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D3: Capital Workshop - The Cost of Capital Allocation, some Core Principles

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Allocating the cost of capital

15 April 2019

Before we start

My hypothesis

Thinking about the cost of capital rather than capital,
and treating that cost similarly to other costs,
leads to clearer thinking about capital matters.

Agenda

- Set out key concepts from
 - capital principles,
 - business planning,
 - pricing, and
 - accounting
- Work through a simple example to illustrate the approach
- Discuss other thoughts and challenges

Capital allocation – why did it emerge

Non insurance business

Fixed capital investment

Tangible assets

Revenue

Insurance business

Revenue

Intangible liability

Variable capital requirement

Accounting principles

Objective

- To hit a particular return for a given level of capital
- To write contracts that help meet that objective, and not write those that do not

Accounting methods

- Marginal or contribution costing
- Full absorption costing

Accounting principles

Marginal costing

- Includes direct costs
- Includes indirect costs that vary
- Excludes things that don't vary (eg overheads like rent or IT costs)

Full absorption costing

- Includes all costs
 - Direct costs
 - Indirect costs whether they vary or not
- Will aim to allocate costs based on most sensible usage (eg floor space, headcount)

Full absorption = price that meets the business plan

Marginal costing = walk away price

Types of capital

Regulatory
capital

Buffer capital

Surplus
capital

- Regulatory capital – should be driven by business volumes
- Buffer capital
 - might be driven by new business (+35% of SCR, 1 in 7 deviation from mean)
 - might not (£20m of capital)
- Surplus capital – not a function of business volumes



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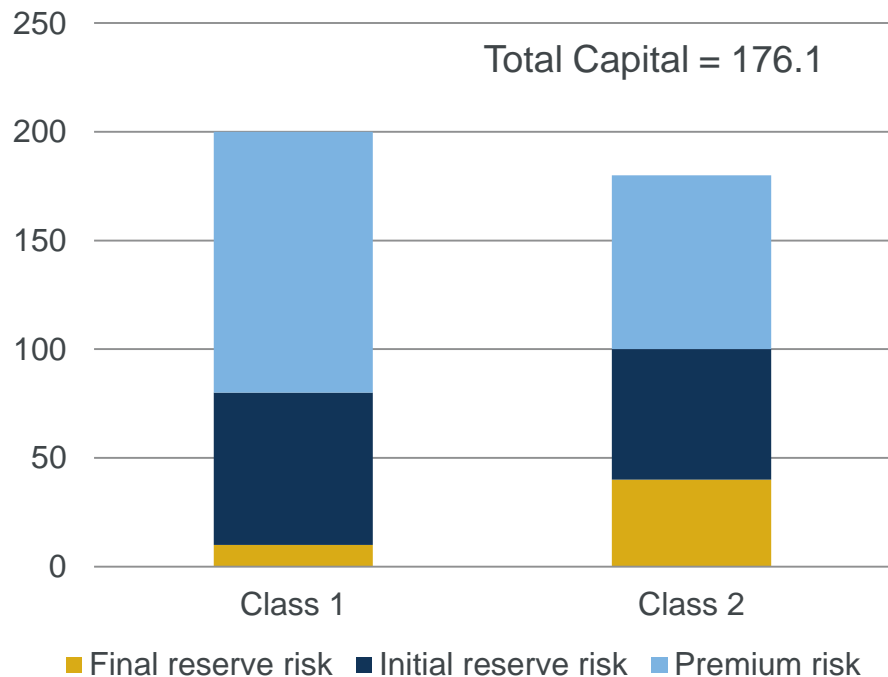
Example

Example

A very simple example!

- All business is written on 1 January
- Two lines of business
- The same book has been written for the last few years
- All risks are independent
- The first year risk is premium risk
- The second year there is some reserve risk
- The third year there is some more reserve risk
- No risk after that
- Cost of capital is 10%

Example capital calculation

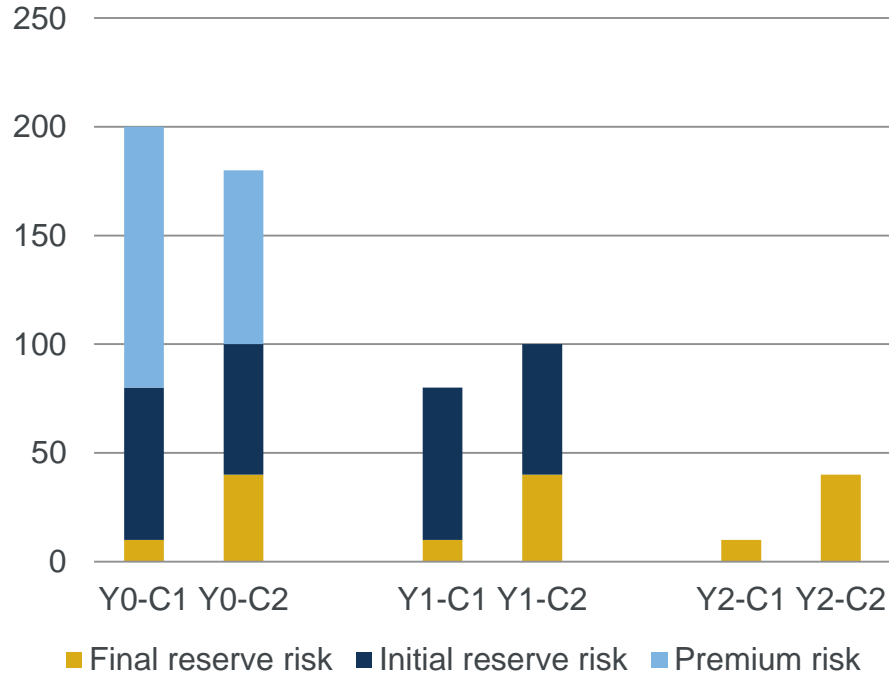


Current capital is made up of:

