



TOKIO MARINE  
KILN

# **Solvency and Financial Condition Report 2018**

Tokio Marine Kiln Insurance Limited

<b>Contents</b>	<b>page</b>
1. Summary	3
1.1 Business summary	3
1.2 Performance summary	3
1.3 System of governance summary	4
1.4 Risk profile summary	4
1.5 Valuation for solvency purposes summary	5
1.6 Capital management summary	5
A Business and performance	7
A1 Business	7
A3 Investment performance	13
A4 Performance of other activities	14
A5 Any other information	14
B System of governance	15
B1 General information on the system of governance	15
B2 Fit and proper requirements	20
B3 Risk management system, including the own risk and solvency assessment	21
B4 Internal control system	26
B5 Internal Audit function	28
B6 Actuarial function	29
B7 Outsourcing	29
C Risk profile	31
Summary of risk profile	31
C1 Underwriting risk	31
C2 Market risk	33
C3 Credit risk	35
C4 Liquidity risk	37
C5 Operational risk	37
C6 Other material risks	38
C7 Any other information	40
D Valuation for solvency purposes	41
D1 Assets	41
D2 Technical provisions	45
D3 Other liabilities	49
D4 Any other information	50
E Capital management	51
E1 Own funds	51
E2 Solvency capital requirement and minimum capital requirement	52
E3 Use of duration-based equity risk sub-module in the calculation of the SCR	54
E4 Differences between the Standard Formula and any internal model used	54
E5 Non-compliance with the MCR and non-compliance with the SCR	54
E6 Any other information	54
Governing body's responsibility for the SFCR	55
Independent auditors report on the relevant elements of the SFCR	56
Glossary	59
Supplementary Quantitative Reporting Templates to the SFCR	61

## 1. Summary

### 1.1 Business summary

Tokio Marine Kiln Insurance Limited (TMKI) was established as a controlling company for the European operations of Tokio Marine & Nichido Fire Insurance Company Limited (TMNF), with a network of offices and agency representation in Europe.

TMKI is a commercial insurer with solid underwriting expertise, financial strength and an excellent credit rating, and it benefits from being a member of the Tokio Marine Holdings (TMHD), one of the largest insurance groups in the world (net assets of TMHD were 3.5 trillion JPY as at 31 December 2018), which enables it to offer substantial amounts of coverage to selected corporate clients, supported by significant intra-group reinsurance. TMKI benefits from a parental guarantee issued by TMNF and, consequently, it is rated A+ by S&P.

### 1.2 Performance summary

TMKI's operating results for the year-ended 31 December 2018 was a loss before tax of £20.4 million, which represented a 14% deterioration on the loss before tax of £17.9 million for the year-ended 31 December 2017. Similarly, the loss after tax of £19.8 million in 2018 was a 21% deterioration on the £16.3 million loss realised in 2017. This deterioration over the performance for 2017, despite the top line being 6% higher than prior year, was primarily due to by increased large losses.

The underwriting result in 2018 was a £21.7 million loss following a £21.6 million loss in 2017, with the year-on-year result was further worsened by net investment loss of £0.06 million, compared with £2.3 million investment gain in 2017. Foreign exchange loss of £0.06 million was a slight improvement on the £0.07 million achieved in the prior year.

In 2018, the Property line of business, which is the largest line within TMKI, finished the year with an underwriting loss of £14.4 million, compared with the £14.3 million loss in 2017. A 1-point improvement in combined ratio was achieved due to large growth in net earned premium and an improvement in large losses compared to 2017. The Property book remains the largest contributor to gross written premium and net earned premium, achieving growths of 8% and 25%, respectively, over prior year.

The underwriting performance of the other large areas within the portfolio were as follows: Marine line of business – £6.1 million profit in 2018 compared with £5.5 million loss in 2017; General Liability line of business – £10.5 million loss compared with £4.0 million loss in 2017; Medical Expense line of business - £0.5 million loss compared with £1.3 million profit in 2017.

Overall, in terms of performance in different territories, the UK, which is TMKI's largest underwriting territory, finished 2018 with an underwriting loss of £18.3 million (combined ratio 120%), which was a deterioration on prior year's performance of £1.7 million loss (combined ratio of 102%). France, the second largest underwriting territory, reported a loss of £8.3 million (combined ratio of 115%), which was an improvement on the loss of £14.4 million realised in 2017 (combined ratio of 129%), while Germany reported an underwriting profit of £3.1 million (combined ratio of 67%), an improvement on the £0.37 million profit (combined ratio of 97%) achieved in 2017.

Belgium's underwriting result was a profit of £1.2 million (combined ratio of 6%), which was an improvement on the £3.1 million loss (combined ratio of 244%) achieved in 2017. Similarly, the Netherlands improved on the prior year, from an underwriting loss of £0.4 million (combined ratio of 111%) in 2017 to a profit of £1.2 million (combined ratio of 70%) in 2018. In spite of achieving top line growth of 33% in 2018, the US underwriting result fell from a profit of £0.1 million (combined ratio of 97%) in 2017 to a loss of £6.8 million (combined ratio of 174%) in 2018.

Following large losses in Q4 2018, the TMK group board made a capital injection of £31 million into TMKI in February 2019. Please note that this additional capital is not reflected within the balance sheet as at 31 December 2018.

There were no other significant business or other operating events with material impact on the solvency and financial condition in 2018.

### 1.3 System of governance summary

TMKI is part of TMK Group, which operates on two platforms: TMKI, the company platform, and Tokio Marine Kiln Syndicates Limited (TMKS) within the Lloyd's London market. Both operate within the regulatory framework of the Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA).

Although both TMKI and TMKS are separate regulated entities, TMK's group board governs the businesses together, and the agenda and minutes of the board easily identify those elements of the meeting that are entity-specific. Given that both regulated entities are managed as one, a single Own Risk and Solvency Assessment (ORSA), Responsibilities Map and Terms of Reference are in place.

The board delegates responsibility for particular matters to one or more board committees, the board Chairman or the Group Chief Executive Officer as it sees fit. The board have also appointed a number of committees to assist it in discharging its responsibilities.

TMK's governance structure sets out the board's key responsibilities and promotes its core values, which are the overarching aim of adding value and increasing returns to all stakeholders through knowledgeable underwriting of risks and good understanding of clients' requirements, whilst acting with respect and integrity. TMK is committed to high standards of corporate governance and believes that the board and committee structure supports those requirements and the provision of appropriate information from all the business functions into the committees and ultimately up to the board.

There is also a management team in place with departments and functions operating to deliver the board's strategy. Many of these functions are classified as Key Functions, whose operations "if not properly managed and overseen, could, depending on the nature and complexity of the business, potentially lead to significant losses being incurred or to a failure in the ongoing ability of the firm to meet its obligations to policyholders".

TMK operates a Three Lines of Defence model for risk ownership, management, and oversight and assurance. The Risk Management, Compliance and Internal Audit Functions provide regular reporting to TMK's management, board and parent company.

The Risk Management function is organised at the TMK level to support the business in achieving its strategic objectives through appropriately managing and taking advantage of opportunities from risk taking. The risk reporting process is fully aligned, with quarterly and annual ORSA processes. Risk information is reported through the quarterly ORSA Lite report to the Executive Risk & Capital Committee (ERCC) and the board Risk, Capital & Compliance Committee (RCCC). The forward-looking assessments of risk and capital within the annual ORSA report are also used for the board's strategic decision-making, which includes medium-term planning.

Following a governance and culture review commissioned in 2018, a new governance structure was implemented effective January 2019 to improve the oversight and support the effectiveness of the board and board committees.

In the third quarter of 2018, TMK's Group Chief Financial Officer resigned and a replacement was appointed in his place. In addition, in the first quarter of 2019, TMK's Group Chief Actuary resigned and the process for appointing a replacement has commenced. In the meantime, the deputy Group Chief Actuary has assumed responsibility for the Actuarial Function in an interim capacity.

Furthermore, there were changes to the non-Executive Directors (NEDs). Two NEDs resigned between the third and fourth quarter of 2018 and they were replaced.

### 1.4 Risk profile summary

TMKI's business model has remained consistent over the reporting period, with its policy of confining its exposure to risks primarily within its core areas of expertise: the underwriting of large commercial insurance and reinsurance risks. Its principal activity is the underwriting of predominantly short-tailed Japanese-related and local market commercial risks of marine cargo, property and liability insurance business.

TMKI also underwrites aviation pool business, which is wholly reinsured with TMNF through which it is able to offer significant A++ (AM Best)-rated capacity to customers.

Central to TMKI's strategy is the insurance of large Japanese corporates, which make up 29% of TMKI's premium income.

Due to the focus on shorter-tail lines of insurance, TMKI is able to make more immediate and reliable estimates regarding the extent of the loss to expect. The company is substantially exposed to losses from man-made and catastrophe property damage events-related business.

As a result of the policy of confining exposure to its core areas of expertise, TMKI is at the cautious end of the spectrum in all areas of financial risk. This allows TMKI to protect the capital on its balance sheet and focus its risk appetite on underwriting.

Given that insurance is TMKI's main business, understandably, as at 31 December 2018, underwriting risk constituted the majority of its Solvency Capital Requirements (SCR). The remaining contributions were from:

- Counterparty Default Credit risk, arising from TMKI's insurance business and the mitigation of underwriting risk through significant use of outwards reinsurance.
- Market risk, which is conservatively managed in line with TMK's cautious investment strategy.
- Operational risk, which is tolerated but mitigated wherever possible.

There were no material changes to TMKI's risk profile between 31 December 2017 and 31 December 2018.

## 1.5 Valuation for solvency purposes summary

The majority of asset and liability classes within TMKI's balance sheet are valued identically under both Solvency II and GAAP. The key differences are the valuation of the technical provisions, the reclassification of non-overdue debtor and creditor balances to technical provisions, and certain small differences on some fixed asset classes. These differences changed the amount of capital held between 31 December 2017 and 31 December 2018 as follows:

Description	31 Dec 2018 (£'000s)	31 Dec 2017 (£'000s)
<b>Total equity per GAAP financial statements</b>	<b>88,100</b>	<b>107,956</b>
Difference in net technical provisions including DAC	32,678	31,848
Difference in net (re)insurance debtors and creditors	(59,516)	(49,116)
Difference in other items	(198)	(4)
<b>SII Basic Own Funds</b>	<b>61,065</b>	<b>90,685</b>

There were no material changes to the valuation methodologies for solvency purposes between 31 December 2017 and 31 December 2018.

## 1.6 Capital management summary

TMKI has adopted the Standard Formula (SF) approach to calculating its SCR. No Undertaking Specific Parameters (USPs) are utilised within this calculation.

To ensure that the SF SCR is appropriate for the risks faced by TMKI, an assessment of SF appropriateness is undertaken annually, looking at the assumptions underlying the SF versus TMKI's risk profile. The SCR is reviewed and signed off by the board annually.

The objective of own funds management is to maintain, at all times, sufficient own funds to cover the SCR and Minimum Capital Requirement (MCR) such that the solvency ratio, as measured against the SCR and referred to as the Regulatory Solvency Ratio (RSR), remains within risk appetite. The own funds are to be of sufficient quality to meet the eligibility requirements in Article 82 of the Solvency II's Delegated Regulation 2015/35. Separate to the RSR risk appetite, the TMKI board sets a target buffer of own funds to be held above the economic capital requirement (ECR) as determined by the TMKI capital model.

The target buffer is set at a 1-in-10 outcome while the risk appetite is for the RSR to be 120% or greater. The group Chief Actuary provides a quarterly capital update in which the eligible own funds to cover the target buffer and RSR are reviewed.

As part of own funds management, TMKI maintains a medium-term capital management plan (MTCMP), which sets out annual solvency projections and includes the structure of, and requirements for, own funds over the 3-year planning horizon.

The business plan, which forms the basis of the ORSA, contains a three-year projection of funding requirements and this helps focus actions for future funding.

The amount of the SCR, MCR and the eligible amount of own funds to cover these requirements classified by tiers as at 31 December 2018 are as provided in the table below:

Description	31 Dec 2018 (£'000s)	31 Dec 2017 (£'000s)
<b>MCR</b>	<b>43,066</b>	<b>38,094</b>
<b>SCR</b>	<b>118,625</b>	<b>112,919</b>
Tier 1 Funds	61,065	89,742
Tier 2 Funds	59,312	56,460
Tier 3 Funds	-	-
<b>Total Eligible Own Funds</b>	<b>120,377</b>	<b>146,201</b>
<b>Ratio of Eligible Own Funds to SCR</b>	<b>101.5%</b>	<b>129.5%</b>
<b>Ratio of Eligible Own Funds to MCR</b>	<b>141.8%</b>	<b>235.6%</b>

The changes in the SCR or MCR between 31 December 2017 and 31 December 2018 were consistent with the business growth.

There were no instances of non-compliance with the MCR or SCR during the period from 31 December 2017 to 31 December 2018.

TMKI has in place Ancillary Own Funds held in the form of a Letter of Credit for €70 million (equivalent to £63.1 million), which was approved by the PRA in April 2017 and is valid until December 2019.

One of the three measures of solvency established by the board, the RSR, was well above the 120% threshold for a "Green" rating throughout 2018 but the ratio fell to 76% in Q1 2019 due to the large losses of the fourth quarter of 2018.

As noted in section 1.2 above, the TMK group board made a capital injection of £31 million in February 2019 in response to this incident. This increased the RSR to 134%, which is well above the board risk appetite limit of 120% for a "Green" rating.

This additional capital is not reflected within the figure in the table above.

TMKI has no volatility, matching or transitional arrangements.

## A Business and performance

### A1 Business

#### A1.1 Name and legal form of the company

Tokio Marine Kiln Insurance Limited (TMKI) is a mid-size, non-life insurer incorporated in England and Wales under the registered number 989421 and operating in the United Kingdom (UK).

#### A1.2 Name and contact details of the authorities responsible for financial supervision of TMKI

TMKI is authorised by the Prudential Regulation Authority (PRA) and regulated by the Financial Conduct Authority (FCA) and the PRA under firm reference number 202574. The contact details for the PRA and the FCA are as follows:

- PRA: 20, Moorgate, London EC2R 6DA
- FCA: 25, The North Colonnade, London E14 5HS

#### A1.3 Name and contact details of the external auditors to TMKI

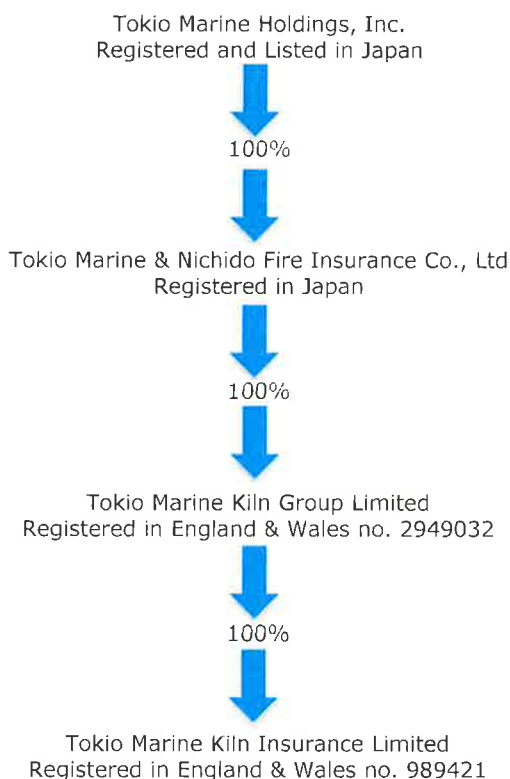
The external auditors are PricewaterhouseCoopers LLP, Chartered Accountants, 7 More London Riverside, London SE1 2RT.

#### A1.4 Holders of qualifying holdings in TMKI and its position within the Tokio Marine Group

The ultimate parent company and controlling party is Tokio Marine Holdings, Inc. (TMHD) incorporated in Japan. Copies of the consolidated financial statements of TMHD are available from 1-2-1 Marunouchi, Chiyoda-ku, Tokyo, 100-0005, Japan.

The immediate Parent company is Tokio Marine Kiln Group Limited (TMK), which is incorporated and registered in England and Wales. Copies of the consolidated financial statements of TMK are available from 20 Fenchurch Street, London EC3M 3BY.

The schematic of the group structure below shows TMKI's link to the ultimate holding company, TMHD:



There are no natural persons with direct or indirect qualifying holdings in TMKI.



## A1.5 Material lines of business and geographical areas

TMKI's principal activity is the underwriting of predominantly short-tailed commercial marine cargo, property and liability insurance business in the London market, across the UK regions, and through branch offices in France, Italy, Germany, Benelux, and agencies in continental Europe.

In addition to underwriting both Japanese-related and local market commercial risks, TMKI also underwrites aviation pool business, which is wholly reinsured with a group company in Japan, Tokio Marine & Nichido Fire Insurance Company Limited (TMNF), through which it is able to offer significant A++ (AM Best)-rated capacity to customers. Central to TMKI's strategy is the insurance of large Japanese corporates, which make up 29% of TMKI's premium income.

## A1.6 Significant business or other events during the reporting period

As highlighted in sections 1.2 and 1.6 above, the TMK group board increased TMKI's capital by £31 million in February 2019. This was in addition to the existing ancillary own funds of €70 million (equivalent to £63.1 million), which is held in the form of a letter of credit and was approved by the PRA in April 2017. The letter of credit is valid until December 2019.

During 2018, the Tokio Marine Group received approval from the High Court of England and Wales to complete the Part VII process of transferring the existing portfolio of policies written out of Continental European operations to its newly established insurance company subsidiary, Tokio Marine Europe S.A. (TME), in preparation for the UK's exit from the European Union (EU). All of TMKI's European business has therefore been written through TME with effect from 1 January 2019.

## A2 Underwriting performance

### A2.1 Comparison of underwriting performance between 2018 and 2017

The overall summary of TMKI's underwriting performance on a UK GAAP basis is provided in the table below for the years ended 31 December 2018 and 2017.

	2018 (£'000s)	2017 (£'000s)	Variance %
Gross premiums written	302,288	286,472	6%
Outward reinsurance premiums	(110,694)	(109,516)	1%
Net premiums written	191,594	176,956	8%
<b>Earned premiums, net of reinsurance</b>	<b>185,395</b>	145,872	27%
Claims incurred, net of reinsurance	(123,157)	(99,423)	24%
Net acquisition costs	(34,698)	(23,422)	48%
Other operating expenses	(48,678)	(44,622)	9%
<b>Underwriting result</b>	<b>(21,138)</b>	(21,595)	(2%)
Investment income (loss)	(56)	2,253	(102%)
Foreign exchange gain/(loss)	(65)	(71)	8%
Other income	863	1,475	41%
<b>Loss before tax</b>	<b>(20,396)</b>	(17,938)	14%
Tax	563	1,614	(65%)
<b>Loss after tax</b>	<b>(19,833)</b>	(16,324)	21%
<i>Net claims ratio <sup>[1]</sup></i>	<b>66.4%</b>	68.2%	(1.8%)
<i>Net acquisition cost ratio <sup>[2]</sup></i>	<b>18.7%</b>	16.1%	2.6%
<i>Net expense ratio <sup>[3]</sup></i>	<b>26.3%</b>	30.6%	(4.4%)
<i>Net combined ratio <sup>[4]</sup></i>	<b>111.4%</b>	114.8%	(3.4%)

[1] Net Claims Incurred as a percentage of Net Earned Premium

[2] Net Acquisition Costs as a percentage of Net Earned Premium

[3] Other Operating Expenses as a percentage of Net Earned Premium

[4] Underwriting Result as a percentage of Net Earned Premium

TMKI produced a loss before tax of £20.4 million (2017: loss of £18.0 million) with a 27% increase in net earned premium and a combined ratio of 111.4% (2017: 114.8%).



The underwriting loss of £21.1 million in 2018 was similar to the £21.6 million loss reported in the prior year, with continued poor experience in Fire & other Property Damage and deteriorated experience in General Liability, partially offset by improvements in Marine, Aviation & Transport.

Gross written premium of £302.3 million represents a growth of 6% at constant rates of exchange. Higher earned premium income was driven by the Property and Liability books as the growth in coverholder business in 2017 and 2018 earns through into 2018. The coverholder business carries higher acquisition costs than the remainder of the book, which drives the 3-point increase in the net acquisition cost ratio.

The net claims ratio of 66% in 2018 was 2 points lower than prior year, almost entirely due to a better attritional performance. Large loss activity continued to disappoint in 2018, with a number of fires primarily on the Property book, as well as catastrophe losses incurred on Hurricane Michael. The lower combined ratio was achieved through a 4-point improvement in the expense ratio, reflecting a higher level of net earned premium relative to the operating expenses.

Despite only a marginal deterioration in the underwriting result, the overall loss before tax of £20.4 million was a £2.5 million deterioration on the prior year due to a reduction in investment income as a result of negative returns from the Absolute Return Fund portfolio, which returned -1.76% in 2018 against the 2.80% achieved in 2017.

