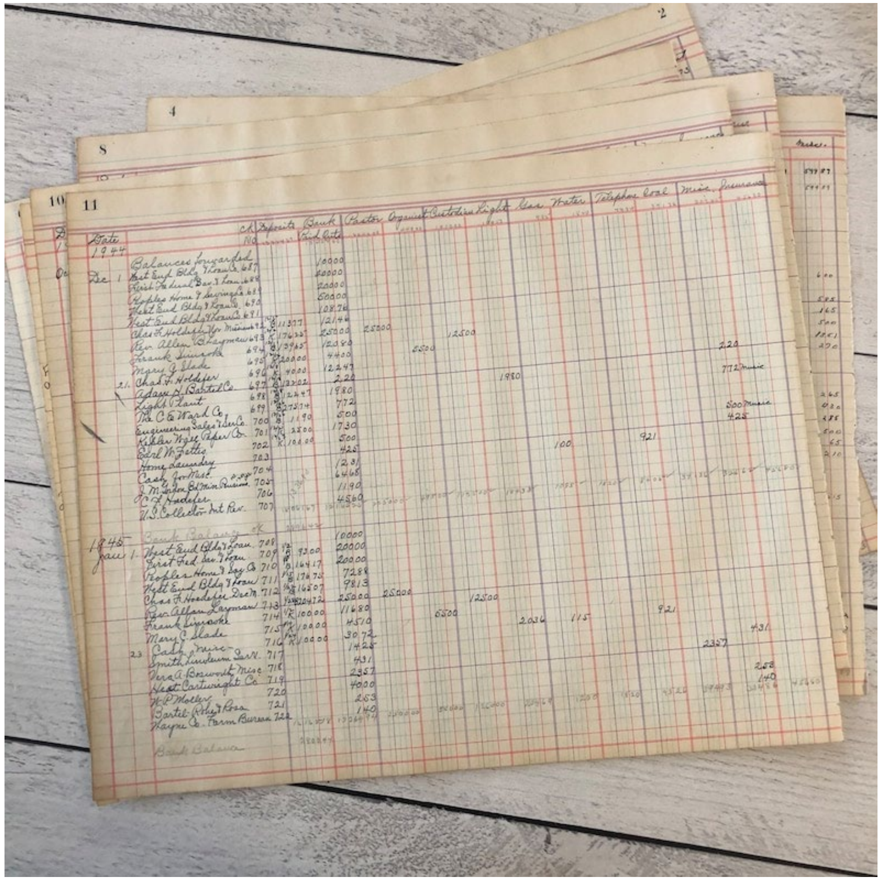
Income approach (advanced)

Contents

- Making choices in modelling a business – *a financial model is not a spreadsheet*
- Thinking about risks – *as likely as not*
- Growth – *things can only get better?*
- Terminal value – *the pot of gold*
- Inflation – *the price of everything?*

Making choices in modelling a business

Representing a business in a financial model



Sales volume

Sale price per unit

COGS per unit

Fixed costs

Financing costs

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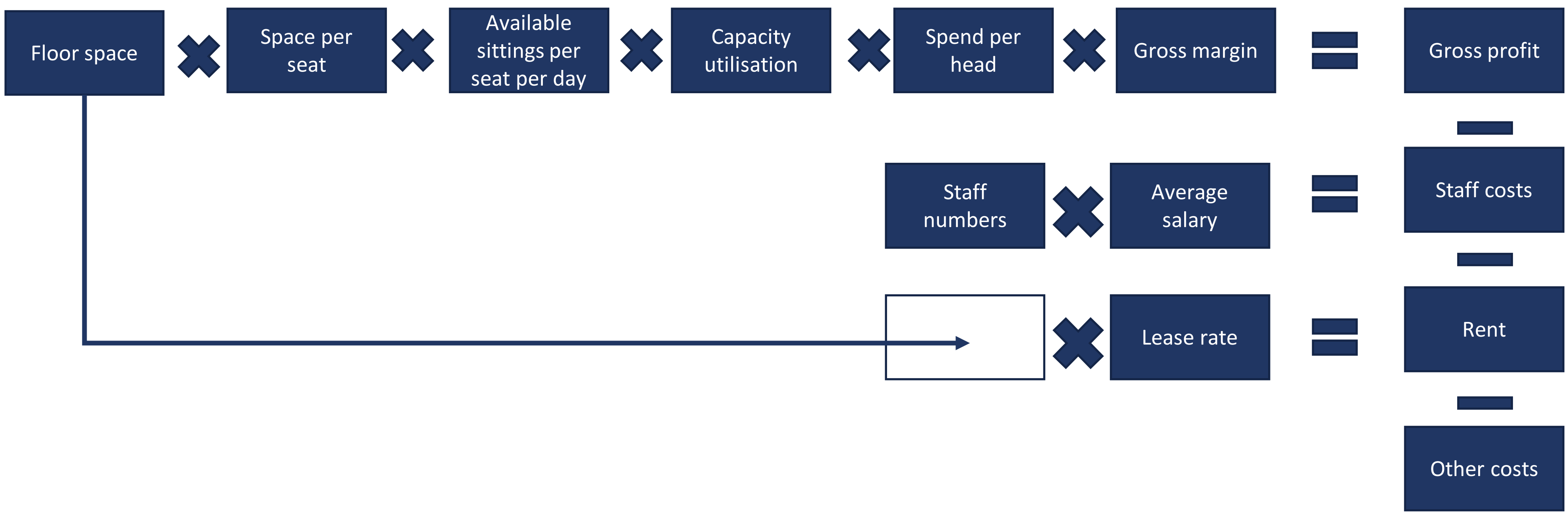
Exercise: consider the café

