

Model Forecasts Under Uncertainty

How to build driver-based forecasts with base, downside and upside cases that expose operational and liquidity consequences.

Theory session

Intermediate

Running case: FreshRoute Kitchens



Where this session sits

2.1 measured the cycle; 2.2 projects it forward under different assumptions

MODULE 1

Build Reliable
Financial Foundations

MODULE 2

**Manage Cash
and Uncertainty**

MODULE 3

Choose and
Manage Funding

SESSIONS IN THIS MODULE

2.1 Trace Cash Through Operations
Finding the cash trapped between purchase and collection

2.2 **Model Forecasts Under Uncertainty**
Driver-based base, downside and upside cases

YOU ARE HERE

2.3 Size the Funding Requirement
Turning a cash forecast into a defensible ask

What this session explains

Building a model whose assumptions can be challenged one at a time

01 Drivers, not extrapolation

A forecast built from operational quantities can be argued with; a growth percentage cannot.

02 Three cases, one model

Base, downside and upside differ only in assumptions, never in structure.

03 Connect all three statements

A forecast that stops at profit cannot show a liquidity problem.

04 Test what actually moves the answer

Sensitivity tells you which assumptions deserve the argument.

What makes a forecast driver-based

The difference between a model and a guess with decimal places

WORKING DEFINITION

A driver-based forecast computes financial outcomes from operational quantities — units, prices, rates, days — so that every number on the statements can be traced to an assumption someone is willing to defend.

1

Every figure has a parent

Revenue is customers $\times$ orders $\times$ price, not last year plus twelve percent. The parent is what you debate.

2

Assumptions live in one place

A single input sheet. Hard-coded numbers inside formulas are how models become unauditably.

3

Structure is fixed; inputs vary

Scenarios change the inputs only. If the logic changes, the cases are no longer comparable.

Swan, J. (2008). Practical Financial Modelling (2nd ed.). Oxford: CIMA / Elsevier.

From driver to liquidity consequence

Each link is a calculation, not a judgement — the judgement sits at the front

THE CHAIN



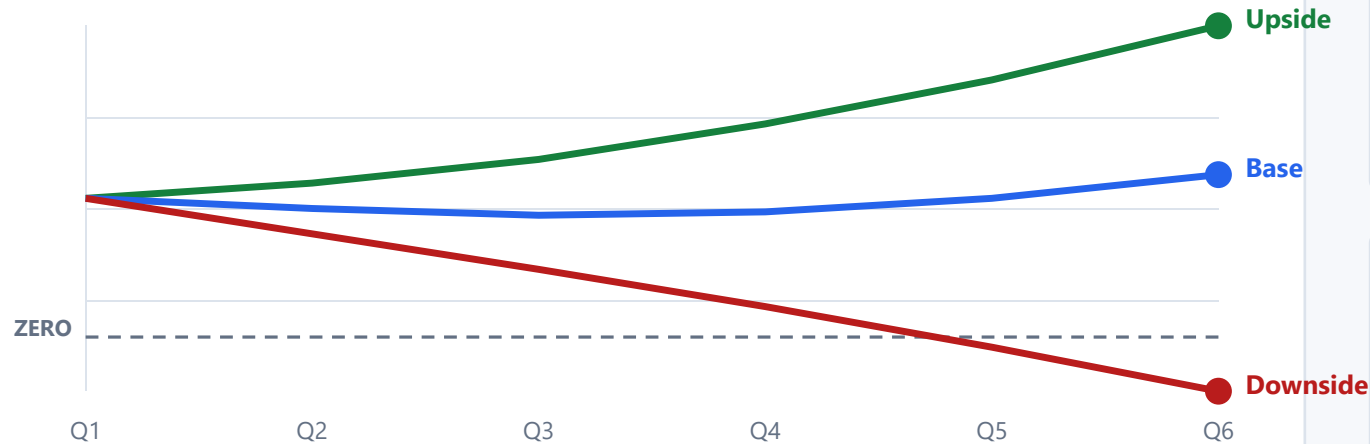
WHY THE CHAIN MUST BE COMPLETE

Real Pet Food's extension from P&L into balance sheet and cash flow is exactly this chain. A model that stops at the first box cannot answer the only question that matters in a downside.

