



# SOLVENCY II

( 08013)

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2011





# SOLVENCY II

( 08013)

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μ μ μ

2011





# ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΕΡΔΑΙΑ

μ









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РАНЕЕ НЕ ПЕРП







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μ μ

ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΕΡΡΑΙΑ



2

- SOLVENCY I

2.1

1970

1973 1979

73/239/EEC

79/269/EEC

1992

92/49/EEC

92/96/EEC

1994,

Solvency I, μ

1997,

CEIOPS<sup>3</sup>

Muller, μ

2002 μ

2002/12/EC

2002/13/EC.

Solvency I

<sup>3</sup> μ : CEIOPS







« »

2001

Solvency I.

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ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΕΡΡΑΙΑ

# РАНЕЕЗНАМО ПЕРПАА

3

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3.1

« »

Solvency II 2009/138/

μ 25 μ 2009 μ μ μ

μ 17 μ 2009<sup>9</sup>.

– Solvency II,

2007, μ

μ 2009<sup>10</sup>. μ

1 μ 2012, μ –

μ Solvency I.

μ μ project ,

μ μ 10 , μ μ .

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μ Solvency II μ μ μ ,

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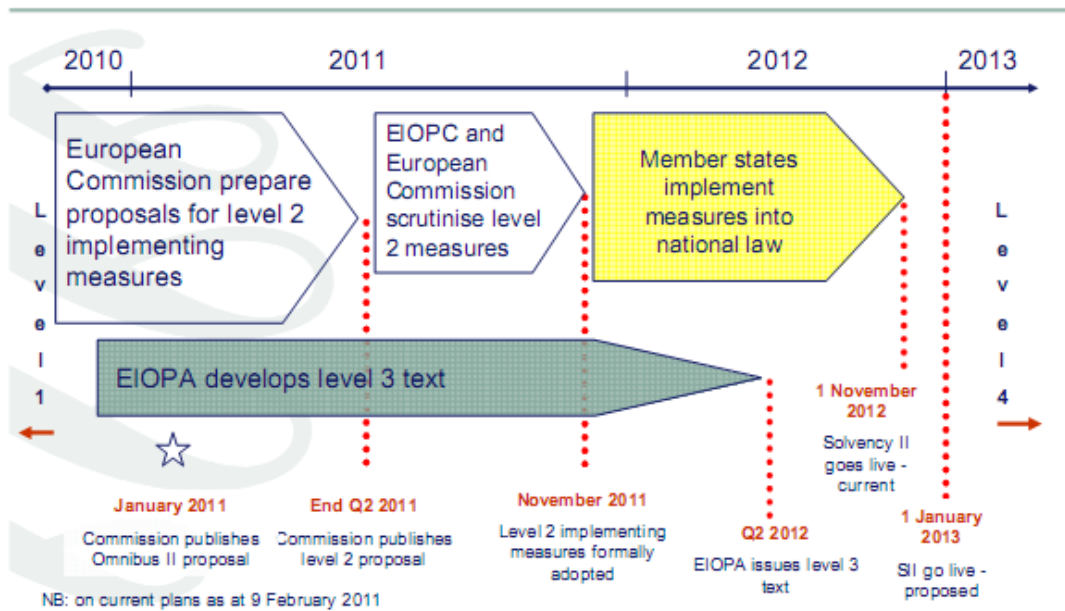
. μ μ , μ μ

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μ , μ

<sup>9</sup> . [2009/138/](#)

<sup>10</sup> Commission [COM\(2007\) 361](#) -[2007/0143\(COD\)](#)