- ❑ You decide to buy out your favourite café. Write down a logical ‘model’ for how its revenues and expenses should be grouped, and what drivers you should use for each category to help you value it.

This is how my café works



- This model may work for the ‘Acton greasy spoon’, or the ‘Richmond brunch spot’ (see spreadsheet examples).
- But it may not work for the hipster coffee spot (driven by takeaway not seat utilization).

Projecting drivers of the business

- Assumptions on the drivers of the business in the financial model need to be linked clearly to the circumstances of the business (and the case)
- These assumptions need to represent a <u>consistent</u> set of circumstances

	Fast food	Fine dining
Space per seat	1 sqm	2 sqm
Staff per seat	1 : 10	1 : 4
Staff salaries	£20k p.a.	£45k p.a.
Spend per head	£10	£50

	Wine and steak	Bread and coffee
Gross margin	60%	80%+

	Acton	Mayfair
Lease rates	£300 per sqm	£2,000 per sqm

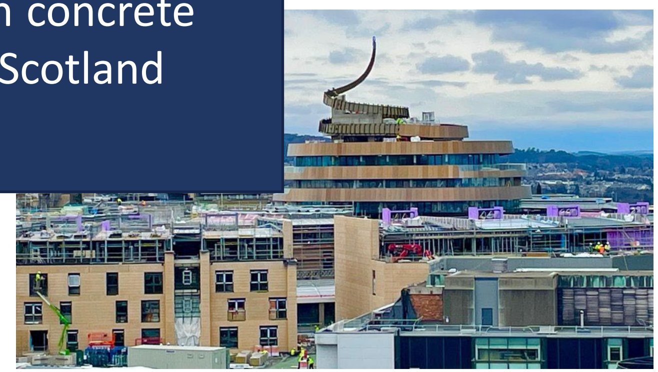
Market share

- Market share can either be thought of as a driver of cashflows, or as a cross-check to financial forecasts based on other drivers
- Which of these is more achievable? Or a more useful way to think about the the business?

Supply chain factoring company targeting 0.5% of total addressable market, being all B2B invoice sales globally

vs

Concrete producer targeting 25% of commercial construction concrete market in Scotland



- **What is your café's market? What would be an achievable market share?**

Exercise: how much are you paying for yours?

