Capital: It's overrated!

A different perspective on the use of capital for steering purposes

Bernhard Bergman

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- Slides attempt to provide a high level overview of full paper (section references to paper are shown)
- Not all slides to be covered in actual presentation

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Motivation for paper

- Capital seems to be occupying an ever increasing role in the financial management of insurance firms
- Paper questions ascribed importance and centrality of capital in steering decisions affecting *shareholders*
- Examines the position occupied by capital, and returns thereon, for
  - Pricing
  - Risk Transfer
  - Reserving (Solvency II)

- Views expressed herein are personal!

Skip next

Starting point

A wet summer holiday on the Swiss Alps!

What do we mean by “capital”? (§2)

- Risk-bearing resources held as a “buffer” for the benefit of policyholders
- Guardians of policyholder security
    - Regulators
    - Rating Agencies
    - Management View
  - Each determines a risk-bearing capital requirement
  - An indication to policyholders of the security that they have
- But who looks after the shareholder interests?
  - Simply “not going bust” is not good enough
- The “Use Test”
  - Being pushed by the guardians of policyholder security
  - “Uses” include steering considerations of most consequence for shareholders (e.g. Pricing, Risk-Transfer)

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Capital-driven Pricing - Beginning to doubt! (§3.1)

- Group-level risk-adjusted capital cascaded down to business units or product types
- Aim is to meet the hurdle-return-rate on risk-adjusted-capital

➔ Companies' prices are largely driven by their portfolio mix (Co. ABC vs BAC)

➔ Identical portfolios but different allocation methodologies => different target prices (Co. ABC vs ABC')

To Backup 1

- Simple choice for policyholders, perplexing for shareholders!
- In practice it is likely to be the shareholders who lose

