

2013 Convention

new solutions for a new world

31 Oct - 1 Nov 2013

Sandton, Johannesburg



Conflicting bases and performance metrics in a new regulatory era

Presenters:

Lindy Schmaman

Philip van den Berg

Co-authors:

David Park

Wayne Savage

Agenda

1. Introduction
2. Performance measurement in the past
3. Trends in global banking and insurance supervision
4. Emergence of an economic view
5. Focus on risk-adjusted performance metrics
6. The future: conflicting views and metrics?



Introduction

- Performance metrics are everywhere
- Measurement influences behaviour and decision-making
- You can't improve what you don't measure
- The objective is to incentivise people correctly
- Measuring is not always easy and numbers can be misleading



Performance measurement in the past

- **Focus on growth not on the volatility of growth**
 - More risk-taking to achieve growth. “No business can thrive without taking on risk”
 - This lead to misalignment between different stakeholders. “A key weakness was a disparity between the risks that firms took and those that their Board of Directors perceived the firms to be taking” SSG

- **The most common performance metrics**
 - Return on equity or return on assets - **LTCM lost 70% of equity in Aug 98**
 - IFRS earnings or operating profit – **Enron profits \$105m in 1997 to \$979m in 2000**
 - Embedded value
 - Value of new business
 - Headline earnings per share
 - Return on capital employed
 - Total shareholder return