## A2.2 Analysis of underwriting performance by Solvency II Line of Business

The following tables show TMKI's underwriting result, broken down by Solvency II lines of business:

<b>2018</b>	<b>GWP<sup>[1]</sup></b>	<b>NEP<sup>[2]</sup></b>	<b>NIC<sup>[3]</sup></b>	<b>NAQ<sup>[4]</sup></b>	<b>Op Exp<sup>[5]</sup></b>	<b>Underwriting result</b>
	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>
<b>Medical Expense</b>	10,673	10,123	(4,417)	(3,600)	(2,648)	(543)
<b>Marine, Aviation &amp; Transport</b>	72,932	26,872	(12,513)	(1,268)	(6,955)	6,135
<b>Fire &amp; other Property Damage</b>	131,900	83,370	(60,621)	(14,840)	(22,260)	(14,351)
<b>General Liability</b>	73,642	53,820	(38,051)	(12,442)	(13,866)	(10,539)
<b>Credit &amp; Suretyship</b>	86	3	-	17	-	21
<b>Assistance</b>	2,111	2,066	(1,903)	(571)	(536)	(944)
<b>Miscellaneous Financial Loss</b>	4,408	2,981	(892)	(920)	(847)	322
<b>Non-Proportional Casualty</b>	286	213	(34)	(47)	(67)	65
<b>Non-Proportional Property</b>	6,251	5,947	(4,726)	(1,027)	(1,498)	(1,304)
	<b>302,288</b>	<b>185,395</b>	<b>(123,157)</b>	<b>(34,698)</b>	<b>(48,678)</b>	<b>(21,138)</b>

[1] Gross Written Premium ('GWP')

[2] Net Earned Premium ('NEP')

[3] Net Incurred Claims ('NIC')

[4] Net Acquisition Costs ('NAQ')

[5] Operating Expenses ('Op Exp')

<b>2017</b>	<b>GWP<sup>[1]</sup></b>	<b>NEP<sup>[2]</sup></b>	<b>NIC<sup>[3]</sup></b>	<b>NAQ<sup>[4]</sup></b>	<b>Op Exp<sup>[5]</sup></b>	<b>Underwriting result</b>
	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>
Medical Expense	17,063	10,702	(5,502)	(2,617)	(1,306)	1,276
Marine, Aviation & Transport	70,023	24,518	(17,937)	(1,185)	(10,888)	(5,492)
Fire & other Property Damage	122,029	66,662	(47,809)	(11,696)	(21,417)	(14,261)
General Liability	63,231	31,512	(21,135)	(5,449)	(8,880)	(3,952)
Credit & Suretyship	110	106	-	(11)	(1)	94
Assistance	2,220	2,291	(1,291)	(611)	(232)	157
Miscellaneous Financial Loss	4,427	3,361	(451)	(686)	(626)	1,598
Non-Proportional Casualty	155	112	70	(25)	(26)	131
Non-Proportional Property	7,214	6,608	(5,368)	(1,142)	(1,246)	(1,146)
	286,472	145,872	(99,423)	(23,422)	(44,622)	(21,595)

[1] Gross Written Premium ('GWP')

[2] Net Earned Premium ('NEP')

[3] Net Incurred Claims ('NIC')

[4] Net Acquisition Costs ('NAQ')

[5] Operating Expenses ('Op Exp')

The key performance indicators (the net claims ratio and combined ratio) are again split down by Solvency II line of business:

	Net claims ratio			Combined ratio		
	2018	2017	+/-	2018	2017	+/-
Medical Expense	<b>44%</b>	51%	-7%	<b>105%</b>	88%	17%
Marine, Aviation & Transport	<b>47%</b>	73%	-26%	<b>77%</b>	122%	-45%
Fire & other Property Damage	<b>73%</b>	72%	1%	<b>117%</b>	121%	-4%
General Liability	<b>71%</b>	67%	4%	<b>120%</b>	113%	7%
Credit & Suretyship	<b>0%</b>	0%	0%	<b>-528%</b>	11%	-539%
Assistance	<b>92%</b>	56%	36%	<b>146%</b>	93%	53%
Miscellaneous Financial Loss	<b>30%</b>	13%	17%	<b>89%</b>	52%	37%
Non-Proportional Casualty	<b>16%</b>	-63%	79%	<b>69%</b>	-18%	87%
Non-Proportional Property	<b>79%</b>	81%	-2%	<b>122%</b>	117%	5%
	<b>66%</b>	68%	-2%	<b>111%</b>	115%	-3%

Under Solvency II, TMKI's book separates into four main lines of business: Fire & other Property Damage (Property), General Liability, Medical Expense and Marine, Aviation & Transport (Marine). These four classes represent 96% of the total gross written premium in 2018 and 91% (underwriting loss of £19.3 million) of the final underwriting result of £21.1 million loss.

Commentary is provided below for these four classes.

### Property

The underwriting loss of £14.4 million was similar to the £14.3 million loss reported in the prior year, resulting in a combined ratio of 117%, reflecting a 4-point improvement on 2017 and primarily driven by a lower expense ratio due to growth in net earned premium, despite an increase in operating expenses.

The net claims ratio deteriorated 1 point to 73% due to the losses suffered on Hurricane Michael, resulting in an increased catastrophe claims ratio of 9% in 2018 (2017: 1%). Despite the Property book suffering the largest losses of the company as a whole, the large loss activity of 2018 was an improvement on the prior-year experience.

Net earned premium increased 25% (£16.7 million) as the 2017 and 2018 growth in coverholder business earns through in 2018.

### Marine

The Marine Solvency II line of business achieved an underwriting profit of £6.1 million, a considerable improvement on the underwriting loss of £5.5 million reported in 2017, making it the most profitable of all the lines of business in 2018.

The combined ratio improved 45 points to 77% in 2018, due to fewer large losses. The expense ratio fell 18 points, driven by a change to the allocation of expenses.

Premium grew £2.9 million in comparison to prior year as a result of an increased line on one of the largest accounts.

### General Liability

The General Liability Solvency II line of business reported an underwriting loss of £10.5 million, running at a combined ratio of 120% (2017: £4.0 million loss and combined ratio of 113%). The higher combined ratio was affected by two factors. There was an increase in the number of large losses this year underlying the 4-point increase in the claims ratio, with only one large loss in 2017 compared to 11 in 2018. In addition, the acquisition cost ratio was 6 points higher due to a higher proportion of binder business earning in 2018, which has higher acquisition costs than the remainder of the book.

General Liability in total achieved a 71% (£22.3 million) increase in net earned premium. The book was the largest contributor to premium growth as growth in GWP in 2017 and 2018 from coverholder business earns through into 2018.

## Medical expenses

The Medical Expense Solvency II line of business achieved an underwriting profit of £0.5 million and a combined ratio of 105%, reflecting a deterioration on the underwriting profit of £1.3 million (combined ratio: 88%) achieved in 2017.

The net claims ratio was lower at 28% (2017: 51%) almost entirely due to better attritional performance. Despite this, the overall combined ratio was higher following an increase in the expense ratio due to a change in the allocation of expenses this year.

### A2.3 Analysis of underwriting performance by material geographical areas

The following tables show TMKI's underwriting result, broken down by key geographical territories as determined by Solvency II classification:

<b>2018</b>	<b>GWP</b>	<b>NEP</b>	<b>NIC</b>	<b>NAQ</b>	<b>Op Exp</b>	<b>Underwriting result</b>
	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>
United Kingdom	139,224	91,244	(64,010)	(22,714)	(22,849)	(18,330)
France	71,945	54,524	(35,783)	(11,737)	(15,299)	(8,294)
Germany	22,250	9,378	(2,320)	(456)	(3,499)	3,103
Belgium	11,628	1,291	162	1,992	(2,226)	1,218
Netherlands	9,791	3,835	(2,229)	691	(1,146)	1,152
United States of America	10,757	9,174	(12,830)	(572)	(2,554)	(6,782)
Other (Rest of World)	36,693	15,949	(6,147)	(1,902)	(1,105)	6,795
	<b>302,288</b>	<b>185,395</b>	<b>(123,157)</b>	<b>(34,698)</b>	<b>(48,678)</b>	<b>(21,138)</b>

<b>2017</b>	<b>GWP</b>	<b>NEP</b>	<b>NIC</b>	<b>NAQ</b>	<b>Op Exp</b>	<b>Underwriting result</b>
	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>	<b>(£'000s)</b>
United Kingdom	130,434	70,099	(39,011)	(13,173)	(19,578)	(1,663)
France	72,401	49,935	(40,090)	(9,483)	(14,777)	(14,416)
Germany	21,728	12,018	(6,726)	(1,152)	(3,771)	370
Belgium	11,714	2,160	(4,397)	1,582	(2,452)	(3,106)
Netherlands	7,438	3,862	(3,421)	534	(1,405)	(430)
United States of America	8,091	4,796	(2,769)	(440)	(1,438)	149
Other (Rest of World)	34,666	3,003	(3,009)	(1,291)	(1,201)	(2,499)
	<b>286,472</b>	<b>145,872</b>	<b>(99,423)</b>	<b>(23,422)</b>	<b>(44,622)</b>	<b>(21,595)</b>

The key performance indicator (the net claims ratio and combined ratio) are again split down by Solvency II territories:

	<b>Net claims ratio</b>			<b>Combined ratio</b>		
	<b>2018</b>	<b>2017</b>	<b>+/-</b>	<b>2018</b>	<b>2017</b>	<b>+/-</b>
United Kingdom	<b>70%</b>	56%	14%	<b>120%</b>	102%	18%
France	<b>66%</b>	80%	-14%	<b>115%</b>	129%	-14%
Germany	<b>25%</b>	56%	-31%	<b>67%</b>	97%	-30%
Belgium	<b>-13%</b>	204%	-217%	<b>6%</b>	244%	-238%
Netherlands	<b>58%</b>	89%	-31%	<b>70%</b>	111%	-41%
United States of America	<b>140%</b>	58%	82%	<b>174%</b>	97%	-77%
Other (Rest of World)	<b>39%</b>	100%	-61%	<b>57%</b>	183%	-126%
	<b>66%</b>	68%	-2%	<b>111%</b>	115%	-4%

## United Kingdom

The UK, which is TMKI's largest underwriting territory under Solvency II, produced an underwriting loss of £18.3 million, a significant deterioration on the £1.7 million loss reported in the prior year.

Despite an increase in top-line income, the poor performance of the UK territory continued into 2018 reflected in a combined ratio of 120% (2017: 102%). This was almost entirely due to an increase in the net claims ratio (56% vs 70%) as 2018 suffered adverse large loss experience.

The 6-point increase in the net acquisition cost ratio was due to the earn-through of growth in 2017 and 2018 binder business, which has higher acquisition costs than the average of the book.

UK gross written premium increased 7% against the prior year driven by the Property and Liability portfolios following the growth in coverholder business, as well as other new sources of income.

## France

France, the second largest underwriting territory, reported an underwriting loss of £8.3 million this year and a combined ratio of 115%. Although an improvement on the £14.4 million loss of 2017, the performance of the France branch continues to disappoint.

The loss-making position is driven by a net claims ratio of 66%, despite a 14-point improvement on prior year. France incurred a similar volume of large losses to last year, particularly on the Property portfolio. However, attritional performance was favourable to 2017.

The increase in net earned premium was due to an increased retention ratio against prior year (75% vs. 69%) as the quota share agreement was not renewed this year. This also drives the 3% increase in the net acquisition cost ratio.

## Germany

Germany reported an underwriting profit of £3.1 million with a combined ratio of 67%; the best performance of all geographical areas.

Gross written premium was broadly in line with prior year, but net earned premium fell 22% (£2.6 million) as policies were attached to a new quota share agreement at Q3 2018. This also drives the 5-point fall in the net acquisition cost ratio.

The improvement in the combined ratio was almost entirely driven by a reduction in the net claims ratio to 25% (2017: 56%) as attritional performance improved year-on-year.

## Belgium

Belgium's underwriting result improved from a £3.1 million underwriting loss in 2017 to a £1.2 million profit this year.

The combined ratio of 6% was the lowest of all branches this year. The net claims ratio fell 217 points to a negative 13% following a release of IBNR on Marine and Property, as well as ULAE reserves. 2017 included one large loss of £3.3 million, while 2018 incurred a smaller large loss of £1.2 million.

Gross written premium was broadly in line with the prior year. Given that the majority of the book was comprised of Japanese business, a large portion was ceded to TMNF in the form of DAMP reinsurance resulting in a low net retention of 11%. The negative acquisition cost ratio is reflective of the business mix that is ceded back to TMNF, resulting in more outward commissions being received.

## Netherlands

The Netherlands produced an underwriting profit of £1.2 million, reflecting a £1.6m improvement on the £0.4 million loss reported in the prior year.

The combined ratio fell 41 points to 70% driven by a lower net claims ratio. The branch experienced no large losses in either year, with the improvement being entirely attritional driven. The expense ratio decreased due to a lower allocation of expenses to the Netherlands this year. The negative acquisition costs reflect the high proportion of the business mix that is ceded back to TMNF, resulting in more outward commissions being received.

Gross written premium was 32% higher than 2017 driven by growth of several large accounts on the Marine and Property books.

### United States

The US produced an underwriting loss of £6.8 million, a significant deterioration on the £0.1 million profit reported in the prior year. The combined ratio of 174% (2017: 97%) was the highest of all geographical territories this year.

Gross written premium increased 33% as a result of a new account written through the Marine portfolio, which has lower acquisitions costs than the average for the book, pushing down the overall acquisition cost ratio.

The adverse performance was driven by losses on Hurricane Michael, which increased the net claims ratio to 140% (2017: 58%).

Net earned premium was up 91% (£4.4 million) as 2017 incepting premium on the coverholder business written through the Property book continues to write and earn through into 2018.

## A3 Investment performance

### A3.1 Income and expenses from investments by asset class

The investment portfolio consists of investment grade fixed income securities, a fixed income Absolute Return Fund, a bond Exchange-Traded Fund, money market funds, fixed deposits and cash. Investment performance in terms of income and expenses is summarised by asset class in the table below on a UK GAAP basis.

	2018 (£'000s)	2017 (£'000s)	Variance %
Government bonds	167	(227)	-174%
Corporate/agency bonds	312	1,166	-73%
Securitised	18	20	-10%
Money market funds and cash	811	531	53%
Absolute Return Fund	(836)	1,276	-166%
<b>Gross investment return</b>	<b>472</b>	<b>2,766</b>	<b>-83%</b>
Investment management fees	(529)	(513)	3%
<b>Net investment return</b>	<b>(57)</b>	<b>2,253</b>	<b>-103%</b>
<i>Gross percentage return</i>	<b>0.1%</b>	<b>0.9%</b>	<b>-85%</b>

Investment income comprises interest receivable and dividends receivable, together with realised and unrealised investment gains or losses. Investment fees consist of asset management and custody fees.

Information relating to investments is reported on a fair value basis within the income statement. They are initially recorded at cost, which equates to fair value and subsequently re-measured at fair value through profit or loss. No gains or losses are recognised directly in equity.

Net investment loss of £0.06 million was realised, compared to £2.3 million gain achieved in the prior year. With just over half of investment assets comprising Sterling-denominated fixed income securities, total investment performance is materially affected by movements in UK yields. TMKI's investment performance is also exposed to global spreads and yields through its allocation to Funds, mostly comprising of a position in a Euro-denominated BlackRock Absolute Return Fund (ARF).

2018 underperformance relative to the prior year is driven by negative returns within the BlackRock ARF, which returns -1.76% versus 2.8% for 2017. The Fund's overweight position in investment grade credit was the largest detractor to performance as

risk-off moves, weaker data, Brexit and tariff trade wars weakened sentiment and pushed spreads wider with end of year liquidity exacerbating the move. Sterling fixed income performance was also impacted, with 2018 seeing a return of 0.35% versus 0.57% for the previous year, as spreads widened.

### **A3.2 Investment in securitised assets**

TMKI currently has a small allocation of directly-held securitised assets, which are Sterling-denominated, AAA-rated, and are in aggregate are less than 1% of TMKI's total investment assets. A small portion of securitised assets are also indirectly held via the ARF positions. The materiality of such securities is monitored and reviewed quarterly.

## **A4 Performance of other activities**

### **A4.1 Other material income and expenses**

Investment loss year-on-year was caused by negative returns within the Absolute Return Fund portfolio which returned -1.76% versus 2.80% for 2017. Sterling fixed income performance also deteriorated, with 2018 seeing a return of 0.35% versus 0.57% for the previous year, as spreads widened.

Other income was down from £1.5 million in 2017 to £0.9 million in 2018.

### **A4.2 Material leasing arrangements**

TMKI has no material financial or operating lease agreements.

## **A5 Any other information**

There is no additional information which should be disclosed.

## B System of governance

### B1 General information on the system of governance

#### B1.1 Role and responsibilities of the administrative, management or supervisory body and key functions

TMK's business operates on two platforms: TMKI, the company platform and Tokio Marine Kiln Syndicates Limited (TMKS) within the Lloyd's London Market. Both operate within the regulatory framework stipulated by the PRA and the FCA as highlighted in section A1.2 of this report.

The regulated boards of both TMKI and TMKS have combined board and board committee meetings, with common membership. The agenda and minutes easily identify those elements of the meeting that are entity-specific. Given that both regulated entities are managed as one, a single ORSA report, Responsibilities Map and Terms of Reference are in place.

There is also a group-level management team, with the following departments and functions operating at the TMK level, with group heads of department to support both entities: Actuarial, Claims, Compliance, Finance, Governance and Legal, Human Resources, Internal Audit, Operations, and Risk Management.

#### Role and responsibilities of the TMK board

The role of the TMK board is to set the Company's standards and values, determine the strategic direction and management of the Company within the context of the wider TMK group strategy set by the TMKGL board, to monitor the performance of the Company and to provide leadership, to ensure that the control framework enables the required assessment and appropriate management of risk and to ensure that the Company has sufficient human resources to meet its objectives within the Company's budget.

The terms of reference include details of specific matters that are reserved for decision by that board. These include items relating to:

- strategy and management;
- dividends and capital;
- financial reporting controls;
- certain appointments;
- business plan approval and associated capital requirements;
- underwriting;
- reserving;
- aggregate exposures and realistic disaster scenarios;
- risk management policies and procedures; and
- the establishment of any committee of the board and its composition.

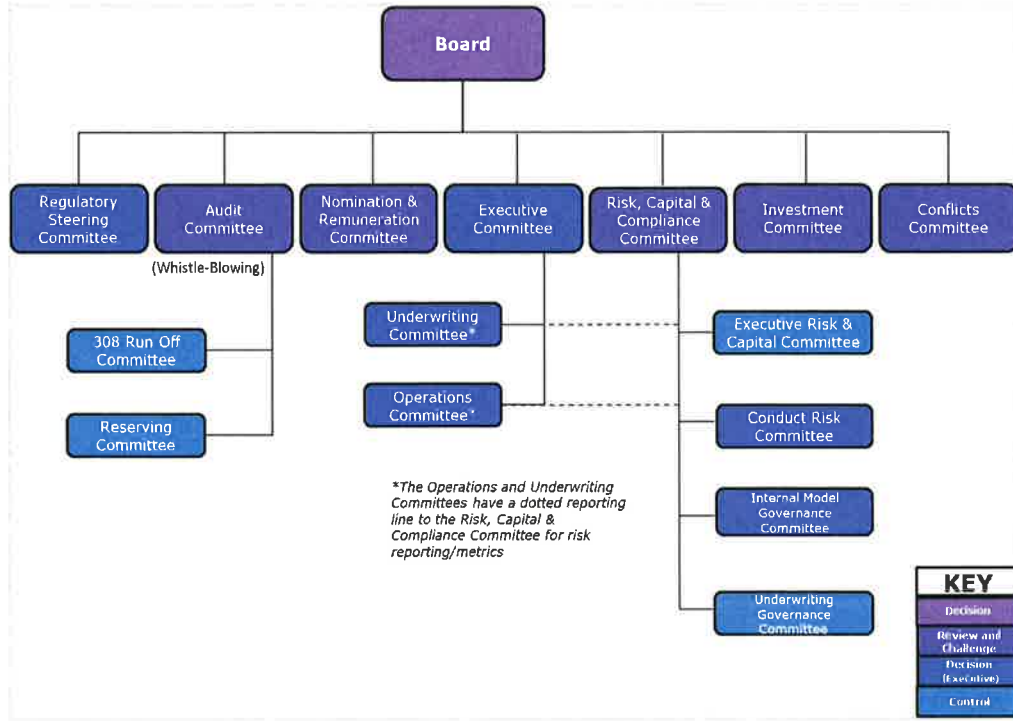
The board may delegate responsibility for particular matters to one or more board committees, the Chairman, Group Chief Executive Officer or otherwise, as it sees fit.

TMK's governance model sets out the board's key responsibilities and promotes TMK's core values with the overarching aim of adding value and increasing returns to all stakeholders through knowledgeable underwriting of risks and good understanding of clients' requirements, whilst acting with respect and integrity.

TMK is committed to high standards of corporate governance and believes that the board and committee structure in place supports those requirements and the provision of an adequate flow of information from the business functions into the committees and ultimately up to the board.

The schematic below shows TMK's board and committee structure, based on the new governance structure implemented effective January 2019:





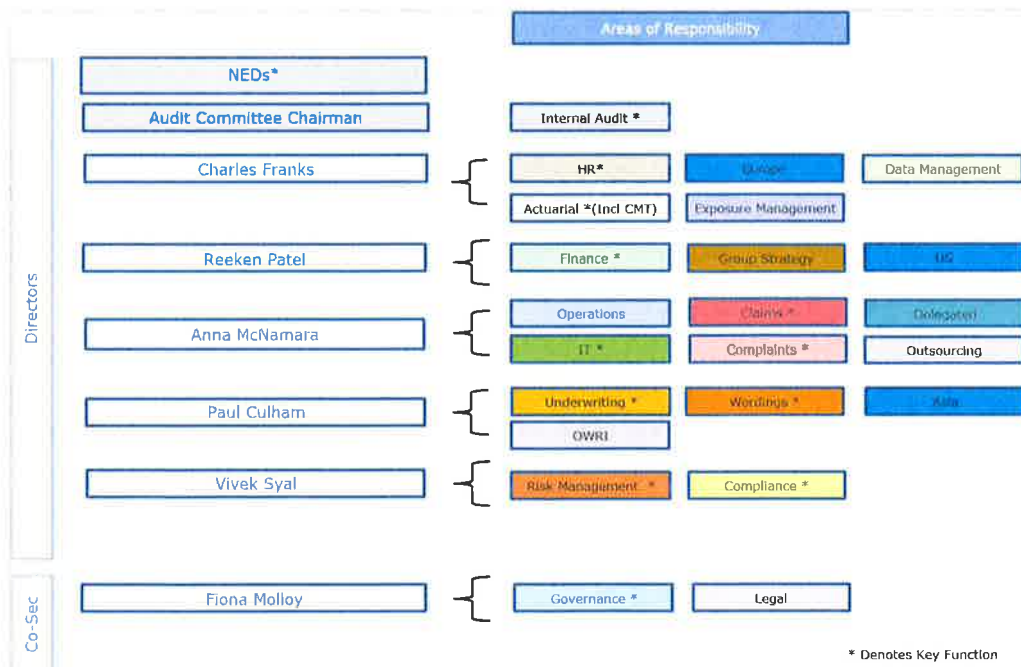
**B1.2 Key Functions**

Key functions are those functions whose operation “if not properly managed and overseen, could, depending on the nature and complexity of the business, potentially lead to significant losses being incurred or to a failure in the ongoing ability of the firm to meet its obligations to policyholders”.

In accordance with the rules in the Conditions Governing Business part of the PRA Rulebook and the European Union’s Solvency II Delegated Regulation 2015/35, the following business functions have been designated as key functions: Risk Management, Compliance, Internal Audit, and Actuarial.

