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THE POWER OF INSIGHT.sm

Exit Value as Fair Value
Darin Zimmerman, Vice President & Chief Actuary
East Asia Actuaries Conference, October 2007

OVERVIEW

- No solutions: only trade-offs
 - Who's asking
- Rules vs. Principles
 - History
- Price vs. Prediction
- Market Value Risk Margins
- Risk Neutral vs. Real world
 - Discounting at Risk Free vs. Portfolio Yield
- Incorporating Provision for Credit Standing
- Concluding Remarks



WHO WANTS FAIR VALUE?

- IASB has concluded fair value is most relevant measure of financial performance (FASB agrees)
- IASB has concluded “exit value” will be basis for IFRS Phase II (insurance products)
- People who buy and sell companies
- A financial statement is complicated answer to a very simple question, “When will I get paid?”
 - Policy holder (regulator by proxy)
 - Bond holder (SEC, etc by proxy)
 - Share holder (Equity Analysts by proxy)
 - Employees / Pensioners



WHO ELSE WANTS INSURANCE AT FAIR VALUE?

- Investment Bankers and Banks
- People who want insurance companies to stop giving away free options
- CEOs who worry about arbitrage
- Valuation Actuaries who worry about lay offs

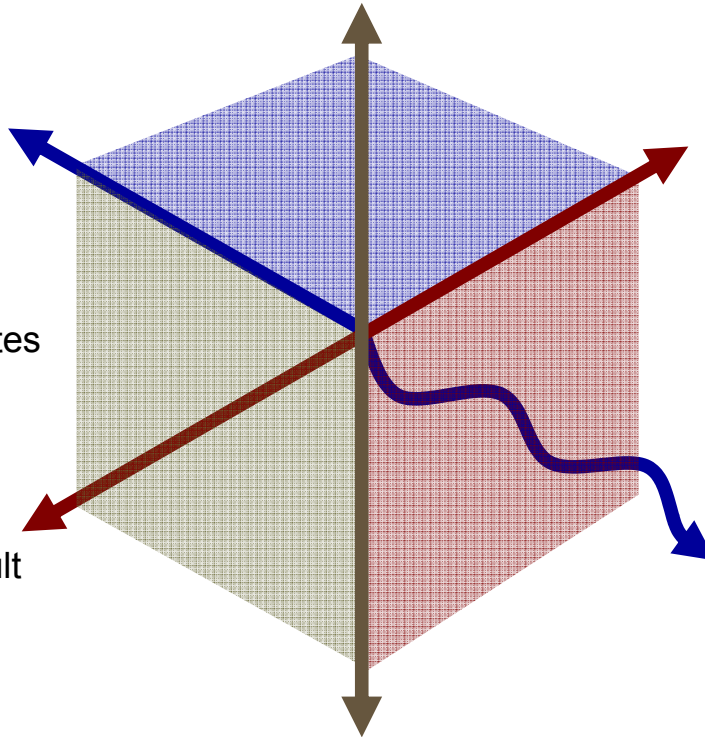
- Conspicuously absent from this list is US companies
 - US actuaries don't like it any better than you do



COMPANIES HAVE DIVERSIFIED RISK 3 WAYS

Kinds of Risk

- Mortality
- Longevity
- Morbidity
- Persistency
- Utilization Rates
- Equity Return
- Basis Risk
- Interest
- Credit / Default
- Currency Fluctuations
- Operational



Characteristics Influencing Risk

- Male / Female / Unisex
- Smoker / Non-Smoker
- Preferred / Standard / Sub-std
- Issue Age / Attained Age 0 - 120
- Occupation Classes

Time

- UW Cycle
- Interest Rates
- Equity Returns
- Credit Cycle
- Mortality Improvement