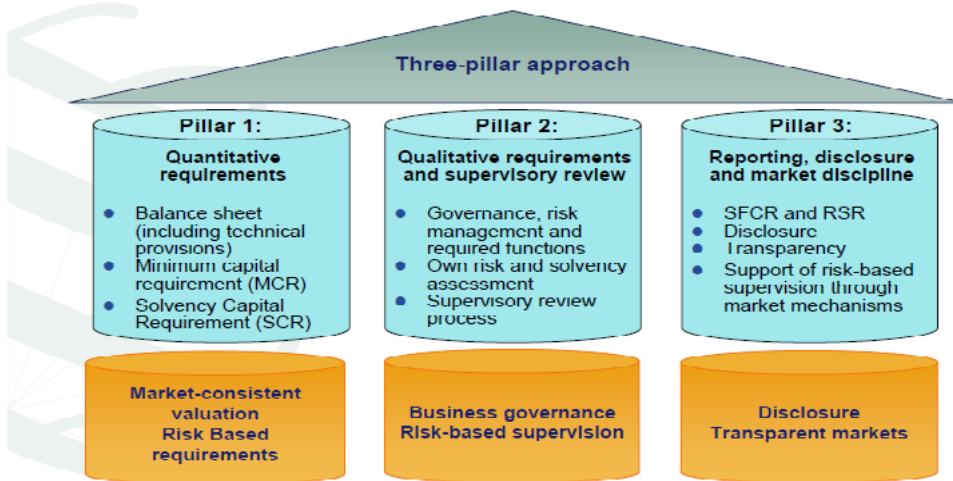






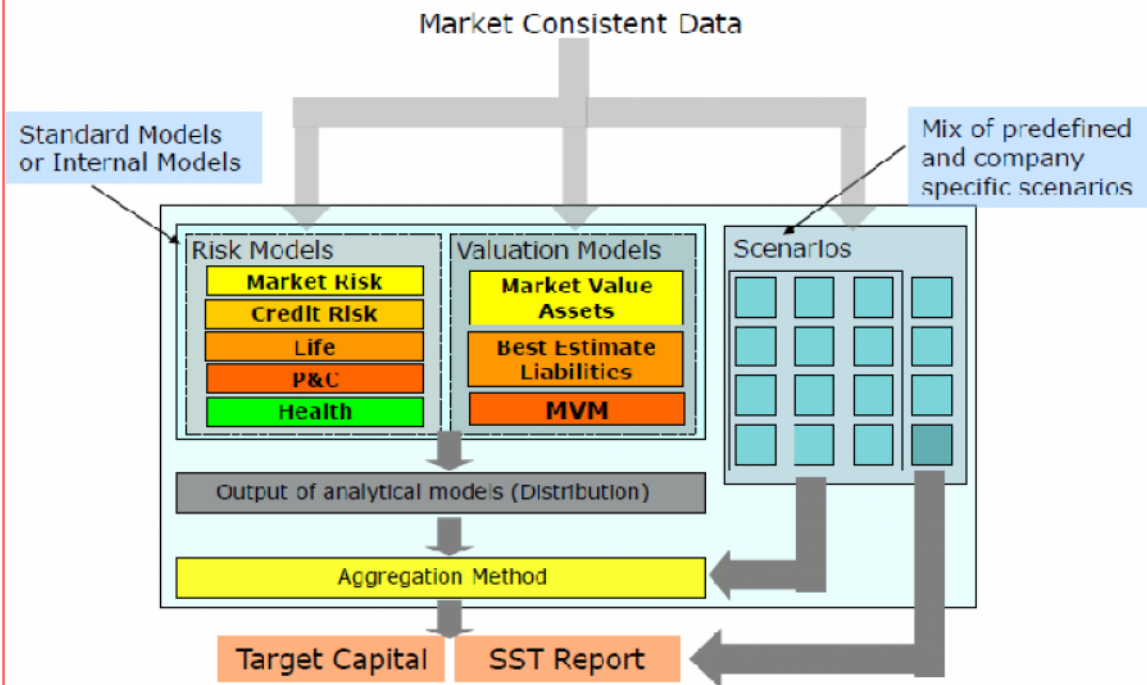


## The three pillars





# The Swiss Solvency Test: Standard Models





26. . , μ

μ μ μ μ μ

CEIOPS, μ . . μ -

Solvency II μ .

μ Lamfalussy<sup>27</sup> μ ,

Solvency II μ μ 2009

CEIOPS. , μ μ μ

Omnibus II Directive<sup>28</sup>, CEIOPS

μ μ 29.

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μ 2009. μμ CEIOPS,

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μ , project Solvency II.

μ μ CEIOPS μ

Solvency II. μ , . . CEIOPS μ μ

μ μ μ

μ . μ μ μ μ

μ . μ , CEIOPS μ -

μ μ μ QIS.

μ , μ stress tests. μ

μ , CEIOPS μ ,

<sup>26</sup> . [Solvency II - Framework for Consultation on Solvency II](#)

<sup>27</sup> . [eiopa - Lamfalussy process.pdf](#)

<sup>28</sup> . [Omnibus II Directive](#): Commission Solvency II. 2009/138/EC μ μ μ μ

<sup>29</sup> . Binding Technical Standards <http://www.modellingdesign.com/ceiops-eiopa-2011-work-programme/>

<sup>30</sup> μμ CEIOPS . 7, [SOLVENCY II – Medium – Term – Work - Plan](#)

















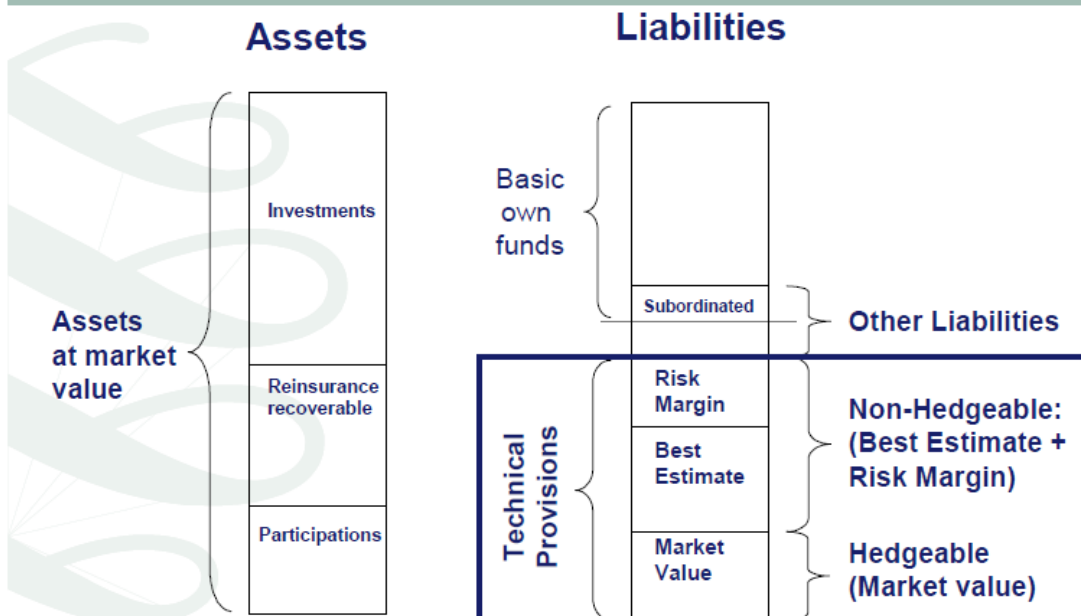
2011. stress test  
stress tests  
EIOPA.  
stress tests,  
EIOPA  
2010  
28