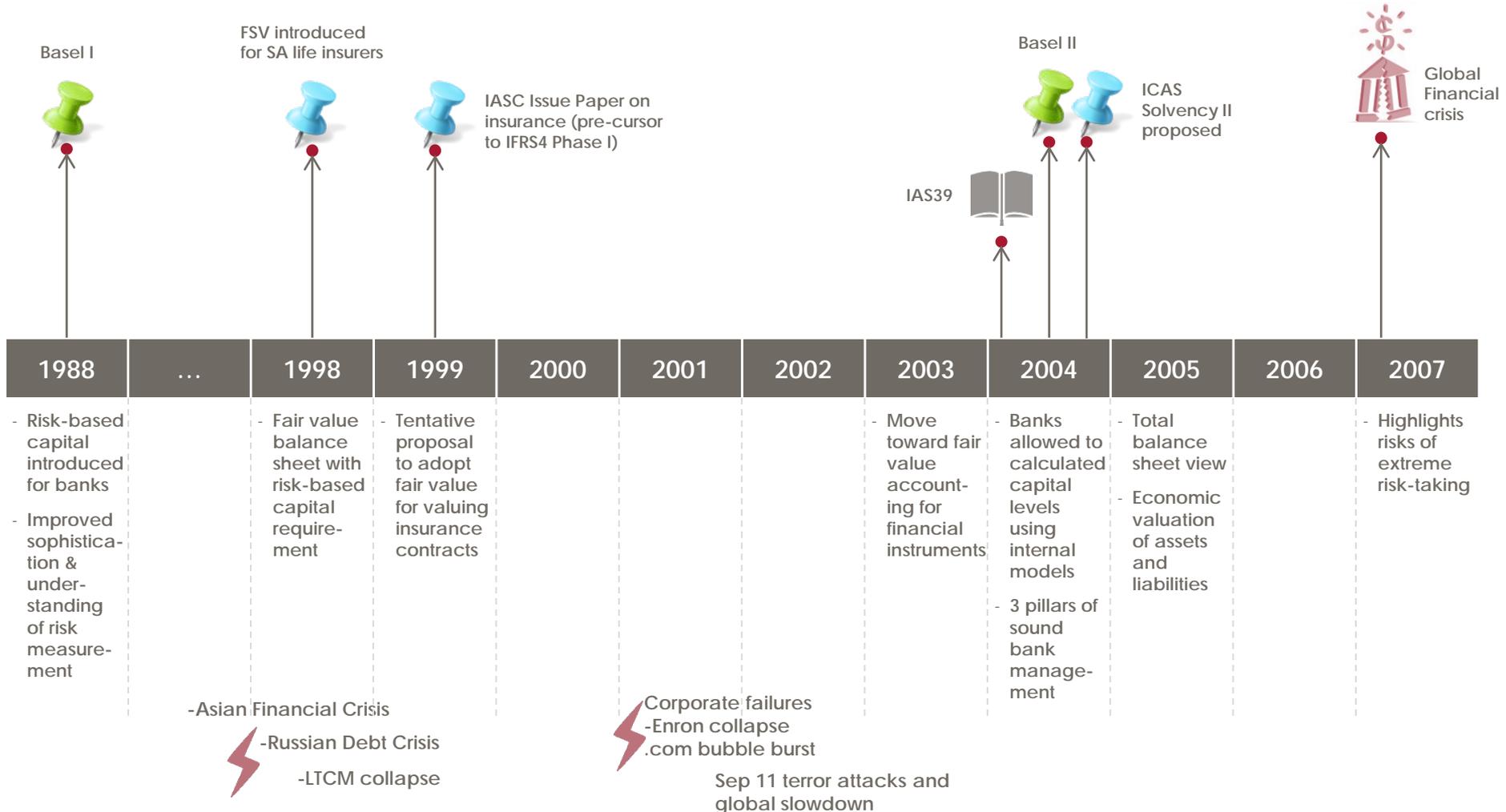
Performance measurement in the past

- Risk based performance metrics existed well before the financial crisis
 - During the 1990's, Value-at-Risk (VaR) was widely adopted for measuring market risk in trading portfolios. Its origins can be traced back as far as 1922 to capital requirements the New York Stock Exchange imposed on member firms
 - Harry Markowitz introduced modern portfolio theory (MPT) in a 1952 article. MPT attempts to maximize portfolio expected return for a given amount of portfolio risk