RULES VS PRINCIPLES

	Rules-based	Principles-based
Advantages	<ul style="list-style-type: none"> ▪ Easier for regulators to audit ▪ Easier for companies to implement ▪ Makes commercial software easier to develop and use ▪ Makes different companies' results more comparable ▪ More objective 	<ul style="list-style-type: none"> ▪ Always makes sense ▪ No incentive to manipulate product design (PD) ▪ Encourages PD creativity ▪ Diminishes systemic risk (Mistakes not industry-wide.) ▪ Actuarial focus is on price of risk, not accounting results
Disadvantages	<ul style="list-style-type: none"> ▪ Does not always make sense ▪ Easier to manipulate ▪ New products can cause problems ▪ Lack of accountability ▪ Misdirects creativity ▪ Regulators can't admit mistakes and fix things. 	<ul style="list-style-type: none"> ▪ More subjective ▪ Harder for regulator to audit ▪ Easier to commit fraud ▪ Easier for actuary to make a bankruptcy-sized mistake ▪ Requires powerful analysis tools and understanding ▪ Requires better actuaries



SO WHAT IS FAIR VALUE?

Definition of Exit Value in Phase II DP Paragraph IN21

- This paper defines current exit value as the amount the insurer would expect to pay at the reporting date to transfer its remaining contractual rights and obligations immediately to another entity.

Definition of Fair Value in FAS 157 Paragraph 5

- Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date



SO WHAT IS FAIR VALUE?

- Complicated
- Highly subjective
- Dependent upon the unit of account
 - Dependent upon the size of the block
- Sensitive to capital requirements (market specific)
- Sensitive to market level of maintenance expenses
- Related to perceived risk and ability to hedge that risk
- Risk Neutral
- **MOST IMPORTANTLY** it is a *price* not a *present value*



WHY DOES FAIR VALUE MAKE SENSE?

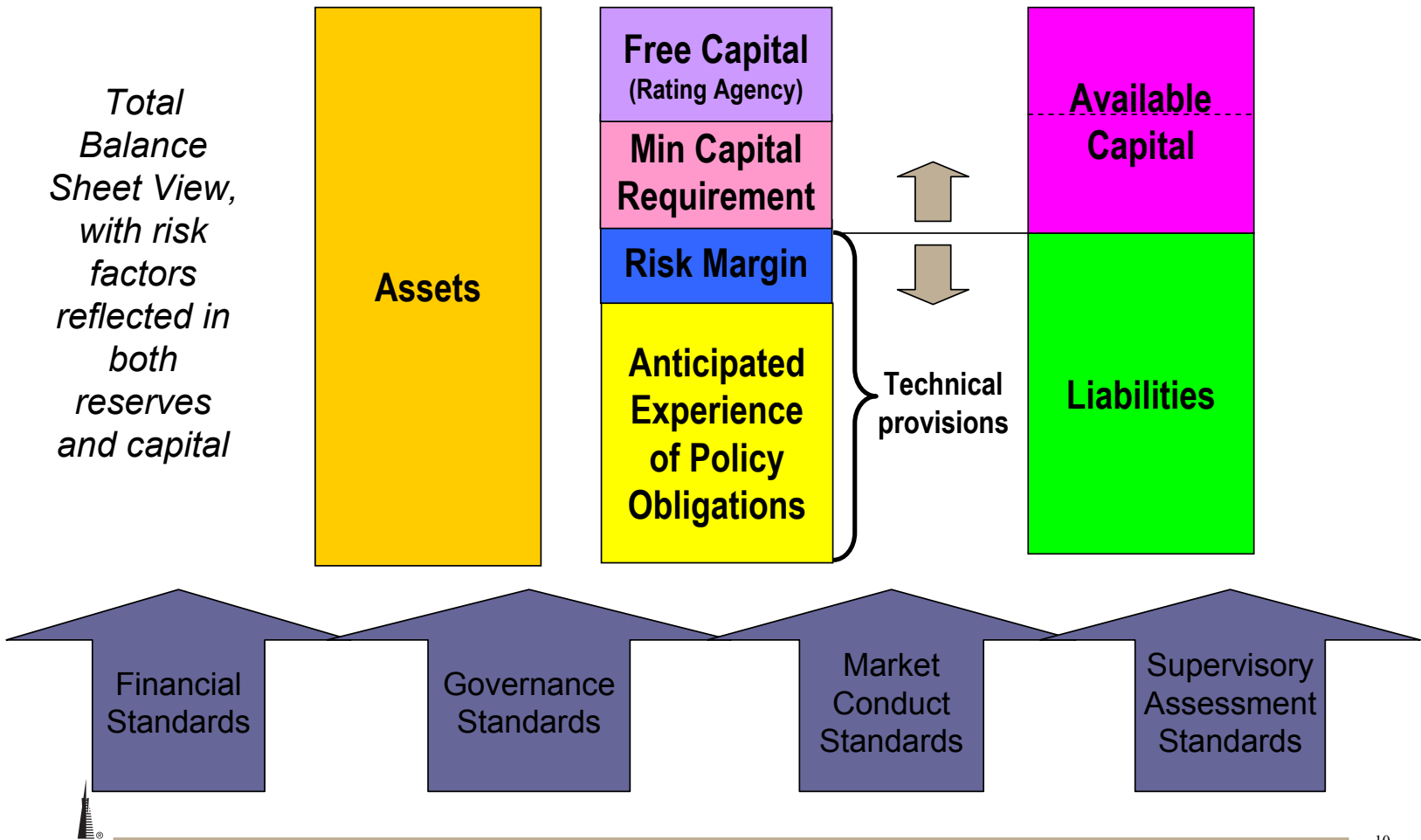
- It yields a high degree of comparability between financial services companies.
 - Banks
 - Mutual Fund Companies
 - Life Insurance
 - Property and Casualty Insurance