SOFEPA

## Solvency II Balance Sheet



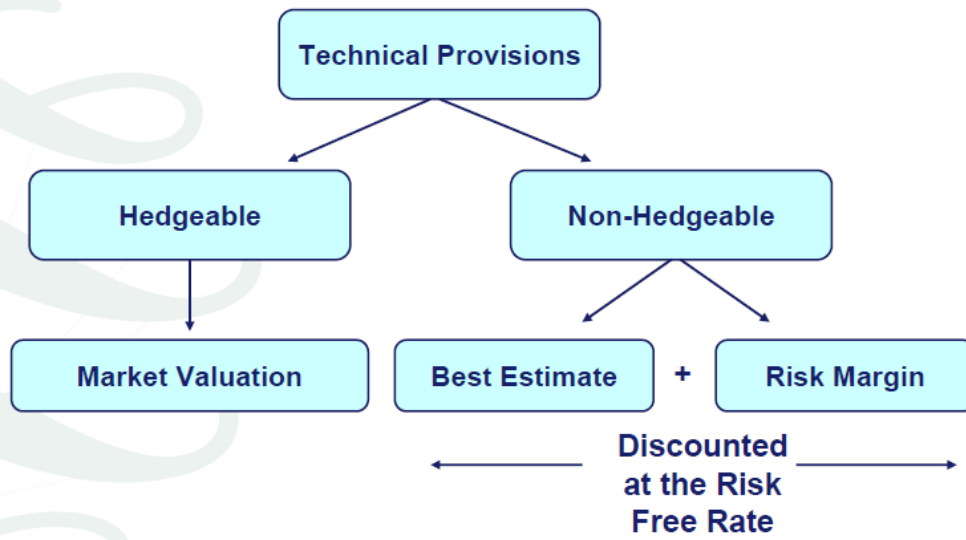








## Calculation of TP: Categorisation

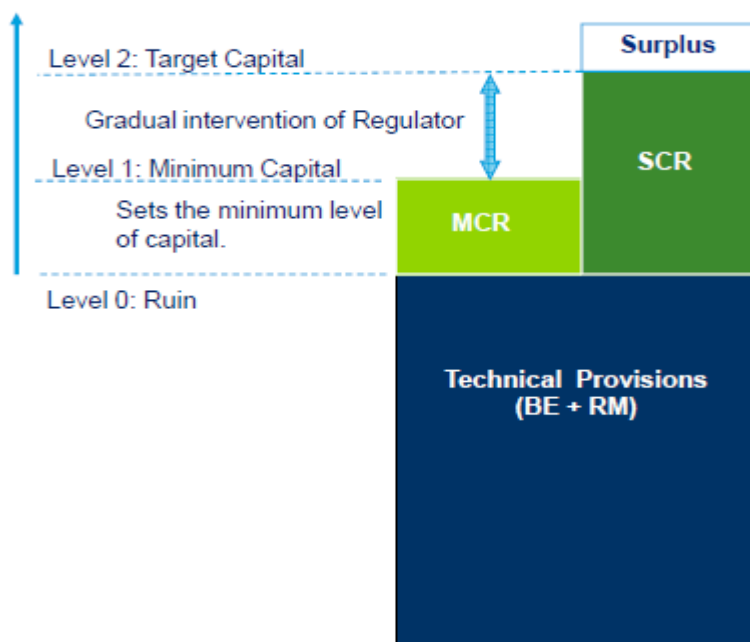


42

43

44

42  
43  
44

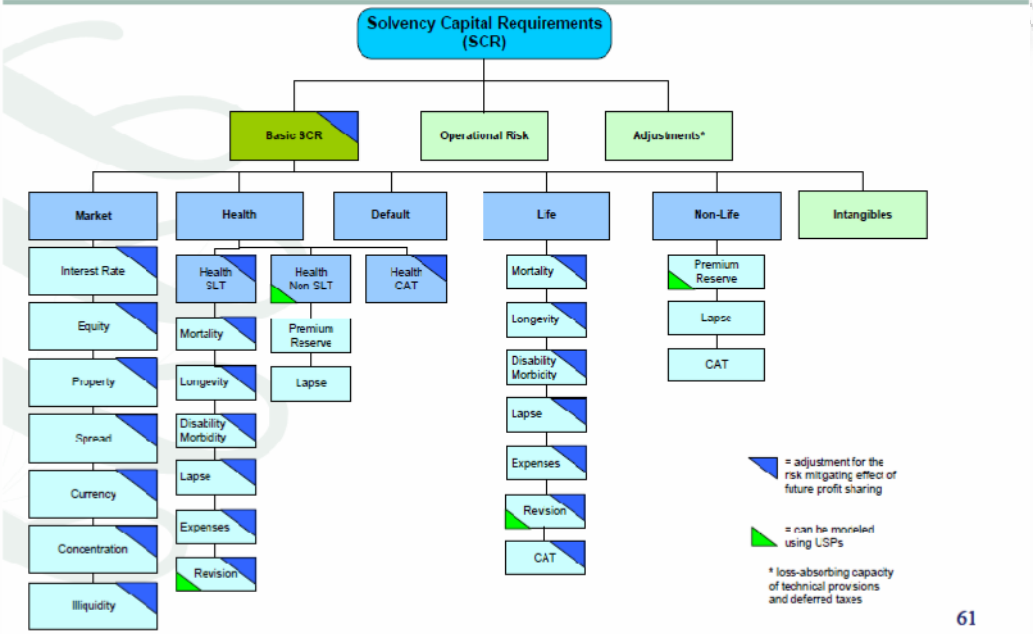








# SCR Standard Formula

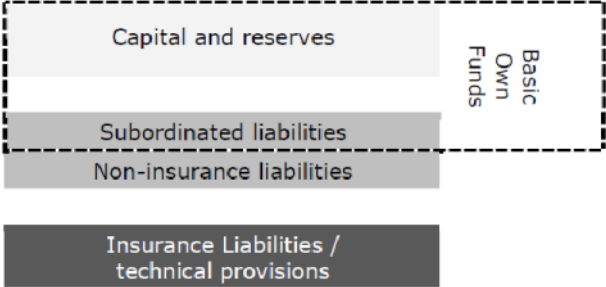


i \ j	Market	Default	Life	Health	Non-life
Market	1				
Default	0.25	1			
Life	0.25	0.25	1		
Health	0.25	0.25	0.25	1	
Non-life	0.25	0.5	0	0	1