Following an internal assessment, TMK has also designated the following as key functions: Underwriting; Claims; Complaints; Finance; Governance; Wordings; IT and Human Resources. The Non-Executive Directors have also been designated as a key function.

All business functions have a reporting line to the board as shown below in the Responsibilities Map:



### **B1.3 Roles and responsibilities of the Key Functions**

#### **Actuarial Function**

The Actuarial function coordinates the calculation of the technical provisions as set out in Article 82 of the Solvency II Directive: comparing best estimates against experience; ensuring that methodologies, models and the assumptions underlying the technical provisions are appropriate; calculating the ultimate loss ratios and GAAP technical provisions; assessing uncertainties underlying reserves estimates; and assessing the continued appropriateness and suitability of the standard formula to TMKI's risk business and risk profiles for calculating regulatory capital requirements.

The Actuarial function also supports the development and maintenance of an effective risk management system through supporting the ORSA process; providing the board and management with information on risk and capital profiles; and assessing appropriateness of reinsurance programmes and underwriting policy.

#### **Risk Management Function**

The Risk Management function facilitates the establishment and implementation of the risk strategy, risk policies and risk process; ensuring a consistent approach for identifying, assessing, mitigating, monitoring and reporting material risks; challenging risk management practice; and helping to embed a culture of risk awareness and proactive risk management. In addition, the function assists with the setting of risk appetite limits and reporting against them, providing the board and management committees with timely reporting on risks at the aggregated level.

The Risk Management function has oversight of TMKI's internal control environment, supporting regular departmental risk assessments, conducting special risk assessments, and providing the board and management with training on risk matters.

#### **Compliance Function**

The Compliance function supports the business in managing Regulatory risk. The function undertakes a number of activities such as advice to the business, management of financial crime, horizon scanning, incident management, compliance training, management of regulatory relationships, and reporting on regulatory and compliance risk exposure to the board and management. Within the function there is an independent 2nd line of defence Oversight & Assurance (O&A) team that monitors whether existing business processes and practice are being operated in a compliant manner. O&A also conducts regular monitoring and oversight of the business to identify areas of potential breaches of regulations.

#### **Internal Audit Function**

The Internal Audit function evaluates the appropriateness, adequacy, operation and effectiveness of the system of governance, including the internal control system.

Internal Audit's remit covers review of processes and controls, how these are being adhered to and implemented by all business areas, and the timing and frequency of reports. The function provides reports with findings and recommendations, deadlines for completion and assigned action owners. The function also monitors completion of the agreed actions and reports on these quarterly to the Audit Committee.

The roles of the other designated as Key Functions (detailed in the TMK Governance Map) are as set out in their internal departmental documentation.

### **B1.4 Authority, resourcing and operational independence of Key Functions**

All the designated key functions are provided with the necessary authority, resource and independence they require to effectively fulfil their roles. They each report to the board, either directly or through designated board committees. Their reports are standing items on the board and board committees' agenda.

### **B1.5 Material changes in the system of governance over the reporting period**

Following a governance and culture review commissioned in 2018, a new governance structure was implemented effective January 2019 to improve the oversight and support the effectiveness of the board and board committees.

In the third quarter of 2018, TMK's Group Chief Financial Officer resigned and a replacement was appointed in his place. In addition, in the first quarter of 2019, TMK's Group Chief Actuary resigned and the process for appointing a replacement has commenced. In the meantime, the deputy Group Chief Actuary has assumed responsibility for the Actuarial Function in an interim capacity.

Furthermore, there were changes to the non-Executive Directors (NEDs). Two NEDs resigned in the third and fourth quarters of 2018 and they were replaced.

### **B1.6 Material Risk Takers**

In line with the PRA's requirement that firms should implement a "Material Risk Taker" process and identify staff that are able to take material risks and those able to influence material risk-taking, TMK's Nomination and Remuneration Committee have reviewed the criteria (including "consistent materiality thresholds") and designated the following categories of staff as Material Risk Takers:

- board members;
- individuals who "effectively run the business";
- Key Function office holders;
- those who have a material impact on TMK's risk profile, based on role held;
- those who are accountable for 10% or more of TMK's gross net premium or capital at risk;
- Chairman of the Conduct Risk Committee; and
- Chairman of the Underwriting Committee.

### **B1.7 Remuneration policies and practices**

#### **Principles of the remuneration policy**

TMK's overall remuneration strategy is based on a robust process for reviewing and aligning all aspects of employees' reward against relevant market data. TMK's practices and procedures also reflect best practice and PRA and FCA requirements.

Specifically, TMK seeks to:

- ensure that the level of employees' total compensation reflects the pay position that the group wants to take relative to the market. For consistently high performers, the total compensation aspiration is set at the upper quartile;
- maintain a risk management culture, which ensures that TMK's employees conduct their affairs in line with regulatory requirements and external stakeholders' interests;
- ensure employees' pay awards are fair, consistent, equitable and transparent;
- ensure that the group does not unintentionally discriminate in any way, and that it strives to eliminate anomalies;
- keep up-to-date with the market by benchmarking and reviewing pay on an annual basis;
- take into account all aspects of compensation and benefits; and
- ensure that the approach to compensation and benefits support its aim of being a family friendly employer.

Remuneration at TMK is based on fixed and variable pay.

#### **Fixed pay**

Fixed pay comprises salary, pension and benefits. Salaries are benchmarked annually to ensure that each employee is paid the market rate for the position they fill. Whilst some benefits, such as pension allowances and private health scheme are fixed and offered to everyone, all employees can also use a flexible fund to select additional benefits according to their personal lifestyle.

#### **Variable pay**

This is used to reward employees for their contribution to TMK by recognising contributions above the performance expected of their role. There is a bonus scheme in place, which applies to all staff.

In addition, underwriting staff participate in TMK's profit commission scheme.

### **B1.8 Individual and collective performance evaluation criteria**

In order to rate and calibrate performance, TMK follows a consistent four-tier system of grading, which has been designed for ease of use and to reduce the levels of bureaucracy often connected with performance rating systems.

Managers are expected to base this rating not only on the specific objectives set, but also on how well an individual displays the TMK values and on a greater understanding of performance against role requirements, such as role profile and job description.

The ratings are finalised and agreed between employee and line manager in advance of the ratings being submitted. The employees' year-end performance rating incorporates an assessment of their adherence to risk and conduct guidelines during the year under review.

### **B1.9 Supplementary pension scheme for members of the board and/or key function holders**

TMKI does not provide supplementary pension or early retirement schemes for members of the board or other Key Function holders.

### **B1.10 Material transactions with shareholders and those who exercise significant influence during the reporting period**

TMKI enters into transactions with other Tokio Marine Group entities in the normal course of business. The most material transactions are the reinsurance cessions to TMNF.

### **B1.11 Assessment of adequacy of the system of governance**

#### **Review of board effectiveness**

In line with best practice, a review of TMK's board effectiveness is completed annually. As a matter of course, key areas of focus include: the role and composition of the board; the structure of board meetings; the effectiveness of its standing committees; individual performance of directors and the board.

Other key areas that may be considered include:

- strategy;
- risks;
- culture;
- change management;
- leadership;
- accountability;
- external factors; and
- regulation.

A summary of key findings and actions are presented at a board meeting for consideration, where appropriate actions are agreed and tracked to completion.

#### **Ongoing Review**

There is a standing item on the agenda for each quarterly board meeting entitled "Reflection", the aim of which is to allow time for directors to reflect on the effectiveness of their meetings. Any observations or suggestions for improvement are recorded in the minutes, and agreed actions are tracked to completion.

The combination of these reviews forms the basis for the board's assessment of the adequacy of the system of governance and the appropriateness of TMKI's governance to its business and risk profile.

## B2 Fit and proper requirements

### B2.1 Requirements for skills, knowledge and expertise

TMK takes the fitness and propriety status of all its employees, not just key function holders, very seriously and ensures that all staff are, and continue to be, fit and proper for their respective roles.

All candidates are assessed prior to appointment as part of the recruitment process and on an ongoing basis, through the annual performance review process. Certain events, such as an internal promotion, may also trigger a further review.

When considering employees' fitness and propriety, the following are taken into account:

- competence and capability;
- honesty, integrity and reputation; and
- financial soundness.

TMK will ensure the professional competence, qualifications and suitability of all new employees through its recruitment procedures, which include an assessment by an external investigator.

### B2.2 Fitness and propriety assessment process

In assessing a candidate's competence and capability prior to employment, all relevant matters are considered. This includes a review and assessment of:

- the required competencies and capability to fulfil the intended role. This is assessed throughout the recruitment process, particularly through interviews;
- the experience and training required to ensure that these are commensurate for the intended role; and
- whether the candidate's reputation would suit the role they are being considered for, bearing in mind the factors set out within the FCA Handbook's section 2.1.3 on fitness and propriety.

In order to comply with the fitness and propriety requirements, as part of any recruitment process, TMK:

- with the full knowledge and agreement of the candidate, completes civil and criminal checks through the use of a third-party provider;
- checks the veracity of any professional or other qualifications that are relevant to the role applied for;
- ensures that any gaps within the candidate's employment record are accounted for;
- obtains references from the candidate's former employers; and
- considers and reviews any adverse disclosure made by candidates. Full supporting documentation will also be requested.

In determining a candidate's financial soundness, TMK takes into account whether the individual has been subject to any judgement debt or award in the United Kingdom or elsewhere, whether this remains outstanding or was not satisfied within a reasonable period, and whether the individual has made any arrangements with creditors, filed for bankruptcy, had a bankruptcy petition served on them, been adjudged bankrupt or been the subject of a bankruptcy restriction order or any other related matter.

For existing staff, on-going checks are undertaken through the annual performance review process and through regular self-assessment, which is completed by all staff worldwide, including contractors.

On a bi-annual basis, the TMK board considers a report from the group Chief Executive Officer on the competency of the persons approved under the PRA's Senior Managers and Certification Regime (SM&CR), following the performance review process. The competency of the executive and non-executive members of the board is reviewed by the Nomination and Remuneration Committee.

Additionally, all employees are required to ensure that:

- any training to address development needs or gaps is completed;
- they continue to meet the fitness and propriety requirements; and

- they notify TMK of any changes in their circumstances that might have an effect on their fitness and propriety status. Upon receipt of this additional information, consideration will be given to whether they remain fit and proper in accordance with the Fit and Proper policy and a decision will be made on whether any further action is required.

Any non-disclosure of relevant information is taken seriously.

## B3 Risk management system, including the own risk and solvency assessment

### B3.1 Implementation of the risk management system

The Risk Management function is organised at the TMK group level to support the business in achieving its strategic objectives through appropriately managing risk taking within the business.

TMK's risk management system is supported by a comprehensive, enterprise-wide Risk Management Framework (RMF) and a suite of risk management policies, which are updated and approved on an annual basis. The RMF details TMK's approach to Enterprise Risk Management (ERM), summarising how risk is monitored and managed throughout TMK at various levels and across various departments. In managing its risk exposures, TMK seeks to balance the risks and opportunities associated with the business strategy and objectives. The Risk Management Team (RMT) reviews and updates the RMF annually, or more frequently if there are major changes in the business' risk profile that warrants this. It is reviewed and approved by the Risk, Compliance & Capital Committee (RCCC), a committee of the board.

The RMF is supported by a comprehensive RMT plan of activities for each year. The Risk Management plan takes a risk-based approach to risk management, contains key areas of focus for the coming year, covering workstreams and resource allocation.

As a business, TMK is exposed to many different areas of risk which are categorised within the TMK Risk Universe. The Risk Universe is defined as 'the complete view of all possible types of risk that the firm may face, reflecting the risk profile of the business'. This includes risks which could both positively or negatively impact the business.

The Risk Universe underpins TMK's Risk Appetite Framework (RAF), which sets out the parameters for risk taking, laying out the agreed appetite or tolerance for each area of risk the business is exposed to. Following an annual update made by the RMT, which feeds in the outcomes of the business planning process, the RAF is approved by the RCCC each year. The RAF is being refreshed in 2019, setting new risk appetite statements and tolerances in line with TMK's strategy. As a result of the new risk appetites, an updated suite of risk metrics is also being implemented. This new suite of risk appetites will be reported alongside the existing risk metrics for two quarters to ensure full embedding before reliance is placed upon them for running the business.

Risks from the Risk Universe are assessed for materiality and included in the Risk Register for monitoring and management. The Risk Register is the source of regular risk reporting to the Executive Risk & Capital Committee (ERCC), the RCCC and the board. This allows a direct flow of risk information from the Risk Universe to the RMT's quarterly reporting process, thus providing a joined-up and overarching view of risk for senior management and the business.

### B3.2 Integration of the risk management system into the decision-making processes

As discussed in section B3.1, TMK's RMF is supported by a RAF document, setting out the approach to setting, measuring and managing risk appetite. The RAF ensures that risk taking is aligned to the business strategy by managing risks according to a set of risk preferences and tolerances. These are strategic choices taken by the business to deliver the best result to its stakeholders. These preferences change over time as the strategy develops and adapts to, or capitalises on, market changes.

In addition, risk management policies are in place for each Solvency II risk category. These are owned by the business and functional areas and are updated annually, in line with the processes detailed within the RMF. These policies support the business in carrying out their risk management responsibilities and encourage risk management and ownership in the First Line, as per the 3 Lines of Defence model, which TMK adopts.

All risk management policies were reviewed and updated throughout 2018 to ensure consistency and accuracy. The Operational, Credit, Liquidity and Market risk management policies were significantly enhanced during this review and new Reserving, Underwriting and Reinsurance risk management policies were implemented. These were reviewed and approved by the RCCC.



Risk reporting is a regular, continuous and important process for TMK as it builds alignment and transparency of risk information between the business, management and the executive team. The risk management system and processes facilitate this reporting throughout the year, allowing the board and relevant committees to review and challenge risk information and make informed decisions about the changing risk profile of the business. Specifically:

- The RMT report on a quarterly basis to the ERCC and RCCC on risk management matters via the ORSA Lite. This report provides information on movements in the profile of top risks and Emerging risks over the quarter; updates on progress of management actions for these top risks; an incident and near-miss summary and the latest position for a suite of detailed risk metrics, which track against the business' stated risk appetite as set out in the RAF. Details on the ORSA (both the quarterly ORSA Lite and the annual ORSA report) are included in Section B3.3.
- In addition, the RMT reports to the ERCC on a monthly basis on specific, ad-hoc topics, such as the results of special risk assessments (SRAs) or key information regarding risk aggregations and concentrations. SRAs are undertaken on selected TMK strategic initiatives, particular areas of risk for the business or to assess the impact of external changes. Topics are proposed by the RMT and approved by the ERCC. In addition, the ERCC or RCCC can request additional SRAs throughout the year.
- Underwriting risk (as the largest risk which the business is exposed to) is assessed through a Key Insurance Risk (KIR) report, which monitors the current aggregated exposures to a selection of key natural catastrophe events and large losses. The KIR report provides commentary on the way the outward reinsurance (OWRI) would respond to certain losses, and flags any key issues surrounding underwriting risk, which the RMT require to be discussed at the RCCC.
- Results of the annual stress and scenario testing exercise contribute to the assessment and reporting of both individual and aggregated risks and their potential impact on the profitability and solvency of the business. Further detail on this process is included in Section B3.3. The Emerging risks framework has been enhanced during 2018:
  - A detailed log of all identified Emerging risks is maintained on an ongoing basis by the RMT, this drives updates to the Emerging risk profile section of the ORSA. New Emerging risks are identified via internal discussions and various external sources.
  - Emerging risks are assessed and measured through a scoring system using likelihood, impact and velocity (the warning that TMK has for an emerging risk prior to its impact being realised).
  - Emerging risk analysis is included in the annual ORSA process and the quarterly ORSA Lite to ensure that the ORSA process fully reflects the business' risk profile.
  - An annual Emerging risk report is completed to include in depth analysis on Emerging risks and potential future management actions.

### **B3.3 TMKI's own risk and solvency assessment (ORSA) process**

#### **Governance and steering of the ORSA process**

The board leads and steers the process for delivering the TMK ORSA. The ORSA process is documented in the TMK ORSA policy. This policy sets out the board's overarching guidance on the ORSA process, including reporting requirements, to ensure that regulatory and business requirements are continuously met. The goal of the policy is to assist the board in implementing processes to demonstrate the link between business strategy, risk appetite, risk profile and solvency needs. The ORSA policy is reviewed and re-approved on an annual basis by the board.

The ORSA process operates continuously throughout the year and is supported by several key elements, detailed below, to provide the board and management with a comprehensive assessment of risk, strategy and capital, informing and supporting business decisions on an ongoing basis. The board reviews, challenges and approves the findings of the ORSA process, through the quarterly ORSA Lite reports and the annual ORSA Report.

The annual ORSA report is reviewed and challenged by the ERCC and RCCC. Once the RCCC is satisfied the assessment is accurate and provides information required for capital allocation and strategic planning purposes, the report is recommended for approval to the board and submitted to the PRA and Lloyd's in Q1 annually.

The TMK Group Internal Audit (GIA) function reviews the ORSA Policy, process and annual report as part of a risk-based plan of activity.



### Triggers for ORSA reassessment

A significant change to TMKI's risk profile will trigger an ad-hoc re-run of the ORSA process outside its regular cycle. A significant change is defined to be a movement of 15% or more in the modelled Economic Capital Requirement over a quarter. Other events, which will trigger a rerun of the ORSA process outside its regular cycle include:

- failure in underlying controls or risk assessment processes leading to an incorrect assessment of capital requirements;
- major market loss;
- major change in the group business plan; or
- failure of counterparties or reinsurers, where there is significant exposure.

### ORSA Lite

The ORSA Lite contains, amongst other things:

- the output of risk and control identification, assessment, mitigation and monitoring processes established by the RMF.
- updates on all key risks faced by the business. This includes risks included within the Economic Capital Requirement calculation as well as non-modelled risks, such as Group, Reputational and Strategic risk, ensuring the Dashboard reflects the risk profile of the business.
- updates on changes to Emerging risks during the quarter, including new risks. The RMT facilitates TMK's Emerging risk process, helping the business to identify various sources of current and potential risks, both internal and external.
- Risk appetite information, which is consolidated using risk metrics to track performance of the most significant risks against risk appetite over time. These are reported to the ERCC and the RCCC on monthly and quarterly basis, respectively.
- Updates on incidents and near misses which have occurred throughout the quarter.

The ORSA Lite is reviewed and challenged by the ERCC and the RCCC.

### Forward-looking assessment of risk and capital

In line with Solvency II requirements, TMK's ORSA process facilitates a forward-looking assessment of risk and capital. The output of this assessment is included in the annual ORSA report compiled by the RMT. This report is based on the quarterly ORSA Lite, the outputs of each stage of the ORSA process, and supplementary information from across the business (including most critically, the business planning process and the associated projected capital requirements). Forward looking activities in the annual report include:

- the RMT holding discussions with the Group Chief Underwriting Officer to identify growth targets, reinsurance trends and assumptions for rating levels for the short to medium term;
- the RMT meeting with senior management to gain their strategic views for the 3-year planning period;
- the Finance and Actuarial functions drawing together planning assumptions around underwriting, investment income and expenses and preparing balance sheets, profit and loss projections and the resulting capital and solvency position of the business for the next three years;
- the RMT reviewing the outputs of the forward-looking assessment of risk and capital, whilst considering the overall business strategy. Assessment of whether the risk and capital amounts required to implement the business strategy for the next 3 years remain within the agreed RAF preferences, risk tolerances and metrics and escalation of concerns to the ERCC and RCCC;
- the RMT assessing management actions in the event of adverse circumstances, such as lack of continued capital support;
- the ERCC reviewing the make-up of Own Funds between Basic Own Funds and Ancillary Own Funds; and
- the board signing-off the 3-year plans, reviewing the risk and capital projections within the ORSA.

## Stress and scenario testing process

Stress and scenario testing (SST) is a core part of TMK's RMF and allows TMK to better understand its business by assessing its ability to meet solvency and liquidity requirements under stressed conditions. The SST exercise is undertaken at the same time as business planning, which allows the results of the exercise to be considered alongside any changes to business strategy or risk profile.

TMK's approach to SST is set out across three pillars, as follows:

1. Extreme event scenarios test the solvency, capital adequacy and liquidity of the business. Tests are plausible but extreme events. This requires the RMT to work closely with various departments in the business to confirm the appropriateness of the events and to help identify pre and post scenario management actions, given changes in risk profile resulting from the scenario. These scenarios:
  - allow the business to understand the type of extreme events that could occur that would materially erode capital;
  - test the output of capital assessment and the liquidity position of the business under stressed conditions;
  - identify areas where there may be aggregations of losses; and
  - test the viability of new strategic initiatives.
2. Reverse stress tests are used to help the business to understand what could cause the failure of the business model to meet its objectives in the short term. The business model is understood to be unviable at the point "at which the market loses confidence, which results in the firm no longer being able to carry out its business activities" (PRA). This can be well before financial resources are exhausted, for example from a major accounting impropriety, identification of collusion or another large impact to the TMK brand and subsequent loss of confidence from the market/regulator). This requires the RMT to work closely with various departments in the business to confirm the appropriateness of the events and to help identify pre and post scenario management actions. These tests:
  - allow the business to understand the most likely scenarios that could render the business model unviable; and
  - support the capital modelling process.
3. Sensitivity testing of the business plan stresses various key parameters to assess the impacts of these adjustments on profitability. These tests:
  - allow for improved understanding of the risks surrounding the business plan; and
  - highlight future earnings at risk resulting from strategic decisions.

The RMT leads the annual SST exercise, with input from the business. The list of stress and scenario tests is approved by the ERCC and RCCC annually, before the exercise is undertaken in the third quarter.

Scenarios cover all categories of risk considered by TMK, with the majority focusing on multiple risk categories, for example, an Insurance loss followed by a Credit loss coupled with an Operational risk event materializing in the same scenario. The outcome of the exercise is included in an annual report, outlining the key findings including management actions (where appropriate), reported to the ERCC and RCCC.

The identified management actions are made up of actions which would be undertaken if the scenario occurred, and actions to be undertaken pre-scenario. The pre-scenario management actions have assigned owners and a timeline for implementation; these are subsequently tracked through the quarterly ORSA process. The results of the exercise are also included in the annual ORSA report, with selected scenarios rolled forward on a 1 to 3-year basis to assess the impact on capital and solvency over the medium term.