- But before we can compare, we must understand the concept of *market value margins*



IAIS – Roadmap

AAA says “Best Estimate” carries legal liability

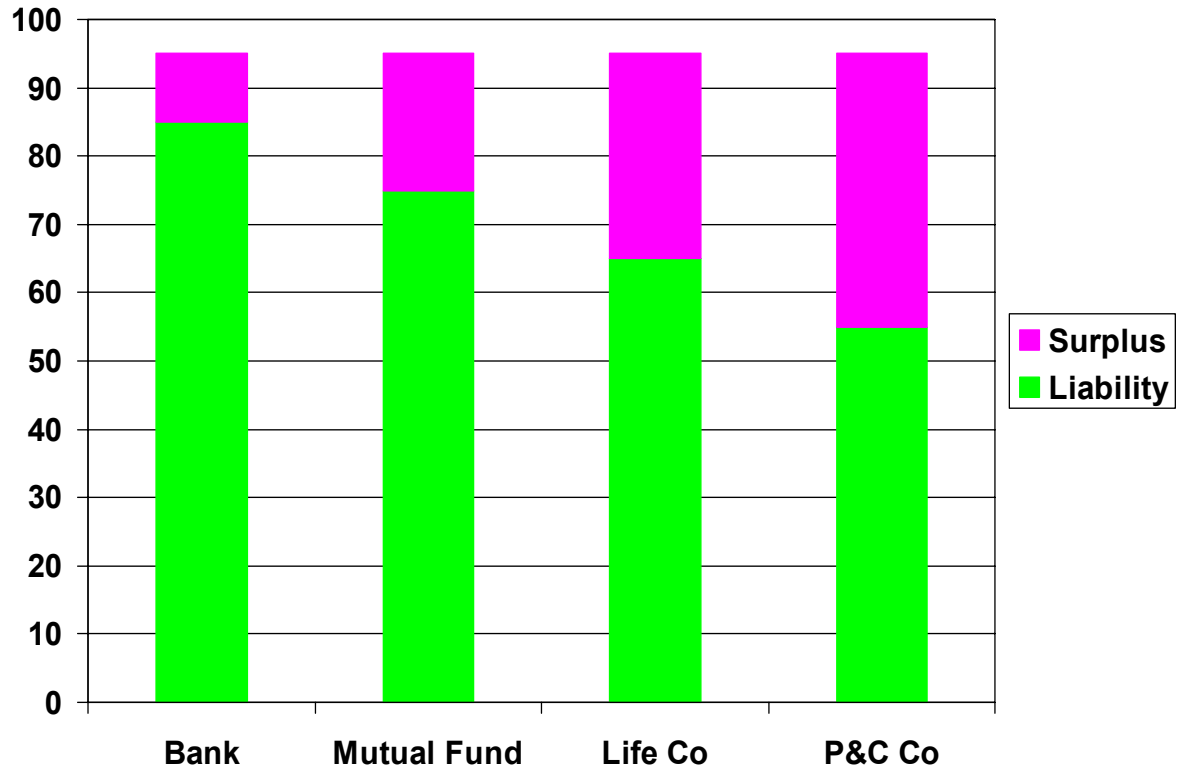


MARKET VALUE MARGINS

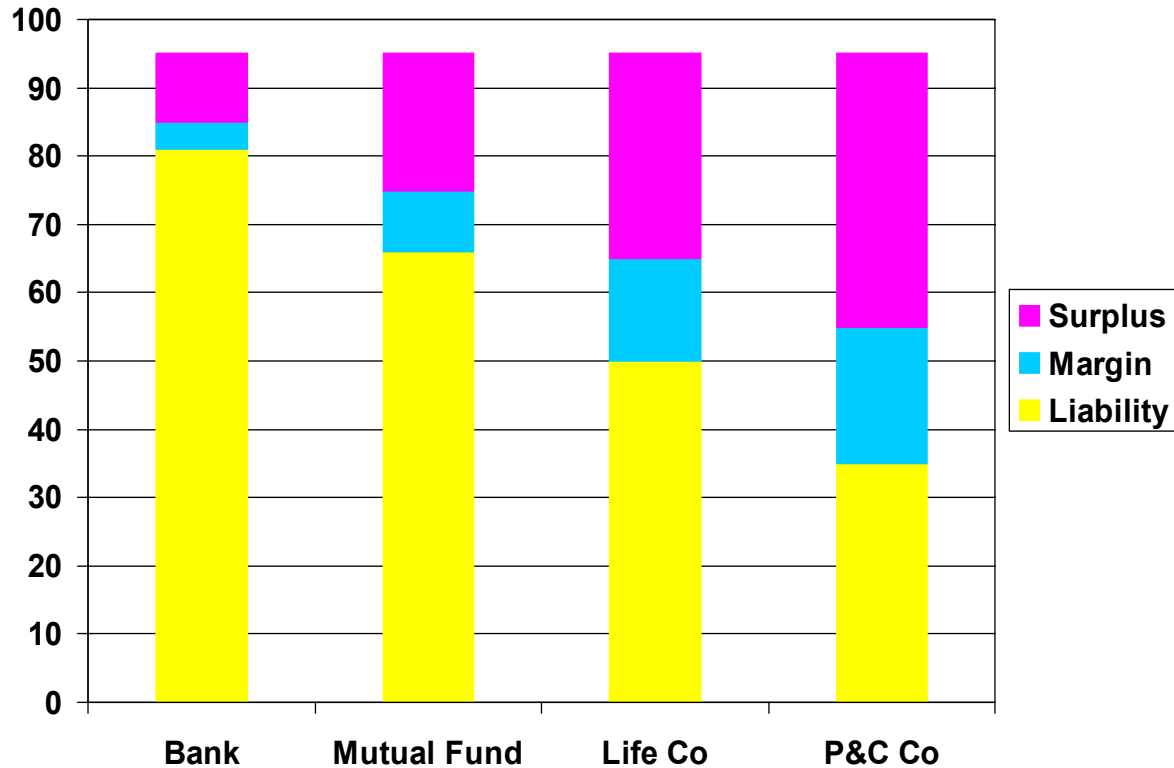
- IAA issued working paper about the calculation of risk margin
- IAA suggested approach to risk margins
 - Explicit assumption – eg 10% of mortality
 - Quantile method – eg 95% Confidence Interval
 - Cost of Capital – margin needed for 10% return on capital
 - Other Methods – traditional method use conservative assumptions
- Risk Averse – Risk Seeker – Risk Neutral
- Instead of varied approaches, exit value corresponds to exactly one specific margin which yields the Exit price