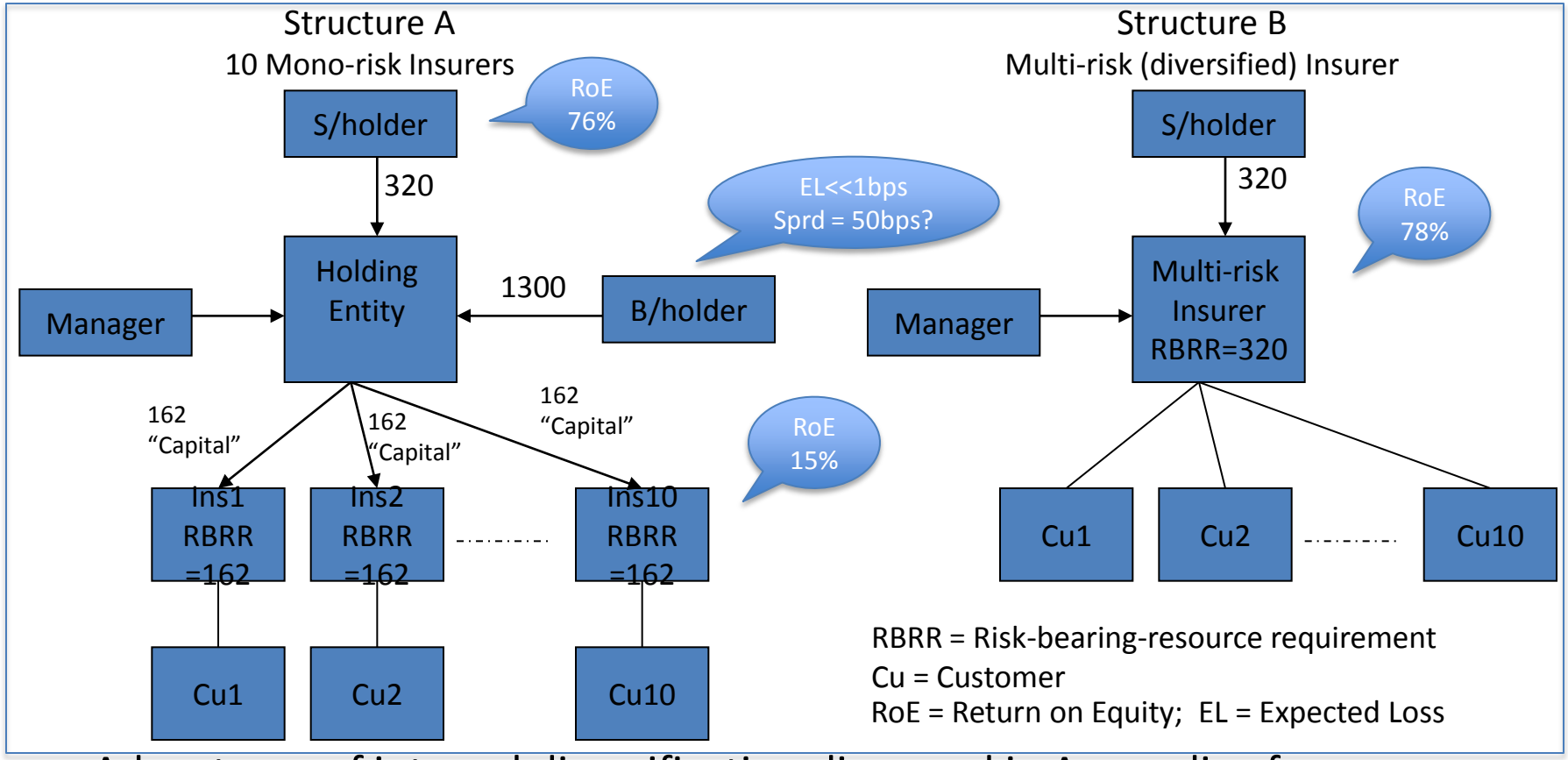
Pillars of capital-driven pricing

- Two key pillars
  - Internal diversification – influences capital intensity
  - Uniform-return on risk-adjusted capital on insurance risks

- Let's examine each of these

Diversification – Shareholders can do it too (§3.2)

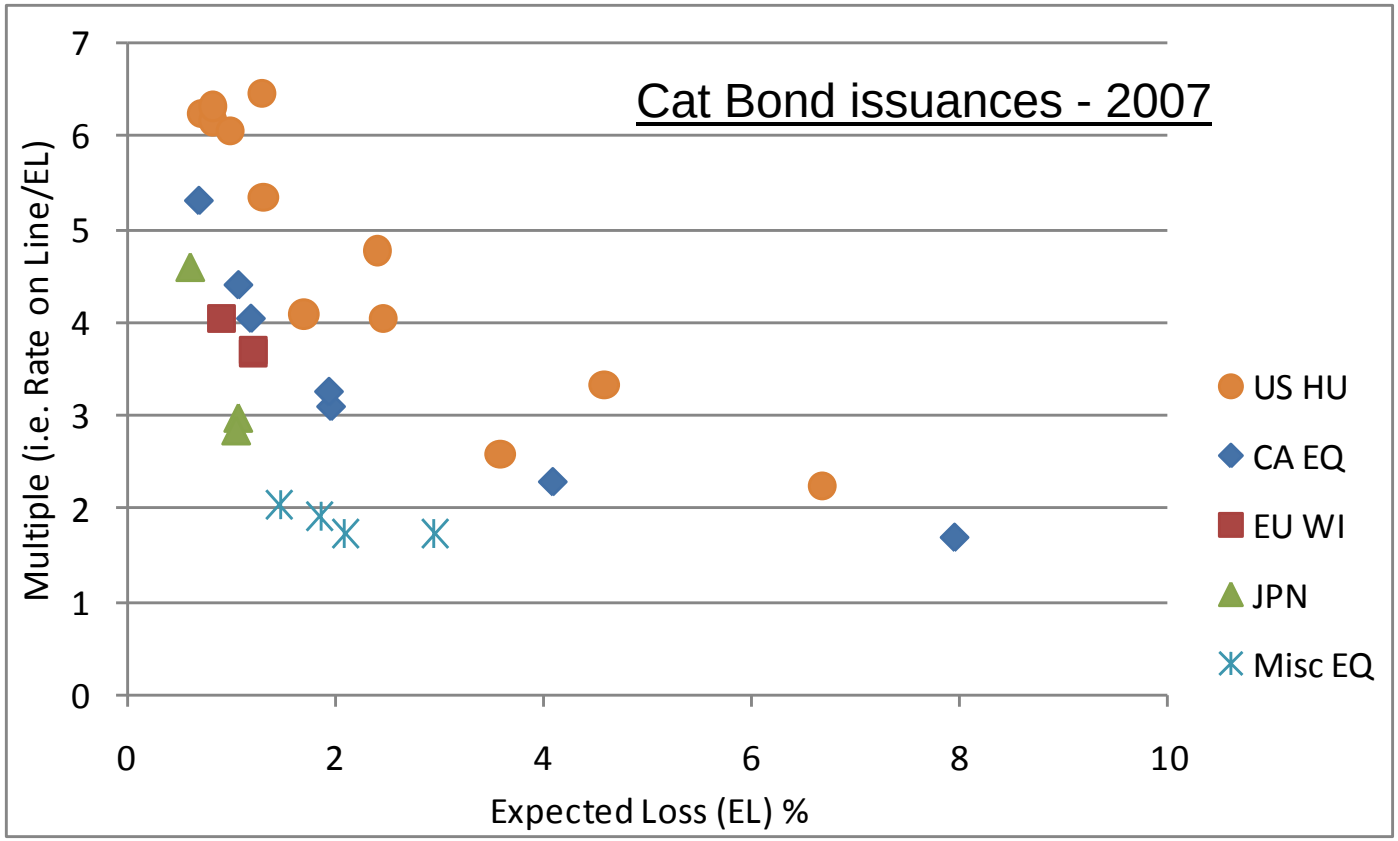
- Capital-driven pricing regards own-diversification as a big virtue …..
- ….. but shareholders can create much of this effect themselves