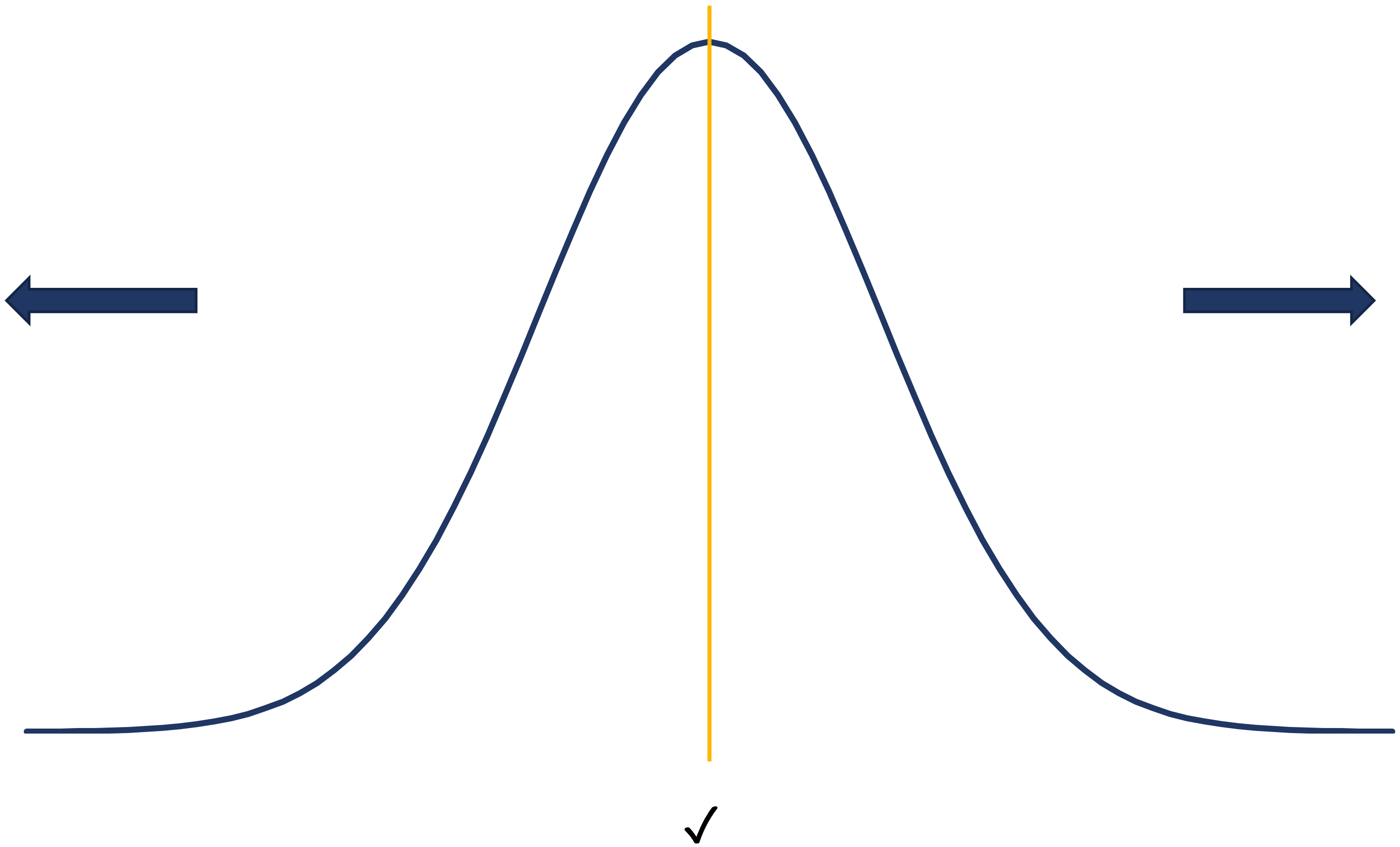
Exercise: modelling for damages

- Is our model helpful for considering the following situations? Or do we need to adapt it in some way?
  - Our electricity provider fails to supply power for a month, so we cannot prepare any hot food for that period.
  - The footpath on the street is closed for building works, so we lose ‘footfall’.
  - A competitor opens across the street and passes off as our café in order to attract some of our customers.

