

aktuariat-witzel

Results of the QIS5 Report Short Version

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Results of the QIS5 Report

- On 5 July 2010 the European Commission published the QIS5 Technical Specifications
- The calculations were done in the second half of the year 2010
- The reporting date to be used by all participants should be end December 2009
- On 14 March 2011 the European Insurance and Occupational Pensions Authority (EIOPA) published the Report on the fifth Quantitative Impact Study (QIS5) for Solvency II
- This presentation summarizes the main results of this report in a short version

Results of the QIS5 Report

Content

- 1. Introduction**
2. Overall Financial Impact
3. Valuation of Assets and other Liabilities
4. Technical Provisions
5. SCR Standard Formula

Results of the QIS5 Report

1. Introduction

1.3. Objectives

- The results of QIS5 are intended to be of use in the European Commission's development of level 2 implementing measures.
- To try to ensure that the results provided a representative view, the target participation rates were significantly increased from previous QIS exercises.
- There was a particular emphasis on increasing participation among small and medium-sized (re)insurance undertakings.
- QIS5 aimed to obtain detailed information on the quantitative impact of the proposals on insurers' and reinsurers' solvency balance sheets and also to check that the proposals were aligned with the principles and calibration targets set out in the Solvency II Framework Directive.

Results of the QIS5 Report

1. Introduction

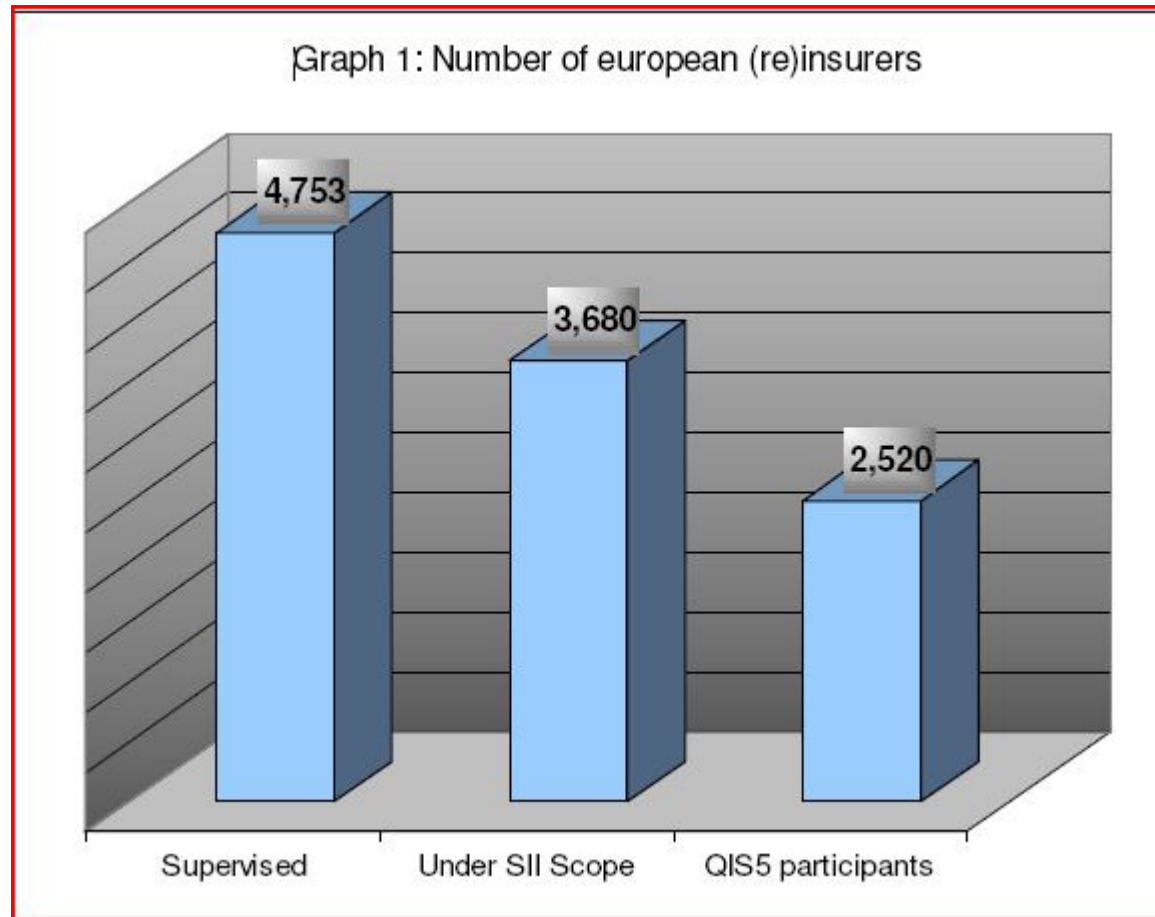
1.3. Objectives

- It was also the intention to encourage undertakings and supervisors to prepare for the introduction of Solvency II and identify areas where further preparatory work may be required, and to provide a starting point for ongoing dialogue between supervisors and the industry as we move towards Solvency II implementation.
- Finally, it would also allow EIOPA to assess the feasibility and complexity of the proposals.

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1. Introduction

1.4. Participation



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2. Overall Financial Impact

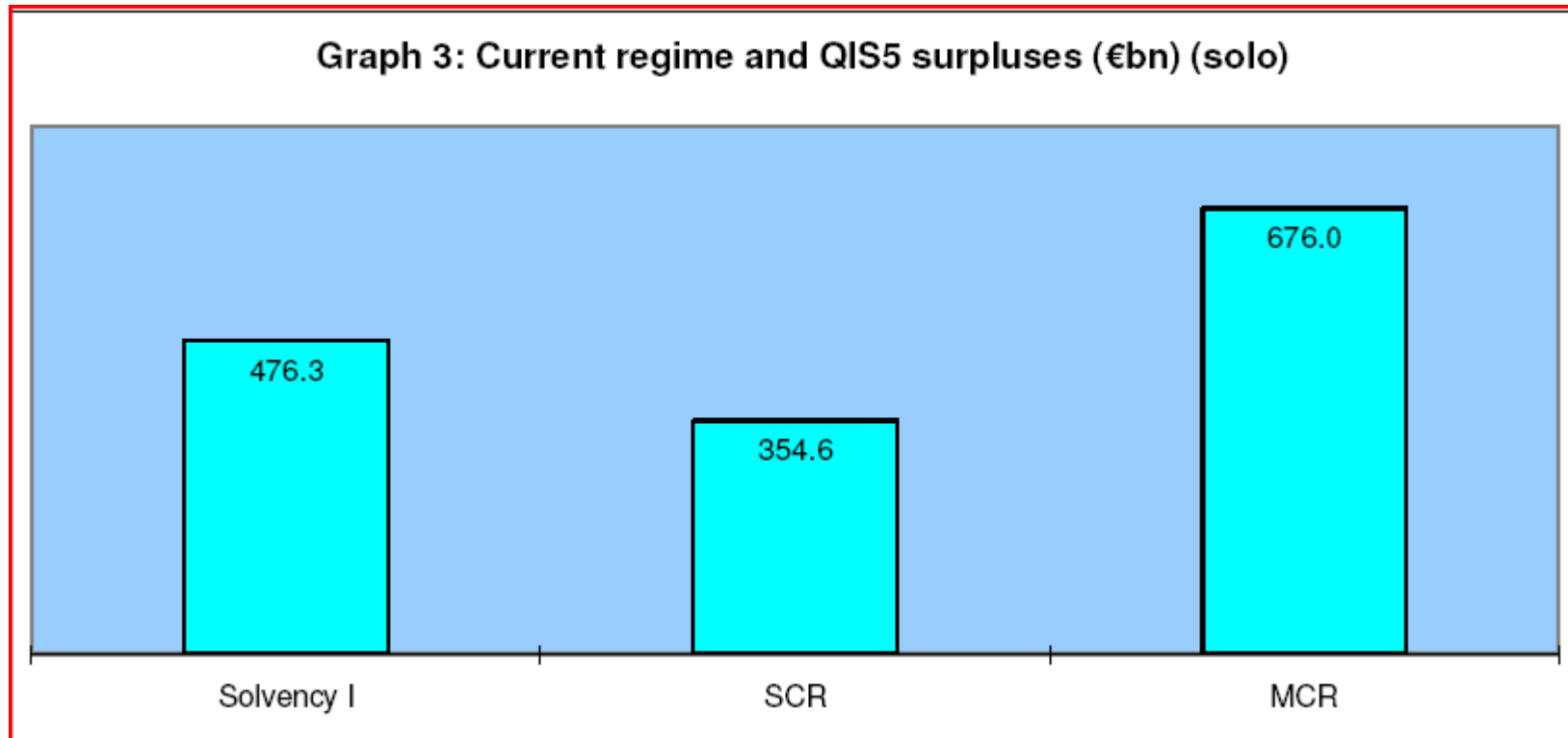
2.1. Overall Surplus

- The **financial position of the European insurance sector remains comfortable** assessed against the standard formula SCR calculated according to the QIS5 specifications, with the eligible amount of own funds to cover the SCR/MCR exceeding the regulatory requirements by around €360bn.
- This surplus has decreased by c. €120bn compared to the current regime.
- At the same time, the margin before the MCR, the point of mandatory supervisory intervention, has increased by €200bn.