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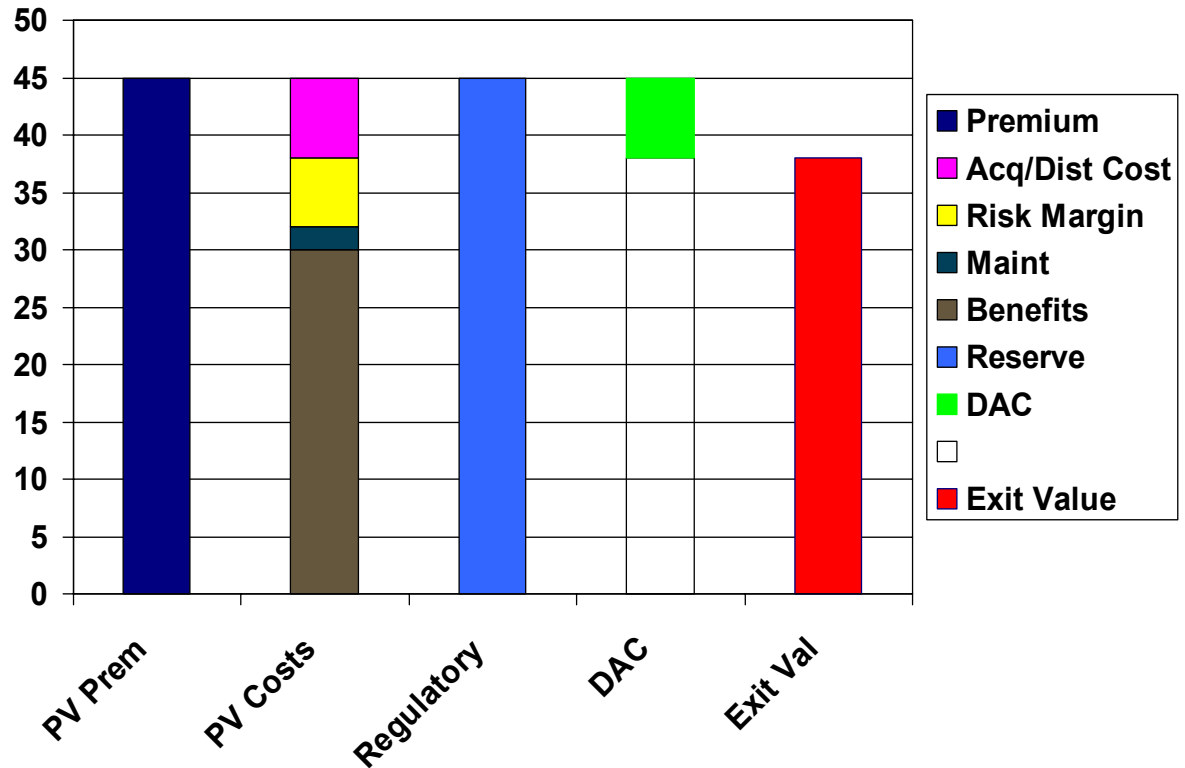
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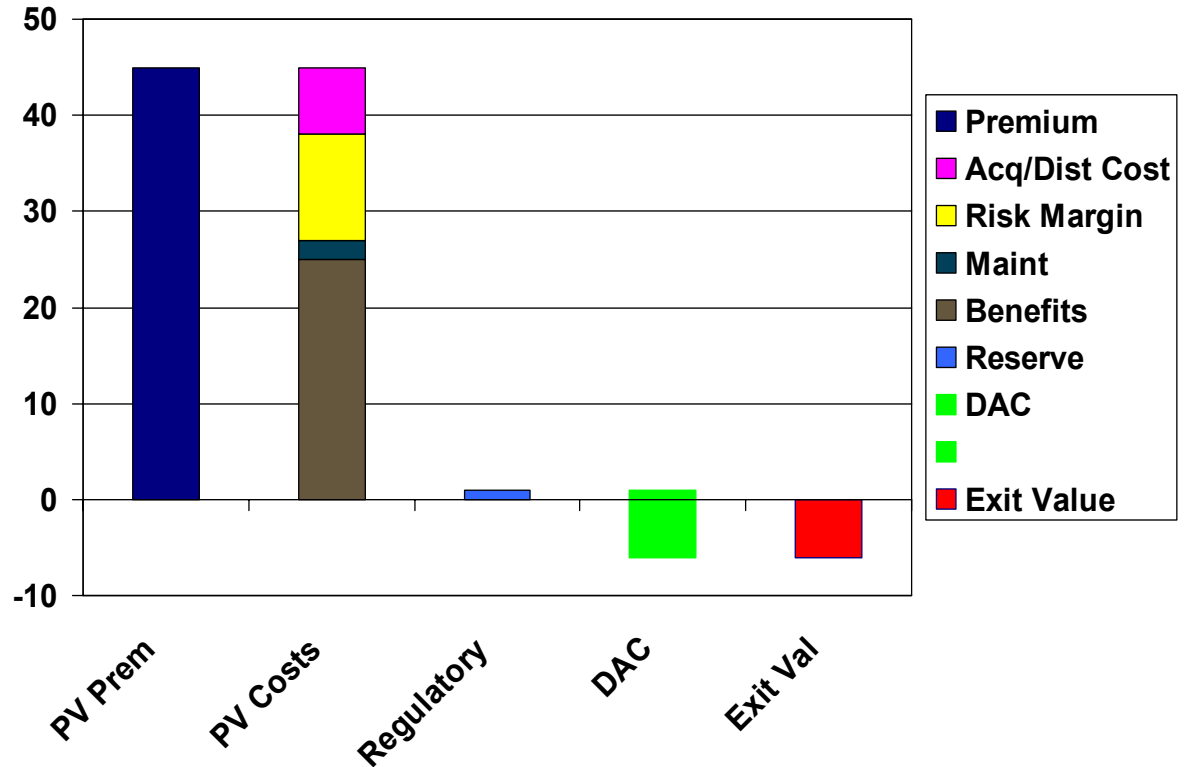
Margin (blue) is constant percentage of available capital (pink)