Assessing forecasts and considering risks

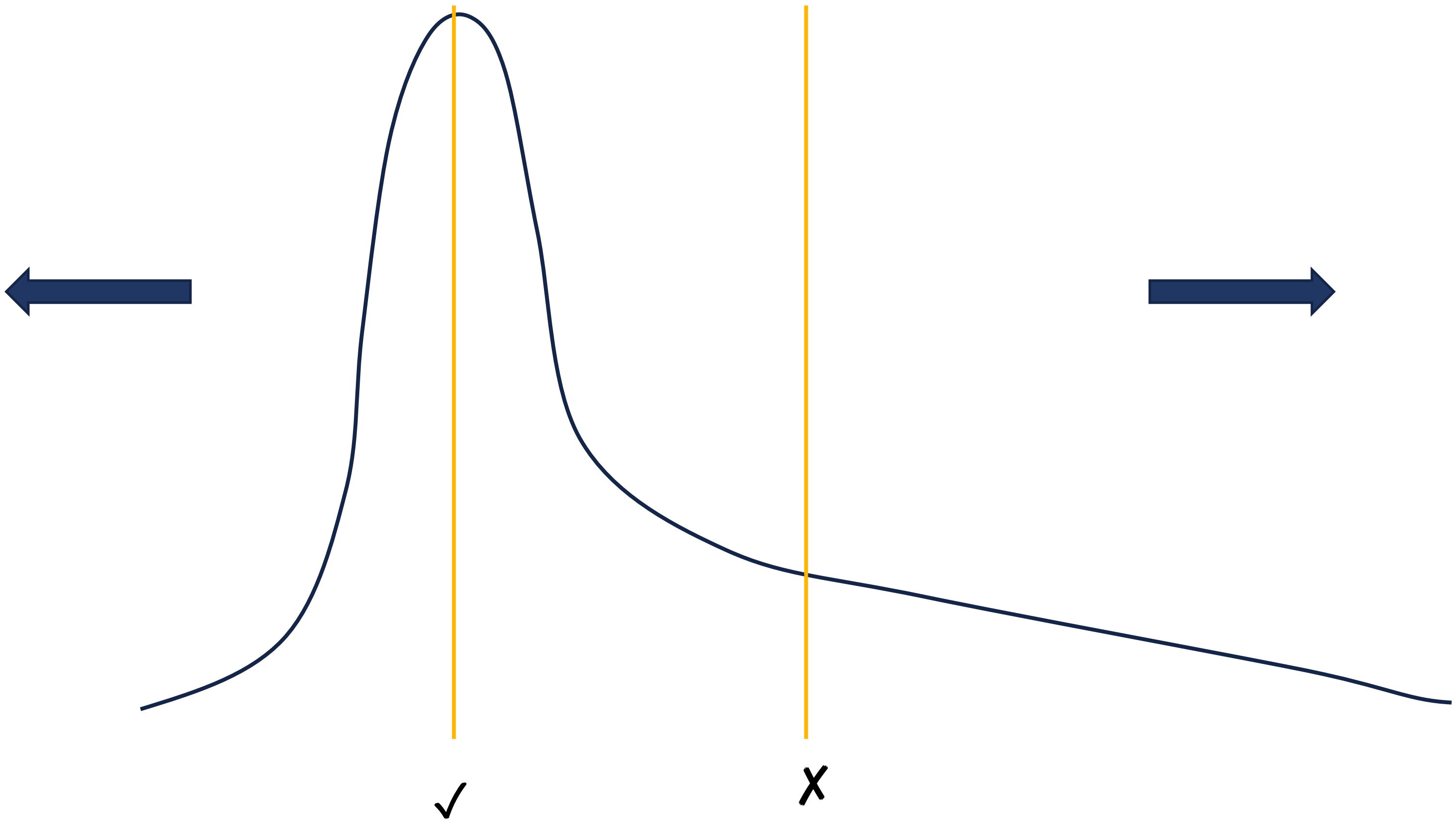
As likely as not

- "Risks" can be upside, or downside. "Riskiness" means variability both up and down
- Discount rates need to be applied to a central estimate of expected cashflows



That’s not normal!

- A start-up business (for example), might have a low probability of great success, a moderate probability of small to medium success, and a moderate probability of failure



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Considering forecasts

- There may be a number of different sources of financial forecasts for a business in a case. Consider:
  - Does the company have a track record of hitting management budgets?
  - What are the incentives of equity research analysts, or of bankers raising capital for a business?
  - What are the valuation standards and methodology for impairment testing?
- Which of the sources on the right would you expect to be the most optimistic? Or the most pessimistic?

Management budgets

Equity Research

Equity raising pitch books

Financial models for lenders

Impairment testing

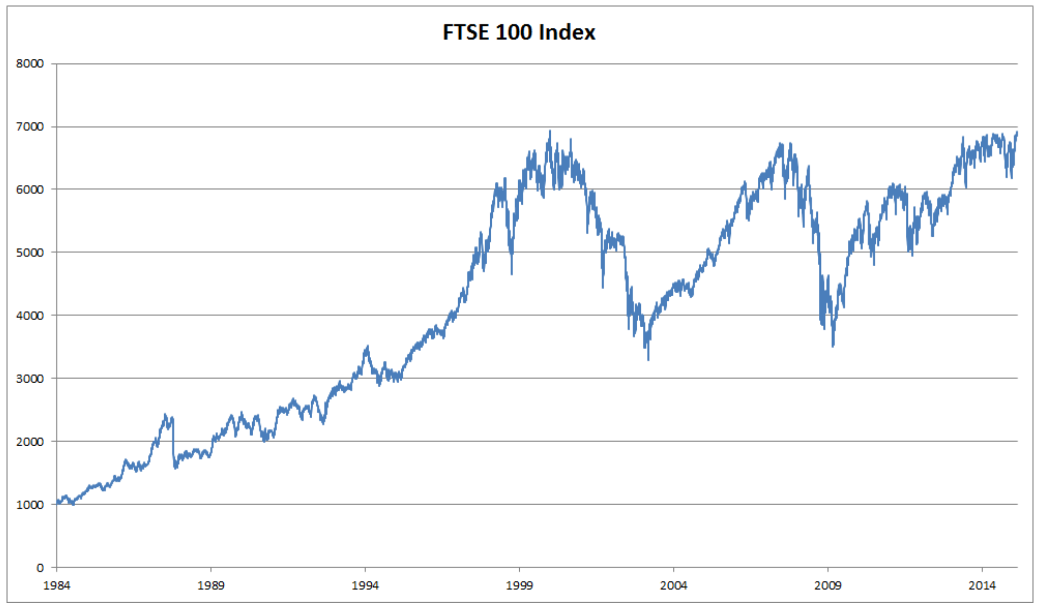
Exercise: specific or systematic risk

- ❑ Pandemic
- ❑ Nuclear war
- ❑ Technology obsolescence
- ❑ Financial crisis
- ❑ Climate disruption