Results of the QIS5 Report

2. Overall Financial Impact

2.1. Overall Surplus



Results of the QIS5 Report

2. Overall Financial Impact

2.1. Overall Surplus

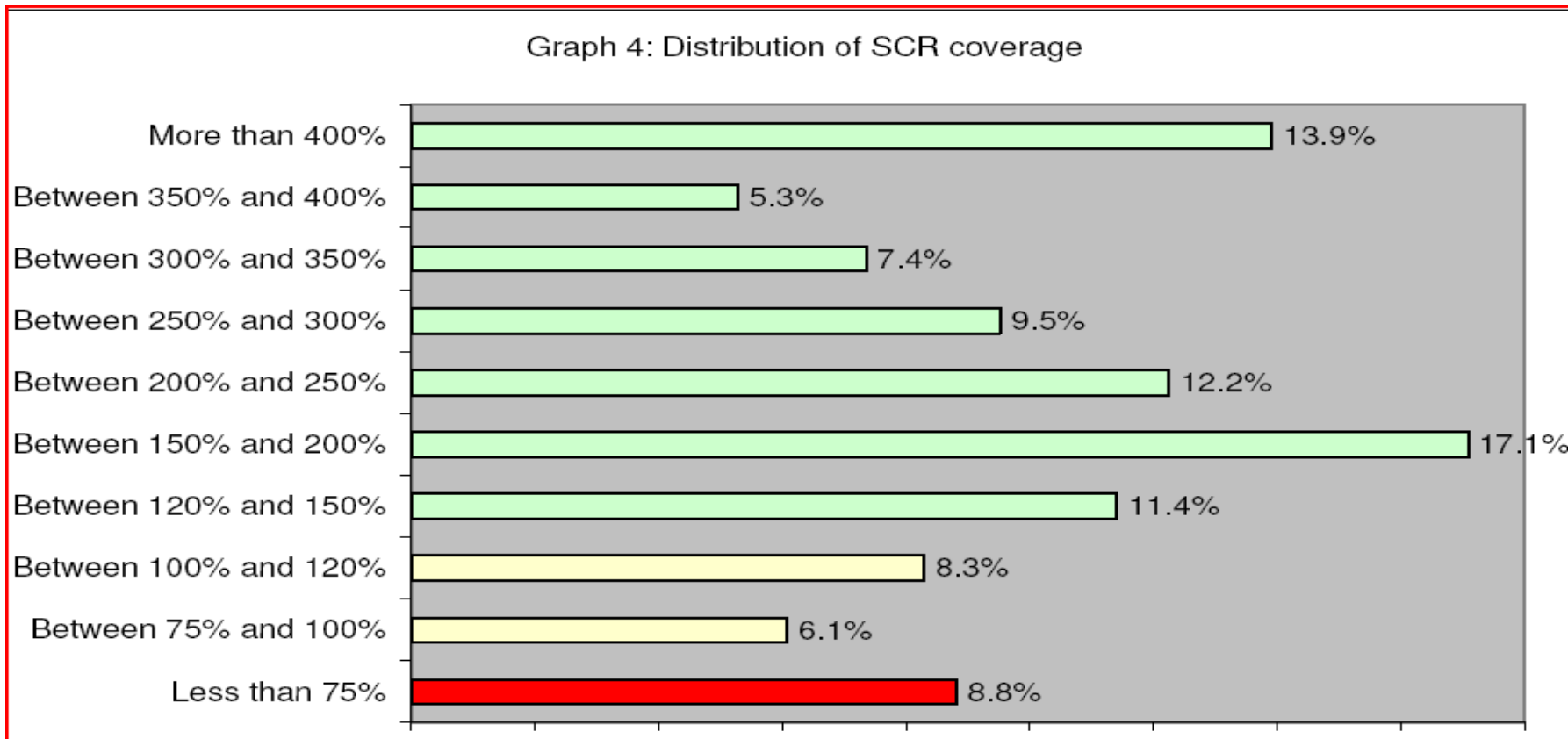
Table 6: Capital requirements and surplus

	Current regime	Solvency II	
		SCR	MCR
Solvency ratio	310%	165%	466%
Surplus	476	355	676
Requirements	Require	227	547
Own funds	Eligible	703	902

Results of the QIS5 Report

2. Overall Financial Impact

2.1. Overall Surplus



Results of the QIS5 Report

2. Overall Financial Impact

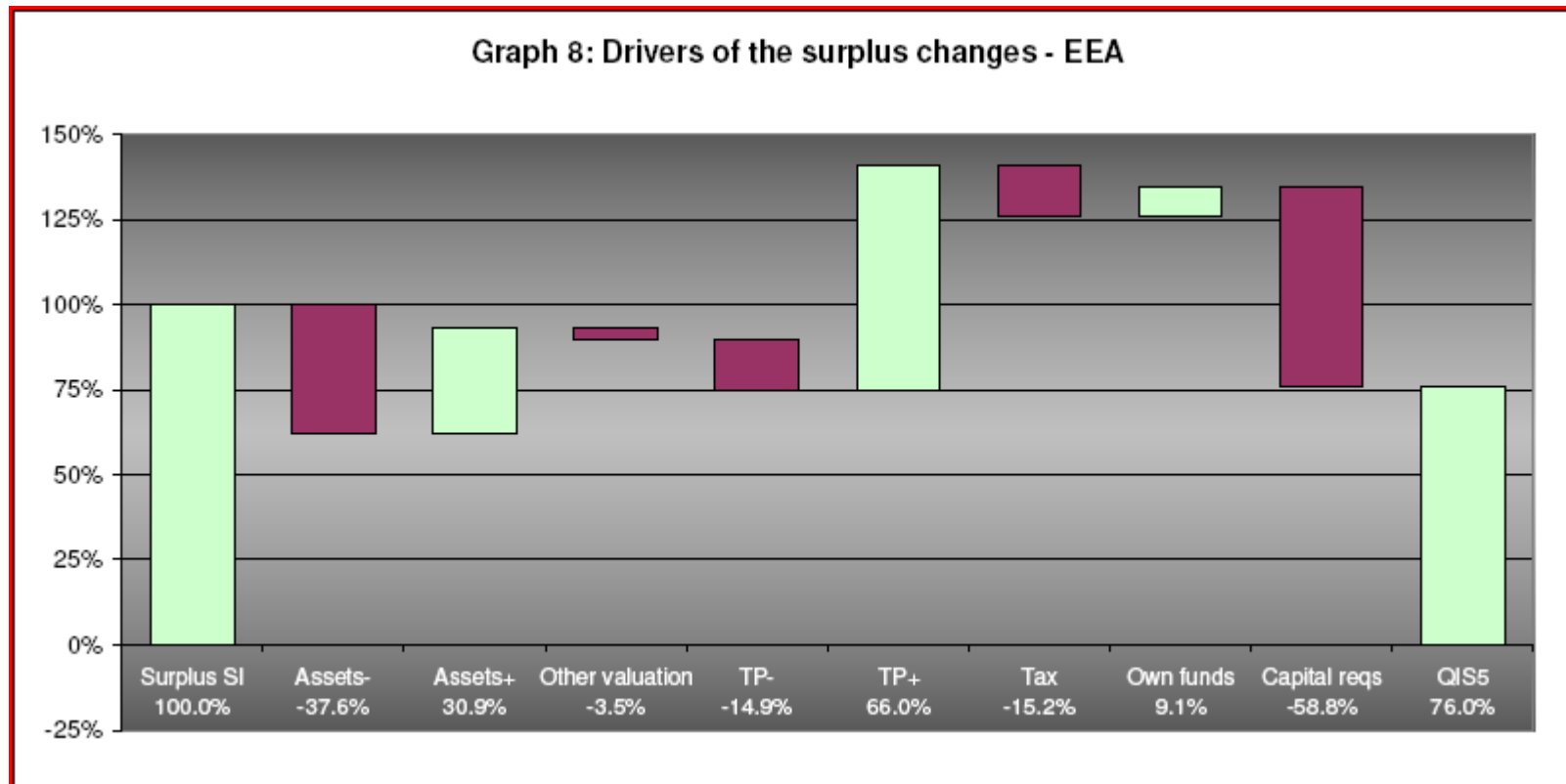
2.3. The main drivers of the surplus changes

- **Three main drivers** explain the changes in the surplus from the current regime to the Solvency II framework:
 - the shift from the current balance sheet to the harmonized **Solvency II balance sheet**;
 - the shift from the current requirements to the harmonized **Solvency II capital requirements**; and
 - the differences in the **own funds elements allowed to cover the requirements**.
- The following graph shows the respective influence of these items, splitting the valuation impacts into positive and negative effects.
- As this revaluation changes the amount of own funds compared to the current situation, it also creates deferred tax assets or liabilities.

