



# THE IMPACT OF SOLVENCY II ON ASSET MANAGEMENT IN BANKING AND INSURANCE

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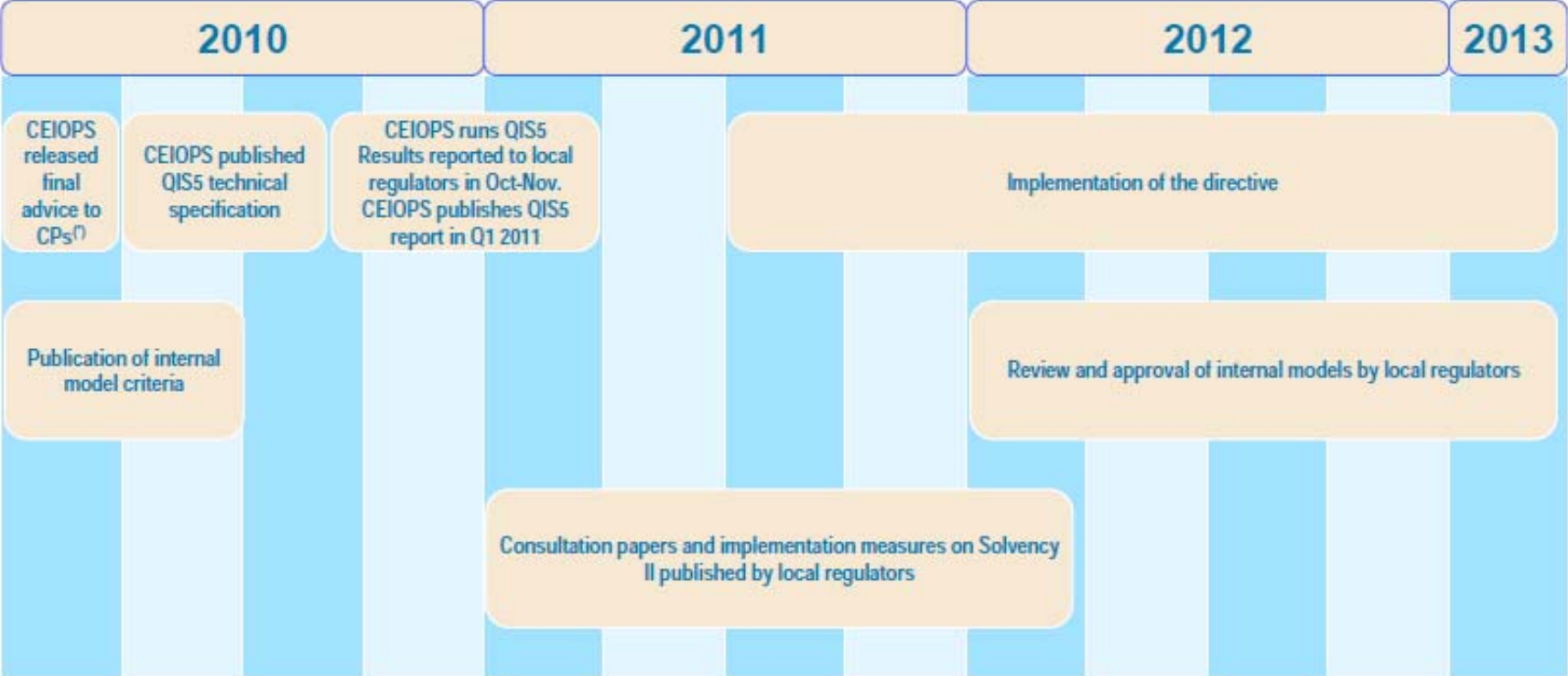
# Agenda

- Historical Overview
- Legal Framework
- A Case Study: Asset Allocation
- Economic Impact
- Conclusion

## History of Solvency II

- Solvency I suffered from a simplified calculation, accounting for only liability-driven risk while ignoring investment risk
- Under Solvency II's new regulatory framework, increased capital requirements will be determined on the basis of the risk profile of insurance companies and the way companies manage such risks

# Timeline of Solvency II



(\*) Consultation papers



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# Solvency II´s Three Pillars

## Pillar I

### *Capital Requirements*

- Technical Provisions
- Solvency Capital Requirements (SCR)
- Minimum Capital Requirements (MCR)

## Pillar II

### *Supervisory Review*

- Risk Management and Governance
- Own Risk and Solvency Assessment (ORSA)
- Supervisory Review

## Pillar III

### *Reporting & Disclosure*

- Annual Published Solvency and Financial Condition Report
- Market discipline

## Pillar I- Capital Requirements

$$\text{Solvency ratio} = \frac{\text{Available Solvency Margin (ASM)}}{\text{Solvency Capital Required (SCR)}}$$