Growth

Beware the hockey stick

- Growth assumptions above the market growth rates (and in the long run, above the wider economy) must be justified



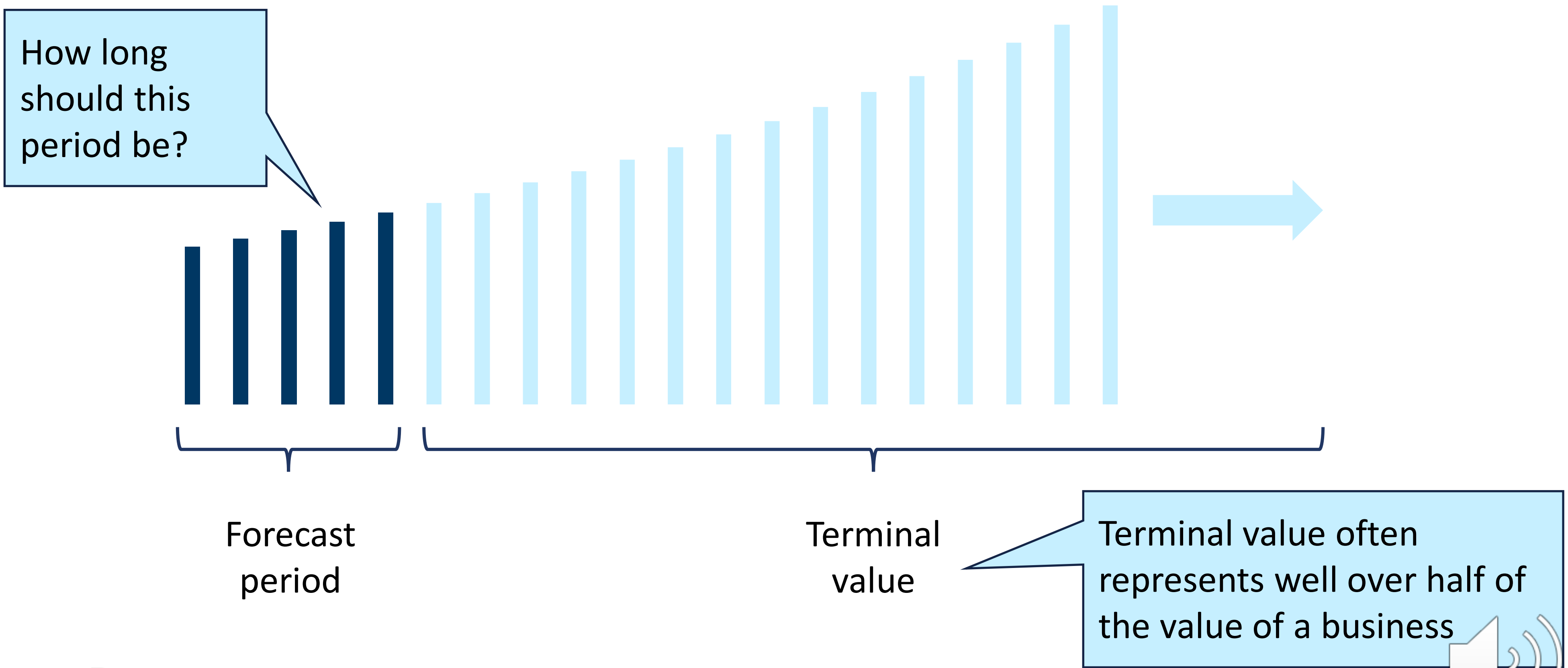
Drivers and constraints

- Capacity
- Market share
- Response of competitors
- Relative expertise of management
- Barriers to entry