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2. Overall Financial Impact

2.3. The main drivers of the surplus changes



Results of the QIS5 Report

2. Overall Financial Impact

2.4. Impact of diversification

- To calculate the Solvency II capital requirement, which is defined at the overall SCR level, the standard formula applies a **modular bottom-up approach** in which each of the underlying risk drivers is modeled using the same calibration as that set by the directive for the overall result.
- For QIS5, the sum of the **individual risks modeled totaled more than €1300bn.**
- To acknowledge the fact that the individual risks are not all expected to materialize at the same time (e.g. a shock on financial markets and a loss on underwriting risks would not necessarily crystallize at the same time), the standard formula recognizes the benefits of risk **diversification through the use of linear correlation techniques.**

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2. Overall Financial Impact

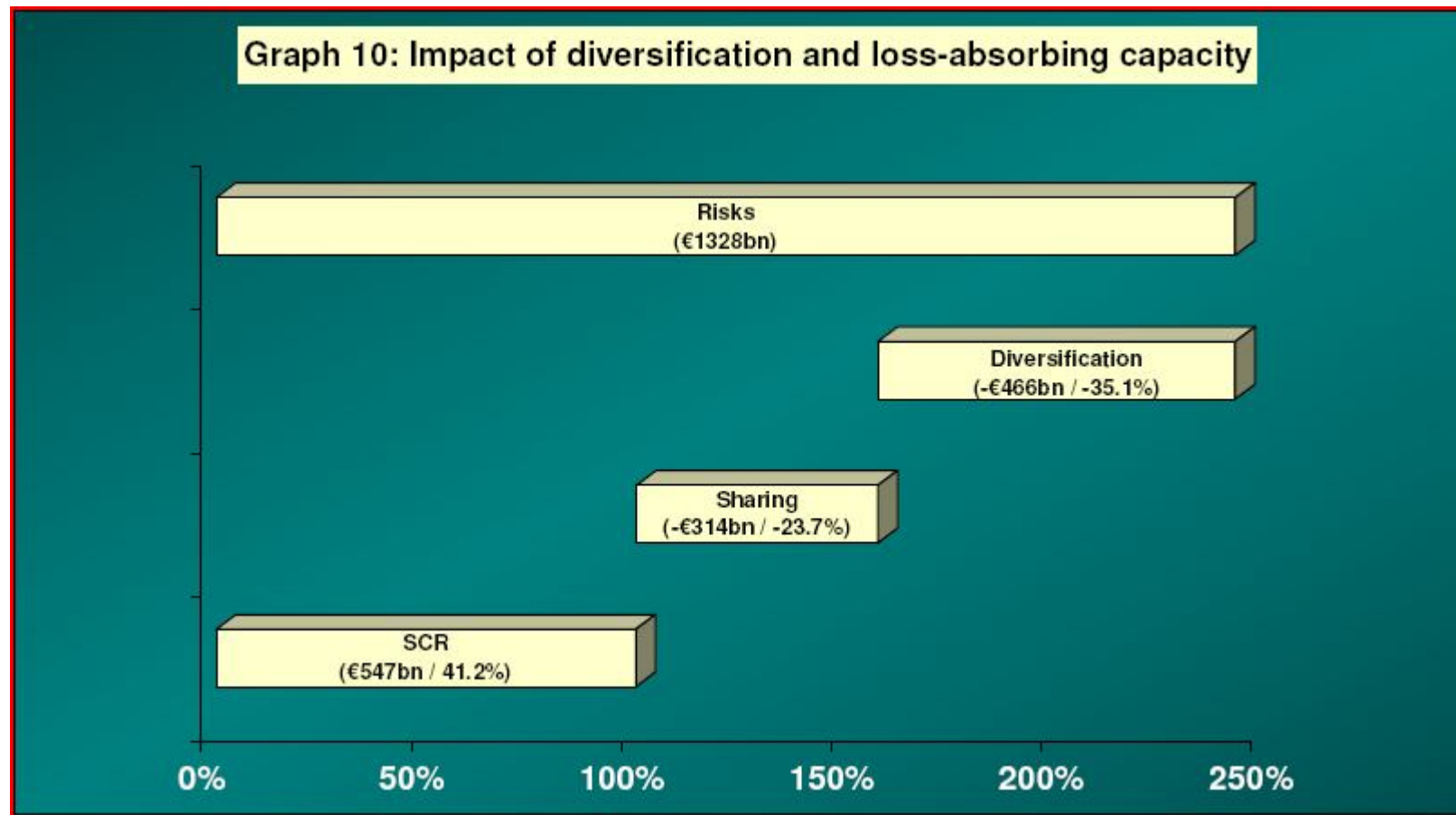
2.4. Impact of diversification

- For QIS5, these **diversification benefits** amounted to a **€466bn** reduction in the total risk charge at solo level.
- The last stage in the derivation of the SCR recognizes that if **risks** were to materialize, part of their cost might be **transferred onto policyholders** (e.g. through a **reduction in the bonuses** attributed to policies with profit participation), **and** part of the remaining cost might result in a **reduction in the future taxes** expected to be paid to tax authorities.
- For QIS5, the expected sharing of the cost of risk crystallization with **policyholders and tax authorities** resulted in a **€314bn reduction** in the own funds needed.

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2. Overall Financial Impact

2.4. Impact of diversification



Results of the QIS5 Report

2. Overall Financial Impact

2.4. Impact of diversification

- Overall, the **final SCR of €547bn is a little above 41% of the sum of individual risks modeled.**
- Using this overall risk reduction as a basis for calculating the reduction in individual risks gives a rough idea of the average real risk charges.
- Using this simple approach would for example show that while the initial **risk loading for listed equity in QIS5 was 30% of the equity exposure, the final risk capital required was on average equivalent to a 12.4% capital charge.**

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3. Valuation of Assets and other Liabilities

3. Valuation of Assets and other Liabilities

- Outlined below is the composition of the **balance sheet**, for **solo undertakings** under the **current accounting regime** and the **valuation principles of QIS5**.

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3. Valuation of Assets and other Liabilities

- The current balance sheet (solo)**

Graph 14: The current balance sheet (solo)		
Total assets	+	7,456.60
<i>(structure in % of total assets)</i>		
		19.10% Unit linked
		22.50% Corp bonds
		19.00% Sovereign
		10.30% Equity
		4.10% Mortgage
		2.10% Property
		3.60% Cash
		6.60% Reinsurance
		6.00% Investment funds
		0.20% Deferred tax assets
		0.10% Goodwill
		6.40% Other

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3. Valuation of Assets and other Liabilities

- The current balance sheet (solo)**

Total liabilities	-	-6,713.90	
			-9.10% Non-Life TP
			-4.30% Health TP
			-47.90% Life TP
			-21.20% Unit-linked TP
			0.00% Risk margin
			-3.30% Short term liabilities
			-0.20% Deferred tax liabilities
			-4.00% Others
Basic own funds		742.7	10.00%
			2.10% Shares and equivalent
			1.70% Share premium account
			3.10% Retained earnings
			1.70% Other reserves
			0.60% Subordinated liabilities
			0.80% Others

Results of the QIS5 Report

3. Valuation of Assets and other Liabilities

- The QIS5 balance sheet (solo)**

Graph 15: The QIS5 balance sheet (solo)		
Total assets	+	7,432.4
<i>(structure in % of total assets)</i>		
		20.0% Unit linked
		22.7% Corp bonds
		20.4% Sovereign
		10.8% Equity
		4.0% Mortgage
		2.8% Property
		3.8% Cash
		5.9% Reinsurance
		3.7% Investment funds
		0.3% Deferred tax assets
		5.7% Other

Results of the QIS5 Report

3. Valuation of Assets and other Liabilities

- The QIS5 balance sheet (solo)**

Total liabilities	-	-6,491.2	
			-6.7% <i>Non-Life TP</i>
			-4.0% <i>Health TP</i>
			-45.9% <i>Life TP</i>
			-20.7% <i>Unit-linked TP</i>
			-1.9% <i>Risk margin</i>
			-3.0% <i>Short term liabilities</i>
			-1.3% <i>Deferred tax liabilities</i>
			-3.8% <i>Others</i>
Basic own funds		941.1	12.7%
			1.9% <i>Shares and equivalent</i>
			1.7% <i>Share premium account</i>
			3.2% <i>Retained earnings</i>
			-0.4% <i>Asset adjustments</i>
			2.1% <i>Liabilities adjustment</i>
			1.1% <i>EPIFP</i>
			1.5% <i>Other reserves</i>
			0.7% <i>Subordinated liabilities</i>
			0.8% <i>Others</i>
Ancillary own funds	+	11.9	0.2%

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Results of the QIS5 Report

4. Technical Provisions

4.1. Comparison with current regime

- Overall gross technical provisions for all lines of business decreased by 1.4% from Solvency I to QIS5.
- The **main differences** between **technical provisions** under the **QIS5 and Solvency I methodologies** can be explained by the following:
 - the use of a new **discounting model** including the use of an **illiquidity premium**;
 - the absence of any **surrender floor**;
 - the **recognition of future premiums and charges**; and
 - the use of **realistic assumptions in the best estimate calculation** (i.e. no implicit prudence margin, although this is partly offset by the inclusion of an explicit risk margin in addition to the best estimate).

Results of the QIS5 Report

4. Technical Provisions

4.1. Comparison with current regime

- In the valuation of **QIS5 liabilities, management actions and policyholders' behavior**, such as lapses, renewals and surrenders, were taken into account.