Calculation: Single Premium Savings Product



Calculation: Annual Premium Protection Product



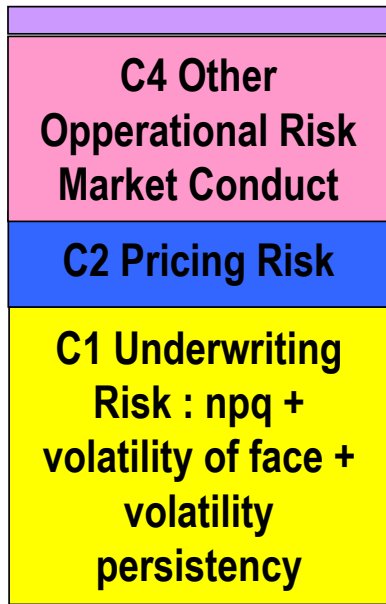
DISCOUNTING AT RISK FREE VS PORTFOLIO YIELD

- This is really an allocation of capital issue
- You get the same liability irrespective of the asset portfolio
- Infinite asset portfolios of increasing volatility
 - Government Bonds (zero credit risk; some interest rate risk)
 - Well diversified portfolio of fixed income securities
 - One giant bond (large credit risk, less interest rate risk)
 - Equities (price risk, not credit; basis risk, duration mismatch)
 - Gold
 - Lottery tickets