Terminal value

Terminal value

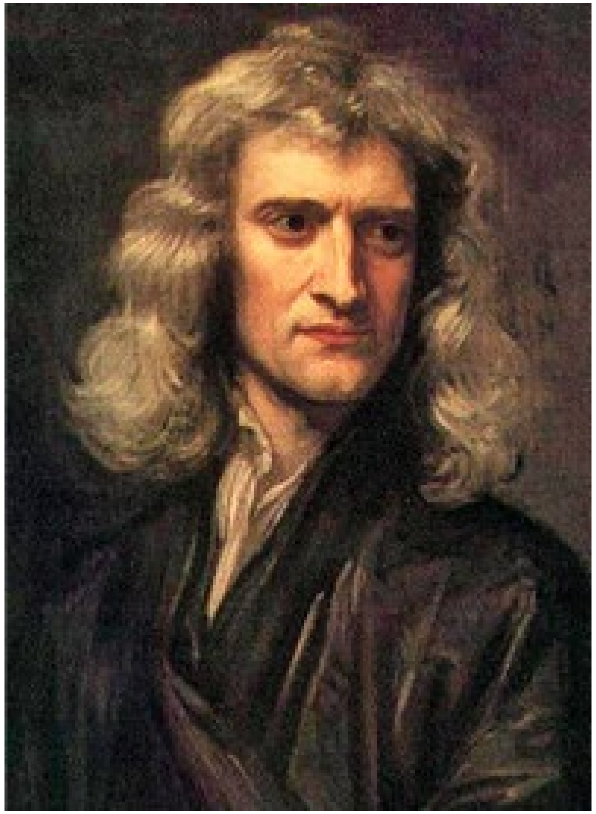
- Terminal value captures the value of any cashflows generated by the business beyond the explicit forecast period, in perpetuity



Two methods to calculate the terminal value

Gordon growth model	Exit multiple
$$\frac{D_0(1+g)}{r-g}$$	Multiples valuation as at end of forecast period, typically based on EBITDA (or an alternative)
• Requires explicit assumptions on growth and return requirements (and is very sensitive to these assumptions) • Final year of forecast period may require 'normalization' to reflect a steady state	• Same advantages / disadvantages as the multiples-based valuation method • Multiple needs to reflect steady-state growth and margins (so beware groups of high-growth comparables) • Typically a lower multiple than valuation multiples today

Why?



$$D_0 \sum_{n=1}^{\infty} (a^n) = D_0\,(a + a^2 + a^3 + a^4 + \ldots.)$$

$$\sum_{n=0}^{\infty} (ra^n) = \frac{r}{1-a}$$

$$D_0 \sum_{n=0}^{\infty} (a^n) = D_0 a(1 + a + a^2 + a^3 + a^4 + \ldots.)$$

$$D_0 \sum_{n=0}^{\infty} (a^n) = D_0 a(1 + a + a^2 + a^3 + a^4 + \ldots.) = (D_0 a)\frac{1}{1-a}$$

$$\Downarrow$$

$$PV = \sum_{n=1}^{\infty} \left(\frac{D_0(1+g)^n}{(1+r)^n}\right) = \frac{D_0(1+g)}{\mathrm{r} - \mathrm{g}}$$

