line is linked correctly.

- **Assets = liabilities + shareholders' equity**, at every balance sheet date.
- **Closing cash = opening cash + operating + investing + financing cash flows**, and closing cash on the cash flow statement is the cash on the balance sheet.
- **Closing equity = opening equity + net income - dividends - share buybacks** (plus share issuance and other comprehensive income, which Larkfield does not have).
- **Closing net PP&E = opening net PP&E + capex - depreciation**, and the same roll-forward for every debt tranche: opening + draws - repayments = closing.
- **Every change in a balance sheet line appears somewhere**: in the cash flow statement, or in net income, or in another balance sheet line.

The last identity is the one that makes debugging possible. If cash is the only balance sheet line computed from the cash flow statement, then every other balance sheet line must have its change reported in the cash flow statement, with the right sign. Miss one, and the balance sheet is out by exactly that change.

Identity, Larkfield 2025	Left side	Right side
Total assets = total liabilities + equity	$1,145.5m	$1,145.5m
Cash: opening + net change = closing	$113.2m + $6.7m	$119.9m
Equity: opening + net income - dividends - buybacks	$502.5m + $118.0m - $35.4m - $30.0m	$555.1m
Net PP&E: opening + capex - D&A	$540.0m + $64.0m - $54.0m	$550.0m
Term loan: opening - repayment	$250.0m - $25.0m	$225.0m

1.3 Accrual and cash: why net income is not cash

Revenue is recognized when the company transfers control of the goods to the customer (ASC 606 and IFRS 15, both effective since 2018), not when the customer pays. Costs are recognized when the related revenue is, or when they are used up. That is accrual accounting, and it is why net income and cash differ.

Three things separate them in an industrial company like Larkfield:

- **Non-cash charges.** Depreciation spreads the cost of a machine over its useful life. It lowers net income every year, but the cash left when the machine was bought.
- **Working capital.** A sale on credit raises receivables, not cash. Inventory bought before it is sold uses cash before it becomes cost of goods sold. Suppliers paid on 52-day terms give back cash for 52 days.
- **Capital spending and financing.** Capex, debt repayment, dividends and buybacks move cash without touching net income at all.

In 2025 Larkfield earned $118.0m of net income and generated $161.1m of operating cash flow: depreciation of $54.0m was added back, and working capital absorbed $10.9m as receivables and inventories grew with sales. Operating cash flow was 1.36x net income. Free cash flow, operating cash flow less capex of $64.0m, was $97.1m.

1.4 One transaction through the three statements

The fastest way to learn the links is to follow one transaction through all three statements. Larkfield sells $10.0m of containers on 30-day credit. The goods cost $6.0m and come out of inventory. Tax at 24% is paid in cash during the year.

Statement	Line	Effect
Income statement	Revenue	$10.0m
Income statement	Cost of goods sold	-$6.0m
Income statement	Income tax at 24%	-$0.96m
Income statement	Net income	$3.04m
Cash flow statement	Net income	$3.04m
Cash flow statement	(Increase) in receivables	-$10.0m
Cash flow statement	Decrease in inventories	$6.0m
Cash flow statement	Operating cash flow = change in cash	-$0.96m
Balance sheet	Receivables / inventories / cash	$10.0m / -$6.0m / -$0.96m
Balance sheet	Total assets = equity (retained earnings)	$3.04m

The company is $3.04m richer, all of it in equity, but it has $0.96m less cash, because the customer has not paid yet and the tax has. When the customer pays next month, receivables fall by $10.0m and cash rises by the same amount: no profit, all cash.

A second transaction: Larkfield buys a $15.0m machine for cash and depreciates it over 10 years. In the first year depreciation is $1.50m, net income falls by $1.14m after tax, operating cash flow rises by $0.36m (net income plus the depreciation added back, which is the tax saved), investing cash flow is -$15.0m, and cash falls by $14.64m. Net PP&E is up $13.50m. Assets move by -$1.14m, exactly the change in equity.

1.5 The case and the map of the model

Larkfield Packaging Corp. (fictional) makes rigid plastic and fiber containers for food, household and industrial customers in North America. It is listed in the United States, with 49.74 million diluted shares at the end of 2025. It shipped 800 thousand tons in 2025 at an average price of $1,455 a ton. It is financed by a term loan ($225.0m at the end of 2025), $250.0m of 5.50% senior notes due 2031 and an undrawn $200m revolving credit facility. In 2026 and 2027 it builds a new line in Ohio, which lifts capex to 7.5% and 7.0% of revenue, while it keeps buying back shares.

The Case Workbook has twelve sheets. Every sheet uses the same column for the same year: D for 2022, E to G for the actual years 2023 to 2025, H to L for the forecast years 2026 to 2030. That single rule removes a whole family of linking errors.

Sheet	What it holds	Feeds
Inputs	Scenario switch, drivers for base, low and high, other assumptions	Every forecast sheet
Historicals	Reported statements 2023 to 2025, opening balance sheet 2022, driver ratios	Inputs (judgment), IS, BS, CF actual columns
IS	Revenue and cost build, income statement, EPS	WC, PPE, Equity, CF
WC, PPE, Debt, Equity	Schedules: working capital, fixed assets, debt and interest, shares and equity	IS (D&A, interest, shares), CF, BS

Sheet	What it holds	Feeds
CF	Cash flow statement, indirect method, cash before the revolver	Debt (revolver), BS (cash)
BS	Balance sheet and balance check	Checks
Checks, Scenarios	Nine checks and a master check; scenario results	Cover

The order of construction follows the arrows: drivers, income statement, schedules, cash flow statement, balance sheet, checks. The balance sheet is built last and almost entirely from links. If you find yourself typing a number into the forecast balance sheet, something upstream is missing.