In 2007 Warren Buffet wrote:

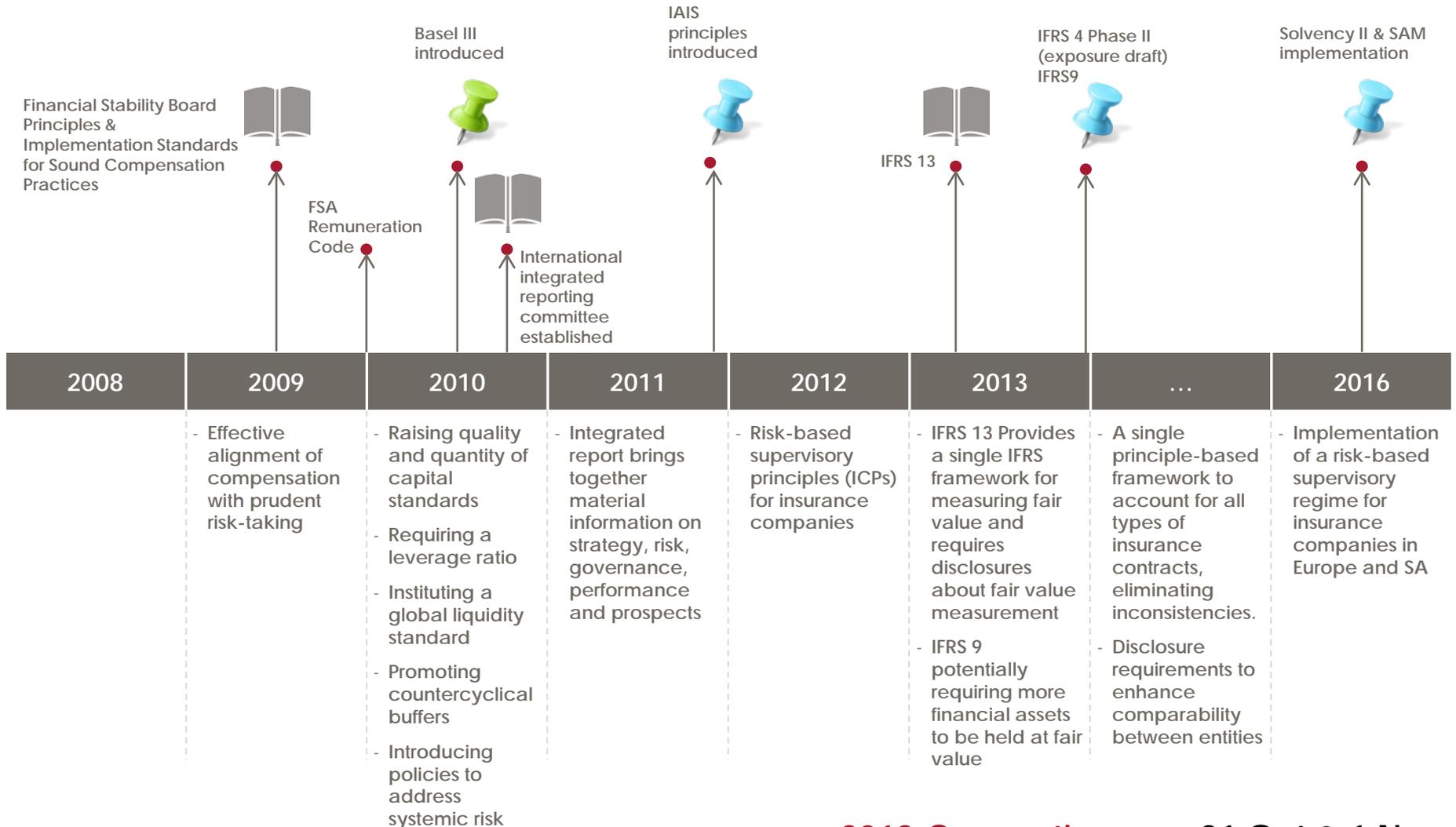
“We remain **prepared to lose \$6 billion** in a single event, if we have been **paid appropriately for assuming that risk**. We are not willing, though, to take on even very small exposures at prices that don't reflect our evaluation of **loss probabilities**. Appropriate prices don't guarantee profits in any given year, but inappropriate prices most certainly guarantee eventual losses.”