FAKULTÄT FÜR WIRTSCHAFTSWISSENSCHAFTEN



Assets



Capital and reserves

Subordinated liabilities

Non-insurance liabilities

Insurance Liabilities /  
technical provisions

Basic  
Own  
Funds

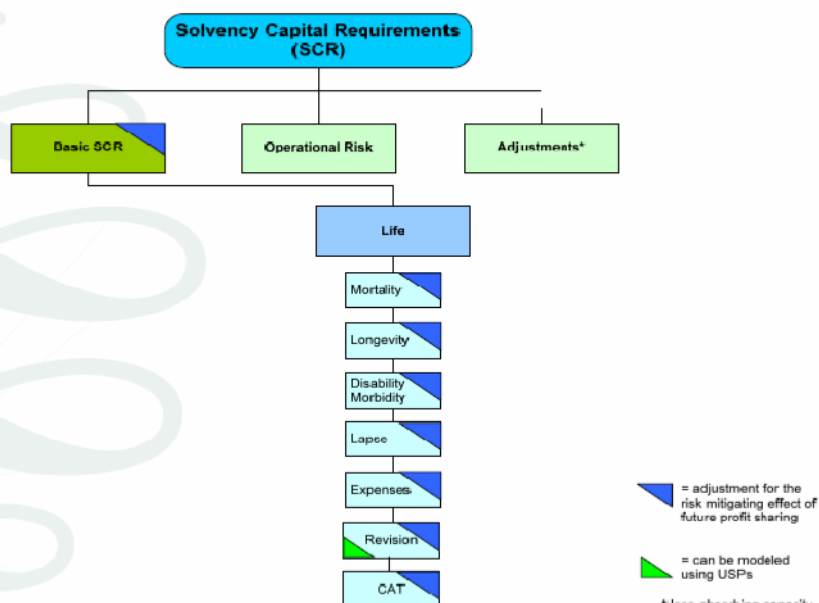
<b>Είδος</b> <b>Ποιότητα</b>	<b>Στοιχείο Ισολογισμού</b> <b>(βασικά ίδια κεφάλαια)</b>	<b>Στοιχείο εκτός</b> <b>ισολογισμού</b> <b>(επικουρικά κεφάλαια)</b>
<b>Υψηλή</b>	Tier 1	Tier 2
<b>Μέση</b>	Tier 2	Tier 3
<b>Χαμηλή</b>	Tier 3	–

ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΕΛΟΠΟΝΝΗΣΟΥ



FINANCIAL REPORTING

## Standard Formula – Life



\* Ins-absorbing capacity of technical provisions and deferred taxes.



$$SCR_{life} = \sqrt{\sum_{rxc} CorrLife_{r,e} \cdot Life_r \cdot Life_e}$$

	Mortality	Longevity	Disability	Lapse	Expense	Revision	Cat
Mortality	1						
Longevity	-0.25	1					
Disability	0.25	0	1				
Lapse	0	0.25	0	1			
Expense	0.25	0.25	0.5	0.5	1		
Revision	0	0.25	0	0	0.5	1	
Cat	0.25	0	0.25	0.25	0.25	0	1

Final  
QIS55: Cat  
back in

$$Life_{mort} = (\Delta NAV | mortshock)$$

$$Life_{long} = (\Delta NAV | longevityshock)$$

$$Life_{lapse} = \max(Lapse_{down}; Lapse_{up}; Lapse_{mass})$$

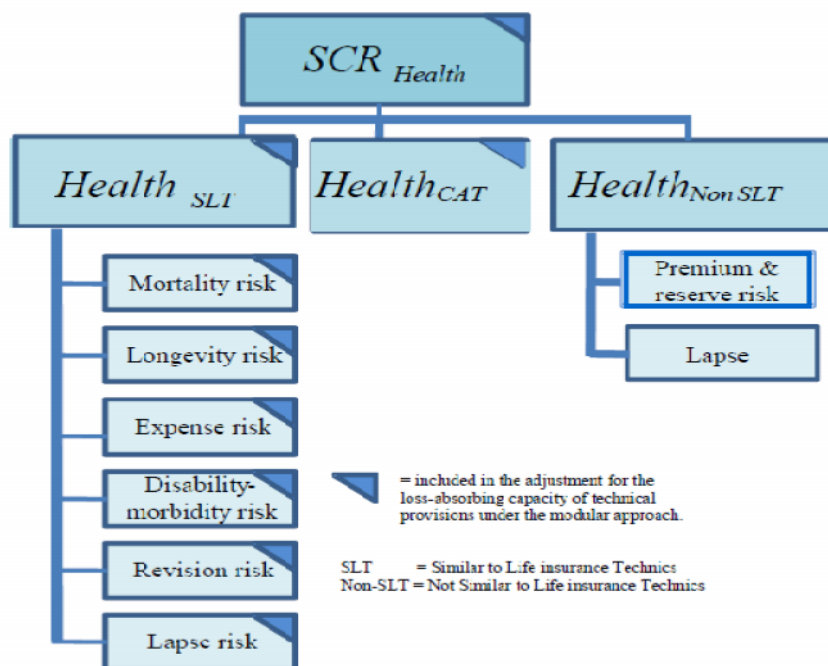
$$Life_{dis} = (\Delta NAV \mid disshock)$$