## TMKI capital

TMKI has adopted the Standard Formula (SF) approach to calculating its SCR. As such, no Undertaking Specific Parameters (USPs) are utilised within this calculation. The SCR is calculated by the Finance team and reviewed by the SII Committee and the board. To ensure that the SF SCR is appropriate for the risks faced by TMKI, an assessment of appropriateness is undertaken annually by the Internal Model Validation team, looking at the assumptions underlying the SF versus the risk profile of TMKI,

with key differences documented in the annual ORSA report. The duly-validated SCR numbers are reviewed and signed off by the board annually.

In regard to economic capital, detailed capital assessments and allocations are prepared by the Actuarial function. These are presented to, and discussed with, senior management. Outputs are included in the quarterly ORSA Dashboard, the annual stress and scenario testing exercise and the annual ORSA Report.

### **B3.4 Integration of the ORSA process into TMKI's decision-making processes**

As noted above, the RMT reports the outputs of the quarterly ORSA processes in the form of an ORSA Lite report to the ERCC and the RCCC. The Dashboard contains qualitative and quantitative information on all risk categories TMK considers, providing a comprehensive view of TMK's risk profile over the year. The risk profile analysis is supported by a suite of risk metrics, used to track performance of the most significant risks against TMK's risk appetite and preferences.

The annual ORSA report is reviewed and challenged by the ERCC, the RCCC and the board before its submission to the PRA and Lloyd's.

The contents of the quarterly and annual ORSA are a key source of information for senior management. During 2018, this information contributed to decisions on business planning and pricing by providing analysis on TMK's evolving risk appetite and preferences, the results of quarterly and special risk assessments, stress and scenario testing and the outcome of other risk monitoring activities, for example, control effectiveness monitoring over the year.

The principal uses of the ORSA are as follows:

- assessing the level of capital available to meet TMK's current business requirements;
- determining the capital required to meet the company's growth and diversification intentions;
- as a key input to TMK's capital contingency planning;
- as a key input to TMK's business planning and forecasting process;
- determining whether the risk appetite of the business remains appropriate;
- identifying and assessing risks that exceed TMK's risk appetite, and, if required, ensuring that appropriate remedial action is taken;
- informing the group's reinsurance strategy; and
- providing assurance to stakeholders that appropriate risk management and capital planning procedures are in place across the group.

As part of the ORSA process, the RMT independently challenge the three-year business plans, analysing risks to and from these plans and the associated capital requirements. This forms part of regular updates to the ERCC, RCCC and the board throughout the year.

The RMT prepares the annual TMK ORSA report based on quarterly ORSA Lite data, the outputs of each stage of the ORSA process and supplementary information from across the business. This is reviewed and challenged by the ERCC and RCCC.

Once the RCCC is satisfied that the assessment is accurate and provides information required for capital allocation and strategic planning purposes, the report is recommended for approval by the board and submitted to the PRA and Lloyd's in Q1 annually.

TMK's Group Internal Audit Function reviews the ORSA Policy, process and Report as part of a risk-based plan of activity.

### **B3.5 Use of the ORSA to determine TMKI's solvency needs – interaction between capital and risk management**

As noted in the previous sections, the ORSA Lite provides an update on the business risk profile on a quarterly basis. Changes to risk and capital profiles over the quarter are highlighted with any necessary changes to strategy (for example, with regards to outward reinsurance) also noted.

The Group Chief Actuary provides the ERCC and the RCCC with quarterly capital updates, which detail the latest regulatory and economic capital calculations and the amount of Own Funds available to the business. These two committees review the capital

positions against the business and risk profiles and make appropriate recommendations to the board.

Metrics on capital are regularly reported to the ERCC and the RCCC through the quarterly ORSA. This includes metrics used to track the level of required economic capital compared to the capital held and the agreed solvency margins.

## B4 Internal control system

### B4.1 Description of the internal control system

TMK's internal control system comprises a combination of activities carried out to eliminate or reduce the likelihood of risks materialising and impacting the effective execution of its business strategy and the achievement of its objectives.

Activities include control management undertaken by the business, independent reviews and reporting undertaken by the both the RMT and the Compliance team and the independent review and assurance activities undertaken by GIA.

All TMK departments are responsible for proactively managing their control environment. Each department has in place an Internal Control Framework (ICF) document, capturing the most material controls they rely upon to perform core activities, fulfil departmental objectives and mitigate the risks captured on the Risk Register. These ICF documents are owned by the business and updated whenever there are changes in departmental processes. The role of the Risk function is to provide oversight and challenge of departments' risks and controls, including testing of key controls on a periodic basis.

Heads of department self-attest to the Operations Committee (OC) or the Underwriting Committee (UC) as to the status of their control environment on a bi-annual basis. Departments provide these committees with updates on controls rated ineffective. Where control deficiencies are identified in the self-attestations, management actions are clearly identified, outlining the approach to be taken to remediate controls to good. The committees challenge the content of the attestations to gain a comprehensive picture of the controls environment in each department.

The results of these assessments are reported to the ERCC and the RCCC throughout the year as part of the quarterly ORSA Lite.

### Incidents and near misses

A comprehensive incident and near-miss process is in place to ensure that events that have the potential to disrupt TMK's operations are captured and recorded.

Active management of incidents is aided by an on-line Incident and Near Miss Portal, which is accessible to all TMK staff, including international offices. The RMT, Compliance and Information Security teams are notified as soon as an incident is logged, allowing for real-time management and escalation of issues. Analysis of incidents and near misses is also undertaken on a monthly and quarterly basis to identify:

- common root causes of incidents that prevent departments from operating in an efficient manner;
- control weaknesses, leading to improvement plans; and
- trend analysis on the types of incidents and near-misses experienced by the business.

This analysis is included in monthly reporting to senior management and quarterly to the OC, ERCC and the RCCC through the ORSA Lite, ensuring that material control weaknesses and trends are understood and addressed, where appropriate. Relevant incidents are also shared with the Data Quality Team monthly for input into the Data Deficiency Log.

### B4.2 How the Compliance function is implemented

The Compliance team seeks to ensure TMK builds and maintains trust with its regulators by adhering to good practice and building and embedding a strong compliance culture.

The Compliance function is organised at the TMK level to support appropriate risk taking by the business and proactive management of Regulatory risk. Within the Compliance function are two sub-teams, Advisory and Oversight and Assurance, as well as staff outside these sub-teams who report to the Head of Compliance.

There are seven key areas in which Compliance operates:

- Advisory;
- Horizon Scanning;
- Incident Management;
- Regulatory Relationship Management;
- Compliance Training and Education;
- Reporting and Compliance Framework; and
- Oversight and Assurance.

The Compliance function provides expert advice regarding the identification and management of Regulatory and Compliance risk to the business, management and the board of each regulated entity within TMK. Its purpose is to provide independent and objective oversight and assurance to the relevant board, RCC and management team regarding the effectiveness or otherwise of systems and controls designed to mitigate and manage Regulatory and Compliance risk.

Area	Responsibilities of the Compliance function
Advisory	<ul style="list-style-type: none"> <li>• Actively engaging with the business to identify and advise on regulatory matters, whether internally or externally generated, to mitigate Regulatory risk whilst supporting business objectives</li> <li>• Proactive involvement in new strategic initiatives to provide guidance on regulatory matters               <ul style="list-style-type: none"> <li>• All TMK staff are encouraged to promptly seek Compliance team's help with obtaining, interpreting or implementing regulation</li> <li>• Additionally, there are certain circumstances where Compliance must be engaged for review and approval. Understanding and interpreting regulatory expectations will help TMK meet these expectations.</li> </ul> </li> <li>• Advising the business teams on operating principles, instructions and guidance to manage and mitigate regulatory and financial crime risk</li> <li>• Setting the standards by which Regulatory risks are managed</li> </ul>
Horizon Scanning	<ul style="list-style-type: none"> <li>• Monitoring projected changes and impact to TMK of revisions to relevant legislation and regulation, and plans to introduce new legislations and regulations</li> <li>• Assessing and reporting on potential impacts to TMK and proposing amendments to TMK's operations to meet with changes</li> <li>• Identifying and evaluating Compliance risk related to TMK's strategic plans and business transactions</li> <li>• Regularly reviewing sources of emerging Regulatory risk, maintaining a record of this within the horizon scanning log and noting any potential impact and action being taken/communicated to the business</li> </ul>
Incident Management	<ul style="list-style-type: none"> <li>• Coordinating the management of Regulatory and Financial Crime incidents and facilitating liaison between all stakeholders involved to bring to satisfactory conclusion</li> <li>• Advising on appropriate remedial action for the business to take</li> <li>• Undertaking incident root cause analysis as required</li> </ul>
Regulatory Relationship Management	<ul style="list-style-type: none"> <li>• Acting as the primary contact point between TMK, group companies and their respective regulators and other relevant authorities (including law enforcement agencies) to facilitate and assist with the proactive management of those relationships</li> <li>• Acting as a portal for routine communication and contact between TMK and the external regulatory community (e.g. UK regulators and regulators in other countries as necessary), and managing TMK's response to information requests (excluding routine reporting), special notifications and involvement in meetings with the regulators in a note-taking and support capacity</li> <li>• Assuming primary responsibility for interactions with the FCA and PRA and ensuring that relevant interactions with regulators are recorded in Compliance's records, including notes of any relevant meeting and exchange of correspondence relating to regulatory matters</li> </ul>
Compliance Training and Education	<ul style="list-style-type: none"> <li>• Supporting the business in complying with regulatory requirements, including providing direction, education and formal training on issues within Compliance's remit</li> <li>• Managing the content of the Compliance and Financial Crime training modules</li> <li>• Supporting the SM&amp;CR-approved persons in their appointment process and ongoing training needs</li> </ul>
Reporting and Compliance Framework	<ul style="list-style-type: none"> <li>• Reporting on Regulatory and Financial Crime matters to the board level and other relevant stakeholders</li> <li>• Managing external regulatory reporting</li> <li>• Oversight of the Compliance Framework, which includes Compliance Function planning, maintenance of the ICF, risk register, and ensuring that policies and procedures are in place</li> <li>• Reporting on progress against the Compliance Plan to the RCC on a quarterly basis</li> </ul>

Area	Responsibilities of the Compliance function
Oversight and Assurance	<ul style="list-style-type: none"> <li>• Developing and implementing a risk-based Compliance Oversight and Assurance Plan across in-scope areas of the business</li> <li>• Reporting on results of any risk-based issues to the board, board committees and senior management</li> <li>• Reporting and agreeing the findings of its oversight and assurance activities with local management, and monitoring implementation of agreed actions</li> <li>• Undertake any special investigations/projects required in response to demands by a regulator, serious policy or control breaches, or as requested by executive management/board.</li> </ul>

## B5 Internal Audit function

### B5.1 How the Internal Audit function is implemented

The Internal Audit function is organised at the TMK level and provides independent, objective assurance and consulting services designed to add value and improve TMK's operations.

Internal Audit's mission is to enhance and protect organisational value by providing risk-based and objective assurance, advice, and insight. Internal Audit helps TMK accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of governance, risk management, and control processes.

The scope of Internal Audit activities encompasses, but is not limited to, objective examinations of evidence for the purpose of providing independent assessments to the Audit Committee, management, and outside parties on the adequacy and effectiveness of governance, risk management, and control processes for TMK.

Tokio Marine Holdings (TMHD) issues an Annual Policy for Internal Audit, which sets out the key objectives for group Internal Audit functions and identifies a number of key focus areas that must be addressed in the audit cycle.

The Internal Audit function is governed by an Internal Audit Charter, which sets out the function's role, mandate and authority, and includes independence and objectivity criteria. In addition, Internal Audit adheres to the mandatory elements of The Institute of Internal Auditors International Professional Practices Framework, including the Core Principles for the Professional Practice of Internal Auditing, the Code of Ethics, the International Standards for the Professional Practice of Internal Auditing, the Definition of Internal Auditing and the Financial Services Code.

The Group Head of Internal Audit (HIA) reports periodically to senior management and the Audit Committee regarding the function's conformance to these professional standards.

### B5.2 Independence of the Internal Audit function

The HIA ensures that the function remains free from all conditions that threaten the ability of internal auditors to carry out their responsibilities in an unbiased manner, including matters of audit selection, scope, procedures, frequency, timing, and report content. If the HIA determines that independence or objectivity may be impaired in fact or appearance, the details of impairment will be disclosed to the Audit Committee and any other appropriate parties.

Internal auditors have no direct operational responsibility or authority over any of the activities audited. Accordingly, internal auditors do not implement internal controls, develop procedures, install systems, prepare records or engage in any other activity that may impair their judgment, including:

- assessing specific operations for which they had responsibility within the previous year;
- performing any operational duties for TMK or its affiliates;
- initiating or approving transactions external to the Internal Audit function;
- directing the activities of any TMK employee not employed by the Internal Audit department, except to the extent that such employees have been appropriately assigned to auditing teams or to otherwise assist internal auditors.

Where the HIA has or is expected to have roles and/or responsibilities that fall outside of internal auditing, safeguards are established to limit impairments to independence or objectivity. Internal auditors also:

- disclose any impairment of independence or objectivity, in fact or appearance, to appropriate parties;
- exhibit professional objectivity in gathering, evaluating, and communicating information about the activity or process being examined;
- make balanced assessments of all available and relevant facts and circumstances; and
- take necessary precautions to avoid being unduly influenced by their own interests or by others in forming judgments.

The HIA confirms to the Audit Committee, at least annually, the organisational independence of the Internal Audit function. The HIA will disclose to the Audit Committee any interference and related implications in determining the scope of internal auditing, performing work, and/or communicating results.

## B6 Actuarial function

### B6.1 How the Actuarial function is implemented

The Actuarial Function is organised at the TMK level to support both TMKI and TMKS. It comprises of the following technical teams: the Actuarial Reserving Team, the Capital Modelling Team, and the Pricing and Analytics Team.

In addition to their day-to-day responsibilities, the teams are also responsible for, or contribute to, the following high-level areas as laid out in Article 48 of the Solvency II Directive:

- technical provisions;
- own risk and solvency assessment; and
- opinions on underwriting policy and reinsurance arrangements.

All the above technical teams report to the Group Chief Actuary, who has overall responsibility for oversight of the Actuarial Function and for ensuring that the processes comply with relevant regulatory and actuarial standards.

The TMKI Chief Actuary, who reports to the Group Chief Actuary, delivers TMKI's annual Actuarial Function Report and opinions on technical provisions, the underwriting policy and reinsurance arrangements to the TMKI board.

During 2018, both the Group Chief Actuary and TMKI Chief Actuary held Chief Actuary Practising Certificates issued by the Institute and Faculty of Actuaries and they were certified under the SM&CR.

## B7 Outsourcing

### B7.1 TMK's outsourcing policy

TMK's outsourcing of certain business tasks or processes to third-party suppliers or service providers is guided by the Third-Party Contract Policy (including Outsourcing). This policy provides guidance on how reviews and approvals of outsourcing arrangements are performed in a controlled manner and that TMK's outsource partners provide an effective level of service, not unduly impacting any of TMK's own systems or controls.

To maintain effective control over outsourced functions (including those which are sub-outsourced or outsourced to other companies within the TMK Group) and to adequately manage the associated risk, TMK ensures that:

- adequate review and assessment are carried out of the impact of a third-party contract on TMK's risk profile, as well as contingency planning in the event of an outage or service failure by the service provider.
- the supplier or service provider has the ability, capability and legal authority to meet TMK's commercial and business requirements and, as far as it is aware, is free of conflicts of interest relevant to the potential outsourcing arrangement.
- the service provider is financially sound, professionally competent, appropriately experienced and has in place adequate insurance cover to meet its contractual obligations.
- contract terms meet TMK's legal and regulatory requirements.
- written agreements are in place for all outsourcing arrangements, which govern the relationship with the service provider, setting out the duties and responsibilities of both parties and that these are signed-off by the authorised signatories of the parties.



- each material contract is approved by the board (or by a committee designated by the board) and owned by a Business Sponsor supported by a Contract Monitor.
- non-material contracts are owned by a Business Sponsor and supported by a Contract Monitor.
- procedures are in place to ensure the safety and confidentiality of TMK's and its clients' assets and information.
- TMK has a clear and documented understanding of the functions to be outsourced.

TMK's Third-party Contract procedures include processes and appropriate controls to meet the above requirements, in addition to details of the relevant review and sign-off responsibilities. These procedures ensure that any outsourcing arrangement does not impair TMK's systems of governance or increase the level of Operational risk.

Third-party contracts are categorised into "material" and "non-material" contracts. A risk-based approach is adopted in determining whether a contract is material or non-material, taking into account both the likely business impacts and the mitigation in place.

All material contracts are subject to the full Solvency II outsourcing requirements and the appropriate procedures (e.g. due diligence checks), while non-material contracts are those deemed not critical to TMK's business i.e. a service failure could not result in significant disruption to the business operations. However, non-material contracts are subject to TMK's own minimum requirements for legal and commercial sign-off.

The following functions are not considered critical or important for the purpose of determining materiality:

- provision of advisory and other services, which do not form part of the relevant services and activities of TMK, including the provision of legal advice, training of personnel, billing services and the security of premises and personnel.
- purchase of standardised services, including market information services and the provision of price feeds.

## B7.2 Material outsourcing arrangements

TMKI has material outsourcing arrangements in place for the following activities:

Service received	Location of service provider
Modelling platform	London, UK
Claims management system	London, UK
Risk management service	New York, USA
Discretionary Investment Management Service	London, UK
Investment accounting system	
HR + Payroll services	Reading, UK
Investment managers	London, UK
Pricing models	London, UK
Investment managers	Dublin, Republic of Ireland
Application development and support services	London, UK
Provisional/Support of global telecoms network (voice and data) to all TMKI offices	London, UK
Property Catastrophe Modelling	California, USA
Disaster Recovery Services	Hounslow, UK
Claims services	London, UK
Genius (underwriting system) software functionality	London, UK
Genius support and maintenance services	

## B8 Any other information

In line with its objective of establishing a single accountability regime for all its regulated firms, the PRA extended the Senior Managers and Certification Regime (SM & CR) to insurers effective December 2018. This replaced the previous Approved Persons regime.

TMK has implemented relevant changes to comply with the SM & CR requirements.

## C Risk profile

### Summary of risk profile

TMKI's principal activities are the underwriting of commercial marine cargo, property and liability insurance business in the United Kingdom. Branch offices in Europe that were previously underwriting risks through TMKI are now under Tokio Marine Europe (TME) (see section A1.6 above).

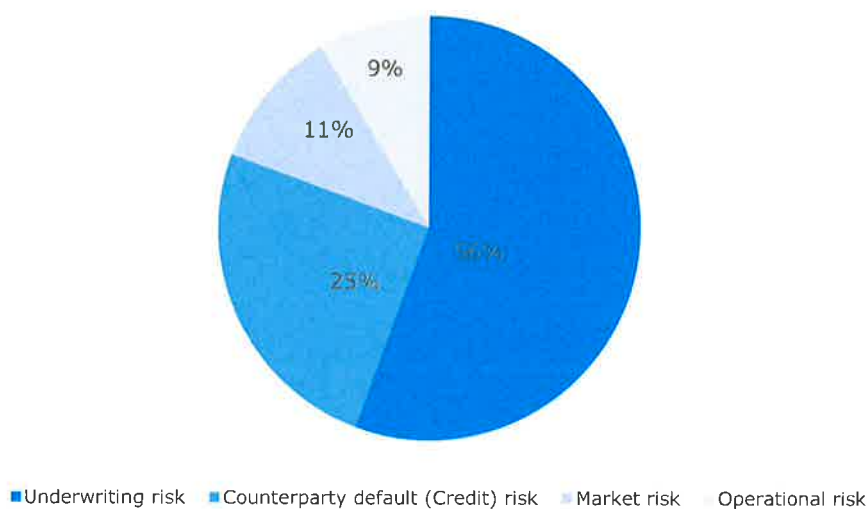
TMKI's business model remains consistent with specialist underwriters providing a wide variety of products tailored to our clients' changing risk profile. This is supported by a comprehensive, enterprise-wide framework for the management of risk across the company.

TMKI focuses largely on shorter-tail lines of insurance where the business knows that reliable assessment of a loss can be relatively quickly determined, and so the company can make more immediate estimation of the extent of the loss to expect.

TMKI is substantially exposed to losses from man-made and catastrophe property damage events-related business.

It is TMKI's policy to confine its exposure to risk primarily within its core areas of expertise: the underwriting of large commercial insurance and reinsurance risks. This approach means that TMKI is at the cautious end of the spectrum in all areas of financial risk management, such as investment management. This allows TMKI to protect the capital on its balance sheet and focus its risk appetite on underwriting.

The Standard Formula SCR risk profile as at 31 December 2018 is as shown below:



**Chart 1:** Risk categories' contribution to the overall SCR (%)

Given that insurance is TMKI's business, understandably, underwriting risk constituted 56% of its SCR. Counterparty Default Credit risk was 25% of the SCR, while Market risk, which is conservatively managed in line with TMK's cautious investment strategy, constituted 11% of the total SCR. Operational risk, which constituted 9% of the SCR, is tolerated but mitigated wherever possible.

Underwriting risk is mitigated through extensive use of outwards reinsurance (37% of gross written premium, net of acquisition costs, is ceded), which is a key driver of the relatively high Counterparty Default Credit risk. This reinsured business includes risks ceded under the DAMP treaty in which some business with major Japanese clients is 100% reinsured to TMNF.

### C1 Underwriting risk

This is the risk arising from fluctuations in the frequency and severity of financial losses incurred as a result of the acceptance of the insurance portfolio of business.

As highlighted above, as at 31 December 2018, underwriting risk constituted approximately 56% of TMKI's SCR.

### C1.1 Key underwriting risks

Property and Engineering risks drive the underwriting risk, split by line of business, with Marine, Liability, Personal Accident and small amounts of other coverage making up the remainder.

Property is broken down into four areas: non-Japanese mid-corporate retail business in the UK and France; non-Japanese large corporate business; real estate (property owners) business; and Japanese commercial accounts. The other portfolios are not split down into a similar level of granularity, but they do include groupings into Japanese and non-Japanese exposures.

Liability is a split of both general liability and employers' liability risks, with a greater proportion of the book centred on general liability risks in the sport, leisure and entertainment, and retail areas. Marine is split across a variety of exposures; however, cargo and freight liability are the main drivers of the book.