Results of the QIS5 Report

4. Technical Provisions

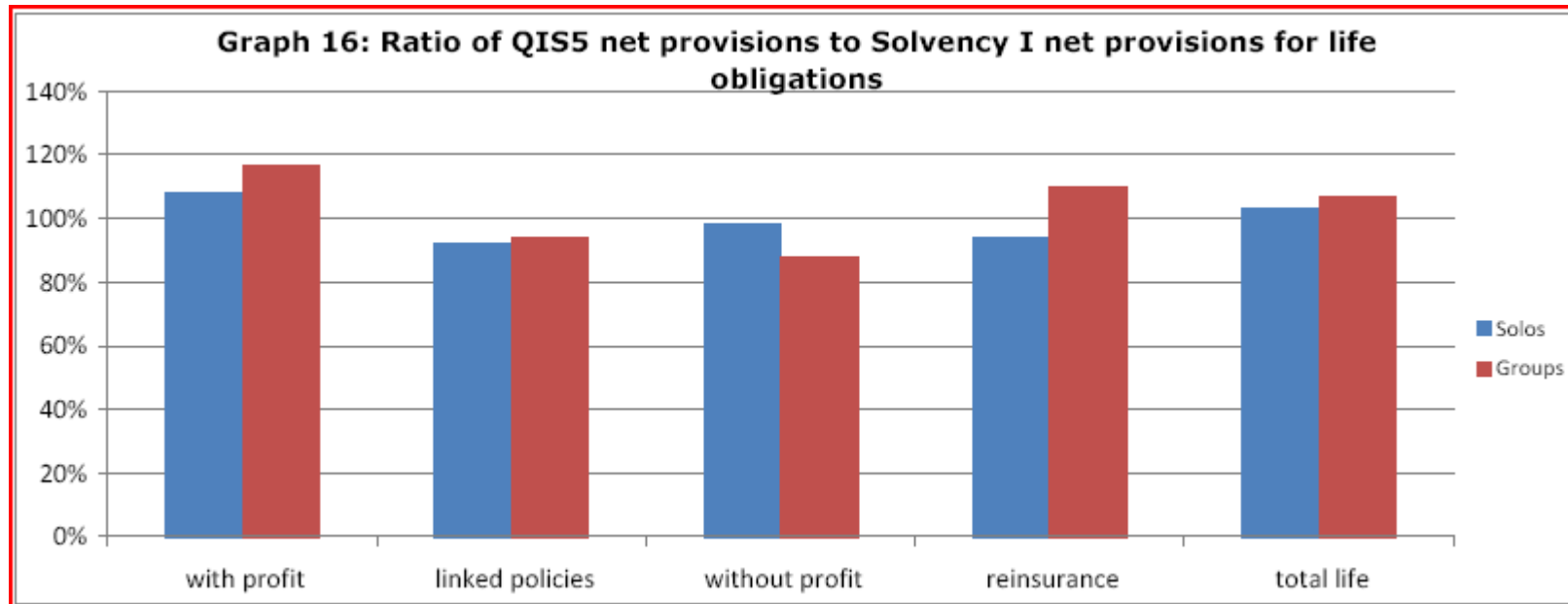
4.1. Comparison with current regime

- **For life insurance business net technical provisions in QIS5 increased in comparison with Solvency I.**
- This was mainly caused by the **decrease in reinsurance recoverables**, as gross technical provisions in fact showed a slight decrease of 1.0%.
- The graph below shows a comparison of life net provisions for all QIS5 participants under QIS5 and Solvency I.
- We note that total net provisions are greater under QIS5 than under Solvency I and that this is an increase of around 3% (for solo undertakings).
- Net provisions for with profit business increased by 8% under the new regime.

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4. Technical Provisions

4.1. Comparison with current regime



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4. Technical Provisions

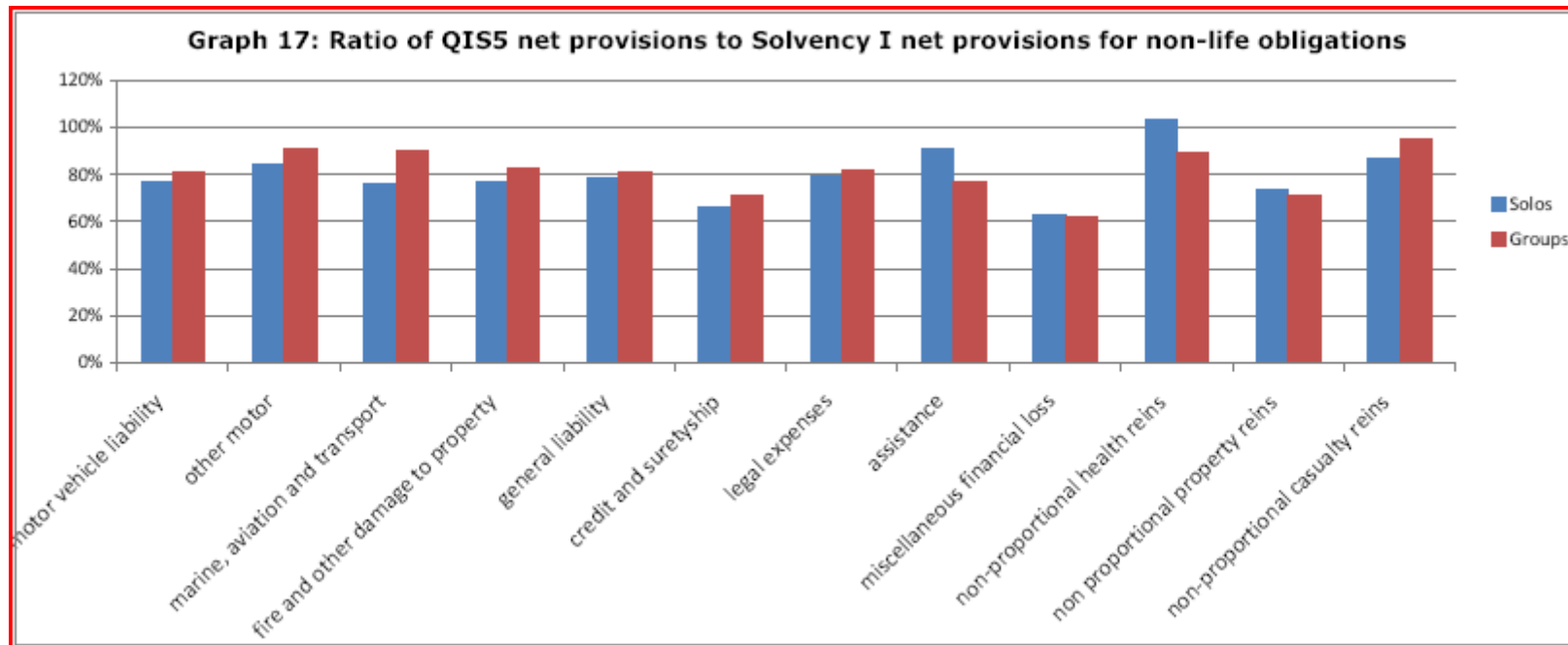
4.1. Comparison with current regime

- For most non-life lines of business net provisions have decreased from Solvency I to QIS5; gross provisions for non-life decreased by 24.9%.
- Please note that **equalization reserves can no longer be included in the technical provisions.**
- The decrease between Solvency I and QIS5 for non-life business is mainly due to the **discounting of future cash flows, and the exclusion of the implicit safety margin included in technical provisions** through prudent and cautious assumptions, partially offset by the inclusion of an explicit risk margin.
- The observed changes could also be partially due to different segmentations between the two regimes.

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4. Technical Provisions

4.1. Comparison with current regime



Results of the QIS5 Report

4. Technical Provisions

4.2. Discount rate and illiquidity premium

General comment

- The **effect of the introduction of the illiquidity premium** in the valuation of technical provisions in QIS5 can be estimated as being almost **1% of the value of technical provisions (which represents around 15% of SCR)**.

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4. Technical Provisions

4.2. Discount rate and illiquidity premium

The 50% Bucket

- The most common products where **50% of the illiquidity premium** was used were **nonlife in general, unit- and index-linked business, life without profit participation, SLT (Similar to Life Techniques) health, non-SLT health and reinsurance** (both life and non-life).
- The 50% bucket has a share of round about 35%.

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4. Technical Provisions

4.2. Discount rate and illiquidity premium

The 75% Bucket

- The most common products where **75% of the illiquidity premium** was used were **life insurance with profit participation in general, pure savings products, unit- and index-linked insurance with guarantees, and various types of annuities.**
- The 75% bucket has a share of round about 55%

The 100% Bucket

- The most common products where **100% of the illiquidity premium** was used were **different types of annuities (including annuities from non-life).**
- The 100% bucket has a share of only round about 8%.