Trends in global banking & insurance supervision



Trends in global banking & insurance supervision

Post the global credit crisis...



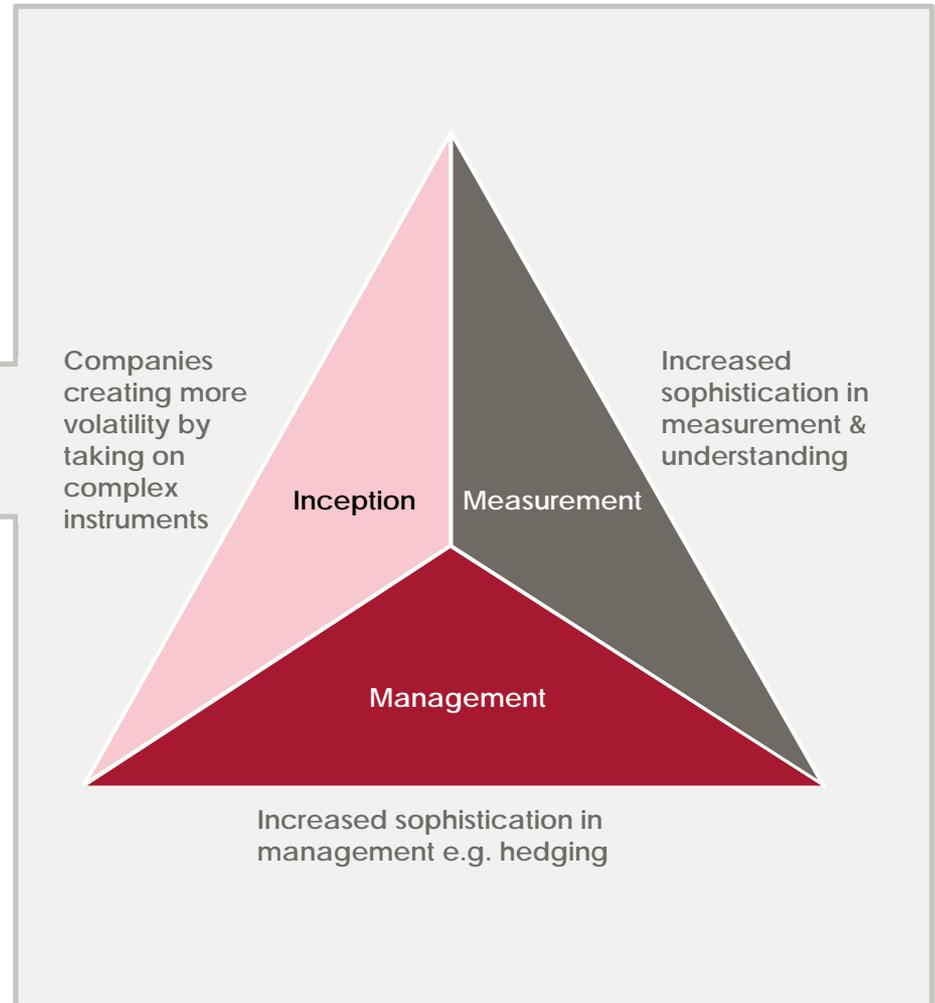
Key themes emerging

1. Shift from subjective views of value (especially on non-traded instruments) to **fair value measurement**

2. Volatility is the “new normal”

3. Shift from largely qualitative views on risk ... to **quantitative risk metrics** and **greater disclosure of risk**

4. Shift to **aligning remuneration with prudent risk-taking**



Questions companies are asking

Companies need to make strategic decisions based on a realistic assessment of value & risk.

1. What is the true value of our balance sheet?
2. What are the true risks that we face?
3. What is the relationship between our returns and the associated risks which give rise to the volatility in returns?

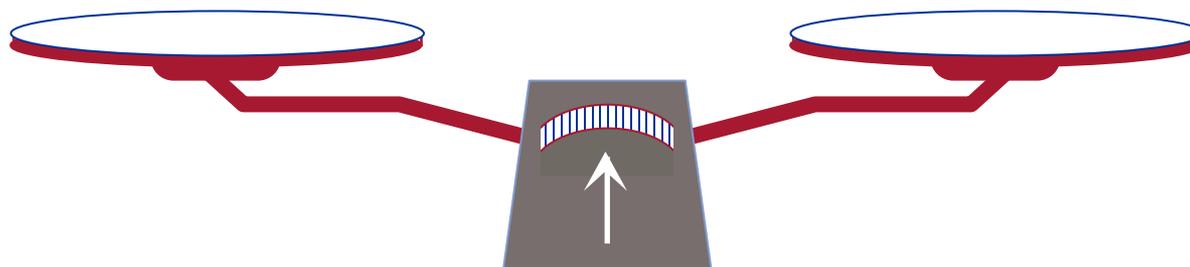
Different stakeholders have different and often conflicting views

Regulators & policyholders

- Financial strength & stability
- Protection of policyholder interests

Shareholders

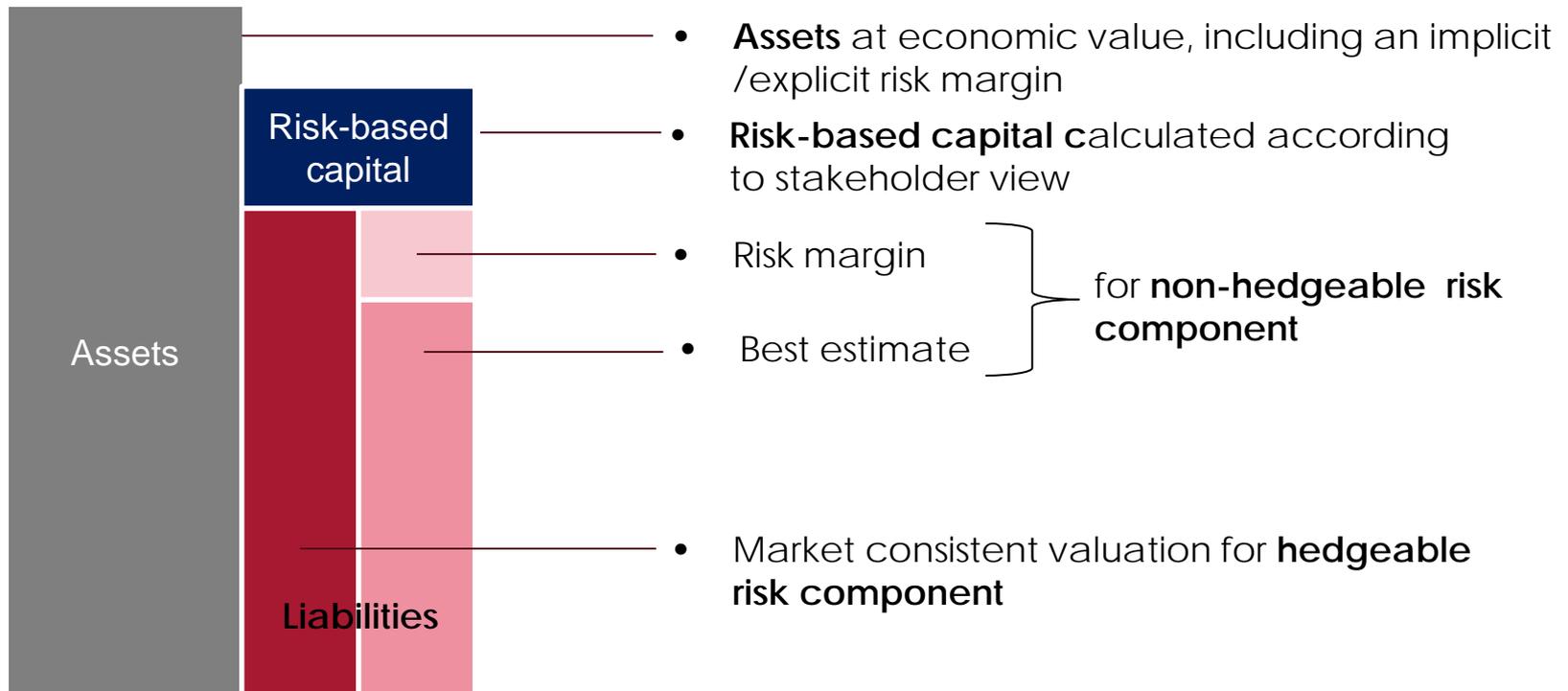
- Shareholder value & sustainable earnings