Introduces two levels of capital requirements to better reflect the true risk:

**Available Solvency Margin (ASM)** serves as the amount of capital *actually* holds

**Solvency Capital Requirement (SCR)** serves as the amount of capital the company *must* hold due to new regulation

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## The Standard Solvency Test

The standard solvency test determines the amount of capital that should be sufficient to ensure that after one year, the market value of the assets exceeds the market value of the liabilities, with a 99.5 per cent certainty

$$\sqrt{S_1^2 + S_2^2 + 2(0.80)S_1S_2 + S_3^2 + S_4^2 + S_5^2 + S_6^2}$$

### Types of Risk in the Standard Solvency Test:

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S1	Interest rate risk	(maturity-dependent) shift up and down in interest rates and inflation, plus a 25 per cent shift up and down in the implied volatility for (embedded) interest rate options
S2	Equity risk	40 per cent shift down in the value of equities, plus a 25 per cent shift up and down in the implied volatility of stock options
S3	Currency risk	25 per cent shift down in foreign currencies
S4	Commodity risk	40 per cent shift down in commodity prices
S5	Credit risk	60 per cent increase in credit spreads
S6	Insurance risk	$a\%/\sqrt{n}$ , depending on type of insurance

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# Evaluating Required Capital

ASSETS				LIABILITIES			
Investments (market value)		1,160,000,000		Surplus		160,000,000	
Equities	232,000,000	20%		Technical reserve (book value)		1,000,000,000	
Fixed Income	812,000,000	70%		product with profit sharing	750,000,000	75%	
Real Estate	116,000,000	10%		product without profit sharing	250,000,000	25%	
<b>Total</b>		<b>1,160,000,000</b>		<b>Total</b>		<b>1,160,000,000</b>	



ASSETS				LIABILITIES			
Investments (market value)		1,160,000,000		Surplus		263,742,153	
Equities	232,000,000	20%		Market value liabilities		896,257,847	
Fixed Income	812,000,000	70%		product with profit sharing	687,073,771	77%	
Real Estate	116,000,000	10%		product without profit sharing	183,078,387	20%	
				MVM	26,105,690	3%	
<b>Total</b>		<b>1,160,000,000</b>		<b>Total</b>		<b>1,160,000,000</b>	

Under Solvency I, the required capital is 4 per cent of the technical reserve

- Does not accurately reflect the needed surplus, the six investment risks must be assessed, valued, and applied

## Results of the Standard Solvency Test

<i>Solvency II</i>	<i>Current policy (%)</i>
S1. Interest rate risk	13.7
Volatility risk	2.0
S2. Equity risk	12.9
S3. Currency risk	0.0
S4. Commodity risk	0.0
S5. Credit risk	0.0
S6. Insurance risk	0.03
Diversification benefit	-1.5
Required capital	27.2
Available capital	29.4
Solvency ratio	108.2

Available capital only just exceeds required capital

The required capital is 27.2 per cent of the liabilities, six times the current legal requirement of 4 per cent

- Interest rate risk due to duration and convexity mismatch
- Equity risk due to significant equity exposure

## Solvency I ratio vs. Solvency II ratio

ASSETS				LIABILITIES			
Investments (market value)		1,160,000,000		Surplus		160,000,000	
Equities	232,000,000	20%		Technical reserve (book value)		1,000,000,000	
Fixed Income	812,000,000	70%		product with profit sharing	750,000,000	75%	
Real Estate	116,000,000	10%		product without profit sharing	250,000,000	25%	
<b>Total</b>		<b>1,160,000,000</b>		<b>Total</b>		<b>1,160,000,000</b>	