$$Life_{CAT} = \Delta NAV \mid life\ CAT\ shock$$

$$Life_{rev} = \Delta NAV | revshock$$

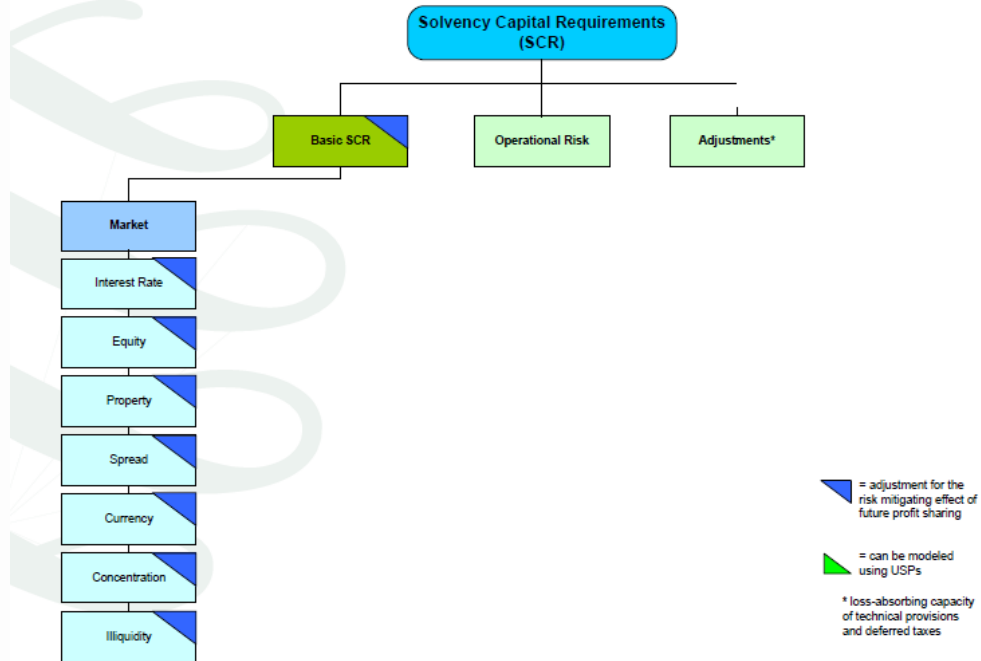
$$Life_{exp} = \Delta NAV | expshock$$

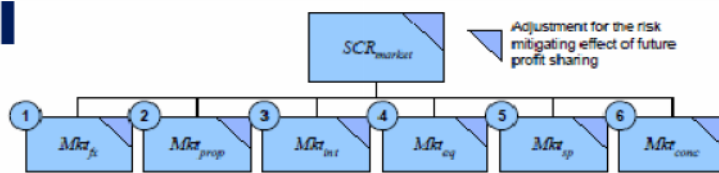
48





# Standard Formula – Market Risk





CorrMktUp	Interest	Equity	Property	Spread	Currency	Concentration
Interest	1					
Equity	0	1				
Property	0	0.75	1			
Spread	0	0.75	0.5	1		
Currency	0.25	0.25	0.25	0.25	1	
Concentration	0	0	0	0	0	1

CorrMktDown	Interest	Equity	Property	Spread	Currency	Concentration
Interest	1					
Equity	0.5	1				
Property	0.5	0.75	1			
Spread	0.5	0.75	0.5	1		
Currency	0.25	0.25	0.25	0.25	1	
Concentration	0	0	0	0	0	1

$$Mkt_{int}^{Up} = \Delta NAV|_{up}$$

$$Mkt_{int}^{Down} = \Delta NAV|_{down}$$

<i>CorrIndex</i>	<i>Global</i>	<i>Other</i>
<i>Global</i>	1	
<i>Other</i>	0.75	1

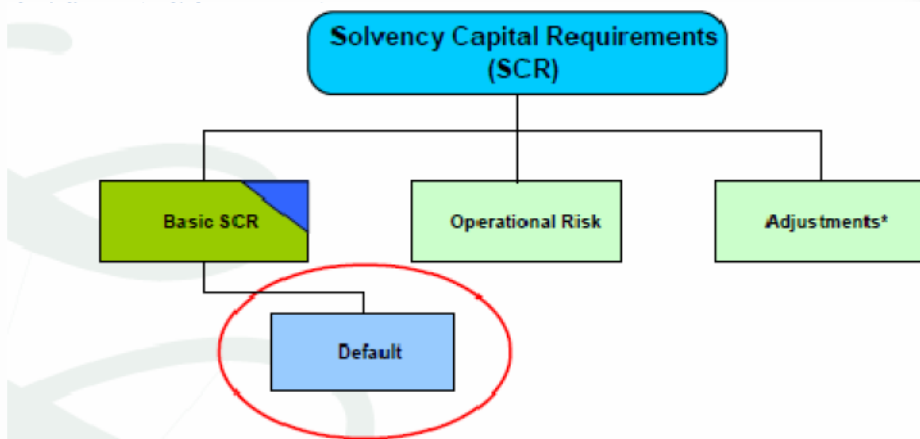
$$Mkt_{prop} = \max(\Delta NAV \mid \text{property shock}; 0)$$



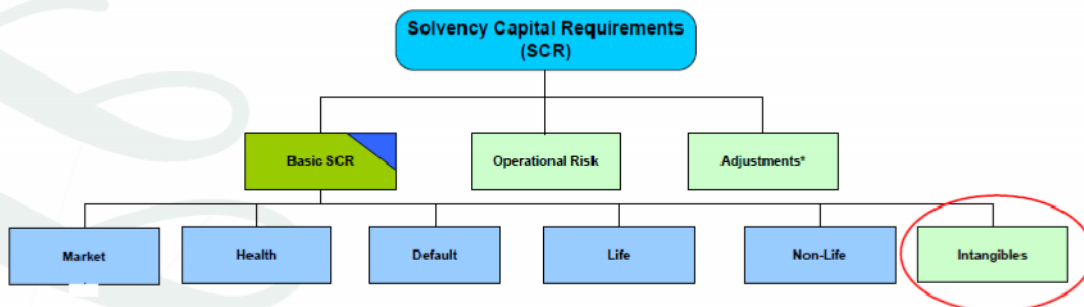
$$Mkt_{sp} = Mkt_{sp}^{bonds} + Mkt_{sp}^{struct} + Mkt_{sp}^{cd}$$