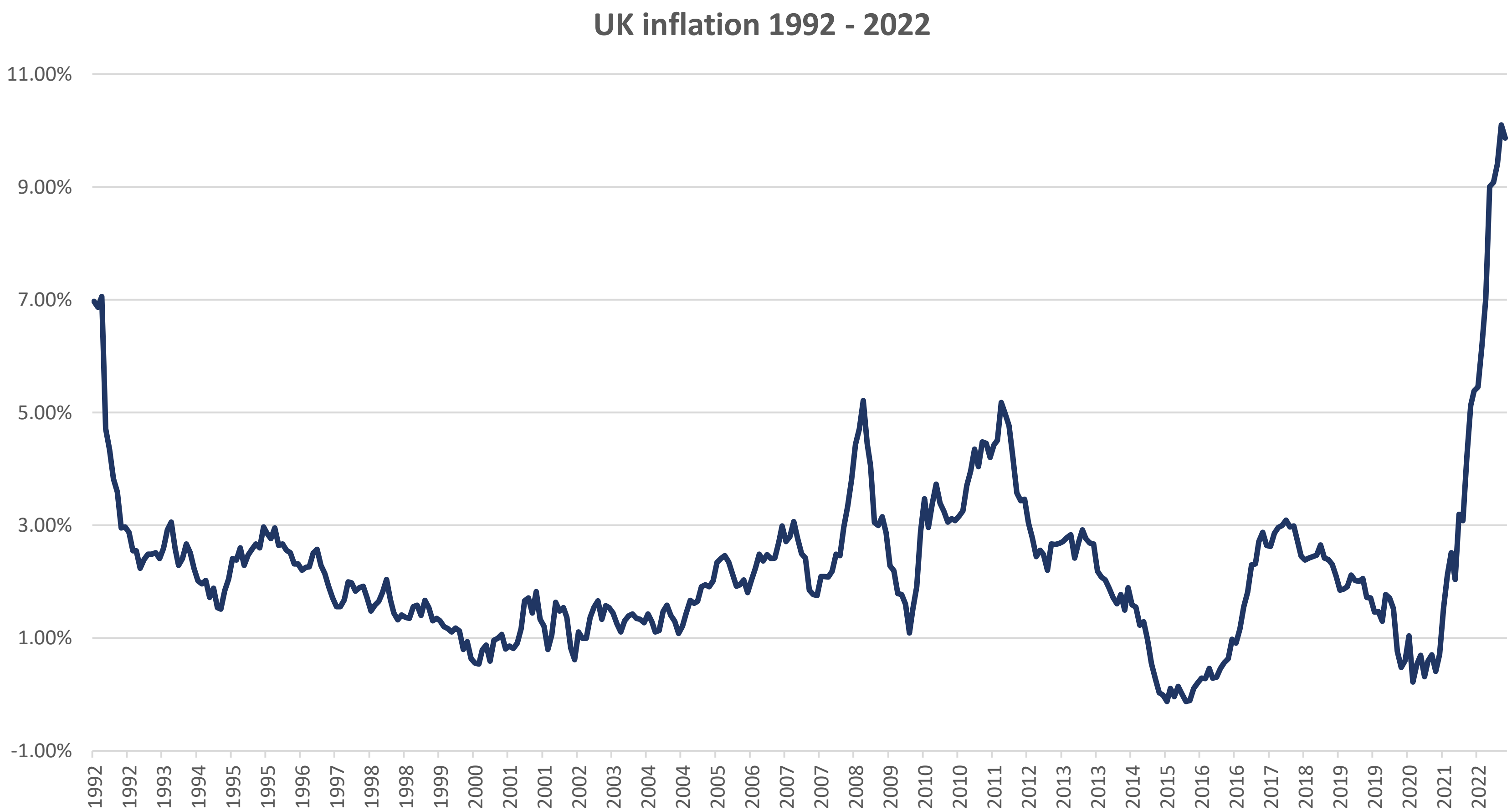
Exercise: your café’s terminal value

- What proportion of your café’s value is in terminal value? How would changes in assumptions change the importance of the terminal value?

- What is a reasonable assumption on terminal growth rate, and why?

Inflation

Changing times



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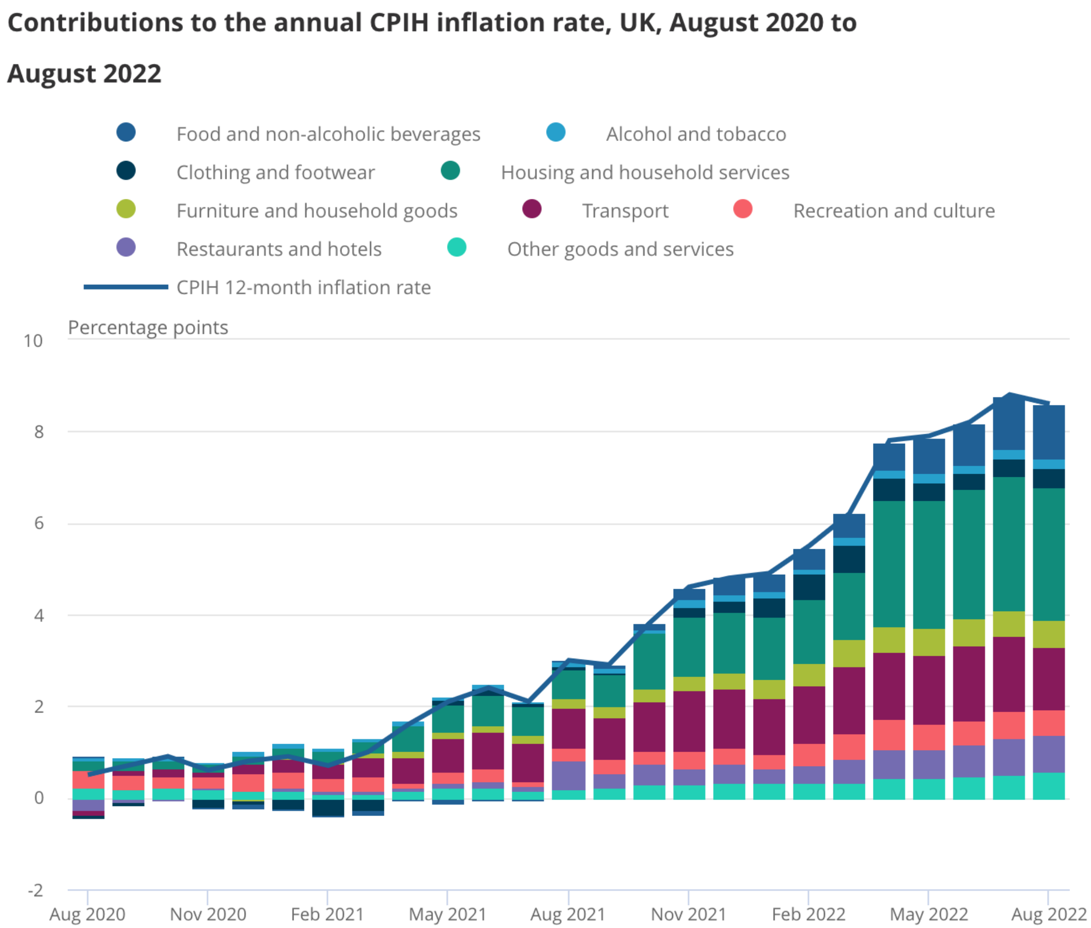
Does it matter?