### C1.2 Underwriting risk assessment and mitigation

Insurance risk is managed by agreeing TMKI's appetite for these risks annually as part of the business planning process, which sets out the targets for volumes, pricing, line sizes and retention by class of business. Volume and price performance are monitored against the business plan monthly, and against all the components of the insurance result and risk appetite quarterly. Catastrophe modelling software is used to model maximum probable losses (PMLs) from the catastrophe exposed business.

#### Use of outward reinsurance as the main underwriting risk mitigation technique

TMKI's outward reinsurance arrangements serve to limit its overall risk exposure, as well as reduce the volatility of its claims to enhance underwriting performance.

The outwards reinsurance program in place is reviewed by the group Chief Underwriting Officer in conjunction with the Head of Outward Reinsurance and Lead Underwriter in each division on an annual basis for appropriateness, whilst considering the effectiveness of the outwards reinsurance programme over the past years of claims experience, as well as the projected business plan and associated risk profile of the company over the next year.

### C1.3 Underwriting risk sensitivity and concentrations

Maximum line sizes exist in US dollars, euros and sterling. GBP line sizes are quoted below, other than for Marine business.

As noted previously, the Property book makes up over half of the overall underwriting risk and contains the majority of exposures from large fire risk and natural catastrophe exposures. The portfolio has a maximum line size of £300 million for Japanese corporate business, £76.9 million (on a PML basis) for Construction and Engineering business, £125 million for Non-Japanese Corporate business, and £200 million for Property Owners business. These are reinsured down on a per risk basis to a net exposure of £5 million.

For a small selection of the Tokio Marine Group's multinational clients, TMKI offers larger line sizes than these, and they are substantially reinsured back to TMNF. This is common practice for overseas subsidiaries of multinational groups.

Other maximum line sizes are £50 million for Liability, \$85 million for Japanese Marine and \$45 million for Non-Japanese Marine. These are reinsured down on a per risk basis to a net exposure of £1 million for Liability and \$5 million for Marine. In addition, Medical Expense and Assistance insurance is underwritten on a PML basis for Japanese clients with maximum sums insured of £20 million and £10 million respectively.

TMKI is exposed to substantial fire losses from a variety of risks on its books. One of the largest scenarios assessed quarterly is that of a 200-metre radius accumulation of risks in the same postcode. The largest single scenario on a net basis was approximately 42.9% of TMKI's SCR.

The property portfolio is the main driver of TMKI's natural catastrophe exposures. The largest standalone natural catastrophe perils are losses from EU windstorm, EU earthquake, UK flood, North American windstorm, and North American earthquake west. At the 1-in-200-year return period, the net exposure to these perils range between 8.1% (EU EQ) to 27.9% (for EU WS) of TMKI's ECR, on a net basis. There is extensive reinsurance of natural catastrophe risks at TMKI, as a result of which any one event exposure is limited to a loss of £7.5 million.

TMKI carries out stress and scenario testing as part of its ORSA process, including testing for the most material underwriting risks compared to the SCR. For the 2019 ORSA, the solvency position as at 31st December 2018 was re-examined following adverse stresses on underwriting risk at varied return periods. A reverse stress test was undertaken, looking at the impact of a loss of parent support on the business. This test focused on reputational impact, rather than a quantitative output.

The results of the analysis showed that the most material quantifiable impact was from a Global Economic Downturn scenario measured as a 1-in-50 year event and leading to a loss of circa 60% of capital. The tests throughout the annual process demonstrated that TMKI's capital is resilient to withstand severe shocks, and the underwriting risk profile remains within the board's risk appetite. IT was noted that the extensive outwards reinsurance program in place effectively mitigates many scenarios for underwriting losses.

As noted in section B3.3, a set of sensitivity tests are undertaken within the SST exercise and reported in the ORSA. These assess how the business plan responds to various changes in key parameters in the business plan. The exercise highlighted the fluctuation in TMKI's results based on PRI changes and shifts in net loss ratio experience.

### **Reserving risk**

This is the risk of loss arising from claims reserves already in the balance sheet being understated, i.e. the risk that reserves are inadequate due to the inherent uncertainty of knowing the ultimate timing and quantum of liabilities incurred.

Reserving risk as at 31 December 2018 constituted 27% of the underwriting risk.

Claims provisions represent estimates, based on the company's Actuarial function's statistical projections, of the expectation of the ultimate settlement and administration costs of claims incurred. A variety of estimation techniques are used generally, based on statistical analyses of historical loss and premium development patterns, to assist in the establishment of appropriate claims reserves.

In addition to the statistical techniques, the Actuarial function engages with the underwriting and claims departments so that relevant information relating to reserve exposures can be included in the claims reserving process. The estimates are also subject to independent review by external Actuaries who sign a Statement of Actuarial Opinion on the sufficiency of the reserves for the company.

A stress and scenario test was undertaken to look at a global asset shock leading to investment losses and an inflation-driven reserve deterioration at a 1-in-50-year event. The result of the analysis highlighted a 60% erosion of capital.

## **C2 Market risk**

This is the risk arising from fluctuations in values of, or income from, assets, interest rates or exchange rates. Market risk as at 31 December 2018 comprised 11% of TMKI's SCR.

### **C2.1 Market risk assessment and mitigation**

A key reason for the low contribution of Market risk to TMKI's overall risk profile is the conservative nature of TMK's Investment policy, which has protection of capital as the overriding aim. As a result, Market risk has been consistently managed within the risk tolerances set by the board and accepted as a by-product to risks that TMKI seeks, such as Underwriting risk.

Market risk is measured on a quarterly basis using the Economic Scenario Generator (ESG) model for capital purposes and more regularly using the BlackRock Aladdin risk system for the day-to-day management of the investment portfolio.

TMKI's Market risk profile is monitored by looking across the various assets and liabilities. The tolerances of each risk metric are reviewed annually in the fourth quarter of each year as part of the Risk Appetite Framework update. Using an Investment risk metric and an asset liability management (ALM) metric, quarterly reports are presented to the Investment Committee to update them on the Market risk profile against agreed tolerances.

## Interest Rate risk

This is the risk that the present value of the future cash flows of financial instruments will fluctuate due to changes in interest rates.

Interest rate changes affect the valuation of liabilities, and any mismatch in the effects of interest rate change on the assets to liability valuation is the Economic risk.

Interest Rate risk is measured primarily by duration and managed by specifying limits within the investment guidelines.

The table below shows the level of Market risk within TMKI's investment portfolio as at 31 December 2018 compared with the position as at 31 December 2017.

Asset type*	Year-end 2018			Year-end 2017		
	Market value (£'000s)	%	Duration	Market value (£'000s)	%	Duration
Government	68,769	20.2%	2.41	57,151	16.8%	2.32
Agency	24,974	7.3%	3.11	29,799	8.8%	2.81
Corporate	76,063	22.3%	1.94	77,157	22.7%	1.86
Securitized	2,232	0.7%	0.06	2,555	0.8%	0.07
Funds	49,027	14.4%	-0.88	47,722	14.1%	-0.58
Cash and cash equivalents	120,123	35.1%	0.05	125,238	36.8%	0.13
	<b>341,188</b>	<b>100.0%</b>	<b>1.04</b>	<b>339,642</b>	<b>100.0%</b>	<b>1.03</b>

\*Valuation provided on a UK GAAP basis, see section E1 for the SII valuation.

The weighted average duration was 1.04 years in 2018, which was a small increase on the 1.03 duration in 2017.

The investment guidelines specify a maturity limit of 10 years for each security and a duration limit of 3 years for each investment manager's portfolio. The investment guidelines also specify that the duration for managed assets should not be more than 1.0 year longer or shorter than the duration for liabilities. This is reported to the Investment Committee on a quarterly basis. The investment managers are, however, allowed to take modest tactical positions away from the benchmarks to manage any expected change in interest rates.

The company does not use interest rate derivatives or futures to mitigate Interest Rate risk.

## Foreign Exchange risk

Foreign Exchange risk is potential loss arising from movements in currency exchange rates.

Foreign Exchange risk is managed by investing the premiums and reserves in the same currency as the liabilities, and where any mismatches occur, these are managed by buying or selling currencies with spot foreign currency trades.

### C2.2 How all assets are invested according to the 'prudent person principle'

TMKI's Investment portfolio holds assets and instruments whose risks are understood, measured, managed, controlled and reported accordingly. The following is a description of the process used to ensure that all steps are taken in the interest of the policyholders and other stakeholders.

TMKI performs regular Strategic Asset Allocation (SAA) exercises that help to ensure the maintenance of a suitable composition of assets, which is required to meet the company's risk and reward criteria. The SAA is based on the Willis Towers Watson's ESG model assumptions for the asset classes and takes into consideration the liability cash flows provided by the Actuarial function.

The SAA defines an asset allocation that closely optimises the desired risk and expected return, whilst matching, as close as possible, the duration of the liabilities. This exercise ensures that the assets, in particular those that cover the technical provisions, are invested with a similar duration to the liabilities. The SAA takes into account asset quality, liquidity, diversification requirements and impact on capital. This ensures that there is no excessive risk concentration.

TMKI have engaged BlackRock Investment Management (UK) Limited and Mitsubishi UFJ Asset Management (UK) Limited as external portfolio managers. A selection of fixed income benchmarks which, when combined, approximate the key rate durations of the liabilities have been allocated to each portfolio manager. These blended benchmarks are written into the investment guidelines, which are approved by the Investment Committee and form part of the portfolio managers' Investment Management Agreements.

These guidelines include restrictions on asset classes, issuers, duration and concentration, and they specify the procedures to be followed, if there was a breach. Adherence to these guidelines is monitored daily by an internal Treasury team and reported monthly to the Finance Group and quarterly to the Investment Committee and the board.

### C2.3 Market risk sensitivity and concentrations

The following exposure limits apply to each type of issuer for Investment risk purposes:

- Government agency: 25%
- Government issued debt: 100%
- Corporate bonds: 75%

Sensitivity testing is undertaken on both Interest Rate risk and Exchange Rate risk, with the results making only a small impact on the carried capital in line with TMK's cautious investment strategy.

A stress test analysis was undertaken of global economic downturn, including an asset shock taking place affecting the global economy and leading to underwriting and investment losses. This scenario, which includes claims inflation rising by 4 per annum, leads to a loss to TMKI due to significant reserve deterioration and results in 60% capital erosion.

## C3 Credit risk

This is the risk of loss if another party fails to meet its financial obligations, including failure to meet them in a timely manner. TMKI's Credit risk exposure as at 31 December 2018 constituted 25% of its SCR.

### C3.1 Credit risk assessment and mitigation

TMKI is exposed to three types of Credit risk: Reinsurer Credit risk, Broker/Intermediary Credit risk and Investment Credit risk.

Credit exposure and aggregate exposure to reinsurers are managed by the Reinsurance Security Committee (RISC), which assesses and approves all new reinsurers before business is placed with them. RISC also monitor the credit ratings of all reinsurers used, while the performance of premium debt, from brokers and intermediaries, is monitored quarterly by the Credit Control Committee. The Investment Committee regularly tracks and reviews TMK's investment portfolio.

#### Reinsurer Credit risk

The maximum exposure to any one reinsurer is controlled as follows:

- Exposure metrics are calculated, depending on the reinsurer's blended credit rating, with figures capped at specific values as may be agreed from time to time by the RISC.
- The blended rating for each reinsurer is calculated, based upon a mixture of AM Best and S&P's ratings.
- These are set against a percentage of the capital, depending on the blended rating, with exceptions for collateralised reinsurances.

Blended rating	2018 Default % of capital	2017 Default % of capital	Change between 2017 and 2018
AAA to AA-	10%	10%	Nil
A+ to A-	6%	6%	Nil
BBB+& below	2%	2%	Nil



This leads to a list of:

- authorised reinsurers: within the above limits.
- referral reinsurers: outside the above limits, but which are desired to be used by TMKI.

Intra-group reinsurances are subject to special examination, based on the following general principles:

- there is a limit for total ceded premium of 20% of gross written premium.
- a number of individual exposures exceed the matrix limits, and these have to be agreed by exception by the RISC.

Despite the risk of reinsurer default being considered low, given that almost all of TMKI's reinsurance are placed with reinsurers holding a credit rating of A or above, the risk of each reinsurer's default is modelled to take account of the low probability, high impact nature of this risk.

Although there is a significant Counterparty Default Credit risk exposure to TMNF, this risk is mitigated with the substantial amount of cash on deposit and the letter of credit, both held with a major Japanese bank.

A scenario test was undertaken where two Californian earthquakes lead to investigation of TMK's risk to counterparty default following large scale insurance losses. The scenario's lead to a 1% erosion of capital to TMKI. The losses are noted as reasonable in the model and this scenario test highlights the effective reinsurance strategy at TMK, which makes use of significant collateralised arrangements as well as utilising TM Head office for a large portion of reinsurance.

### Counterparty Credit Default risk

The following table shows TMKI's investment portfolio by credit rating as at 31 December 2018:

Asset rating*	2018			2017		
	Market value (£'000s)	%	Duration	Market value (£'000s)	%	Duration
AAA	70,078	20.5%	0.89	61,113	18.0%	1.19
AA	90,626	26.6%	2.38	82,515	24.3%	2.36
A	106,224	31.1%	0.57	125,412	36.9%	0.48
BBB	8,459	2.5%	2.58	9,428	2.8%	2.89
Not Rated	65,802	19.3%	-0.10	61,175	18.0%	-0.11
	<b>341,189</b>	<b>100.0%</b>	<b>1.04</b>	<b>339,642</b>	<b>100.0%</b>	<b>1.03</b>

\* the rating reported is per S&P.

In managing TMKI's asset portfolio, the portfolio managers use ratings from credit rating agencies, S&P, Moody's and Fitch, as well as their own internal assessments. In each case, the lowest rating available for the asset is considered. This is an appropriate process, given that it takes into account the three leading rating agencies' assessments, alongside the portfolio managers' own expert assessments. Non-rated financial investments can be predominantly attributed to the investment into the BlackRock UCITS (Undertakings for Collective Investment in Transferable Securities) Absolute Return Fund. The average rating of the constituent investments on a look through basis is BBB.

The credit ratings of the issuers of each asset held within the portfolio are also used as an input to the capital model (through the ESG model) in parameterising TMKI's risk exposure. In addition, a concentration limit of 5% holding in any one issuer rated BBB- or higher is imposed to ensure that exposure to investment Credit risk is minimised. The top exposures are reviewed by the Investment Committee on a quarterly basis.

No credit derivatives are used in the managed portfolios.

### Credit Spread risk

Credit Spread risk is the potential loss in market value resulting from increase in credit spread levels. This can be due to several factors, ranging from a change in a borrower's ability to repay its debt, to a change in investor appetite for any particular asset or asset class.



Given that TMKI invests primarily in investment grade corporate bonds, where the probability of a default is very low, the contribution of Credit Spread risk to TMKI's overall risk profile is also very low.

The company does not use credit derivatives to manage Credit Spread risk.

## C4 Liquidity risk

This is the risk that TMKI is unable to meet its liabilities in a timely manner because of the lack of liquid resources.

Liquidity risk as at 31 December 2018 constituted less than 1% of TMKI's SCR.

### C4.1 Liquidity risk assessment and mitigation

Liquidity risk is mitigated through the overall strategy of ensuring that TMKI holds sufficient liquid assets in order to settle any financial obligation as they fall due. Frequent review of the ongoing liquidity position takes place in order to ensure early identification of any shortfall.

TMKI receives monthly cash flow statements from its overseas branches, advising of any material payments to be made, while longer-term forecasts are also prepared, showing when cash resources are required.

Potentially, the most significant source of Liquidity risk is either large claims arising from Underwriting risk (mainly catastrophe-related losses) or delay in receipt of payments from reinsurers in respect of large claims. However, if a series of large losses were to occur, the extensive outwards reinsurance that TMKI has in place would minimise the losses significantly. Furthermore, given that substantial reinsurances are placed with TMNF, which would be extremely unlikely to delay payments to the detriment of TMKI's liquidity position, TMKI's Liquidity risk is, therefore, mitigated by being fully backed by its parent company's financial strength.

The existence of substantial outwards reinsurance experience within TMK and the rigorous process involved in approving reinsurers for the reinsurer pool, also mitigates potential Liquidity risk arising from failure of reinsurers to settle claims when the fall due.

Furthermore, given the conservative nature of its investment portfolio in which liquid assets are extensively held, TMKI's exposure to Liquidity risk from assets illiquidity is very low.

Finally, TMK undertakes annual stress and scenario testing exercises in which at least one Liquidity risk scenario is always included.

### C4.2 Amount of expected profit included in future premiums

The total amount of the expected profit included in future premiums as at 31 December 2018 was £12.3 million.

This amount has been calculated for TMKI in line with the Lloyd's guidance used for TMKS, as it is deemed better suited to general insurance business. It is believed that this approach complies with the intent of the text within Solvency II's Commission Delegated Regulation 2015/35's Article 260(2), which appears to be phrased more for life insurance firms and is very difficult to apply in a practical way to TMKI.

## C5 Operational risk

Operational risk is the risk that errors caused by people, processes or systems lead to losses to TMKI.

As at 31 December 2018, Operational risk constituted 9% of TMKI's SCR.

### C5.1 Operational risk assessment and mitigation

TMKI seeks to manage Operational risk by recruiting high calibre staff and providing them with high quality training.

Operational risk forms a significant part of TMKI's risk register. Risks are reviewed on a quarterly basis with departmental heads responsible for identifying, assessing and controlling the Operational risks within their business areas. To assist with this, all

departments have in place an Internal Control Framework (ICF), documenting their controls. Departments are responsible for the management and review of their risks and controls. The role of the Risk function is to provide oversight and challenge of departments' risks and controls, including testing of key controls on a periodic basis.

There is a strong risk reporting and governance process in place to ensure effective management of Operational risk. The ERCC and the RCCC reviews the most material elements of the Operational risk profile quarterly, in line with the RMF. Particular attention is paid to how the risks from Cyber security threats are managed by the Information Security Group.

## C5.2 Key Operational risks

TMKI's key material Operational risk exposures over the reporting period include:

- Brexit's impact on the group operating model.
- data quality issues, including use of inaccurate or incomplete data.
- malicious attack on TMK's network resulting in business disruption.
- human error in the catastrophe modelling process.
- breach of Information Security.

## C5.3 Operational risk sensitivity and concentrations

A scenario test against one of the key material Operational risk exposures outlined above was undertaken.

The scenario involved a disgruntled TMK employee using their access to the Swordfish system to obtain and make available highly sensitive/confidential data of high-profile clients, enabling it to be viewed by competitors and intermediaries, as well as the public in the period leading up to 01 January renewals, resulting loss of profit, potential new business and negative effect on reputation. The event was considered to have a return period of circa 1-in-50 years.

The result of the analysis highlighted some quantitative impact, including fines from the Information Commissioner's Office (ICO), profit erosion, public relations and notification costs, increased costs of working, defence costs and loss of revenue. Some of these costs would be recoverable from TMK's corporate insurances.

A 15% loss of profit was assumed, as well as impact to TMK from reputational damage and additional operational burden on underwriting teams at 1 January renewals, resulting in management stretch and increased scrutiny and focus from the regulator and Lloyd's.

## C6 Other material risks

### Strategic risk

In addition to the risk categories described above, TMKI considers various forms of Strategic risk, including Group risk and Reputational risk (see below), which could affect the delivery of its business strategy and achievement of its objectives.

Strategic risks are not modelled, but they are subject to risk management processes, such as risk and control assessments, incident and near-miss management process, risk appetite and metrics monitoring, and special risk assessments carried out around particular strategic initiatives.

Material strategic risks are also identified and outlined in the annual ORSA report and reviewed on a quarterly basis through ORSA Lite updates to the ERCC and RCCC.

### Brexit risks

There is the Strategic risk that TMKI loses business as a result of the UK's exit from the EU. This also includes the risk of post-Brexit increased uncertainty in the financial markets.

This risk has been identified as a top strategic risk for TMKI in the next 1 to 3 years and there are several strategic initiatives in place to mitigate it.

The Tokio Marine Group has set up Tokio Marine Europe S.A to ensure that, regardless of the outcome of the Brexit negotiations, the customers in the European Economic Area (EEA) can continue to be served by the Tokio Marine Group and receive stability through a seamless transition.

During 2018, the Brexit Steering Committee continued to provide appropriate review and challenge of the risk profile associated with implementation of the Brexit strategy. Relevant updates or concerns around Brexit are reported through the annual ORSA and the ORSA Lite reports, which are reviewed by the ERCC and RCCC.

### **Regulatory risk**

This refers to the risk of loss owing to a breach of regulatory requirements or failure to respond to regulatory change.

TMKI is required to comply with the requirements specified by both the FCA and the PRA, and EIOPA regarding Solvency II.

The Compliance function is responsible for monitoring compliance with regulation and scanning the horizon for regulatory changes. The Compliance Framework outlines the broad regulatory and compliance structure that applies to all staff.

The nature of TMKI's business exposes it to controls and sanctions that regulate international trade. As a result, TMKI has processes and controls in place to screen and monitor transactions against relevant requirements and ensure continued compliance with the regulatory framework.

### **Conduct risk**

Conduct risk is the risk of financial and/or service detriment adversely affecting the customer due to failings in the customer value chain.

TMK's conduct objective is to build, maintain and enjoy long-term relationships with its customers, whether directly or indirectly via a third party. This culture of partnership is fundamental to TMK's dealings with its customers, and it applies regardless of the complexity of the risk, the sophistication of the buyer, or the length of the supply chain to the end customer.

The conduct objective is owned by the board and cascaded throughout the organisation; it is central to achieving delivery of the six Consumer Outcomes (as set out by the FCA), which are at the heart of TMK's business. The board aims to embed a culture from the top down, in which the Conduct risk arising from execution of the business plan and strategy is appropriately monitored and managed to ensure good outcomes for all customers.

Conduct risk management applies to all business types, regardless of product line and customer type, across both open market and delegated underwriting, and is achieved through continued effective implementation of the Conduct Risk Framework. The framework is applied in a proportionate, risk-based way, which takes account of the inherent Conduct risk across products, distribution and customer types.

The underwriters, with the support of teams across the company, take day-to-day ownership of Conduct risk as they are the ones empowered to make decisions affecting TMKI's relationships with its customers and business partners. Conduct risk and the treatment of customers is managed and monitored by the Conduct Risk Committee, which reports to the RCCC and the board quarterly.

### **Reputational risk**

This is the risk that negative publicity regarding TMKI's business practices could lead to a loss of revenue or litigation.