← 400%

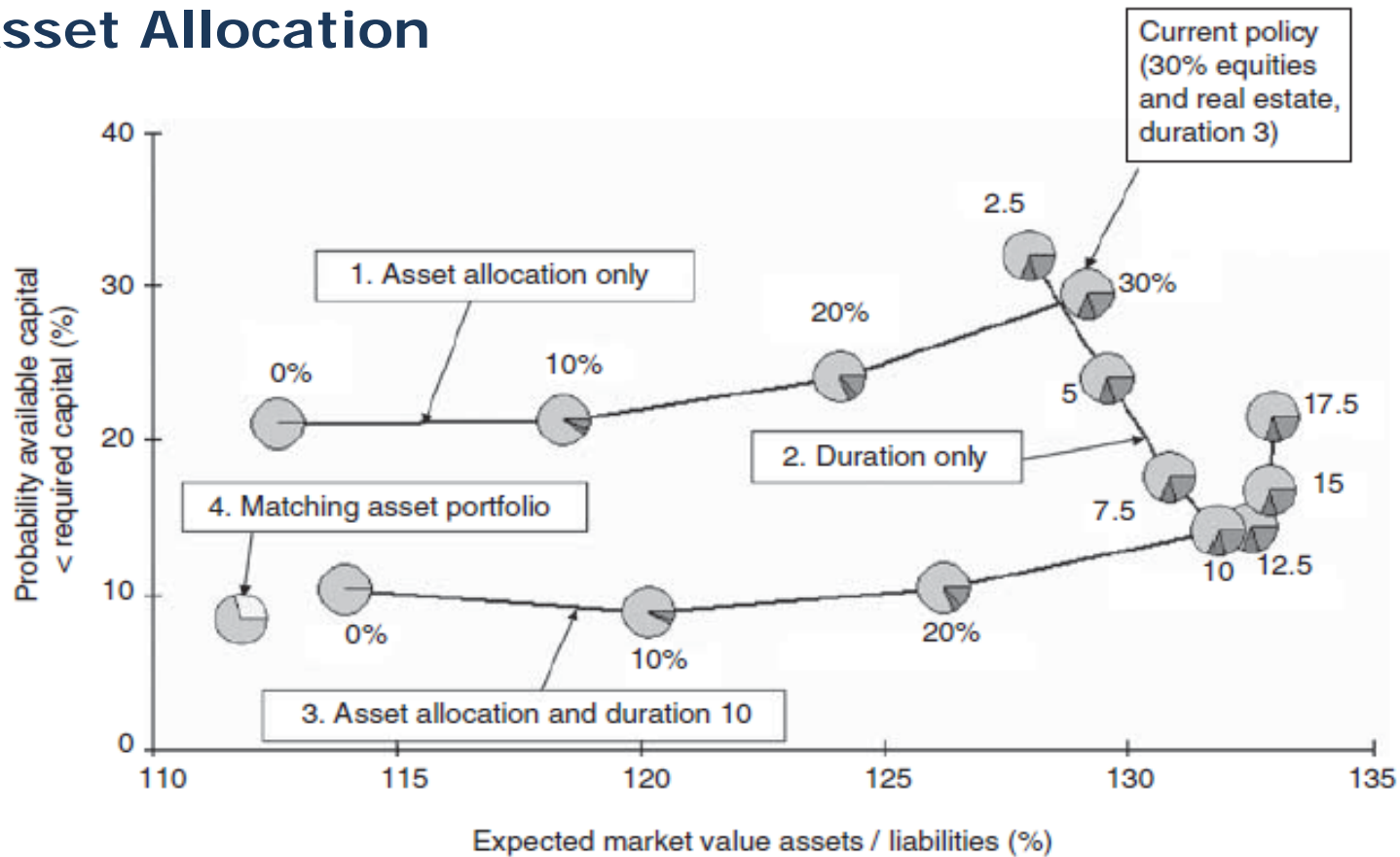
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<b>Total</b>		<b>1,160,000,000</b>		<b>Total</b>		<b>1,160,000,000</b>	

→ 108%

The available surplus in the traditional balance sheet is **misleading**

It must be so high to cover the large amount of interest rate and equity risk present in the balance sheet

# Asset Allocation



⇒ Risk and return for alternative investment policies

## Asset Allocation

Line 3 holds the minimum risk policy

➔ 10 per cent equities and real estate; duration of 10

- Longating the duration, in this case to 10, has a higher expected return while also lowering risk
- A more efficient solution than a reduction of the equity exposure:
  - A higher expected return for an asset allocation with equities and a longer duration, causing a higher upward trend in the available capital
  - Better matches the assets with the liabilities, leading to a higher correlation between the available capital and the required capital

## Asset Allocation

- Potential that by reducing short-term risk (as measured by the required capital), the long-term expected returns will also decrease
  - Must perform personal multi-period calculations for different stochastic scenarios to find the optimal risk and return trade-off
- Less than 10 per cent equities and real estate is not efficient because of commonly known diversification effects between equities, bonds, and real estate

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## Economic Impact of Solvency II

- The asset management strategies will be strongly dominated from the liabilities
  - Duration and convexity management will have increased appeal to companies
  - A dynamic asset allocation will have increased importance
  - Diversification through new asset classes will evolve
  - Hedging strategies will rise
- The product development in insurance companies will play an increasing role in the reduction of the required capital

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## Conclusion

*Transitional measures are needed to ensure a smooth conversion but should strike the balance between effectiveness and the potential adverse effect on competition*

-Recent comments by EIOPA, 14 March 2011

Thank you for your attention!