$$Mkt_{f,c}^{Up} = \max(\Delta NAV \mid f_{upward shock}; 0)$$

$$Mkt_{f,c}^{Down} = \max(\Delta NAV \mid f_{downward shock}; 0)$$



$$SCR_{def} = \sqrt{SCR_{def,1}^2 + 1.5 \cdot SCR_{def,1} \cdot SCR_{def,2} + SCR_{def,2}^2}$$



$$SCR_{intangible} = 0.8 \cdot LA$$

$$SCR_{Op} = \min(0.3 \cdot BSCR; Op) + 0.25 \cdot Exp_{ut}$$

$$Adj = Adj_{TP} + Adj_{DT}$$

$$Adj_{TP} = -\min(BSCR - nBSCR, FDB)$$

$$SCR_{shock} = BSCR + Adj_{TP} + SCR_{Op}$$

$$SCR_{shock} = BSCR + Adj_{ITP} + SCR_{Op}$$

### **Εποπτεία**

- Γενικοί κανόνες εποπτείας
- Εποπτικές εξουσίες
- Διαδικασία Εποπτικής Αξιολόγησης



### **Ποιοτικές Απαιτήσεις**

- Σύστημα διακυβέρνησης





## Γενικές Απαιτήσεις

Απαιτήσεις Ικανότητας και Ήθους (Fit&proper)

Διαχείριση Κινδύνων

Εσωτερικός Έλεγχος

Εσωτερικός Λογιστικός Έλεγχος

Αναλογιστική Λειτουργία

Εξαπορισμός Δραστηριοτήτων





μ , μ MCR.

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μ μ  
ORSA.

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46 μ μ . μ  
, μ μ μ  
μμ μ μ  
μ μ μ

47  
μ μ μ  
μ μ μ , μ ,  
μ μ μ . μ  
μ μ μ μ μ  
μ SCR MCR, μ μ  
μ .