- Advantages of internal diversification discussed in Appendix of paper

Differential risk-premia (§3.3)

- Evidence that different risk-types/perils command different risk premia based on market prevalence



- Setting target-prices based on own-portfolio mix is likely to miss this

Pricing – Shareholder Perspective (§3.6)

- Consider a risk that is on offer to an insurance company
- To what extent should the capital consumed and other firm characteristics influence the price charged?
- Consider "non firm-specific" and "firm specific" issues

A. "Non firm-specific" issues

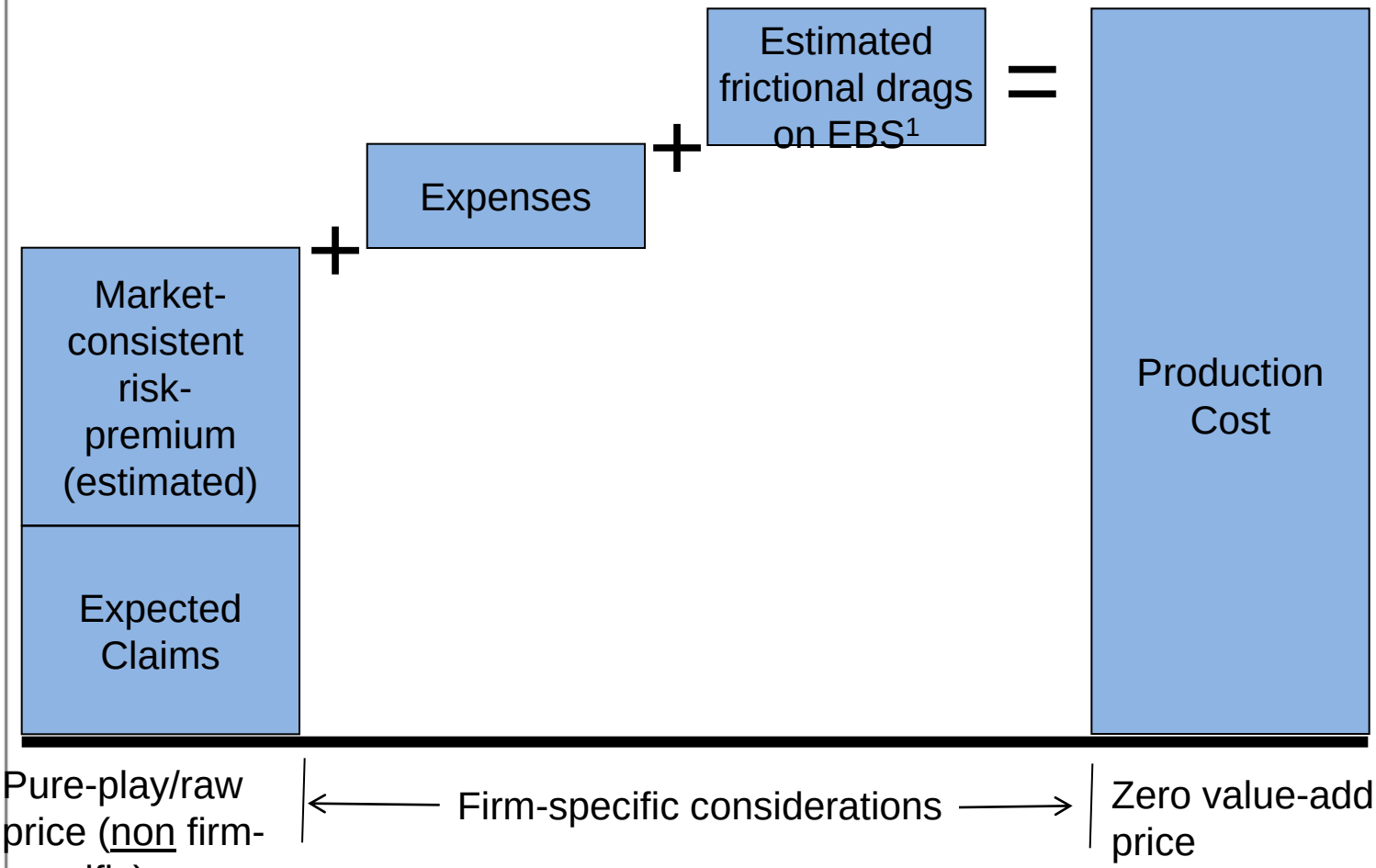
- Impact of the risk on the firm's revenue stream
- Consider the following simplified example -> To Backup 2
- To the first order the impact of the risk on a firm's revenue does not depend on the degree of diversification within the firm
- Refer to this as the "pure-play" or "raw" risk
- Price of this component is independent of carrier
  = expected loss + a "market" risk premium