In the modern digital era, Reputational risk and the subsequent threat to a strong brand is becoming more significant. Loss of confidence from customers, regulators or capital providers could cause long-term harm to the business.

All staff are made aware of their responsibilities to clients and other stakeholders in mitigating Reputational risk. The risk is monitored through well-established risk management processes.

### **Emerging risk**

TMK's definition of an Emerging risk is 'an issue that is perceived to be potentially significant in terms of its impact on society and the insurance industry, but which may not be fully understood or allowed for in insurance terms and conditions, pricing, reserving or capital setting and may relate to issues which are changing sharply or are uncertain'. This is aligned to the Lloyd's of London definition. The Emerging Risks process is a key part of the business's forward-looking analysis and assists management in making informed decisions about business strategy and underwriting performance.

TMK uses its Emerging risks process to identify both threats and opportunities, which could materialise over the medium to long term, helping to improve risk selection and knowledge of future risk exposures.

## **C7 Any other information**

There is no additional information which should be disclosed.

## D Valuation for solvency purposes

### D1 Assets

#### D1.1 Solvency II valuation for each material class of asset

£'000s	2018			2017		
	UK GAAP	SII valuation	Variance	UK GAAP	SII valuation	Variance
<b>Material asset classes</b>						
Investments	303,523	303,524	1	281,429	281,429	-
Cash and cash equivalents	37,666	37,665	(1)	58,213	58,213	-
Reinsurer's share of technical provisions	144,445	116,376	(28,069)	124,090	98,727	(25,363)
Deferred acquisition costs	19,893	-	(19,893)	18,166	-	(18,166)
Insurance debtors	96,213	10,006	(86,207)	83,220	7,248	(75,972)
Reinsurance debtors	21,396	16,285	(5,111)	6,426	6,426	-
Other debtors	14,903	14,904	1	11,703	11,703	-
Property, plant and equipment	285	87	(198)	425	423	(2)
Deferred tax asset	909	909	-	943	943	-
<b>Non-material asset classes</b>						
Intangible assets	-	-	-	2	-	(2)
Investment in subsidiary	2,380	2,380	-	2,403	2,403	-
<b>Total assets</b>	<b>641,613</b>	<b>502,136</b>	<b>(139,477)</b>	<b>587,021</b>	<b>467,514</b>	<b>(119,507)</b>

#### D1.2 Differences between Solvency II valuation and UK GAAP valuation

The following section describes how each asset class is valued under UK GAAP, and any difference arising in the valuation technique under Solvency II. Except where noted, there are no differences between the bases, methods and main assumptions used for each asset class in the valuation for solvency purposes as opposed to the valuation included within the financial statements.

##### Investments

Investment assets are managed at the TMK level on behalf of both TMKI and TMKS. These assets are largely split between government and corporate bonds, UCIT Funds and short-term deposits. Whilst the total value of investments was unchanged between UK GAAP and Solvency II, the classification between asset sectors varied, as shown below:

Asset sector	2018		2017	
	UK GAAP valuation (£'000s)	SII valuation (£'000s)	UK GAAP valuation (£'000s)	SII valuation (£'000s)
Government	68,770	74,009	57,171	62,630
Agency	24,974	-	29,799	-
Corporate	76,063	95,799	77,157	101,497
Securitised	2,232	2,232	2,555	2,555
MMF and Term Deposits	82,457	82,457	67,025	67,025
Funds	49,027	49,027	47,722	47,722
	<b>303,523</b>	<b>303,523</b>	<b>281,429</b>	<b>281,429</b>

The bond portfolio is managed by the two portfolio managers: BlackRock Investment Managers and Mitsubishi UFJ Asset Management (UK) Limited. TMK have also outsourced a number of accounting and reconciliation tasks to BlackRock Solutions (BRS).

BRS is subject to a service company audit under the Statement on Standards for Attestation Engagements Number 18 (SSAE18), the results of which show no significant deficiencies in internal controls and processes. As a result, TMK can rely on BRS output

data. In addition, certain controls are undertaken within TMK to ensure that BRS are carrying out their required controls properly and that the output information can be relied upon.

All the assets are valued by BRS as portfolio managers on a mark-to-market basis, using several third-party sources based on the schedule of data providers they maintain for each class of asset. This schedule is provided to and reviewed by TMK's Treasury and Investment Accountant to confirm that assets held are traded in active markets and are priced by a BRS "Primary Provider". An active market is deemed to be a market in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis.

In accordance with Solvency II and FRS 101 valuation principles, TMKI does not hold any financial instrument that is not traded on an active market.

The pricing methodologies by asset class are as follows:

- Government Bonds: UK Gilts pricings are obtained from the FTSE indices. FTSE source their prices from the UK Debt Management office.
- Government Agencies: These include supranationals and government agency bonds, which are all priced from IBOXX indices.
- Corporate Bonds: Corporate bond prices are taken daily from the IBOXX, Barclays, or JP Morgan corporate bond indices. Bonds in the indices are priced on the bid side. Bonds can be quoted in a variety of ways, including nominal spreads over benchmark securities/treasuries, spreads over swap curves, or direct price quotes as a percentage of par.

In most instances, the quote type used is a spread measure that results in daily security price changes from the movement of the underlying curve (swap or Treasury) and/or changes in the quoted spread. Where a bond is not in the index, a price is obtained from Reuter's pricing service.

Prices are regularly checked by the internal Treasury Team against Bloomberg, and any material differences are investigated with BlackRock.

Securitised Assets: There are two types of securitised assets: covered bonds and asset-backed securities (ABS). Covered bonds' prices are obtained from IBOXX indices and ABS prices from the Barclays indices.

Absolute Return Funds (ARFs): Absolute return UCITS funds are priced daily by BlackRock and the Fund Administrator. The pricing is provided by The Pricing Group (TPG), a dedicated pricing group within BlackRock, who ensure that appropriate valuation data sources, methodologies and controls are established, implemented and operating effectively.

All investment assets are available for sale and as such are valued under IAS 39 at fair value on a mark-to-market basis and based upon quoted bid prices at the balance sheet date.

Currently, TMKI's directly held investment portfolio does not contain assets which require mark-to-model valuation techniques.

### **Cash and cash equivalents**

Cash and cash equivalents include cash in hand, deposits held at call with banks, other short-term highly liquid investments with original maturities of three months or less, and bank overdrafts.

Where applicable, bank overdrafts are shown within borrowings in current liabilities. Under FRS 101, cash and cash equivalents are valued at fair value.

There were no differences in the valuation basis for cash and cash equivalents under Solvency II and FRS 101 valuation principles.

### **Technical provisions – reinsurance recoverable**

The value of reinsurance recoverable as at 31 December 2018 was £116.4 million on a Solvency II basis and £144.4 million on an FRS 101 basis.

Technical provisions are valued by the actuaries in accordance with Solvency II principles and PRA's guidance. Please refer to

the Section D2 for further details and the reconciliation between UK GAAP and Solvency II valuations.

### Deferred acquisition costs

Under FRS101, acquisition costs comprising commission and other costs related to the acquisition of new insurance contracts are deferred to the extent that they are attributable to premiums unearned at the statement of financial position date. Deferred acquisition costs are not recognised separately under Solvency II to the extent that they form part of the premium provision calculation of the technical provisions. Please refer to Section D2.2 for further details.

### Insurance debtors

The value of insurance debtors was £10.0 million on a Solvency II basis and £96.2 million on an FRS 101 basis as at 31 December 2018.

Under the FRS 101 basis, insurance debtors include all insurance balances receivable, irrespective of the amounts overdue. Under a Solvency II valuation basis, insurance debtors are reclassified as part of the technical provisions balance (see section D2 for further detail). The exception to this reclassification is where balances are more than three months overdue. On a Solvency II basis, these overdue balances are still reported as insurance debtors in the balance sheet and are not included in the technical provisions. Such overdue balances incur a capital penalty when included within the standard formula SCR calculation.

### Reinsurance debtors

On an FRS 101 basis, reinsurance debtors include all reinsurance balances receivable, irrespective of the amounts overdue. Under a Solvency II valuation basis, reinsurance debtors, as with insurance debtors, are reclassified as part of the technical provisions balance (see section D2 for further detail). The exception to this reclassification is where balances are more than three months overdue.

On a Solvency II basis these overdue balances are still reported as insurance debtors in the balance sheet and are not included in the technical provisions. Such overdue balances incur a capital penalty when included within the standard formula SCR calculation. As at 31 December 2018, the value of reinsurance debtors was £16.3 million on a Solvency II basis and £21.4 million on an FRS 101 basis.

### Other debtors

The value of other debtors at 31 December 2018 was £14.9 million. This included prepayments and accrued income (£0.8 million), current taxes recoverable (£5.0 million), and other sundry debtors (£9.1 million).

There were no differences in the valuation basis of these balances under Solvency II and FRS 101 valuation principles.

### Property, plant and equipment

The value of property, plant and equipment was £0.1 million on a Solvency II basis and £0.3 million on an IFRS 101 basis at 31 December 2018.

Under FRS 101, property, plant and equipment are stated at cost, less accumulated depreciation and any recognised impairment losses. Cost includes the original purchase price of the asset and the costs attributable to bringing the asset to its working condition for its intended use. They are depreciated on a straight-line basis over the expected useful lives of each category of asset as follows:

Computer hardware	3 - 4 years
Office furniture and internal structures	4 - 6 years
Motor vehicles	4 - 5 years
Long-term lease	Over the term of the lease
Property (internal structure)	10 years
Property (building)	33 years



If it extends the useful life of the asset, expenditure to restore the future economic benefit of an asset is capitalised. Costs for repairs and maintenance are expensed.

The carrying values of property, plant and equipment are reviewed for impairment if events or changes in circumstances indicate that the carrying value may not be recoverable and are written down immediately to their recoverable amount. Useful lives and residual values are reviewed annually and where adjustments are required, these are made prospectively.

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected to arise from its continued use. Any gain or loss arising on the derecognition of an asset is included in the income statement in the period of derecognition.

#### **Deferred tax asset**

The value of the deferred tax asset was £0.9 million at 31 December 2018.

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amounts of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit and is accounted for using the liability method.

Deferred tax liabilities are recognised for all taxable temporary differences, and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised.

The carrying amount of deferred tax assets is reviewed at each year-end date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax is calculated at the tax rates based on the enacted or substantially enacted tax laws expected to apply in the period when the liability is settled or the asset is realised. It is charged or credited in the income statement, except when it relates to items charged or credited directly to equity, in which case the deferred tax is also dealt with in equity.

Deferred tax assets are only recognised where it is probable that taxable profit will be available against which the temporary difference can be utilised. TMKI has taken a prudent approach under Solvency II and is not recognising any additional deferred tax asset.

#### **Intangible assets**

There were no material intangible assets at 31 December 2018.

Intangible assets are recognised on an FRS 101 valuation basis, but not included on the Solvency II balance sheet.

#### **Investment in subsidiary**

The value of the investment in subsidiary was £2.4 million at 31 December 2018.

The valuation was based on the adjusted equity method.

TMKI has a related subsidiary, Tokio Marine Europe Limited (TMEL), which is wholly-owned and incorporated in England and Wales. The investment in TMEL is stated at its current net book value as at 31st December 2018 and is the same under FRS 101 and Solvency II valuation rules.

#### **D1.3 Alternative methods for valuation of assets and liabilities for solvency purposes (per Article 263)**

TMKI does not use any alternative methods in its valuation of assets and liabilities for solvency purposes.

## D2 Technical provisions

### D2.1 Technical provisions by material line of business

For each Solvency II line of business, the following table shows the net best estimate and risk margin, as well as the total technical provisions as at 31 December 2018.

All amounts in £'000s		Year-end 2018			Movement in Net TPs	
Code	SII line of business	Net best estimate	Risk margin	Net technical provisions	Year-end 2017	Increase/ (decrease)
1 & 13	Direct & Proportional Medical Expenses	6,992	511	7,503	8,799	(1,296)
2 & 14	Direct & Proportional Income Protection	-	-	-	-	-
3 & 15	Direct & Proportional Workers' Compensation	-	-	-	-	-
25	Non-Proportional Health Insurance	-	-	-	-	-
<b>Total Health</b>		<b>6,992</b>	<b>511</b>	<b>7,503</b>	<b>8,799</b>	<b>(1,296)</b>
4 & 16	Direct & Proportional Motor Vehicle Liability	-	-	-	-	-
5 & 17	Direct & Proportional Other Motor	-	-	-	-	-
6 & 18	Direct & Proportional Marine, Aviation and	16,976	1,240	18,215	13,075	5,141
7 & 19	Direct & Proportional Fire & Other Damage to	99,372	7,256	106,629	88,058	18,571
8 & 20	Direct & Proportional General Liability	102,881	7,513	110,394	94,244	16,150
9 & 21	Direct & Proportional Credit & Suretyship	(7)	(1)	(8)	(55)	47
10 & 22	Direct & Proportional Legal Expenses	(0)	(0)	(0)	-	(0)
11 & 23	Direct & Proportional Assistance	552	40	592	265	328
12 & 24	Direct & Proportional Miscellaneous Financial Loss	(4,531)	(331)	(4,862)	2,152	(7,014)
26	Non-Proportional Casualty Reinsurance	1,113	81	1,194	34	1,160
27	Non-Proportional Marine, Aviation & Transportation Reinsurance	430	31	461	9	452
28	Non-Proportional Property Reinsurance	6,040	441	6,481	8,215	(1,734)
<b>Total Non-Life</b>		<b>222,825</b>	<b>16,271</b>	<b>239,097</b>	<b>205,996</b>	<b>33,100</b>
<b>Total</b>		<b>229,818</b>	<b>16,782</b>	<b>246,599</b>	<b>214,795</b>	<b>31,804</b>

The increase in net technical provisions from year-end 2017 to year-end 2018 was predominantly driven by:

- (i) an increase in earned reserves over the year, which was due to recent large loss and catastrophe event activity affecting the Fire & Other Damage to Property and General Liability lines of business, and a general build-up of reserves due to increased premium volumes in recent underwriting years.
- (ii) a reduction on the level of profitability of Bound but Not Incepted (BBNI) business, predominantly due to business changes as a result of Brexit.

Material changes in the assumptions for calculating the technical provisions are discussed below.

### D2.2 Bases, methods and main assumptions used for valuation of best estimate

The process of calculating each element of the best estimate for solvency purposes is covered in detail below, but the key methods are similar for each. The basic approach for each element is as follows:

1. Estimate bound premium and claims (for both earned and unearned business).
2. Calculate the corresponding undiscounted future premium and claims reserve amounts.
3. Estimate appropriate payment patterns to apply to each of these amounts.
4. Estimate the cash-flows within each future period using the relevant payment pattern.
5. Discount each future cash-flow using the appropriate risk-free interest rate.

#### Claims

Gross claims are projected to ultimate at a reserving class level using standard projection methods, including the link ratio method and the Bornhuetter-Ferguson method, with actuarial judgement applied, where appropriate. The earned claims estimates were consistent with those produced for the GAAP Technical Provisions.

Reinsurance recoveries are allowed for by applying estimated net-to-gross ratios consistent with the approach used for the GAAP technical provisions.

Projected cash-flows are estimated by applying payment patterns to the estimates of the gross claims and recoveries separately.

A "look through" basis is used for the valuation of binder business. As such, only individual declarations attached as at the valuation date are included in the Solvency II technical provisions.

### **Premiums**

Premium cash-flows are projected net of insurance premium tax and gross of acquisition expenses using a link ratio model, based principally on the most recent underwriting years. As with claims, the estimated premium development patterns are produced at a reserving class level and are used to derive disposal rate payment patterns to apply to the corresponding future premium amounts.

### **Bound but not incepted (BBNI) business**

Claims and premium cash-flows from BBNI business are estimated using data from the core systems showing entered but not incepted policies. Policies that have tacit renewal clauses are separately allowed for and are assumed to automatically renew if not cancelled in advance of the expiry date (typically 90 days), with an assumed proportion of lapses.

### **Future reinsurance purchases**

The methods used follow the Principle of Correspondence; hence, the outwards reinsurance element of the Solvency II technical provisions at 31 December 2018 included an allowance for the cost of unwritten XLs (2019 programme unpurchased at 2018 Q4) that will protect existing unearned inwards business on the 2017 and 2018 years of account. This assumes the future management action of purchasing reinsurance.

### **Allowance for inflation**

The statistical methodology used in the calculation of the technical provisions assumes that the future will be broadly similar to the past with regard to the legal environment and business operation. The assumption is considered realistic and proportionate given the reasonably short tail nature of the business, and hence the relatively limited exposure of the business to variations in future inflation rates.

### **Expenses**

For each expense item at a Finance budget level, an estimate was made of the corresponding budget for the forthcoming calendar year and of the corresponding proportion which relate to the servicing of existing liabilities. This share was assessed on the basis that TMKI continues to write new business.

These assumptions were combined for each expense item to give an estimate of the total cost of servicing the liabilities during 2018. For future calendar years, this cost was assumed to reduce in line with the claims reserves within the Solvency II technical provisions.

The paid claim amounts used in the analysis included all allocated loss adjustment expenses (ALAE) that were booked as paid as at the relevant date. Hence, they were assumed to cover future claim payments and the corresponding claims administration expenses. Unallocated loss adjustment expenses (ULAE) were not included within the paid claim amounts but projected as part of the expenses' analysis above.

### **Acquisition expenses**

All premium cash-flows were projected net of insurance premium tax, but gross of acquisition expenses. Acquisition expense loadings, based on actual policy data, where available, or historical averages otherwise, were applied separately for both inwards

and outwards reinsurance cash-flows to produce an allowance for both inwards acquisition costs and outwards reinsurance acquisition costs.

### **Adjustment for counterparty default**

A report of outwards claims reserves split by reinsurer was produced, with all reinsurers assigned a reinsurer rating, sourced from Standard & Poor's and AM Best. For each reinsurer rating, a set of default probabilities and recovery rates were then assumed. The recovery rate for a specific counterparty was the share of debts that the counterparty will still be able to honour in the case of default. The default probabilities and recovery rates used were as per those provided by EIOPA.

The projected outwards claims reserves split by reinsurer rating were then combined with the recovery rate information to produce an estimate of the overall adjustment in respect of counterparty default.

### **Allowance for events not in data (ENID)**

The allowance for ENID uses a truncated distribution approach, under which we have assumed that the full range of reserve outcomes were represented by the reserve risk distributions produced by the Capital Modelling Team. The ENID estimate was calculated as a percentage loading, based on the reserve risk distributions of the average loss from an event beyond the 1-in-10 likelihood, the 90% TVaR (Tail Value at Risk).

A premium-weighted average approach and judgement was applied to determine how much credibility to lend to certain segments of the business. This was then applied to the 90% TVaR amount to calculate the average loading required to cover such events. The judgement to apply a greater weighting to this business was based on the view that the more limited the historical data we have, the higher the likelihood of events not being captured.

### **Discounting**

All relevant cash-flows were discounted using the prescribed EIOPA yield curves as at the valuation date.

### **Risk margin**

In line with EIOPA guidance, the risk margin was calculated using a cost of capital approach. This approach was intended to reflect the costs incurred in raising capital to support the liabilities over their lifetime.

The Standard Formula SCRs used in the calculation of the risk margin were produced by the TMK Finance Team. The SCRs were calculated using a process in line with that for the full SCR calculation, but only applied to business included within the Solvency II technical provisions, that is, business legally bound at the valuation date. This was calculated as at the valuation date (proxy SCR) and the subsequent six year-ends (t=1 through t=6), using the Standard Formula. Thereafter, a risk-based approach was used to run-off the SCR.

Under the risk-based approach, the capital held to support the technical provisions was assumed to reduce in line with the Premium risk and Reserve risk underlying the technical provisions. The Reserve risk remaining after the first six years was assumed to reduce in line with the square root run-off method.

## **D2.3 Uncertainty associated with the value of technical provisions**

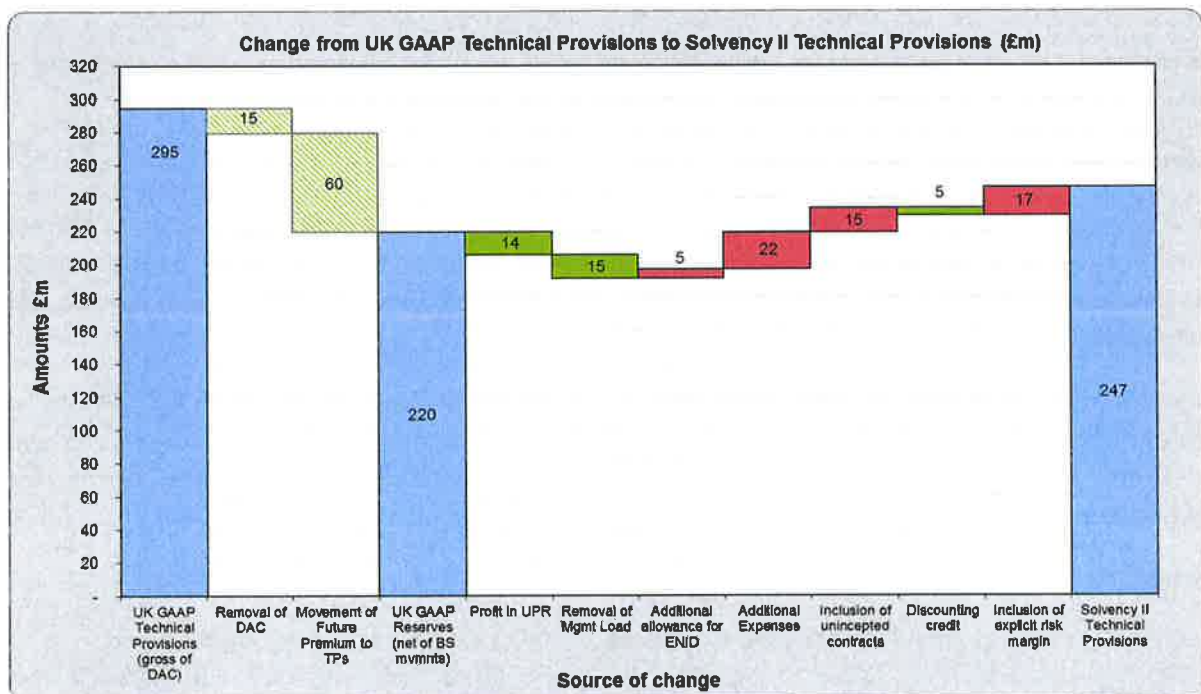
There is always uncertainty in estimating the technical provisions for insurance business. The nature of most of these issues is such that they are difficult to quantify in both likelihood and magnitude. The issues that arise in respect of the business include:

- In valuing the technical provisions, it is necessary to project numerous cash-flows, including future premiums, claims and reinsurance recoveries. None of these will develop exactly as projected and they may vary significantly from the projections.
- For certain elements of the technical provisions, such as the allowance for ENIDs, there is very little data on which to base any analysis. This could potentially lead to increased uncertainty in the estimates for these elements of the technical provisions.
- Similarly, when writing new classes of business, it is unavoidable that there will be a lack of internal historical data on which to base actuarial analysis. Low levels of historical data can lead to an increased uncertainty in actuarial projections.