4.3

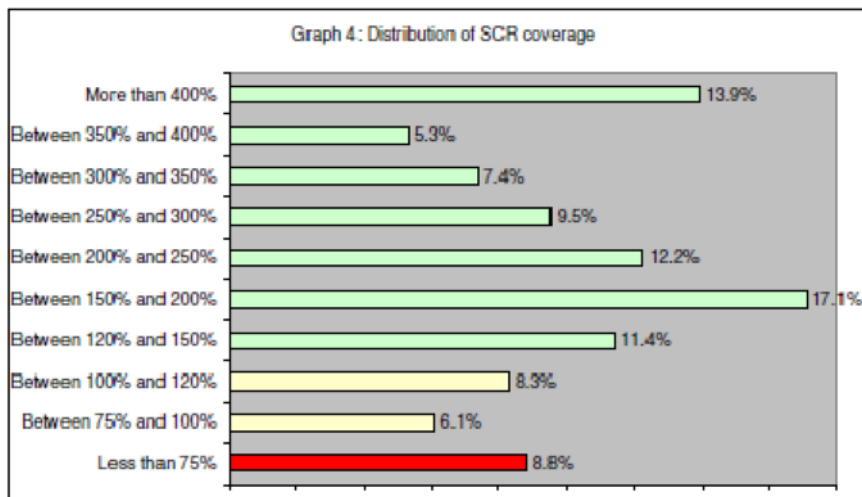
Solvency II μ

54	49	Solvency II
55	51	Solvency II





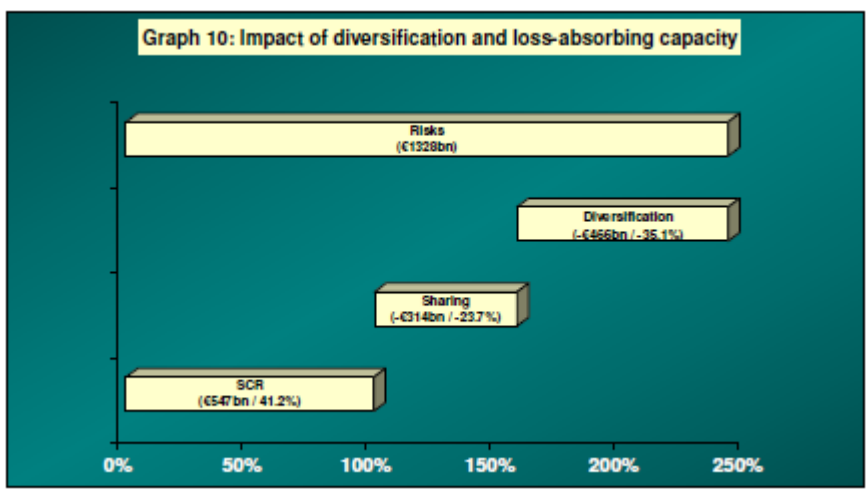








TEPAA



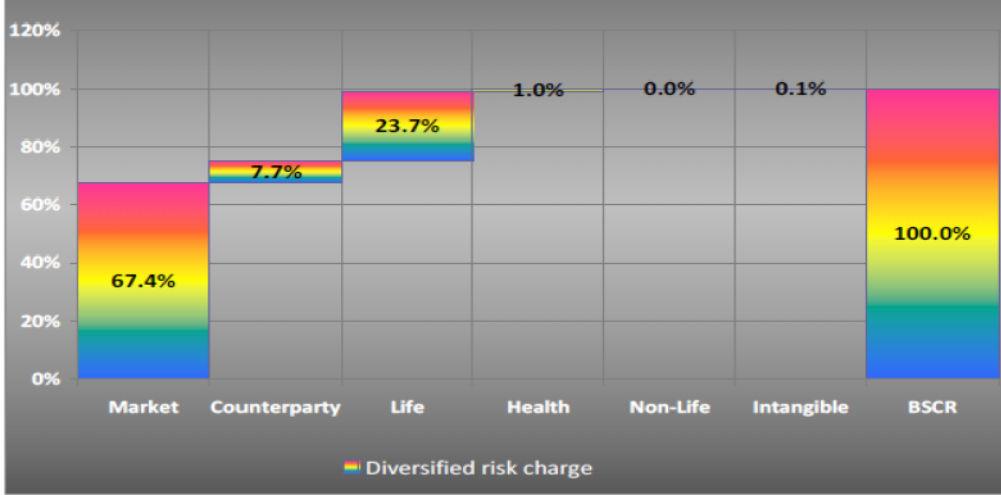
FRAME

Solvency II  
 1.4%  
 3%  
 1%  
 15%  
 SCR.  
 100%, 75%, 50%.  
 75% 50%  
 60  
 SCR 42%

<sup>60</sup> (EUROPEAN COMMISSION, 2010, p. 60) T.P.5.40

μ  
 μ μ  
 μ μ μ  
 μ μ μ μ μ μ  
 Solvency II, μ μ μ μ μ μ  
 μ IFRS. , μ μ μ μ μ μ  
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 , μ μ μ μ μ μ  
 μ . μ μ μ μ μ μ  
 921 . € 92%  
 82% μ μ μ μ μ μ  
 μ μ μ μ μ μ μ μ  
 μ μ μ μ μ μ μ μ  
 SCR μ μ μ μ μ μ  
 μ 68%. μ μ μ μ μ μ  
 SCR, 2/3 SCR, μ μ μ μ μ μ  
 μ QIS 5: 8.5%, μ 6.3%,  
 4%, 1.9%, μ 1.9% 1.1%.  
 μ μ μ μ μ μ  
 BSCR :

Graph 35: Diversified BSCR - Life undertakings (solo)



PAMETZAMO

ring fenced funds<sup>62</sup>,

57%

SCR.

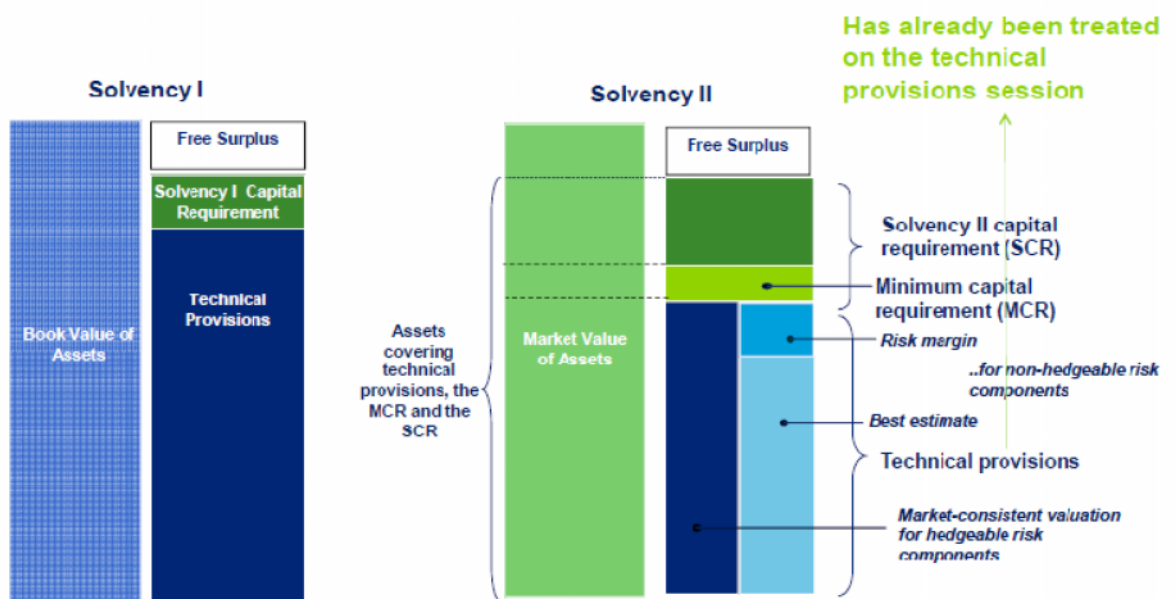
80

17.3

<sup>62</sup> Ring-fenced funds (KPMG, 2011, p. 25)