Pricing – Shareholder Perspective (cont.)

B. "Firm specific" issues

- A like-size claim *can* have a different impact on different entities
  - Financial distress
    - Available capital not falling below required capital, or ...
    - Available capital falling below required capital and firm has/has-not a Franchise Value
  - Insolvency
    - Firm goes/does-not go bust (Limited liability put option – LLPO)
  - Taxation
    - Full tax relief vs delayed/no tax relief
- Double taxation – liked-size risk will have different risk-bearing resource requirement on different firms
- Expenses – Different firms have different levels of expense efficiency
- The costs to the shareholder of these "second order" effects are very firm specific! (See Economic Balance Sheet - slide 16)

Pricing – Shareholder Perspective (cont.)



[1]EBS=economic Balance Sheet

- Shareholder value created when Achieved Premium > Production Cost

Estimating the market price of insurance risk (§3.5)

- Market price (or fair value) of an asset or liability is independent of owner/carrier
- FAS157 (Fair Values)/IFRS7 (Disclosure) gives useful ideas how to do this
  - Level 1 inputs – Deep and liquid ("active") markets – look up the price
  - Level 2 inputs – Pricing derived from related instruments
  - Level 3 inputs – Pricing derived from unobservable information (still entity non specific!)
- Our task: to estimate the "raw" or "pure-play" price of the risk-type or peril
- Cat bond and ILS markets would seem to be a good starting point
- Increased subjectivity i.e. "Level 3 inputs" the further we deviate from traded instruments
- As market breadth and depth increase, prices become less subjective
- Compare this to capital-based approach – there would be a step change!