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4. Technical Provisions

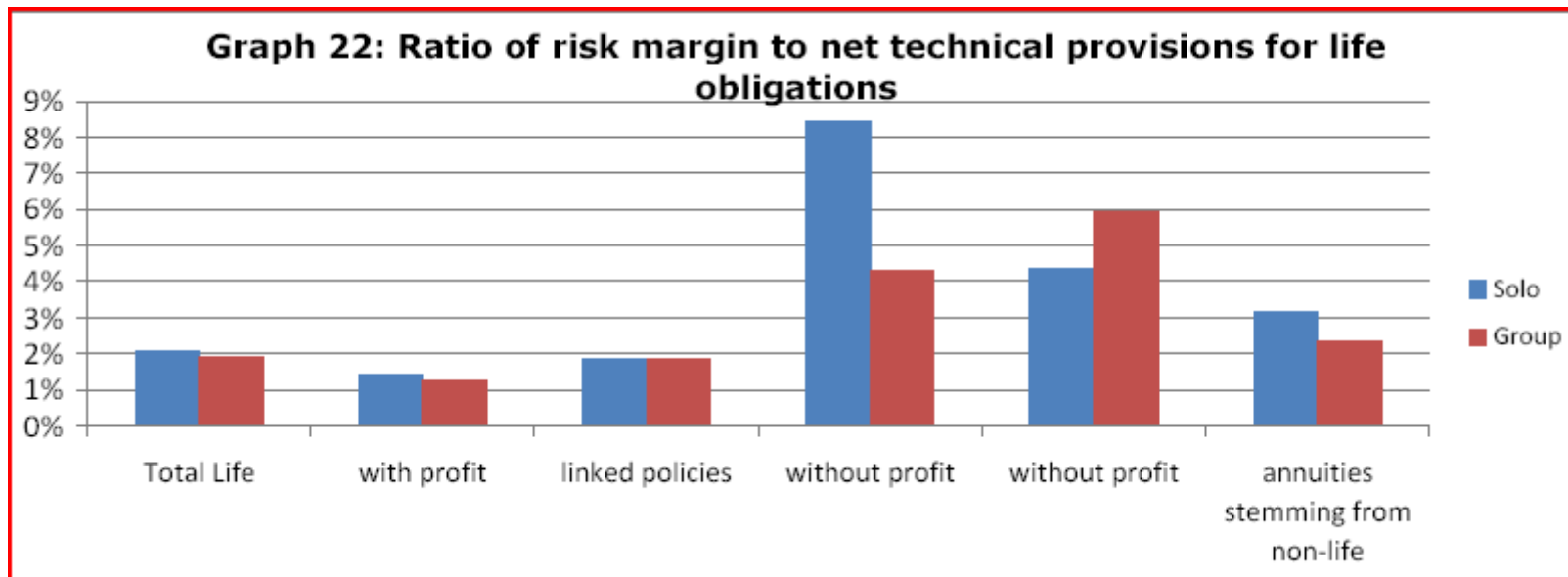
4.3. Risk margin

- The two following graphs show for EEA solo undertakings the ratio of the risk margin to net technical provisions for life and non-life obligations

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4. Technical Provisions

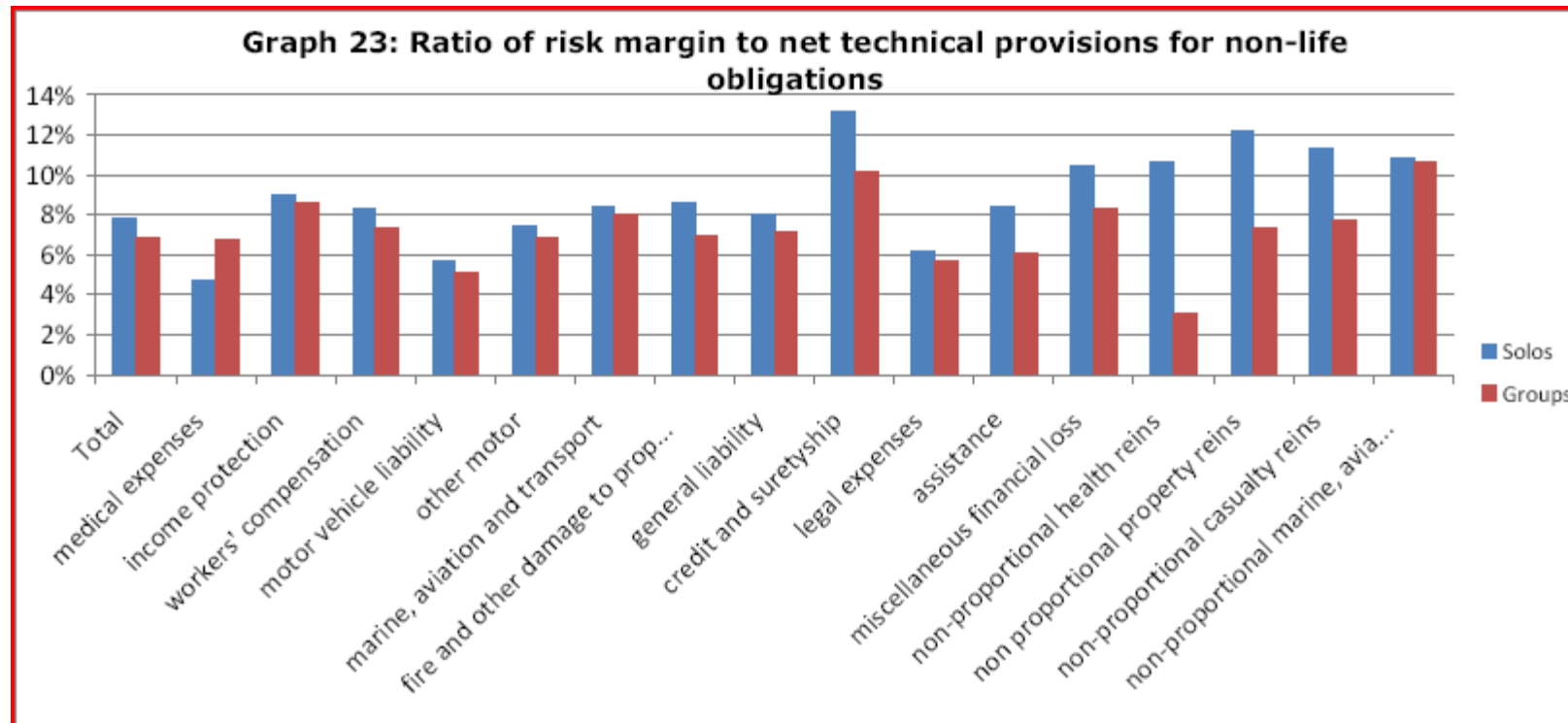
4.3. Risk margin



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4. Technical Provisions

4.3. Risk margin



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5. SCR Standard Formula

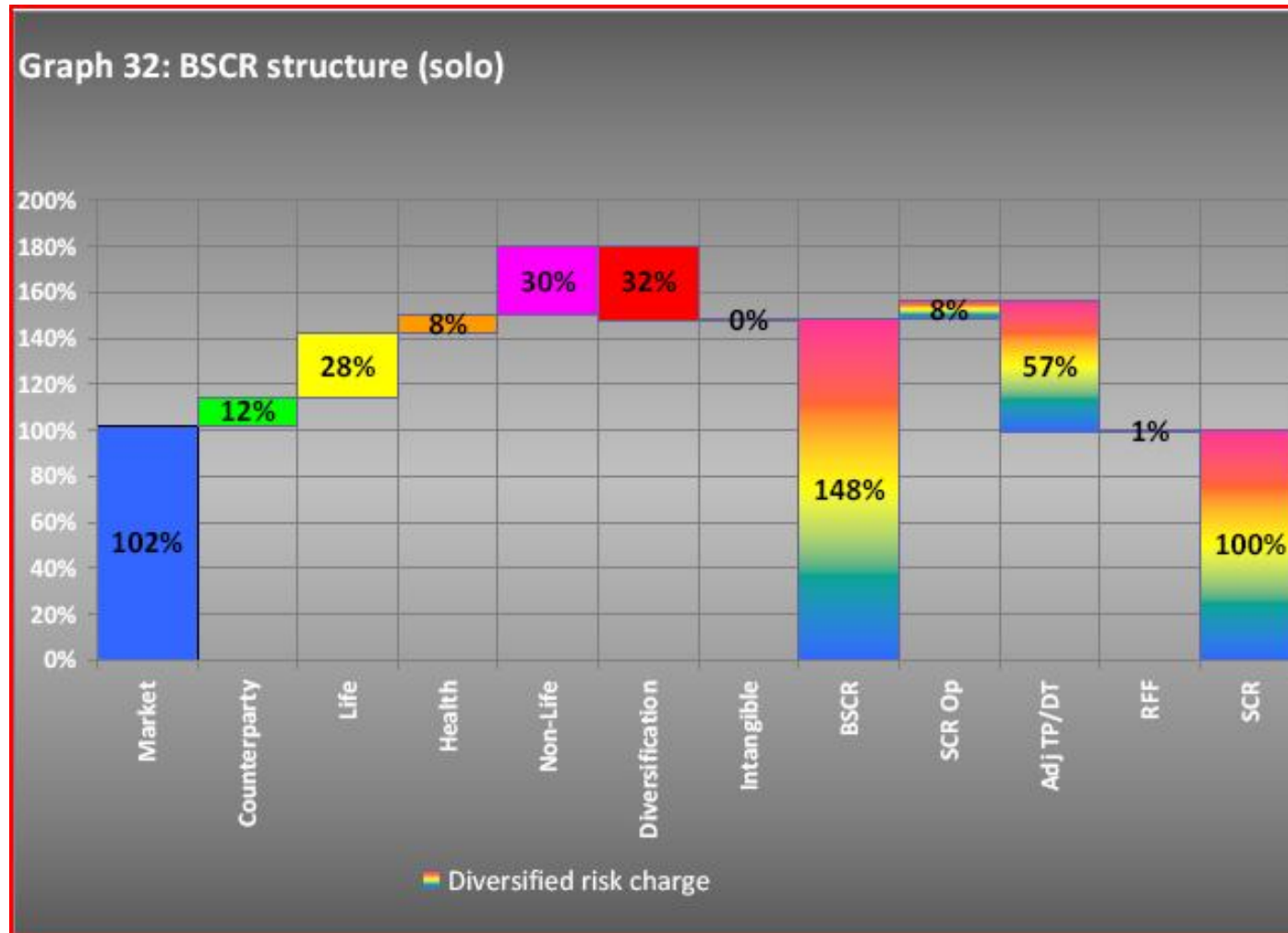
5.1. The overall SCR

- The **Solvency Capital Requirement (SCR)** is the risk-based capital requirement for undertakings under Solvency II.
- It is **calibrated to a 99.5% Value at Risk confidence level over one year**. In structure the SCR is composed of a number of 'modules' which in turn are composed of 'sub-modules'.
- **The capital requirements arising from these sub-modules and modules are aggregated using a correlation matrix.**