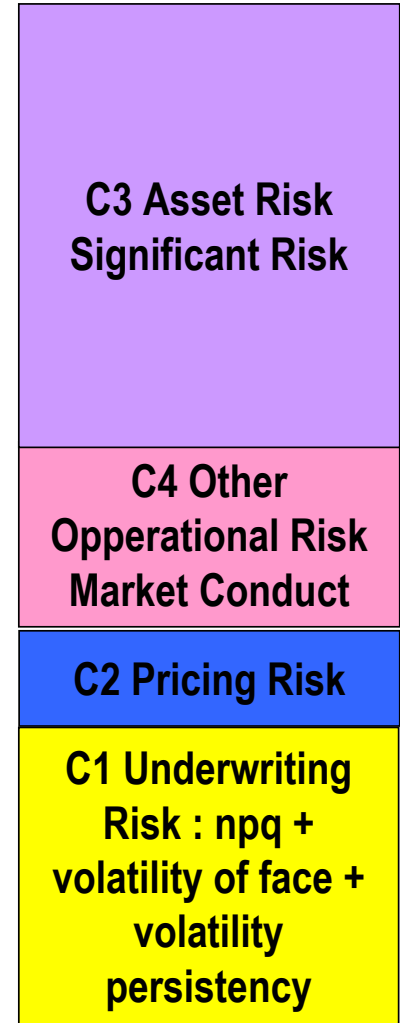
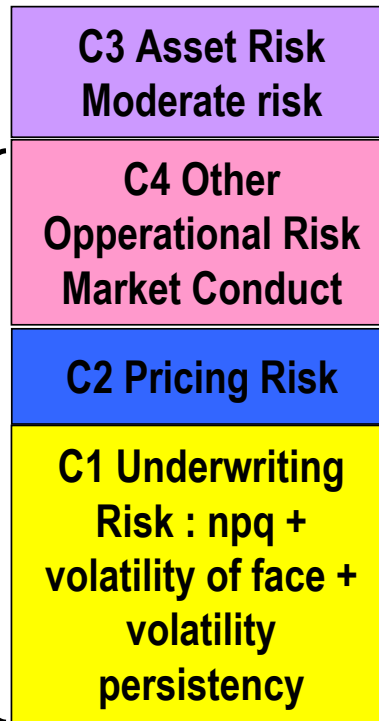


DISCOUNTING AT RISK FREE RATES

C3 Asset Risk
 Credit = 0
 Interest rate small



Constant Liability Amount includes margin for three kinds of capital; C1, C2, C4



Government Bonds

Corporate Bonds

Equities

INCORPORATING OWN CREDIT STANDING

- Use instrument's credit standing; not company's
 - Need to consider guarantee associations
- WHY?
- Assets and Liabilities need to be valued consistently
- A credit event that impacts the left side of the balance sheet should also impact the right side.
- If spreads widen and depress asset values, own credit standing has probably deteriorated also.
 - If well matched, there will be no earning impact



INCORPORATING CONTRACT'S OWN CREDIT STANDING

Between valuation periods 1 and 2 there was a credit event that greatly increase credit spreads by 50 basis points

Assets
consist of a well diversified portfolio of corporate fixed income securities of AA quality on average

Liabilities
are calculated assuming 40 basis points of default risk

Valuation Period 1

Income volatility is immunized if the credit spread of the assets is close to the credit standing of the liabilities

Assets
lose value if credit spreads increase by 50 basis points

Liabilities
are calculated assuming 90 basis points of default risk

Valuation Period 2



Conclusions

- The US doesn't like it either
- It's coming and there is no way to stop
 - Might as well accept reality and plan for the future
- Key to calculating liabilities is to understand margins
- Margins will be a function of capital
 - Capital is a function of regulatory environment
 - Fair value will be very geographically unique
 - Old view that “surplus” is what is “left over” no longer applies
- Nothing is as bad as it seems; nothing is as good, either
 - A lot of work, but will not radically transform the industry