Own-portfolio relevance (§3.4)

- Economic Balance Sheet (EBS) – shareholder perspective

Assets		Liabilities	
MV of tangible assets	XXX	MV of "pure-play" insurance liabilities (MVL)	XXX
LLPO	XXX	MV of debt	XXX
Tax shields	XXX	Expenses – maint. & inv.	XXX
Brand value	XXX	Taxes incl. double taxation	XXX
		Agency costs	XXX
		Costs of financial distress	XXX
			XXX
		Economic value ≈ Market Cap	XXX
	XXX		XXX

- Franchise Value = Economic Value – Net Assets
- Management's goal is to grow the Franchise Value
  - Sell value-positive business (see earlier slide)
  - Optimise expenses and other frictional items on the EBS

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To Reserving

ToConclusion

Opportunistic Risk Transfer Evaluation (§4)

- Risk transfer when there are no capacity constraints
- Capital-focussed approach (§4.2)
  - Cede if: 3rd-Party premium < Expected recoveries – Transfer expenses + CoC% x capital_relief
  - Similar shortcomings as with capital-based pricing
    - inwards focussed (own diversification, own "cost-of-capital")
    - ignores shareholder perspective (i.e. market signals on price, even if estimated)
- Alternative shareholder-friendly approach (§4.3)
  - Cede if: 3rd-Party premium < Cost of retention – Transfer expenses
  - where Cost of retention = MVL (firm non-specific) + Marginal impact on EBS frictional items (firm specific)
  - Shareholder-friendly pricing in reverse!

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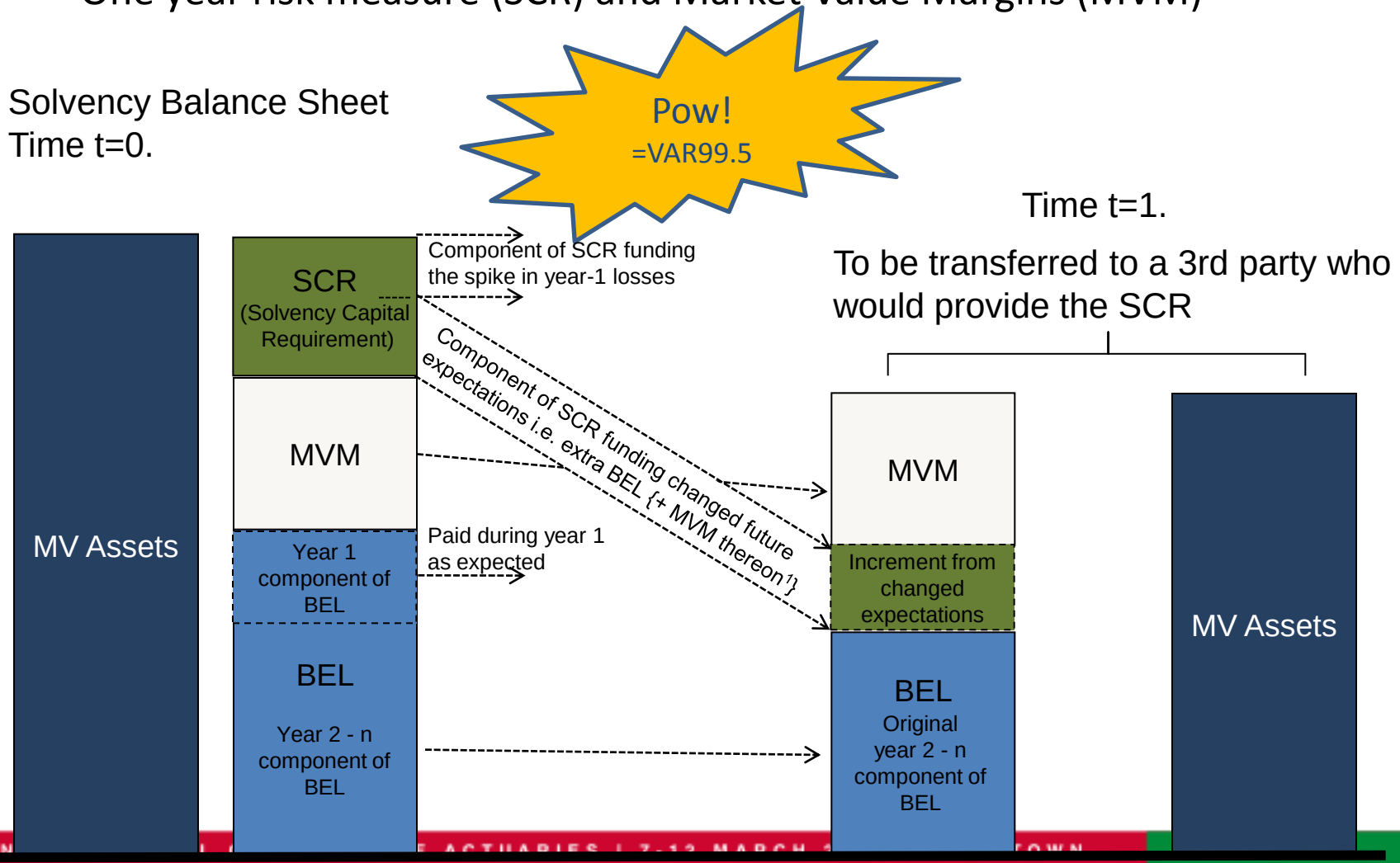
Capital-based Reserving per Solvency II (§5)