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5. SCR Standard Formula

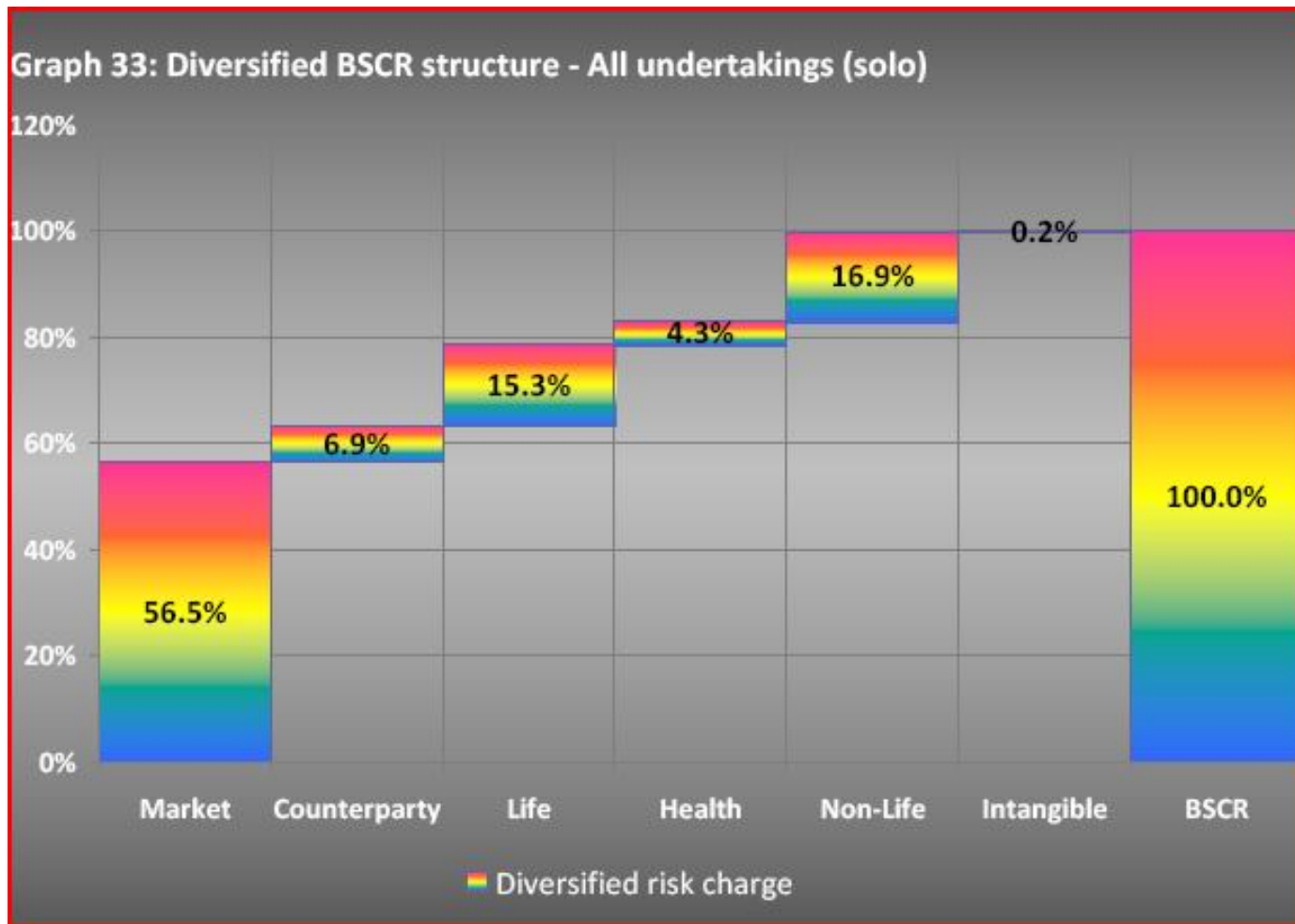
5.1. The overall SCR (all; SCR = 100%)



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5. SCR Standard Formula

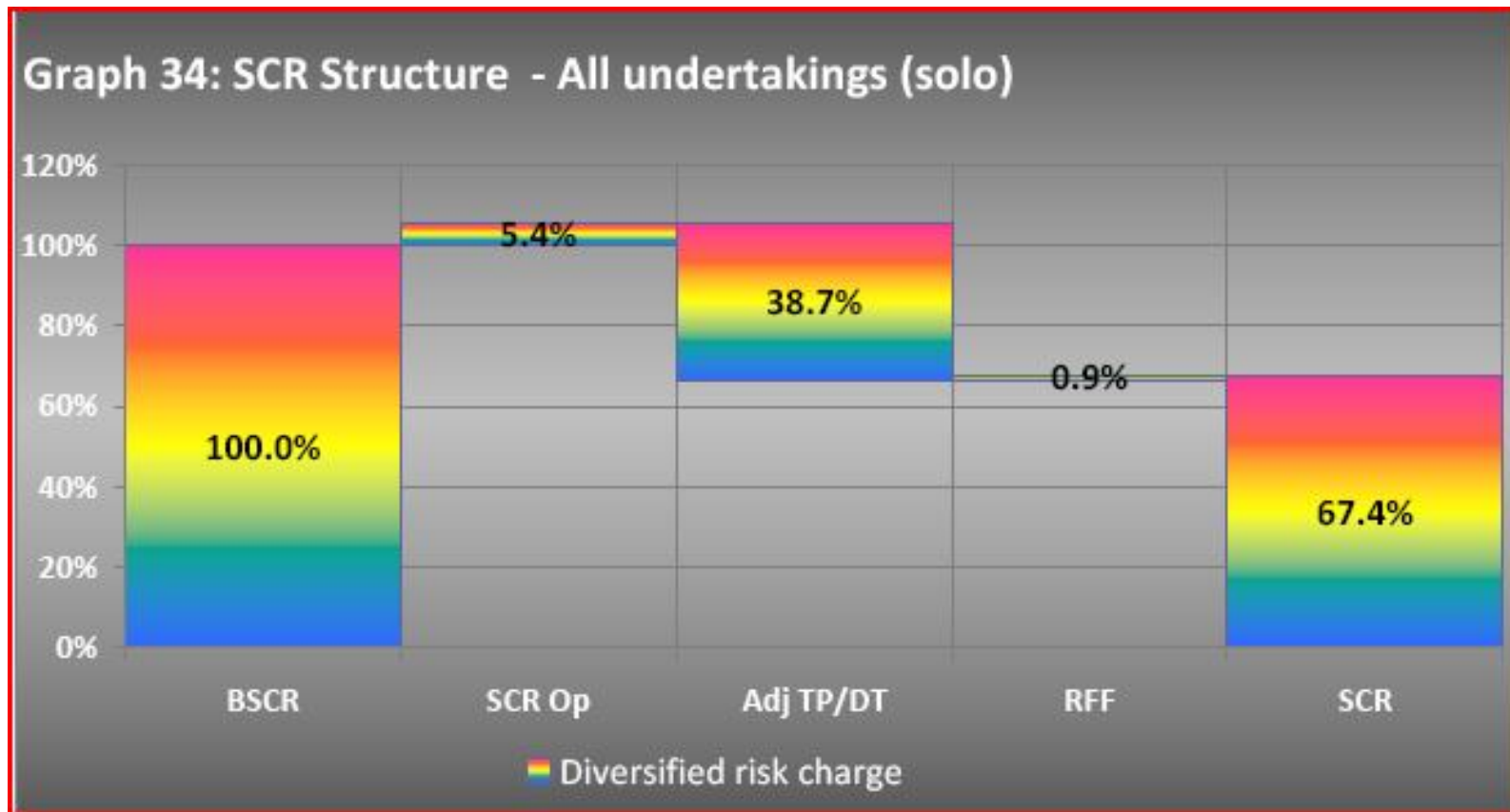
5.1. The overall SCR (all; BSCR = 100%)