Board & senior management

The Economic Balance Sheet

The goal of an economic balance sheet is to demonstrate the total financial position of the organisation, by showing the economic value of assets and liabilities consistently



The economic balance sheet gives a true reflection of the value of the company to that stakeholder

Economic profit

Economic Profit (or Economic Earnings) refers to the change in the economic balance sheet over the period of assessment i.e. = $NAV_{t_1} - NAV_{t_0}$



- Reflects
 - the value created from new business
 - release of risk margin
 - differences in experience between actual and expected
 - assumption changes
- Economic Value Added = (Economic profit – required return) is the absolute risk-adjusted metric

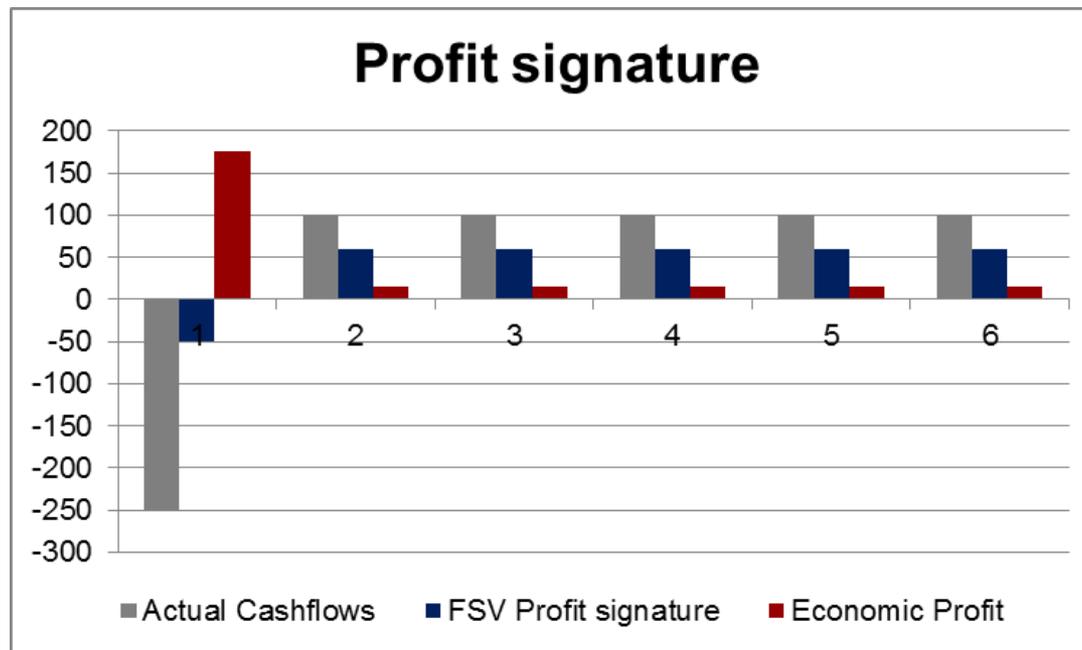
Economic capital

- The amount of financial resources that an institution must theoretically hold to ensure that the sustainability of the organisation at a given confidence level and given the risks that is expected to take.
- **Depends on stakeholders views:**
 - Different views as to the volatility of different risks e.g. SAM standard formula
 - Different confidence intervals and time horizons
 - Inclusion of different risk types
 - Allowance of diversification between risk types
 - Different views regarding the availability of different sources of capital

Ultimately Internal Economic Capital is where management needs a balanced view in order to manage all the respective stakeholder expectations regarding sustainability.