- One year risk measure (SCR) and Market Value Margins (MVM)



([1]Item in brackets not included in QIS3 and QIS4)

Capital-based Reserving per Solvency II (cont.)

- Cost-of-capital approach is prescribed methodology for calculation of MVMs
- Aims to give potential third parties an acceptable return on SII capital that they would tie up backing the business
- Asking questions (§5.3)
  - Uniform CoC% assumed – Market indications suggest otherwise (cf. §3)
  - Firms could place different "market consistent" values on similar risks owing to internal diversification (cf. §3)
  - Market cost of risk likely to increase sharply when a firm catches a VAR(99.5) affliction (especially if systemic)
- Possible tweaks (§5.4)
  - Insurers should set like technical provisions for like liabilities
  - These should broadly reflect prices at which insurers are accepting such risks under *current* conditions (with expense allowances)
  - Spike in market cost of risk that might occur in a VAR(99.5) situation to be included in SCR
  - Regulators may need to specify "current condition" and "stress" MVMs

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To Conclusion

A final word: Communication (§6)

- Most firm's are not using a genuine Shareholder (e.g. EBS) framework
- Steering tends to be based on maximising -
  - Return-on-capital targets – ROE, RoRaC
  - Earnings targets – IFRS earnings, EPS, EV earnings
- Any firm contemplating introducing an Shareholder steering-framework will face a communication challenge
  - Internal stakeholders – persuading management of the need to take an "outsider's" view to value creation (rather than an "insider's" view)
  - External stakeholders – clear communication with shareholders, analysts and rating agencies to enable them to develop an appreciation for the strategic actions taken by the firm.

Conclusion

- Paper attempts to demonstrate that capital-based steering is questionable from a shareholder perspective
- A shareholder-focussed framework is put forward
- Don’t claim to know all the answers!
- Assertion: Doing something sound “approximately” is preferable to doing something questionable “precisely”!

Thank you!

Contact Details

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Backup

Capital-driven Pricing

Example Anomalies (§3.1)

- Company ABC
  - 1-year policies, each with SA of €100 and EL of €5
  - Portfolio includes (amongst others) Perils X (peak) and Y (non-peak)
  - Capital allocation (say): Peril X €25 per policy, Peril Y €5 per policy
  - Target RoRAC of 20% => needs to charge €10 for each Peril X policy and €6 for each Peril Y policy (i.e. EL + 20%xCap.)
- Company BAC
  - Same as Co. ABC, except reversed in Perils X and Y
  - Target prices: €6 for each Peril X policy and €10 for each Peril Y policy
- Company ABC'
  - Same as Co. ABC, except different capital allocation methodology
  - Target prices: €9.50 for each Peril X policy and €7 for each Peril Y policy

SA = Sum Insured, EL = Expected Loss, RoRAC = Return on Risk-Adjusted Capital

Back

Example: Impact of claim on profit (First order)

- Simplified example (tax, expenses ignored)
- Loss distributed log-normally with a mean of €10m and standard deviation €4m.

	Company A (diversified)	Company B (undiversified)
Additional capital consumed (say)	3.0	11.0
Claim of size: (€m)	Impact on profits (€m)	Impact on profits (€m)
6.0	-6.0	-6.0
10.0	-10.0	-10.0
14.0	-14.0	-14.0

- To the first order, the impact of the claim on a firm's profits is independent of the degree of diversification within the firm!

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