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5. SCR Standard Formula

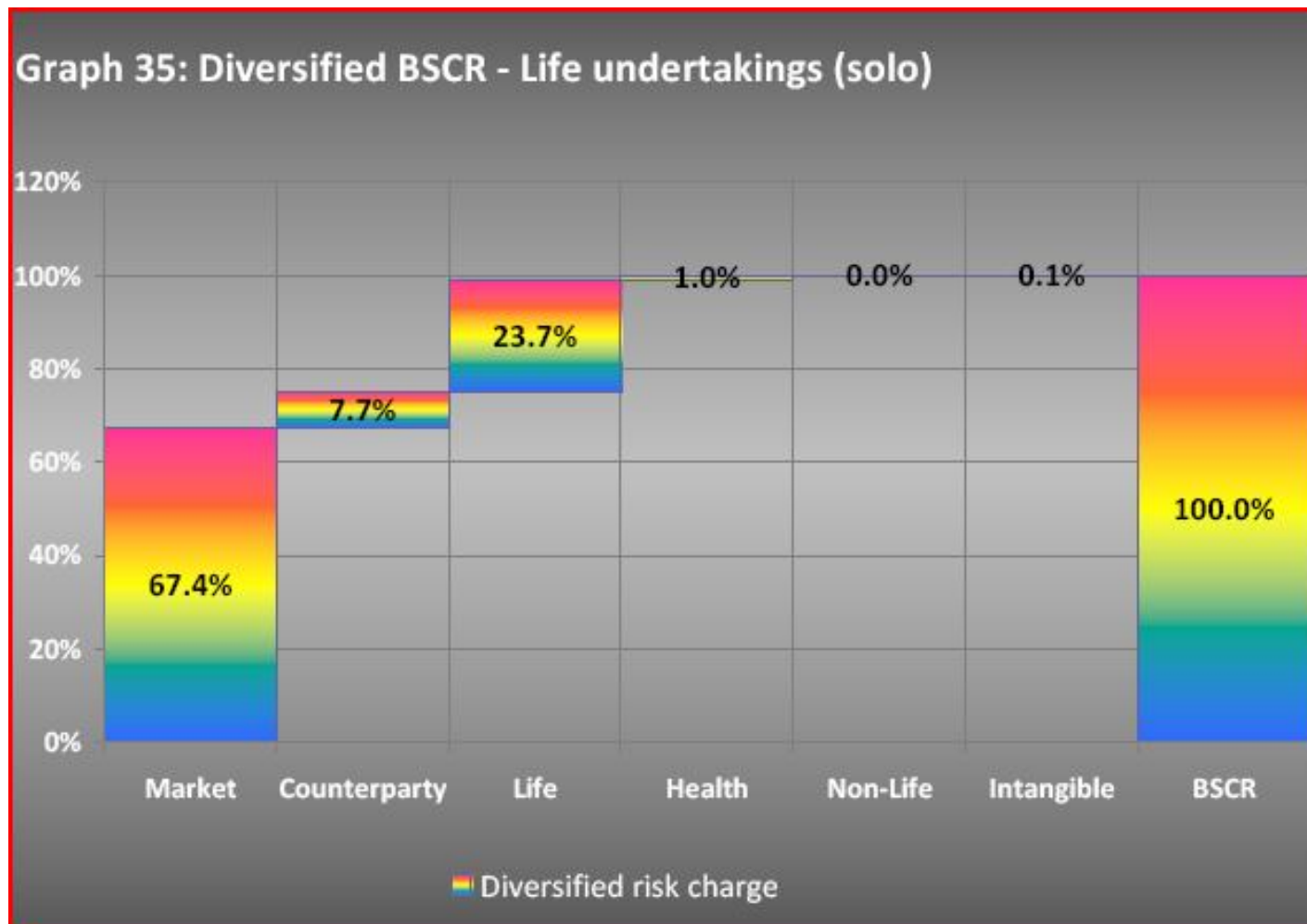
5.1. The overall SCR (all; SCR in % of BSCR)



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5. SCR Standard Formula

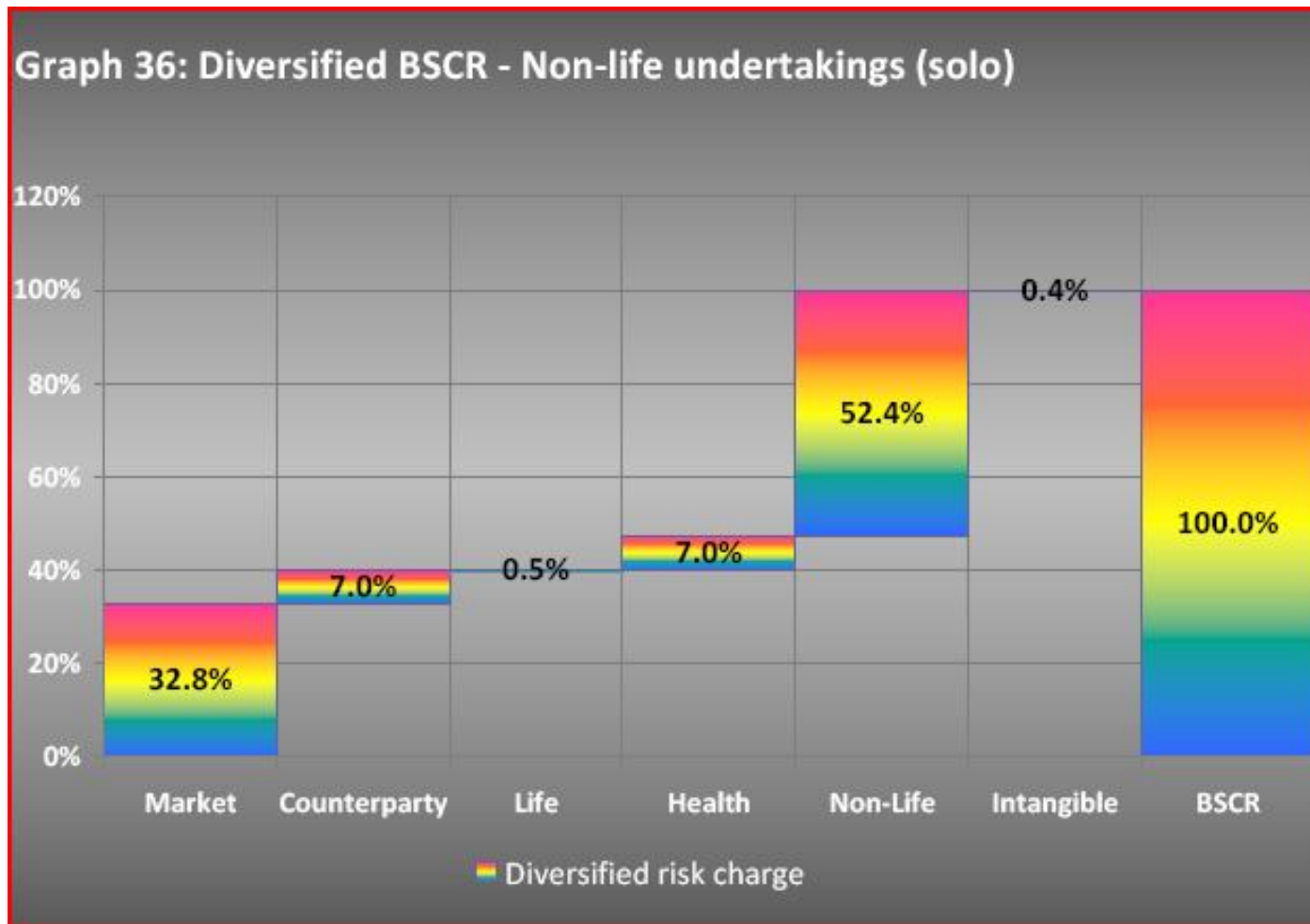
5.1. The overall SCR (Life; BSCR = 100%)



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5. SCR Standard Formula

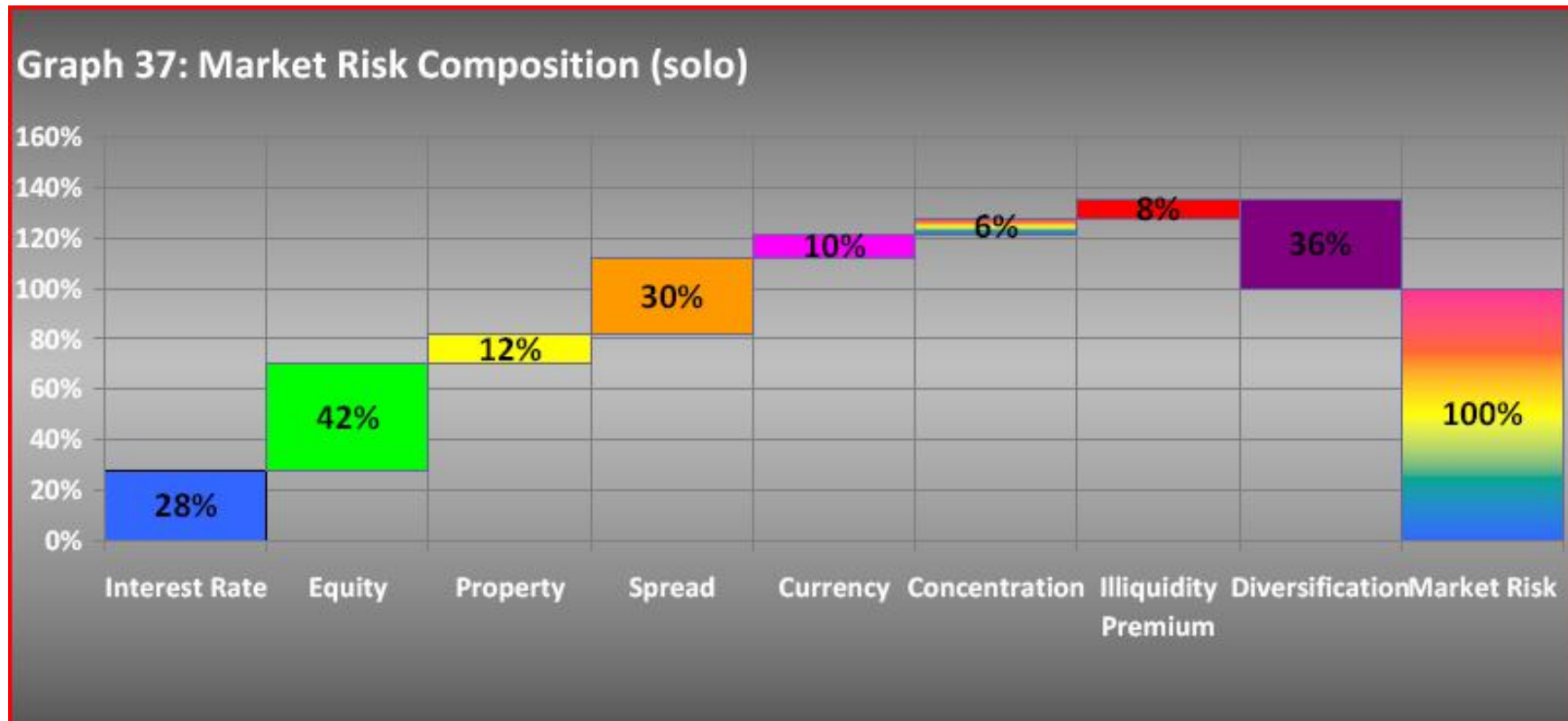
5.1. The overall SCR (Non-Life; BSCR = 100%)