- There is greater uncertainty associated with the more recent years of account, mainly due to pricing strength and the unearned exposure to future events, such as natural catastrophes and large losses. An example of this is TMKI's exposure to and claims arising from Hurricane Michael in 2018.

#### D2.4 Material differences between Solvency II and UK GAAP valuations for technical provisions

The following graph shows the difference between TMKI's GAAP technical provisions as at 31 December 2018 and the corresponding Solvency II technical provisions:



#### D2.5 The recoverables from reinsurance contracts and Special Purpose Vehicles

The main reinsurance contracts in place for TMKI are the risk and catastrophe excess of loss treaties that separately protect the property and construction, liability and marine business segments against large and catastrophic loss events. Where appropriate, these are supplemented by facultative reinsurance arrangements and participation in pooling arrangements, such as Pool Re, Gareat and Consorcio.

As part of the wider Tokio Marine group, there are also various fronting arrangements whereby risks are written by TMKI and ceded via quota share reinsurance contracts to TMNF. The use of Special Purpose Vehicles (SPVs) is limited to specific contracts, which are generally part of the fronted arrangements. For information on the calculation of reinsurance recoveries, please see the claims and premiums sub-sections in section D2.2 above.

#### D2.6 Material changes in the relevant assumptions made for calculating the technical provisions between year-end 2017 and year-end 2018

The material changes in assumptions made in the calculation of the technical provisions compared to the previous reporting period ended 31 December 2017 were as follows:

- The calculation of the Claims Handling Expenses and Management Expenses was changed at Q1 2018 for the former to be solely based on the claims department's expenses. Other costs are now covered under management expenses.

## D3 Other liabilities

### D3.1 Solvency II valuation for each material class of other liabilities

£'000s	UK GAAP	SII valuation	Variance
<b>Material liability classes</b>			
Gross technical provisions	439,003	362,975	(76,028)
Reinsurers' share of deferred acquisition costs	4,612	-	(4,612)
Insurance creditors	15,268	-	(15,268)
Reinsurance creditors	52,168	35,634	(16,534)
Deposits from reinsurers	28,014	28,015	1
Other creditors	12,721	12,721	-
Deferred tax liability	1,726	1,726	-
<b>Non-material liability classes</b>			
Leases	-	-	-
Pension liability	-	-	-
<b>Total liabilities</b>	<b>553,512</b>	<b>441,071</b>	<b>(112,441)</b>
<b>Net capital and reserves</b>	<b>88,101</b>	<b>61,065</b>	<b>(27,036)</b>

### D3.2 Differences between Solvency II valuation and UK GAAP valuations

The following section describes how each asset class was valued under UK GAAP and any difference arising in the valuation technique under Solvency II. Except where noted, there were no differences between the bases, methods and main assumptions used for each asset class in the valuation for solvency purposes as opposed to the valuation included within the financial statements.

During the reporting period, no changes were made to any of the recognition or valuation bases or estimation techniques described below.

#### Gross technical provisions

The value of gross technical provisions at 31 December 2018 was £363.0 million on a Solvency II basis and £439.0 million on an FRS 101 basis. Technical provisions are valued by the actuaries in accordance with Solvency II principles and PRA guidance. Please refer to Section D2 for further details and the reconciliation between UK GAAP and Solvency II valuations.

#### Reinsurers' share of deferred acquisition costs

Under FRS101, acquisition costs comprising commission and other costs related to the acquisition of new insurance contracts are deferred to the extent that they are attributable to premiums unearned at the statement of financial position date. Deferred acquisition costs are not recognised separately under Solvency II to the extent that they form part of the premium provision calculation of the technical provisions. Please refer to Section D2.2 for further details.

#### Insurance creditors

As at 31 December 2018, there was no value for insurance creditors on a Solvency II basis, but the value was £15.3 million on an FRS 101 basis.

Under FRS 101 basis, insurance creditors include all insurance balances payable irrespective of the amounts overdue. Under a Solvency II valuation basis, insurance creditors are reclassified as part of the technical provisions balance (see section D2 for further detail). The exception to this reclassification is where balances are more than three months overdue. On a Solvency II basis, these overdue balances are still reported as insurance creditors in the balance sheet and are not included in the technical provisions. As at 31 December 2018, there were no such overdue insurance creditors.

#### Reinsurance creditors

The value of reinsurance creditors was £35.6 million on a Solvency II basis and £52.2 million on an FRS 101 basis at 31 December 2018.

On an FRS 101 basis, reinsurance creditors include all reinsurance balances payable, irrespective of the amounts overdue. Under a Solvency II valuation basis, reinsurance creditors are reclassified as part of the technical provisions balance (see section D2 for further detail). The exception to this reclassification is where balances are more than three months overdue. On a Solvency II basis, these overdue balances are still reported as reinsurance creditors in the balance sheet and are not included in the technical provisions.

### Deposits from reinsurers

The value of deposits from reinsurers was £28.0 million at 31 December 2018. This was same on both FRS 101 and Solvency II valuation bases.

### Other creditors

As at 31 December 2018, the 'other creditors' value was £12.7 million on both Solvency II basis and FRS 101 bases. The balance comprised of general accruals (£0.5 million), current taxes payable (£1.1 million), IPT payable (£4.7 million) and other sundry creditors (£6.4 million).

### Deferred tax liability

The value of the deferred tax liability was £1.7 million at 31 December 2018 on both a Solvency II and an FRS 101 basis.

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amounts of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit, and is accounted for using the liability method. Deferred tax liabilities are recognised for all taxable temporary differences, and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised.

Deferred tax is calculated at the tax rates based on the enacted or substantially enacted tax laws expected to apply in the period when the liability is settled or the asset is realised. It is charged or credited in the income statement, except when it relates to items charged or credited directly to equity, in which case the deferred tax is also dealt with in equity.

### Leases

There were no material financial leases. The only operating leases was in respect of the lease of the company's premises. The values of the operating lease commitments were the same under both FRS 101 and under Solvency II valuation rules. The commitments under operating lease were as follows:

Total future minimum lease payments (£'000s)	Land and buildings		Other leases	
	2018	2017	2018	2017
Within one year	1,503	1,509	188	272
Between one to five years	5,207	5,371	95	290
Later than five years	537	1,423	-	-

From 1 January 2019, TMKI's continental lease obligations were transferred to the newly-formed Luxembourg operation (TME), part of a group affiliate company, HCC International Insurance Company PLC.

### Pension liability

TMKI operates a defined contribution pension plan, for which employer's contributions are charged to the income statement as they become payable. There was no liability as all amounts were fully paid in 2018.

## D4 Any other information

There is no additional information which should be disclosed.



## E Capital management

### E1 Own funds

#### E1.1 Objectives, policies and processes for managing TMKI's own funds

The objective of own funds management is to maintain, at all times, sufficient own funds to cover the SCR and MCR such that the solvency ratio, as measured against the SCR and referred to as the regulatory solvency ratio (RSR), remains within risk appetite.

These own funds are to be of sufficient quality to meet the eligibility requirements set out in Article 82 of Solvency II's Commission Delegated Regulation 2015/35. Separate to the RSR risk appetite, the TMKI board sets a target buffer of own funds to be held above the economic capital requirement (ECR) as determined by the TMKI capital model.

The target buffer is set at a 1-in-10 outcome, while the risk appetite is for the RSR to be 120% or greater. The Group Chief Actuary provides a capital update quarterly in which the eligible own funds to cover the target buffer and RSR are reviewed.

As part of own funds management, TMKI maintains a medium-term capital management plan (MTCMP), which sets out annual solvency projections and includes the structure of, and requirements for, own funds over the planning horizon.

The RSR, was well above the 120% threshold for a "Green" rating throughout 2018 but the ratio fell to 76% in Q1 2019 due to the large losses of the fourth quarter of 2018.

The capital injection of £31 million in February 2019 increased the RSR to 134%, which is well above the board risk appetite limit of 120% for a "Green" rating.

#### E1.2 Structure, amount and quality of total available own funds to meet the SCR

Description	31 Dec 2017 (£'000s)	Movement 2018 (£'000s)	31 Dec 2018 (£'000s)
<b>Basic Own Funds</b>			
Ordinary share capital (Tier 1)	35,000	-	35,000
Share premium account (Tier 1)	55,000	-	55,000
Reconciliation reserve (Tier 1)	(258)	(28,677)	(28,935)
Net deferred tax assets (Tier 3)	943	(943)	-
<b>Total Basic Own Funds</b>	<b>90,685</b>	<b>(29,620)</b>	<b>61,065</b>
<b>Ancillary Own Funds</b>			
Letters of credit (Tier 2)	61,947	1,116	63,063
<b>Total available Own Funds to meet the SCR</b>	<b>152,632</b>	<b>(28,504)</b>	<b>124,128</b>

TMKI has in place Ancillary Own Funds held in the form of a Letter of Credit for €70 million (equivalent to £63.1 million), which is valid until December 2019. In addition, following large losses in Q4 2018, the TMK group board made a capital injection of £31 million into TMKI in February 2019. Please note that this additional capital is not reflected within the figures in the table above.

As noted in the summary, TMKI benefits from being a member of TMHD and the associated parental guarantee issued by TMNF. Consequently, TMKI is rated A+ by S&P. TMKI's available own funds to meet the SCR are £61.1 million, which represents the total of Tier 1 own funds.

#### E1.3 Key elements of the reconciliation reserve

The reconciliation reserve of (£28.9 million) as at 31 December 2018 represents the difference between the total of Tier 1 share capital, share premium and Tier 3 deferred tax assets compared to the Solvency II excess of assets over liabilities.

**E1.4 Eligible amount of own funds to cover the SCR and MCR, classified by tiers**

Description	31 Dec 2017 (£'000s)	Movement 2018 (£'000s)	31 Dec 2018 (£'000s)
Tier 1	89,742	(32,188)	61,065
Tier 2	56,459	2,853	59,312
Tier 3	-	-	-
<b>Total eligible Own Funds to meet the SCR</b>	<b>146,201</b>	<b>25,824</b>	<b>120,377</b>

TMKI's eligible own funds to meet the MCR are £61.1 million, which represents Tier 1 Own Funds.

**E1.5 Material differences between equity as shown in TMKI's financial statements and the excess of assets over liabilities as calculated for solvency purposes**

The majority of asset and liability classes within TMKI's balance sheet are valued identically under both Solvency II and GAAP. The key differences are the valuation of the technical provisions, the reclassification of non-overdue debtor and creditor balances to technical provisions, and certain small differences on some fixed asset classes. These differences change the amount of capital held as follows:

Description	31 Dec 2017 (£'000s)	Movement in 2018 (£'000s)	31 Dec 2018 (£'000s)
<b>Equity per financial statements</b>			
Ordinary share capital	35,000	-	35,000
Share premium account	55,000	-	55,000
Retained earnings	17,956	(19,855)	(1,899)
<b>Total equity per financial statements</b>	<b>107,956</b>	<b>(19,855)</b>	<b>88,101</b>
Difference in net technical provisions including DAC	31,848	830	32,678
Difference in net (re)insurance debtors and creditors	(49,116)	(10,400)	(59,516)
Difference in other items	(3)	(195)	(198)
<b>SII Basic Own Funds</b>	<b>90,685</b>	<b>(29,620)</b>	<b>61,065</b>

**E1.6 Description and the amount of each material ancillary own-fund item**

The €70 million (equivalent to £63.1 million) letter of credit referred to in section E1.2 is held with Mizuho Bank Limited.

As highlighted in section 1.6, the letter of credit was approved by the PRA in April 2017 and is valid until December 2019.

**E1.7 Description of items deducted from own funds and of significant restriction affecting the availability and transferability of own funds within TMKI**

There were no items under these categories as at 31 December 2018.

**E2 Solvency capital requirement and minimum capital requirement****E2.1 Amount TMKI's SCR and MCR as at 31 December 2018 by risk modules**

The SCR and MCR at 31 December 2018 were, respectively, £118.6 million and £43.1 million, with the SCR split by risk modules as shown in the following table:

Solvency capital requirement (£'000)	2018	2017	Change
Premium and Reserve risk	62,060	62,597	(537)
Catastrophe risk	35,704	38,911	(3,207)
Non-life underwriting risk			
Lapse risk	4,874	2,806	2,068
SCF <sub>nl</sub> Pre-diversification	102,638	104,314	(1,676)
SCF <sub>nl</sub> Diversification credit	(23,531)	(22,716)	(815)
<b>SCF<sub>nl</sub> Post-diversification</b>	<b>79,107</b>	<b>81,598</b>	<b>(2,491)</b>

Solvency capital requirement (£'000)		2018	2017	Change
Health underwriting risk	NSLT underwriting risk	2,445	2,814	(369)
	SLT underwriting risk	-	-	-
	Concentration risk	653	642	11
	SCF <sub>health</sub> Pre-diversification	3,098	3,456	(358)
	SCF <sub>health</sub> Diversification credit	(414)	(417)	3
	<b>SCF<sub>health</sub> Post-diversification</b>	<b>2,684</b>	<b>3,039</b>	<b>(355)</b>
Market Risk	Interest Rate risk	56	189	(133)
	Equity risk	524	529	(5)
	Property risk	-	-	-
	Spread risk	7,275	6,222	1,053
	Concentration risk	-	-	-
	Currency risk	12,378	7,449	4,929
	SCF <sub>mkt</sub> Pre-diversification	20,233	14,389	5,844
	SCF <sub>mkt</sub> Diversification credit	(4,072)	(3,138)	(934)
	<b>SCF<sub>mkt</sub> Post-diversification</b>	<b>16,161</b>	<b>11,251</b>	<b>4,910</b>
	Counterparty Default Risk	Type 1 risk	10,689	11,229
Type 2 risk		27,571	20,515	7,056
SCF <sub>def</sub> Pre-diversification		38,260	31,744	6,516
SCF <sub>def</sub> Diversification credit		(1,977)	(1,869)	(108)
<b>SCF<sub>def</sub> Post-diversification</b>		<b>36,283</b>	<b>29,875</b>	<b>6,408</b>
Undiversified Basic SCR		134,234	125,762	8,472
Diversification credit		(25,995)	(21,772)	(4,223)
Basic SCR		108,239	103,990	4,249
Operational risk		10,386	8,929	1,457
<b>Final Standard Formula SCR</b>		<b>118,625</b>	<b>112,919</b>	<b>5,706</b>

## E2.2 Simplifications applied within the Standard Formula risk modules and sub-modules

In calculating the SCR, the following simplifications were applied:

- Article 59: Calculations of the risk margin during the financial year  
The proxy SCR (required for the calculation of the risk margin) was not recalculated for the quarterly update of the technical provisions; it was kept as at year-end. However, the materiality of any change in the SCR was monitored via the quarterly monitoring file
- Partial application of Article 111: Simplified calculation of the risk mitigating effect

## E2.3 Inputs used to calculate the minimum capital requirement

The table below shows the inputs into the MCR calculation as at 31 December 2017 and 31 December 2018.

	31 Dec 2017 (£'000s)	Movement in 2018 (£'000s)	31 Dec 2018 (£'000s)
AMCR	3,251		3,288
Linear MCR	38,094		43,066
SCR	112,919		118,625
Combined MCR	38,094		43,066
<b>MCR</b>	<b>38,094</b>	<b>4,972</b>	<b>43,066</b>

\*AMCR is converted at October 2018 exchange rates as per Article 300.

Note: the Absolute Floor of the Minimum Capital Requirement (AMCR), as prescribed by EIOPA, was €3.7 million.

The following information, by Solvency II Line of Business, were used to calculate the MCR:

- Net written premium in the previous 12 months to the valuation date

- Net best estimate technical provisions

#### **E2.4 Material changes to the SCR and MCR over the reporting period, and the reasons for any such change.**

The increases in the SCR or MCR between 31 December 2017 and 31 December 2018 were consistent with the growth in business. This was evidenced via a quarterly risk monitoring report with prescribed triggers, agreed by the board and applied to the material drivers of the SCR and MCR to monitor potential deviations from the last valuation date.

The alternative premium volume calculation method was adopted for the SCR calculation at 31 December 2018.

The previous method takes the higher of the earned premiums in the previous 12 months or the upcoming 12 months, whereas the alternative calculation only considers the latter. This reduces Premium Risk.

As a result of Brexit-related activities, European Japanese policies in 2019 will renew into Tokio Marine Europe (TME) instead of TMKI, which will significantly reduce TMKI's written and earned premium in 2019 compared with 2018. As such, the exposure in the last 12 months was no longer considered to be representative of the ongoing exposure of TMKI's portfolio in 2019.

TMKI have notified the PRA about this change in line with EIOPA's guidance. The PRA have acknowledged this notice and requires TMKI to regularly monitor the earned premium forecast for 2019.

#### **E3 Use of duration-based equity risk sub-module in the calculation of the SCR**

Not applicable.

#### **E4 Differences between the Standard Formula and any internal model used**

Not applicable.

#### **E5 Non-compliance with the MCR and non-compliance with the SCR**

There were no instances of non-compliance with the MCR or SCR during the period from 31 December 2017 to 31 December 2018.

#### **E6 Any other information**

There is no additional information which should be disclosed.

## Governing body's responsibility for the SFCR

The Directors are responsible for the preparation of the Solvency and Financial Condition Report in accordance with the financial reporting provisions of the PRA rules and Solvency II regulations which have been supplemented by the approvals made by the PRA, under the PRA Rules and Solvency II regulations on which they are based as detailed below:

We are satisfied that:

- a. throughout the financial year in question, TMKI has complied in all material respects with the requirements of the PRA Rules and the Solvency II Regulations as applicable to the company; and
- b. it is reasonable to believe that, at the date of publication of the SFCR, TMKI has continued to so comply subsequently and will continue to so comply in future.

On behalf of the TMKI board



**Reeken Patel**  
Chief Financial Officer

18 April 2019

## Independent auditors report on the relevant elements of the SFCR

**Report of the external independent auditors to the Directors of Tokio Marine Kiln Insurance Limited ('the Company') pursuant to Rule 4.1 (2) of the External Audit Part of the PRA Rulebook applicable to Solvency II firms**

### **Report on the Audit of the relevant elements of the Solvency and Financial Condition Report**

#### **Opinion**

We have audited the following documents prepared by the Company as at 31 December 2018:

- The 'Valuation for solvency purposes' and 'Capital Management' sections of the Solvency and Financial Condition Report of the Company as at 31 December 2018, (**the Narrative Disclosures subject to audit**); and
- Company templates S.02.01.02, S.17.01.02, S.23.01.01, S.25.01.21 and S.28.01.01 (**the Templates subject to audit**).

The Narrative Disclosures subject to audit and the Templates subject to audit are collectively referred to as the '**relevant elements of the Solvency and Financial Condition Report**'.

We are not required to audit, nor have we audited, and as a consequence do not express an opinion on the **Other Information** which comprises:

- The 'Summary', 'Business and performance', 'System of governance' and 'Risk profile' elements of the Solvency and Financial Condition Report;
- Company templates S.05.01.02, S.05.02.01 and S.19.01.21;
- The written acknowledgement by management of their responsibilities, including for the preparation of the Solvency and Financial Condition Report (**the Responsibility Statement**).

In our opinion, the information subject to audit in the relevant elements of the Solvency and Financial Condition Report of the Company as at 31 December 2018 is prepared, in all material respects, in accordance with the financial reporting provisions of the PRA Rules and Solvency II regulations on which they are based, as supplemented by supervisory approvals.

#### **Basis for opinion**

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) including ISA (UK) 800 and ISA (UK) 805, and applicable law. Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Audit of the relevant elements of the Solvency and Financial Condition Report* section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the Solvency and Financial Condition Report in the UK, including the FRC's Ethical Standard as applied to public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### **Conclusions relating to going concern**

ISAs (UK) require us to report to you where:

- the directors' use of the going concern basis of accounting in the preparation of the Solvency and Financial Condition Report is not appropriate; or
- the directors have not disclosed in the Solvency and Financial Condition Report any identified material uncertainties that may cast significant doubt about the Company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the Solvency and Financial Condition Report is authorised for issue.

We have nothing to report in respect of the above matters.

However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the Company's ability to continue as a going concern. For example, the terms on which the United Kingdom may withdraw from the European Union are not clear, and it is difficult to evaluate all of the potential implications on the Company's trade, customers, suppliers and the wider economy.

### **Emphasis of Matter - Basis of Accounting**

We draw attention to the 'Valuation for solvency purposes' and 'Capital Management' sections of the Solvency and Financial Condition Report, which describe the basis of accounting. The Solvency and Financial Condition Report is prepared in compliance with the financial reporting provisions of the PRA Rules and Solvency II regulations, and therefore in accordance with a special purpose financial reporting framework. The Solvency and Financial Condition Report is required to be published, and intended users include but are not limited to the Prudential Regulation Authority. As a result, the Solvency and Financial Condition Report may not be suitable for another purpose. Our opinion is not modified in respect of this matter.

### **Other Information**

The Directors are responsible for the Other Information.

Our opinion on the relevant elements of the Solvency and Financial Condition Report does not cover the Other Information and we do not express an audit opinion or any form of assurance conclusion thereon.

In connection with our audit of the Solvency and Financial Condition Report, our responsibility is to read the Other Information and, in doing so, consider whether the Other Information is materially inconsistent with the relevant elements of the Solvency and Financial Condition Report, or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the relevant elements of the Solvency and Financial Condition Report or a material misstatement of the Other Information. If, based on the work we have performed, we conclude that there is a material misstatement of this Other Information, we are required to report that fact. We have nothing to report in this regard.