Year	Rate	Total	-	1	2	3	4
Real		**500**	100	100	100	100	100
Nominal	2.0%	**520**	100	102	104	106	108
Discounted real	10.0%	**417**	100	91	83	75	68
Discounted nominal	12.2%	**417**	100	91	83	75	68

- The cost of capital used as the discount rate should reflect investors' expectations of inflation in their required rate of return
- If this is equal to the inflation in a series of cash flows, then the inflation rate is irrelevant
- The business could be valued in nominal terms, or in real terms, giving the same answer

But maybe not so simple…



- A business's cash flows may not grow at the same rate as headline inflation
- A business may not be able to 'pass on' inflation through higher prices without losing market share
- Managers may focus on preserving accounting profit (not sufficient as depreciation is based on historical nominal costs)

Exercise: what about our café?

- What would be reasonable growth rates to apply to the assumptions in your model to reflect inflation? What is their impact on value?

- Will your café be able to pass on this growth in costs as higher prices? Is this assumption consistent with what else we know about the circumstances of the business?

Firm & author bios

Osborne Partners - Firm bio

Thorough investigation, rigorous evaluation and clear communication.

Osborne Partners is a consulting firm specialising in complex business and legal challenges. We apply principles of economics, finance, valuation and accounting to a range of issues in the areas of economic regulation, public policy, commercial strategy and litigation. We are small, but we deal with multi-billion dollar issues. None of them are straightforward.

Our services

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OP provides expert services in high value litigation and arbitration cases. We deal with complex issues arising from expropriation, breaches of contract, shareholder disputes and commercial disagreements. We have current cases in all of the world's major jurisdictions: in Europe, America, Africa, Asia, and the Middle East. Our testifying experts are renowned for their quality of analysis, and clarity of communication.

Competition & Regulation

We have extensive experience of disputes involving competition and regulation issues. We bring the same analytical rigour to these types of disputes as we do to commercial litigation and international arbitration. In competition cases, our work is typically – but not exclusively – in the area of loss analysis: whether arising from price fixing, abuse of dominant position, or other anti-competitive behaviour. We combine sophisticated economics, econometrics and financial analysis with our ability to work with very large and complex datasets (for example, billions of transaction-level company records or years of chatroom information).

Valuation

We provide independent and reliable expert valuations in both contentious and non-contentious contexts. As always, we bring the same analytical rigour on these types of engagements as we do to commercial litigation or international arbitration. That means that our valuations are robust and stand up to scrutiny.

Chris Osborne

<u>Education</u>

BSc Civil Engineering

MSc Economics (Regulation and Competition)

<u>Certifications</u>

Fellow of the Institute of Chartered Accountants in England and Wales

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About

Chris Osborne is the founder of Osborne Partners. Previously, he was the global head of FTI Consulting's Economic Consulting segment. Before joining FTI Consulting, Chris was the European Managing Director of LECG LLP and before that the global head of Arthur Andersen's Economic and Financial Consulting Group. Chris has more than 35 years' experience in bringing economic and financial analysis to complex commercial and regulatory disputes.

During the course of his career Chris has been involved in more than 200 cases of litigation and arbitration, across multiple industry sectors. He has also worked on regulatory issues in the electricity, gas, media, post, rail, telecoms, and water sectors, working for regulators, incumbents and new market entrants, in the UK and more widely in Europe.

He has given oral evidence on over 40 occasions - in the UK's domestic courts, as well as in London, Paris, Stockholm, Geneva, Singapore and Melbourne in ICC, UNCITRAL and ICSID arbitrations. He has also given evidence in the US Tax Courts, in the US-Iran Tribunal, before the Competition Appeals Tribunal, in the then Restrictive Trades Practices Court and in front of the then Monopolies and Mergers Commission.

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Who's Who Legal 2010 – 2021

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About

Ömer Kama is a Consultant at Osborne Partners.

Ömer has been involved in various international matters concerning valuation, competition and regulatory issues. He has assisted in the preparation of expert reports in relation to assessment of losses in several international arbitration matters. His experience comprises projects from a range of sectors, including telecommunications, banking, construction, energy, transportation and media and entertainment.

Ömer holds a Bachelor of Science degree in Applied Mathematics and Economics from Johns Hopkins University.