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5. SCR Standard Formula

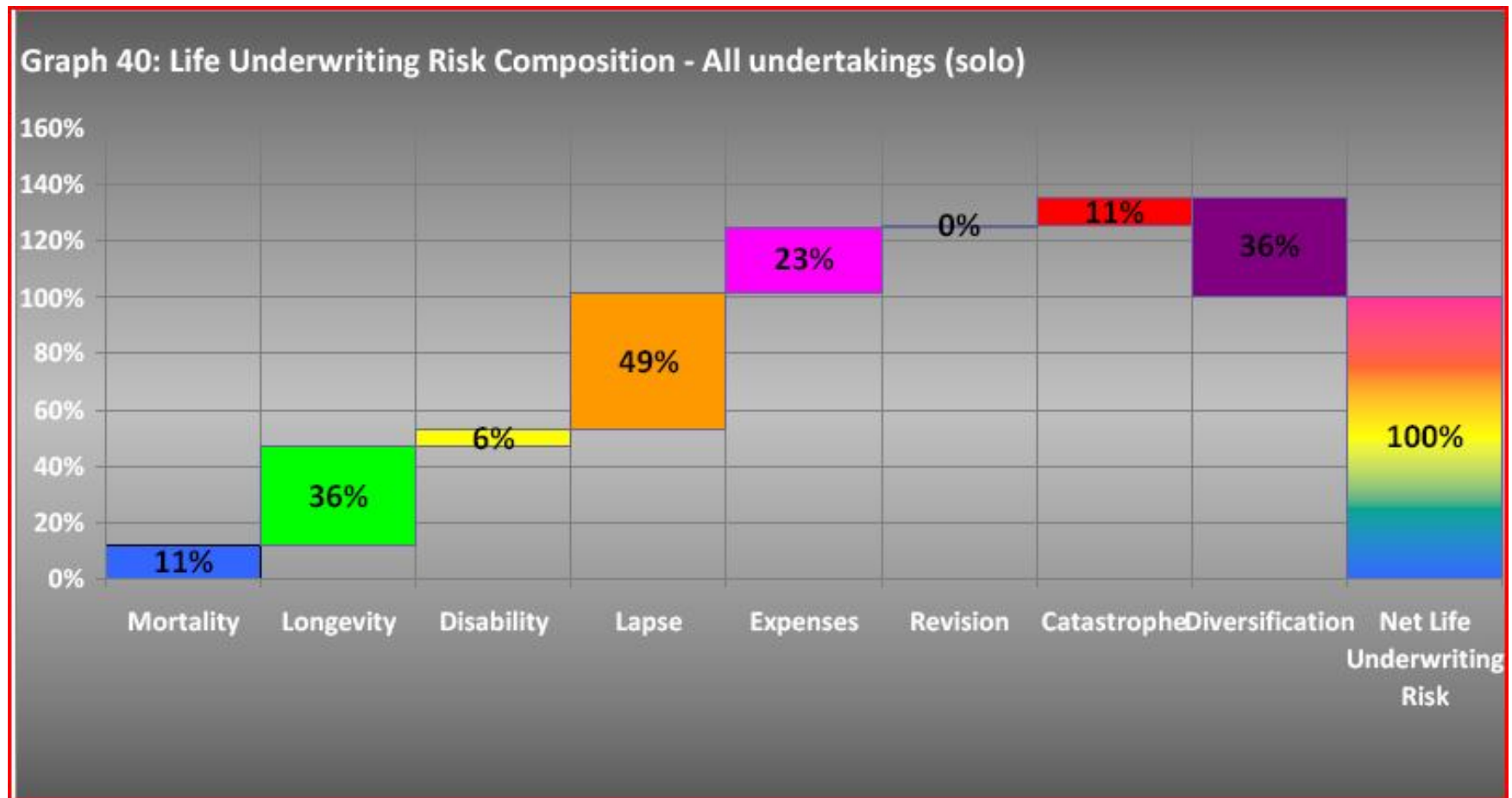
5.5. Market risk (all; Market Risk = 100%)



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5. SCR Standard Formula

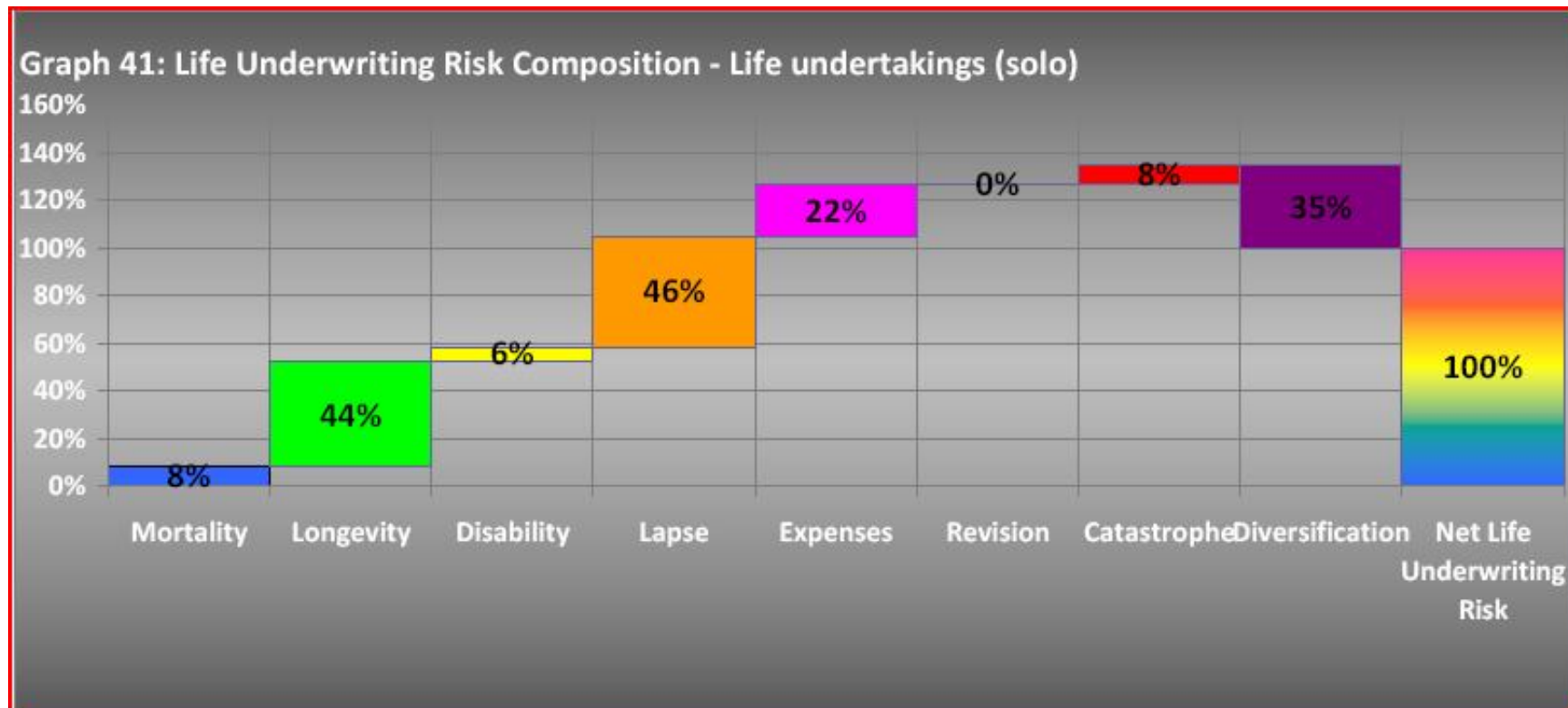
5.7. Life Underwriting risk (all; Life Risk = 100%)



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5. SCR Standard Formula

5.7. Life Underwriting risk (Life; Life Risk = 100%)



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5. SCR Standard Formula

5.9. Non-life Underwriting risk (Non-L; Non-Life Risk = 100%)