- the current year premium risk
- reserve risk from last year
- and the year before

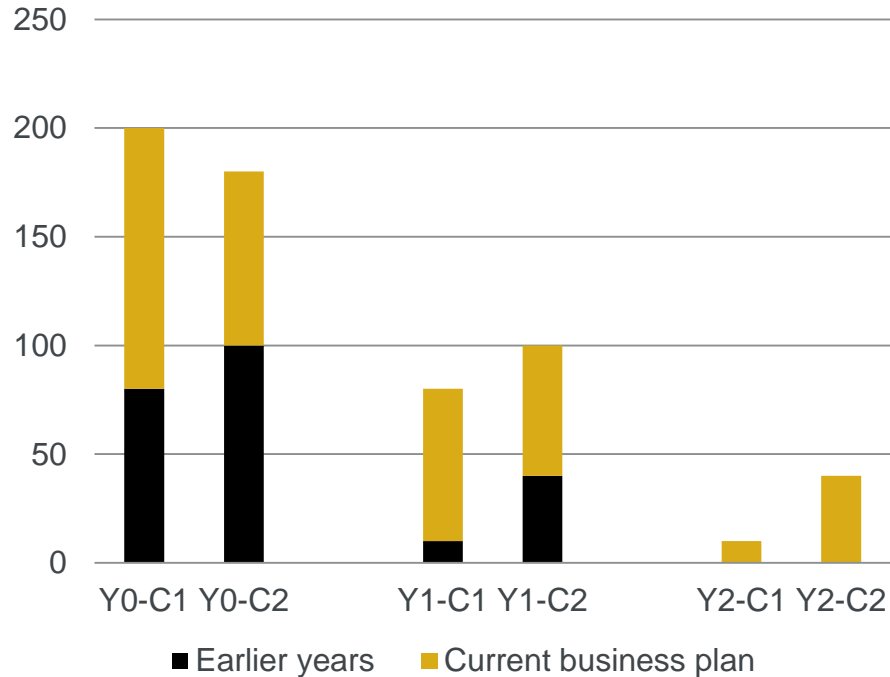
	Class 1	Class 2
Premium risk	120	80
Initial reserve risk	70	60
Final reserve risk	10	40

Capital over time



- Writing business now commits capital over future years
- Current capital (Y0) 176.1
- Next year (Y1) is 101
- The year after (Y2) is 41.2

Capital over time



- Writing business now commits capital over future years
- Current capital (Y0) 176.1
- Next year (Y1) is 101
- The year after (Y2) is 41.2
- By writing the business plan you are adding all the gold risk
- So you should allow for this in the costing

Capital over time

	Class 1	Class 2
Premium	120	80
Initial reserve	70	60
Final reserve	10	40

	Capital	Additional capital	Cost of capital
Year 0	176.1	75.1	7.51
Year 1	101.0	59.8	5.98
Year 2	41.2	41.2	4.12

- From the total capital we can calculate the impact of the current year
- Cost of capital is 10% of the capital
- Allocate the cost based on a marginal approach eg in proportion to reducing each risk by a fixed percentage.
- As we are using a simple sum of squares approach, the allocation is in proportion to the square of the risk.

Capital over time

	Class 1	Class 2
Premium risk	120	80
Initial reserve risk	70	60
Final reserve risk	10	40

- Once allocated, the capital costs need to be added to the other costs to be covered to determine the walkaway price.

	Capital	Additional capital	Cost of capital	Class 1 %	Class 2 %	Class 1 cost	Class 2 cost
Year 0	176.1	75.1	7.51	69.2%	30.8%	5.20	2.31
Year 1	101.0	59.8	5.98	57.6%	42.4%	3.45	2.53
Year 2	41.2	41.2	4.12	5.9%	94.1%	0.24	3.88
Total						8.89	8.72



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Other aspects

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Questions and thoughts

Some other areas to consider

- Other risks
- Investment decisions
- Reinsurance
- Risk margin and IFRS 17 risk adjustment
- Surplus capital
- Earnings volatility
- Factors affecting cost of capital

Key concepts

Capital is more than just a number at a point in time

- New business commits capital over a number of future years

Capital comes in different types

- Regulatory, buffer and surplus
- Directly related to new business, and other capital

Marginal costing helps determine walkaway price

- If you are not covering the marginal costs you are moving further from the business plan

Finally

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and treating that cost similarly to other costs,
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Questions

Comments

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