Worked example, step by step

1. Open the Historicals sheet. Add revenue and subtract cost of goods sold for 2025: $1,164.0m - $810.0m = gross profit of $354.0m.
2. Subtract SG&A ($118.7m) for EBITDA of $235.3m, then D&A ($54.0m) for EBIT of $181.3m.
3. Subtract interest expense ($29.38m) and add interest income ($3.40m): income before taxes of $155.29m. Less tax of $37.27m, net income is $118.02m.
4. Total the 2025 balance sheet: assets of $1,145.52m against liabilities of $590.40m and equity of $555.12m, a total of $1,145.52m. It balances.
5. Total the 2025 cash flow statement: operating $161.09m, investing -$64.00m, financing -$90.41m, net change $6.68m. Opening cash of $113.18m plus the change gives $119.86m, the cash on the balance sheet.
6. Diluted EPS: net income divided by the average of opening and closing shares (50.159 million) is $2.35.

Pitfalls

- Mixing a period with a date: revenue and cash flows are for a year, balance sheet lines are at its last day. A growth rate on a balance sheet line compares two dates.
- Treating net income as cash. A profitable company can run out of cash when receivables, inventories and capex grow faster than profit.
- Typing the subtotals of reported statements as numbers. Rebuild them with formulas: a typing error in a line item then shows up at once.
- Signs: on the cash flow statement an increase in an asset is a use of cash (negative) and an increase in a liability is a source of cash (positive).
- Forgetting the opening balance sheet. The first forecast year needs the last actual balance sheet as its starting point; the first actual cash flow statement needs the one before.

Summary

- The income statement covers a period, the balance sheet is a date, the cash flow statement explains the change in cash between two dates.
- Assets equal liabilities plus equity; closing cash on the cash flow statement equals cash on the balance sheet; equity rolls forward with net income, dividends and buybacks.
- Net income differs from cash because of non-cash charges, working capital and capital and financing flows.
- A sale on credit raises equity and receivables before it raises cash; a machine bought for cash lowers cash at once and net income only through depreciation.
- The course model has one column per year on every sheet and is built in the order drivers, income statement, schedules, cash flow statement, balance sheet, checks.

Build it in the workbook

Rebuild the subtotals of the reported statements on the Historicals sheet with formulas, for 2023, 2024 and 2025 (2022 to 2025 for the balance sheet), and check that each balance sheet balances and each cash flow statement ends on the balance sheet cash. Start file: Step_01_Statements_Fit_start.xlsx (55 cells). Copy the formula of the first cell across the row; the values to reach are given for the first and the last cell. Then do tab M1 of the Exercise Workbook.

Cells	Line	Formula (first forecast cell)	Value there / in the last cell
Historicals!E14:G14	Weighted average diluted shares, m	=(D13+E13)/2	51.67 / 50.16
Historicals!E19:G19	Gross profit	=E17-E18	307.60 / 354.00
Historicals!E21:G21	EBITDA	=E19-E20	197.48 / 235.27
Historicals!E23:G23	Operating income (EBIT)	=E21-E22	147.48 / 181.27
Historicals!E26:G26	Income before income taxes	=E23-E24+E25	117.74 / 155.29
Historicals!E28:G28	Net income	=E26-E27	89.48 / 118.02
Historicals!E29:G29	Diluted EPS, $	=E28/E14	1.73 / 2.35
Historicals!D36:G36	Total current assets	=SUM(D33:D35)	352.00 / 410.52
Historicals!D39:G39	Total assets	=D36+D37+D38	1,057.00 / 1,145.52
Historicals!D44:G44	Total liabilities	=SUM(D40:D43)	646.00 / 590.40
Historicals!D46:G46	Total liabilities and equity	=D44+D45	1,057.00 / 1,145.52
Historicals!E54:G54	Net cash from operating activities	=SUM(E49:E53)	150.15 / 161.09
Historicals!E56:G56	Net cash from investing activities	=E55	-60.00 / -64.00
Historicals!E61:G61	Net cash from financing activities	=SUM(E57:E60)	-71.84 / -90.41
Historicals!E62:G62	Net change in cash	=E54+E56+E61	18.31 / 6.68
Historicals!E63:G63	Cash at beginning of year	=D33	92.00 / 113.18
Historicals!E64:G64	Cash at end of year	=E63+E62	110.31 / 119.86

Practice questions

1.1 Which identity holds at every balance sheet date?

A. Assets = revenue - expenses

B. Assets = liabilities + shareholders' equity

C. Equity = assets + liabilities

D. Cash = net income + D&A

1.2 Larkfield 2025: revenue $1,164.00m, cost of goods sold $810.00m, SG&A $118.73m. What is EBITDA?

A. $181.27m

B. $1,045.27m

C. $354.00m

D. $235.27m

1.3 Larkfield 2024: opening equity $453.64m, net income $105.53m, dividends $31.66m, buybacks $25.00m. Closing equity?

A. $502.51m

B. $527.51m

C. $565.83m

D. $559.17m