Example

Comparison of profit under different bases



- IFRS profit signature under FSV and the Economic Profit signature might differ substantially
- Looking at the profit on different bases gives a very different view of the business

Comparing the different bases

To what extent do the traditional bases capture the drivers of Economic Value?

"Economic value" sensitivity scale	1	2	3	4	5	Risk information
IFRS balance sheet (current)						<ul style="list-style-type: none"> Sensitivity disclosures
Statutory balance sheet (current)						<ul style="list-style-type: none"> CAR
Embedded Value						<ul style="list-style-type: none"> Prescribed sensitivity disclosures
SAM regulatory balance sheet						<ul style="list-style-type: none"> Regulatory capital
Internal economic balance sheet						<ul style="list-style-type: none"> Internal economic capital

Bringing risk into decision making

Risk-adjusted performance measurement

- A RAPM metric is a performance metric that assesses reward generated relative to risk assumed
 - Reward: profits / returns / revenues
 - Risk: volatility / capital / VaR metric
- Types of measures:
 - Absolute measure e.g. Economic profit – required return
 - Relative measure e.g. Economic profit / Economic capital
- Looking at risk-adjusted performance can change your decisions significantly

Examples

1. Maximising the return relative to the risk taken

	New Product 1 Term Assurance	New Product 2 Guaranteed Capital Bond (GCB)	Decision
Economic Profit	200	40	Term Assurance is 5x more profitable =>Choose Term Assurance
Economic Capital	1080	122	
RoRAC	18.5%	32.7%	GCB is 76% more profitable => Choose GCB

Considering absolute return only could result in a sub-optimal return on capital

Examples

2. Understanding the benefits of diversification on risk to assist in decision making

A company only exposed to mortality and expense risk is considering a new product:

	New Product 1 Mortality and expense risk	New Product 2 Longevity and expense risk
Economic Profit	50	40
Economic Capital	245	245
RoRAC	20.4%	16.3%

Impact of adding Product 1	Before	After	New Product only
Economic Profit			50
Economic Capital	490	735	245
RoRAC			20.4%

Impact of adding Product 1	Before	After	New Product only
Economic Profit			40
Economic Capital	490	583	93
RoRAC			42.9%

The diversification between mortality and longevity risk results in lower marginal capital requirements, and hence a higher RoRAC

Examples

3. Different metrics give a different answer

Asset example:

- Consider two credit risky assets - All market risks are hedged out, only credit risk remains

	Risky Asset 1	Risky Asset 2	Decision	
Investment Amount	500 000 000	500 000 000		
IFRS Return	10.50%	8.00%	Buy Product 1	
Risk Adjusted Economic Return	8.30%	7.75%	Buy Product 1	<ul style="list-style-type: none"> After taking default risk into account
Economic Capital @ 95% Confidence	38 793 670	30 108 894		
IFRS Return on Economic Capital	1.35	1.33	Buy Product 1	<ul style="list-style-type: none"> IFRS Profit/Economic Capital
Risk Adjusted Return on Capital	1.07	1.29	Buy Product 2	<ul style="list-style-type: none"> Economic Profit/Economic Capital

- Return only metrics such as IFRS return and economic profit results in Risky Asset 1 being selected
- IFRS return on economic capital results in Risky Asset 1 being selected
- Risk Adjusted Return on Capital (RAROC) results in Risky Asset 2 being selected

The Future

1. Move towards RAPM metrics
2. Emergence of more than one RAPM metric
3. Lead to more granular and frequent disclosure
4. Analysis of change process will require governance and disclosure
5. Greater alignment between finance, risk, actuarial and capital management functions
6. RAPM is an important tool, but does not replace existing tools



Thank You & Questions