Three cases, one structure

The spread between them is the actual output of the exercise

CLOSING CASH BALANCE BY QUARTER (£000)
CLOSING CASH



The base case is not a forecast of what will happen. It is the case you would defend if asked to choose one.

DOWNSIDE

The one that earns the work

It names the quarter cash runs out, which converts directly into the funding requirement in Session 2.3.

DISCIPLINE

Change inputs only

If the downside has a different structure, you have built two models and can compare neither.

HONESTY TEST

Make downside plausible

A downside nobody believes is decoration. Build it from things that have actually gone wrong before.

What changes between base, downside and upside

Move a small number of drivers, and say why

Driver	Downside	Base	Upside
New customers per month	3	6	9
Average order value	−8%	flat	+5%
Receivable days	58	47	40
Input cost inflation	+9%	+4%	+2%
Churn per quarter	7%	4%	3%

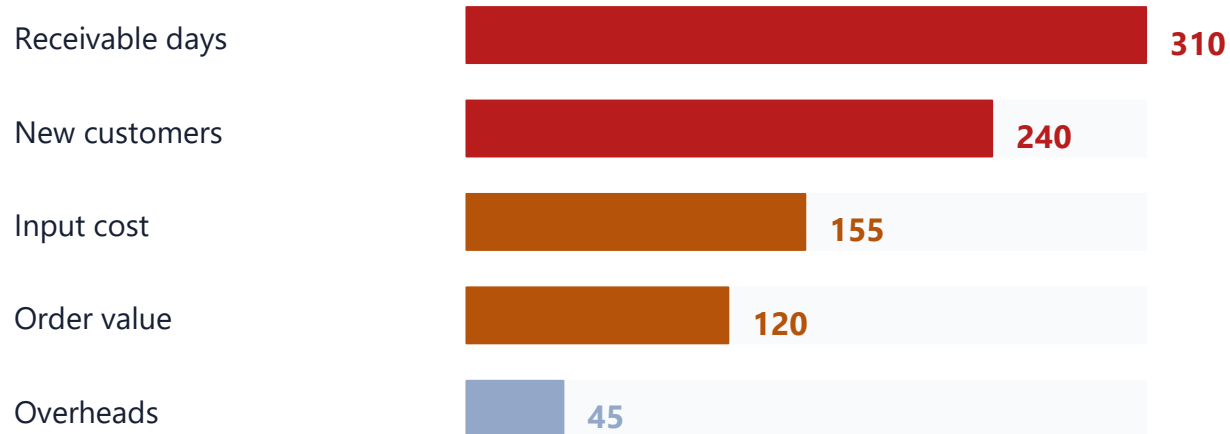
HOW MANY TO MOVE

Five drivers is usually enough. Moving twenty produces a spread so wide that it tells you nothing, and nobody can say which assumption caused it.

Which assumptions actually move the answer

Test one at a time, and spend your argument where it matters

EFFECT ON Q6 CLOSING CASH OF A 10% ADVERSE MOVE IN EACH DRIVER (£000)



Two drivers account for most of the risk. Those are the ones to evidence, monitor and argue about.

THE METHOD

One at a time

Hold everything else at base and move one driver. The ranking is the useful output.

WHAT TO DO WITH IT

Evidence the top two

Bring data for the assumptions that dominate; the rest can be estimates.

BEYOND THIS

Combined stress

Then move the top two together — adverse conditions rarely arrive one at a time.

Forecast, budget and plan are different documents

Using one as another is a common and expensive confusion

FORECAST

What we now expect

UPDATED

Frequently — monthly or rolling — as facts arrive.

JUDGED BY

Accuracy. Being wrong early and correcting is the desired behaviour.

USED FOR

Cash management, hiring timing, funding decisions.

BUDGET

What we committed to

UPDATED

Rarely — usually once a year, deliberately fixed.

JUDGED BY

Adherence. It is a control and an authorisation to spend.

USED FOR

Accountability, cost control, variance analysis.