### **Responsibilities of Directors for the Solvency and Financial Condition Report**

The Directors are responsible for the preparation of the Solvency and Financial Condition Report in accordance with the financial reporting provisions of the PRA rules and Solvency II regulations which have been supplemented by the approvals made by the PRA, under the PRA Rules and Solvency II regulations on which they are based, as detailed below:

#### *Approval of items of ancillary own funds*

The Directors are also responsible for such internal control as they determine is necessary to enable the preparation of a Solvency and Financial Condition Report that is free from material misstatement, whether due to fraud or error.

### **Auditors' Responsibilities for the Audit of the relevant elements of the Solvency and Financial Condition Report**

It is our responsibility to form an independent opinion as to whether the information subject to audit in the relevant elements of the Solvency and Financial Condition Report is prepared, in all material respects, in accordance with financial reporting provisions of the PRA Rules and Solvency II regulations on which they are based.

Our objectives are to obtain reasonable assurance about whether the relevant elements of the Solvency and Financial Condition Report are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but it is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decision making or the judgement of the users taken on the basis of the Solvency and Financial Condition Report.

A further description of our responsibilities for the audit is located on the Financial Reporting Council's website at: [www.frc.org.uk/auditorsresponsibilities](http://www.frc.org.uk/auditorsresponsibilities). This description forms part of our auditors' report.



This report, including the opinion, has been prepared for the Board of Directors of the Company in accordance with External Audit rule 2.1 of the Solvency II firms Sector of the PRA Rulebook and for no other purpose. We do not, in providing this report, accept or assume responsibility for any other purpose or to any other party save where expressly agreed by our prior consent in writing.

#### **Report on Other Legal and Regulatory Requirements**

In accordance with Rule 4.1 (3) of the External Audit Part of the PRA Rulebook for Solvency II firms we are also required to consider whether the Other Information is materially inconsistent with our knowledge obtained in the audit of the Company's statutory financial statements. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

The logo for PricewaterhouseCoopers WP, featuring the company name in a blue, cursive script font.

**PricewaterhouseCoopers LLP**

Chartered Accountants

7 More London Riverside

London

SE1 2RT

18 April 2019

#### Notes:

1. The maintenance and integrity of the Tokio Marine Kiln website is the responsibility of the Directors; the work carried out by the auditors does not involve consideration of these matters and, accordingly, the auditors accept no responsibility for any changes that may have occurred to the Solvency and Financial Condition Report since they were initially presented on the website.
2. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

## Glossary

Acronym/Term	Meaning
ABS	Asset-Backed Securities
ALAE	Allocated Loss Adjustment Expenses
ALM	Asset Liability Management
AOF	Ancillary Own Funds
ARF	Absolute Return Funds
BBNI	Bound But Not Incepted
BRS	BlackRock Solutions, TMK's outsourcing providers for investment-related accounting and reconciliations tasks
CEO	Chief Executive Officer
COBS	Conduct of Business Sourcebook, which is part of the FCA Handbook
Economic Capital	The amount of risk capital to be held by a firm in order for it to cover the risks it is exposed to in a worst-case scenario
EIOPA	The European Insurance and Occupational Pensions Authority
ENIDs	Events Not In Data
ERC	Executive Risk Committee
ESG	Economic Scenario Generator
EU	European Union
FCA	Financial Conduct Authority
FRS	Financial Reporting Standard
FTSE	Financial Times Stock Exchange
GAAP	General Accepted Accounting Principles
GWP	Gross Written Premium
IAS	International Accounting Standard
IBOXX	Bond market indices used as benchmarks for asset allocation
ICF	Internal Control Framework document
IFRS	Valuation in accordance with International Financial Reporting Standards as adopted in the EU
IPT	Insurance Premium Tax
IT	Information Technology
MCR	Minimum Capital Requirement
MMF	Money Market Fund
NEDs	Non-Executive Directors
Ogden Rates	The rate usually specified by the UK government as the basis for calculating personal injury compensations by insurance companies
ORSA	Own Risk and Solvency Assessment
OWRI	Outward Reinsurance
PRA	Prudential Regulation Authority
PRR	Profit Related Remuneration
QRT	Quantitative Reporting Templates
RCC	Risk & Compliance Committee
Regulatory Capital	The level of capital a financial institution is required to hold by regulator(s) based on the firm's risk profile
RSR	Regulatory Solvency Ratio
Reverse Stress Testing	A form of stress test in which the starting assumption of failure of the business. It is used to examine scenarios that could potentially result in business failure
RISC	Reinsurance Security Committee
S&P	Standard & Poor's, a rating agency

Acronym/Term	Meaning
SAA	Strategic Asset Allocation
SCR	Solvency Capital Requirement
SII	Solvency II, the new regulatory regime for European insurance and reinsurance firms
SF	Standard Formula
Stress Tests	Tests used to examine the potential impact of individual events on the continuous operation, profitability, capital adequacy and solvency of the business
TMHD	Tokio Marine Holdings Inc
TMK/TMKGL	Tokio Marine Kiln/Tokio Marine Kiln Group Limited
TMKI	Tokio Marine Kiln Insurance Limited
TMKS	Tokio Marine Kiln Syndicates Limited
TMNF	Tokio Marine Nichido Fire Insurance Inc
TPs	Technical Provisions
TPA	Third Party Administrator
UCITS	A European Mutual Fund; UCITS means "Undertakings for Collective Investment in transferrable Securities"
ULAE	Unallocated loss adjustment expenses
USP	Undertaking-Specific Parameter
WTW	Willis Towers Watson, a global advisory, broking and financial solution providers
XL	Excess of Loss reinsurance contract

## Supplementary Quantitative Reporting Templates to the SFCR

### List of required QRTs for submission with the SFCR

The following QRTs are provided with the SFCR in line with Solvency II requirements:

QRT Reference	QRT Template Name/Contents
S.02.01.02	Balance Sheet
S.05.01.02	Premiums, Claims and expenses by line of business
S.05.02.01	Premiums, Claims and expenses
S.17.01.02	Non-Life Technical Provisions
S.19.01.21	Non-Life Insurance Claims
S.23.01.01	Own Funds
S.25.01.21	Solvency Capital Requirement – for undertakings on Standard Formula
S.28.01.01	Minimum Capital Requirement – Only Life or only non-Life Insurance or Reinsurance activity



# Tokio Marine Kiln Insurance Limited

## Solvency and Financial Condition Report

### Disclosures

31 December

**2018**

(Monetary amounts in GBP thousands)



## General information

Undertaking name	Tokio Marine Kiln Insurance Limited
Undertaking identification code	391200DTAYLSAHINXK49
Type of code of undertaking	LEI
Type of undertaking	Non-life undertakings
Country of authorisation	GB
Language of reporting	en
Reporting reference date	31 December 2018
Currency used for reporting	GBP
Accounting standards	Local GAAP
Method of Calculation of the SCR	Standard formula
Matching adjustment	No use of matching adjustment
Volatility adjustment	No use of volatility adjustment
Transitional measure on the risk-free interest rate	No use of transitional measure on the risk-free interest rate
Transitional measure on technical provisions	No use of transitional measure on technical provisions

## List of reported templates

- S.02.01.02 - Balance sheet
- S.05.01.02 - Premiums, claims and expenses by line of business
- S.05.02.01 - Premiums, claims and expenses by country
- S.17.01.02 - Non-Life Technical Provisions
- S.19.01.21 - Non-Life insurance claims
- S.23.01.01 - Own Funds
- S.25.01.21 - Solvency Capital Requirement - for undertakings on Standard Formula
- S.28.01.01 - Minimum Capital Requirement - Only life or only non-life insurance or reinsurance activity

## S.02.01.02

## Balance sheet

		Solvency II value
		C0010
<b>Assets</b>		
R0030	Intangible assets	
R0040	Deferred tax assets	909
R0050	Pension benefit surplus	
R0060	Property, plant & equipment held for own use	87
R0070	Investments (other than assets held for index-linked and unit-linked contracts)	305,904
R0080	<i>Property (other than for own use)</i>	0
R0090	<i>Holdings in related undertakings, including participations</i>	2,380
R0100	<i>Equities</i>	0
R0110	<i>Equities - listed</i>	
R0120	<i>Equities - unlisted</i>	
R0130	<i>Bonds</i>	172,039
R0140	<i>Government Bonds</i>	74,009
R0150	<i>Corporate Bonds</i>	95,799
R0160	<i>Structured notes</i>	0
R0170	<i>Collateralised securities</i>	2,232
R0180	<i>Collective Investments Undertakings</i>	92,381
R0190	<i>Derivatives</i>	
R0200	<i>Deposits other than cash equivalents</i>	39,103
R0210	<i>Other investments</i>	0
R0220	Assets held for index-linked and unit-linked contracts	
R0230	Loans and mortgages	0
R0240	<i>Loans on policies</i>	0
R0250	<i>Loans and mortgages to individuals</i>	
R0260	<i>Other loans and mortgages</i>	
R0270	Reinsurance recoverables from:	116,376
R0280	<i>Non-life and health similar to non-life</i>	116,376
R0290	<i>Non-life excluding health</i>	113,765
R0300	<i>Health similar to non-life</i>	2,610
R0310	<i>Life and health similar to life, excluding index-linked and unit-linked</i>	0
R0320	<i>Health similar to life</i>	
R0330	<i>Life excluding health and index-linked and unit-linked</i>	
R0340	<i>Life index-linked and unit-linked</i>	
R0350	Deposits to cedants	0
R0360	Insurance and intermediaries receivables	10,006
R0370	Reinsurance receivables	16,285
R0380	Receivables (trade, not insurance)	9,168
R0390	Own shares (held directly)	
R0400	Amounts due in respect of own fund items or initial fund called up but not yet paid in	0
R0410	Cash and cash equivalents	37,665
R0420	Any other assets, not elsewhere shown	5,735
R0500	<b>Total assets</b>	<b>502,136</b>

S.02.01.02

Balance sheet

		Solvency II value
		C0010
<b>Liabilities</b>		
R0510	Technical provisions - non-life	362,975
R0520	<i>Technical provisions - non-life (excluding health)</i>	352,862
R0530	<i>TP calculated as a whole</i>	0
R0540	<i>Best Estimate</i>	336,590
R0550	<i>Risk margin</i>	16,271
R0560	<i>Technical provisions - health (similar to non-life)</i>	10,113
R0570	<i>TP calculated as a whole</i>	0
R0580	<i>Best Estimate</i>	9,603
R0590	<i>Risk margin</i>	511
R0600	Technical provisions - life (excluding index-linked and unit-linked)	0
R0610	<i>Technical provisions - health (similar to life)</i>	0
R0620	<i>TP calculated as a whole</i>	
R0630	<i>Best Estimate</i>	
R0640	<i>Risk margin</i>	
R0650	<i>Technical provisions - life (excluding health and index-linked and unit-linked)</i>	0
R0660	<i>TP calculated as a whole</i>	
R0670	<i>Best Estimate</i>	
R0680	<i>Risk margin</i>	
R0690	Technical provisions - index-linked and unit-linked	0
R0700	<i>TP calculated as a whole</i>	
R0710	<i>Best Estimate</i>	
R0720	<i>Risk margin</i>	
R0740	Contingent liabilities	0
R0750	Provisions other than technical provisions	0
R0760	Pension benefit obligations	
R0770	Deposits from reinsurers	28,015
R0780	Deferred tax liabilities	1,726
R0790	Derivatives	
R0800	Debts owed to credit institutions	0
R0810	Financial liabilities other than debts owed to credit institutions	
R0820	Insurance & intermediaries payables	
R0830	Reinsurance payables	35,634
R0840	Payables (trade, not insurance)	11,040
R0850	Subordinated liabilities	0
R0860	<i>Subordinated liabilities not in BOF</i>	
R0870	<i>Subordinated liabilities in BOF</i>	0
R0880	Any other liabilities, not elsewhere shown	1,681
R0900	<b>Total liabilities</b>	441,071
R1000	<b>Excess of assets over liabilities</b>	61,065





S.17.01.02  
Non-Life Technical Provisions

	Direct business and accepted proportional reinsurance										Accepted non-proportional reinsurance					Total Non-Life obligation	
	Medical expense insurance C0020	Income protection insurance C0340	Workers' compensation insurance C0340	Motor vehicle liability insurance C0360	Other motor insurance C0360	Marine, aviation and transport insurance C0370	Fire and other damage to property insurance C0630	General liability insurance C0640	Credit and suretyship insurance C0110	Legal expenses insurance C0110	Assistance C0120	Miscellaneous financial loss C0130	Non-proportional health reinsurance C0140	Non-proportional casualty reinsurance C0150	Non-proportional marine, aviation and transport reinsurance C0160		Non-proportional property reinsurance C0170
00000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
431						3,472	19,009	9,266	10	0	80	-82	-46	384	856		31,070
191						1,749	-1,534	-1,290	9	0	23	19	1	60	-20		-794
240						1,723	20,543	10,556	2	0	57	-502	-46	324	876		31,864
9,172						54,346	132,925	112,013	-9	0	571	-3,857	2,349	106	5,507		315,123
2,419						39,093	54,096	19,688	0	0	75	173	1,281	1	343		117,169
6,753						15,253	78,829	92,335	-9	0	495	-4,029	1,067	106	5,164		195,954
9,603						57,818	151,933	121,278	2	0	650	-4,339	2,395	490	6,163		346,193
6,992						16,976	99,372	102,885	-7	0	552	-4,531	1,113	430	6,040		229,818
311						1,240	7,256	7,513	-1	0	40	-331	81	31	441		16,782
																	0
																	0
10,113						59,057	159,190	128,791	1	0	691	-4,670	2,477	521	6,804		361,975
2,610						40,842	52,561	18,397	9	0	98	192	1,282	61	323		116,376
7,503						18,215	106,629	110,394	-8	0	592	-4,862	1,194	461	6,481		246,599

00000 Technical provisions calculated as a whole  
Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP calculated as a whole

00000 Technical provisions calculated as a sum of BE and RA  
Best estimate

Premium provisions

00000 Gross  
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default  
Net Best Estimate of Premium Provisions

Claims provisions

00000 Gross  
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default  
Net Best Estimate of Claims Provisions  
Total best estimate - gross  
Total best estimate - net  
Risk margin

Amount of the transitional on Technical Provisions

00000 Technical Provisions calculated as a whole  
Best estimate  
Risk margin

Technical provisions - total

00000 Recoverable from reinsurance contract/SPV and Finite Re after the adjustment for expected losses due to counterparty default - total  
Technical provisions minus recoverables from reinsurance/SPV and Finite Re - total





5.23.01.01  
Own Funds

Basic own funds before deduction for participations in other financial sector as foreseen in article 68 of Delegated Regulation 2015/35

	Total	Tier 1 unrestricted	Tier 1 restricted	Tier 2	Tier 3
	C0010	C0020	C0030	C0040	C0050
R0010 Ordinary share capital (gross of own shares)	35,000	35,000	0	0	0
R0030 Share premium account related to ordinary share capital	55,000	55,000	0	0	0
R0040 Initial funds, members' contributions or the equivalent basic own-fund item for mutual and mutual-type undertakings	0	0	0	0	0
R0050 Subordinated mutual member accounts	0	0	0	0	0
R0070 Surplus funds	0	0	0	0	0
R0099 Preference shares	0	0	0	0	0
R0110 Share premium account related to preference shares	0	0	0	0	0
R0130 Reconciliation reserve	0	0	0	0	0
R0140 Subordinated liabilities	-28,935	-28,935	0	0	0
R0160 An amount equal to the value of net deferred tax assets	0	0	0	0	0
R0180 Other own fund items approved by the supervisory authority as basic own funds not specified above	0	0	0	0	0
R0220 Own funds from the financial statements that should not be represented by the reconciliation reserve and do not meet the criteria to be classified as Solvency II own funds	0	0	0	0	0
R0230 Deductions for participations in financial and credit institutions	0	0	0	0	0
R0290 Total basic own funds after deductions	61,065	61,065	0	0	0
Ancillary own funds					
R0300 Unpaid and uncalled ordinary share capital callable on demand	0	0	0	0	0
R0310 Unpaid and uncalled initial funds, members' contributions or the equivalent basic own fund item for mutual and mutual - type undertakings, callable on demand	0	0	0	0	0
R0320 Unpaid and uncalled preference shares callable on demand	0	0	0	0	0
R0330 A legally binding commitment to subscribe and pay for subordinated liabilities on demand	0	0	0	0	0
R0340 Letters of credit and guarantees under Article 96(2) of the Directive 2009/138/EC	63,063	0	0	63,063	0
R0350 Letters of credit and guarantees other than under Article 96(2) of the Directive 2009/138/EC	0	0	0	0	0
R0360 Supplementary members calls under first subparagraph of Article 96(3) of the Directive 2009/138/EC	0	0	0	0	0
R0370 Supplementary members calls - other than under first subparagraph of Article 96(3) of the Directive 2009/138/EC	0	0	0	0	0
R0390 Other ancillary own funds	0	0	0	0	0
R0400 Total ancillary own funds	63,063	0	0	63,063	0
Available and eligible own funds					
R0500 Total available own funds to meet the SCR	124,128	61,065	0	63,063	0
R0510 Total available own funds to meet the MCR	61,065	61,065	0	0	0
R0540 Total eligible own funds to meet the SCR	120,377	61,065	0	59,312	0
R0550 Total eligible own funds to meet the MCR	61,065	61,065	0	0	0
R0580 SCR	118,625				
R0600 MCR	43,066				
R0620 Ratio of Eligible own funds to SCR	101.48%				
R0640 Ratio of Eligible own funds to MCR	141.79%				
Reconciliation reserve					
R0700 Excess of assets over liabilities	61,065				
R0710 Own shares (held directly and indirectly)	0				
R0720 Foreseeable dividends, distributions and charges	90,000				
R0730 Other basic own fund items	0				
R0740 Adjustment for restricted own fund items in respect of matching adjustment portfolios and ring fenced funds	-28,935				
R0760 Reconciliation reserve					
Expected profits					
R0770 Expected profits included in future premiums (EPIFP) - Life business	12,296				
R0780 Expected profits included in future premiums (EPIFP) - Non-life business	12,296				
R0790 Total Expected profits included in future premiums (EPIFP)					

S.25.01.21

Solvency Capital Requirement - for undertakings on Standard Formula

	Gross solvency capital requirement	USP	Simplifications
	C0110	C0090	C0120
R0010 Market risk	16,161		
R0020 Counterparty default risk	36,283		
R0030 Life underwriting risk	0		
R0040 Health underwriting risk	2,684		
R0050 Non-life underwriting risk	79,107		
R0060 Diversification	-25,995		
R0070 Intangible asset risk	0		
<b>R0100 Basic Solvency Capital Requirement</b>	<b>108,239</b>		
<b>Calculation of Solvency Capital Requirement</b>			
R0130 Operational risk	10,386		
R0140 Loss-absorbing capacity of technical provisions	0		
R0150 Loss-absorbing capacity of deferred taxes	0		
R0160 Capital requirement for business operated in accordance with Art. 4 of Directive 2003/41/EC	0		
<b>R0200 Solvency Capital Requirement excluding capital add-on</b>	<b>118,625</b>		
R0210 Capital add-ons already set	0		
<b>R0220 Solvency capital requirement</b>	<b>118,625</b>		
<b>Other information on SCR</b>			
R0400 Capital requirement for duration-based equity risk sub-module	0		
R0410 Total amount of Notional Solvency Capital Requirements for remaining part	0		
R0420 Total amount of Notional Solvency Capital Requirements for ring fenced funds	0		
R0430 Total amount of Notional Solvency Capital Requirements for matching adjustment portfolios	0		
R0440 Diversification effects due to RFF nSCR aggregation for article 304	0		

**USP Key**

**For life underwriting risk:**

- 1 - Increase in the amount of annuity benefits
- 9 - None

**For health underwriting risk:**

- 1 - Increase in the amount of annuity benefits
- 2 - Standard deviation for NSLT health premium risk
- 3 - Standard deviation for NSLT health gross premium risk
- 4 - Adjustment factor for non-proportional reinsurance
- 5 - Standard deviation for NSLT health reserve risk
- 9 - None

**For non-life underwriting risk:**

- 4 - Adjustment factor for non-proportional reinsurance
- 6 - Standard deviation for non-life premium risk
- 7 - Standard deviation for non-life gross premium risk
- 8 - Standard deviation for non-life

5.28.01.01

Minimum Capital Requirement - Only life or only non-life insurance or reinsurance activity

Linear formula component for non-life insurance and reinsurance obligations

R0010 MCR<sub>NI</sub> Result

C0010

43,066

	Net (of reinsurance/SPV) best estimate and TP calculated as a whole	Net (of reinsurance) written premiums in the last 12 months
	C0020	C0030
R0020 Medical expense insurance and proportional reinsurance	6,992	11,923
R0030 Income protection insurance and proportional reinsurance	0	0
R0040 Workers' compensation insurance and proportional reinsurance	0	0
R0050 Motor vehicle liability insurance and proportional reinsurance	0	0
R0060 Other motor insurance and proportional reinsurance	0	0
R0070 Marine, aviation and transport insurance and proportional reinsurance	16,976	25,187
R0080 Fire and other damage to property insurance and proportional reinsurance	99,372	87,616
R0090 General liability insurance and proportional reinsurance	102,881	54,576
R0100 Credit and suretyship insurance and proportional reinsurance	0	-1
R0110 Legal expenses insurance and proportional reinsurance	0	-1
R0120 Assistance and proportional reinsurance	552	2,111
R0130 Miscellaneous financial loss insurance and proportional reinsurance	0	1,836
R0140 Non-proportional health reinsurance	0	0
R0150 Non-proportional casualty reinsurance	1,113	262
R0160 Non-proportional marine, aviation and transport reinsurance	430	2,188
R0170 Non-proportional property reinsurance	6,040	5,897

Linear formula component for life insurance and reinsurance obligations

R0200 MCR<sub>L</sub> Result

C0040

0

	Net (of reinsurance/SPV) best estimate and TP calculated as a whole	Net (of reinsurance/SPV) total capital at risk
	C0050	C0060
R0210 Obligations with profit participation - guaranteed benefits		
R0220 Obligations with profit participation - future discretionary benefits		
R0230 Index-linked and unit-linked insurance obligations		
R0240 Other life (re)insurance and health (re)insurance obligations		
R0250 Total capital at risk for all life (re)insurance obligations		

Overall MCR calculation

R0300 Linear MCR

C0070

43,066

R0310 SCR

118,625

R0320 MCR cap

53,381

R0330 MCR floor

29,656

R0340 Combined MCR

43,066

R0350 Absolute floor of the MCR

3,288

R0400 Minimum Capital Requirement

43,066