# РАНЕЕЗНАМО ТЕРРА

EPAA

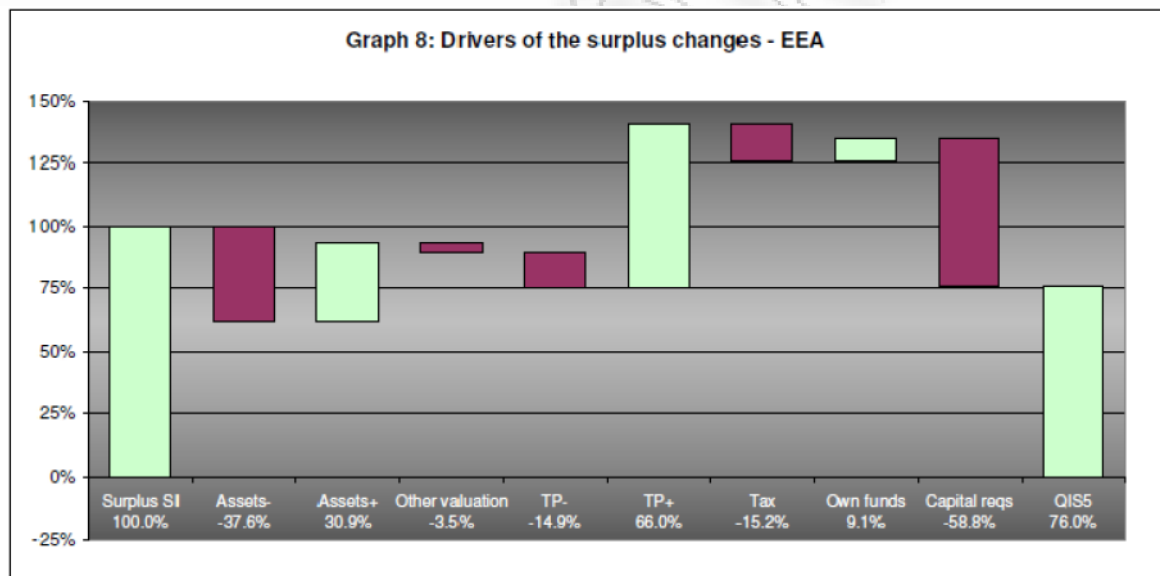


PAWEL

## Surplus SI and SII



Source: EIOPA Report, graph number 3





Liabilities & OF	Current Balance sheet	SII balance sheet	
<b>Total liabilities</b>	<b>6,714</b>	<b>6,491</b>	<b>-223 (-3,3%)</b>
Non-Life TP	8.9%	6.7%	
Health TP	4.2%	4.0%	
Life TP	46.5%	45.9%	
Unit-Linked TP	20.6%	20.7%	
Risk Margin	0.0%	1.9%	
Short term liabilities	3.2%	3.0%	
Deferred tax liabilities	0.2%	1.3%	
Others	3.9%	3.8%	
<b>Basic Own Funds</b>	<b>743</b>	<b>941</b>	<b>+198 (+27%)</b>

Assets	Current Balance sheet	SII balance sheet	
<b>Total assets</b>	<b>7,457</b>	<b>7,432</b>	<b>-24 (-0,3%)</b>
Unit linked	19.1%	20.0%	
Corporate bonds	22.5%	22.7%	
Sovereigns	19.0%	20.4%	
Equity	10.3%	10.8%	
Mortgage	4.1%	4.0%	
Property	2.1%	2.8%	
Cash	3.6%	3.8%	
Reinsurance	6.6%	5.9%	
Investment funds	6.0%	3.7%	
Deferred tax assets	0.2%	0.3%	
Goodwill	0.1%	0%	
Other	6.4%	5.7%	

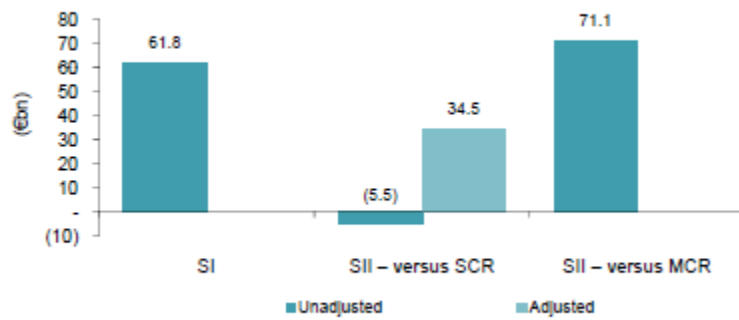
Figure 3: Capital requirements under Solvency I and Solvency II compared



Figure 5: Comparison in % of solvency ratios

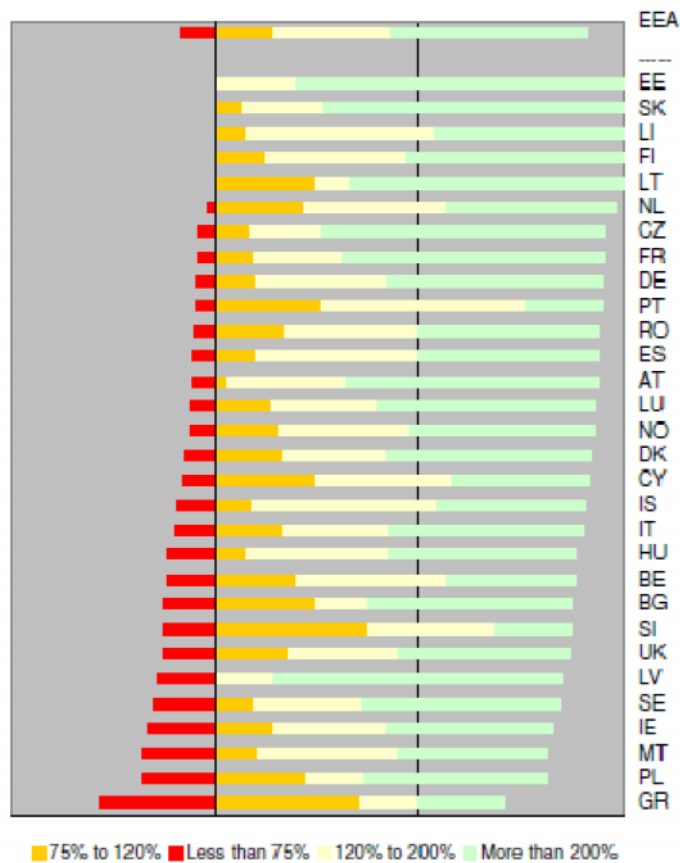


### UK aggregate surplus (EIOPA)



Source: EIOPA Report, table 7

Graph 5: Distribution of SCR coverage by country



РАНЕЕ НЕ ПЕРПА





μ , ,  
μ μ μ  
μ μ μ μ μ  
μ μ μ . μ

ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΕΡΔΙΑ

# РАНЕЕЗНАМО ПЕРПАА



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# РАНЕЕЗНАМО ТЕРПАА