WHY THE CONFUSION IS COSTLY

When a forecast is treated as a budget, people stop updating it honestly — because a changed number reads as a missed commitment rather than better information.

A model is only useful inside the decision window

Real Pet Food's turnaround fell from days to within a day — that is the whole point

TOO SLOW A scenario that takes a week arrives after the decision. Accurate and irrelevant.	WITHIN THE WINDOW A day or less. The question can be asked, answered and acted on in the same conversation.	TOO CRUDE Instant but structureless. Cannot connect an operational assumption to a liquidity consequence.
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WHAT MAKES A MODEL FAST ENOUGH TO USE

Property	Why it matters
One input sheet	A scenario is a column of assumptions, not an afternoon of editing formulas.
No hard-coded numbers in formulas	Every assumption can be changed in one place and traced.
Documented logic	Someone other than the author can run it — which is what makes it a company asset.
Version discipline	One governed model, not six spreadsheets with different answers.

Three models that produce confident nonsense

Each looks rigorous and cannot support a decision

The hockey stick

Looks like Flat history, steep forecast, no driver change to explain it.

Why it fails The growth is asserted, not constructed.

Fix Make every inflection trace to a driver that moves.

The P&L-only model

Looks like A profit forecast with no balance sheet.

Why it fails It cannot show working capital absorption, so it cannot show running out of cash.

Fix Complete the chain to closing cash.

The decorative downside

Looks like A downside 5% below base.

Why it fails It tests nothing and reassures everyone.

Fix Build it from failures that have actually happened to comparable businesses.

CASE STUDY

Real Pet Food Company

Scenario modelling moved from a specialist exercise into everyday performance management.

Scenarios inside the decision window

Connected, governed, and fast enough to be used

THE SCOPE

Beyond the P&L

WHAT WAS EXTENDED

Planning moved from P&L reporting into balance sheet, cash flow, forecasting, budgeting and scenario modelling.

THE GRANULARITY

Scenarios could be modelled at SKU and customer level across revenue, cost of goods, trade spend, margin and demand.

THE GOVERNANCE

One governed environment rather than separate spreadsheets for each analysis.

THE CHANGE

Speed made it usable

TURNAROUND

Scenario turnaround fell from days to within a day or faster.

WHY THAT MATTERS

A scenario that takes days arrives after the decision it was meant to inform.

THE EFFECT

Scenario analysis became part of the planning conversation rather than a separate reporting task.

READING THE CASE

Scenario modelling becomes valuable when its detail is governed, connected across the statements, and quick enough to use inside a real decision.

Drawn from the session case pack.

Bringing the theory to FreshRoute Kitchens

A model that can answer a question this week

Step	What you build	FreshRoute example
List the drivers	Five to eight operational quantities.	Covers per week, price per cover, food cost %, staff hours, DSO, DIO.
Build the chain	Drivers → P&L → working capital → cash.	Cycle from Session 2.1 wired directly into the cash line.
Set three cases	Inputs only; structure unchanged.	Downside: covers –20%, food cost +9%, DSO 58.
Run sensitivity	One driver at a time, ranked.	Covers per week and food cost dominate; overheads barely register.
Find the breach	When does the downside hit zero cash?	Q5 — which is the timing input for Session 2.3.
Set a review rhythm	Re-forecast monthly with the close.	Actuals replace forecast; drivers re-estimated, structure untouched.

WHAT COMES NEXT

Session 2.3 turns the downside breach into a timed, defensible funding requirement.

What to carry out of this session

1

Build from drivers, not from growth rates.

A percentage cannot be argued with; units, prices and days can.

2

Change inputs between cases, never structure.

Otherwise the three cases are not comparable and the spread means nothing.

3

Complete the chain to closing cash.

A P&L-only model cannot show a liquidity problem, which is the problem you are modelling for.

4

Rank your assumptions by sensitivity.

Two drivers usually carry most of the risk; evidence those and estimate the rest.

5

Speed is a feature of the model.

A scenario that takes a week answers a question that was decided on Tuesday.

Sources for this session

Primary references behind each concept

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