Munich Reinsurance Company

And Subsidiaries

Full Rating Report

Ratings

Insurer Financial Strength Rating	AA
Long-Term Foreign-Currency IDR	AA−
Subordinated Debt	A
Senior Unsecured Debt (Issued by Munich Reinsurance America Corporation)	AA−

See additional ratings on page 15.

Outlooks

Insurer Financial Strength Rating	Stable
Long-Term Foreign-Currency IDR	Stable

Financial Data

Munich Reinsurance Company

(EURbn)	31 Dec 18	31 Dec 17
Total assets	270.2	265.7
Total equity	26.5	28.2
Gross written premiums	49.1	49.1
Net income	2.3	0.4
P&C reinsurance combined ratio (%)	99.4	114.1
Primary insurance (ERGO intl.) combined ratio (%)	94.6	95.3

Source: Fitch Ratings, Munich Re

Related Research

Global Reinsurance Dashboard - 2019 Outlook

European Reinsurance Peer Review

Fitch 2019 Outlook: Global Reinsurance

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Key Rating Drivers

Very Strong Business Profile: Fitch Ratings regards Munich Reinsurance Company (Munich Re) as one of a select group of reinsurers that has the scale, diversity and financial strength to attract the highest quality business placed in the global reinsurance market. We rank Munich Re's business profile as most favourable within the global reinsurance sector and, given this ranking, we score its business profile at 'aa+' under our credit factor scoring guidelines.

'Very Strong' Capitalisation: Based on Fitch's Prism Factor-Based Capital Model (Prism FBM), Munich Re's capitalisation remained 'Very Strong' in 2018. However, Munich Re's available capital fell on lower shareholders' equity following dividend payments and share buybacks, among other factors. Fitch does not foresee a material weakening of Munich Re's capital strength in the medium term, assuming a normal level of catastrophe activity.

Low Financial Leverage: Financial leverage increased slightly to 15% at end-2018 (end-2017: 12%), which is low both in absolute terms and compared with peers'. The slight increase was due to the issuance of a subordinated bond of EUR1.25 billion in November 2018. Fitch expects financial leverage to remain low and commensurate with ratings.

Stronger P&C Underwriting Earnings: Munich Re's reported P&C reinsurance combined ratio improved to 99% in 2018 (2017: 114%) as a result of lower major losses. Major losses added 12pp to the combined ratio in 2018 (2017: 26pp) which was in line with Munich Re's annual expectation for major losses. The combined ratio, normalised for reserve variations and major losses, decreased slightly to 100% in 2018 (2017: 101%), however, reflecting the effects of a protracted soft market.

ERGO Maintains Profitability: In 2018, subsidiary ERGO recorded a profit of EUR412 million, significantly exceeding Munich Re's original guidance of EUR250 million - EUR300 million. The company is targeting net profit of EUR530 million in 2020. In the P&C Germany segment, ERGO reported a combined ratio of 96% (2017: 97.5%), and ERGO International 94.6% (2017: 95.3%). ERGOs life and health segment also continued to perform well.

Life Re Performance Improving: Munich Re reported a strong technical result on its life and health reinsurance book in 2018 as a result of positive claims experience, particularly on mortality business in the US. However, claims expenditure was slightly higher than anticipated in Canada and, as in 2017, the Australian disability business saw increased claims expenses, partly driven by the strengthening of provisions for outstanding claims. The developments partly offset the positive operating performance in the US, Asia and Europe.

Rating Sensitivities

Deterioration in Capitalisation: Key rating triggers that could result in a downgrade include a sustained material drop in the group's risk-adjusted capital position to below 'Very Strong', as measured by Prism FBM.

Weaker Financial Performance: The ratings could also be downgraded if the net income return on equity is consistently below 6%.

Stronger Capital and Earnings: An upgrade would be possible on a significant and sustained improvement in both capitalisation to 'Extremely Strong', as measured by Prism FBM, and net income return on equity to above 12%, on a sustained basis.

Munich Reinsurance Company

ESG Relevance:

Insurance Ratings Navigator
Global Re (Composite)

Other Factors & Criteria Elements				
Provisional Insurer Financial Strength				**AA**
Non-Insurance Attributes	Positive	**Neutral**	Negative	+0
Corporate Governance & Management	**Effective**	Some Weakness	Ineffective	+0
Ownership	Positive	**Neutral**	Negative	+0
Transfer & Convertibility / Country Ceiling	Yes	**No**	AAA	+0
Insurer Financial Strength (IFS)			Final:	**AA**
IFS Recovery Assumption	**Good**			-1
Issuer Default Rating (IDR)			Final:	**AA-**

Bar Chart Legend:

Vertical Bars = Range of Rating Factor

Bar Colors = Relative Importance
- Higher Influence
- Moderate Influence
- Lower Influence

Bar Arrows = Rating Factor Outlook
- ⇧ Positive
- ⇩ Negative
- ⇳ Evolving
- □ Stable

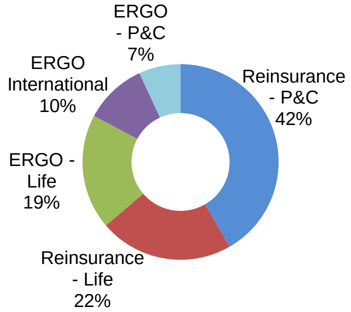
Related Criteria

Insurance Rating Criteria (January 2019)

Business Profile

Most Favourable Business Profile

Gross Premium by Segment, 2018



Source: Fitch Ratings, Munich Re

Fitch believes that Munich Re has a very strong business profile. Munich Re is one of a small group of global reinsurers with the scale and financial strength to attract the highest quality reinsurance business that is placed in the market.

Large, Well-Diversified Portfolio

Measured by premium volume, Munich Re is the world's largest reinsurer, with reinsurance net written premiums (GWP) totalling EUR31.3 billion in 2018. The reinsurance segment, of which the P&C business is the largest within the group, is strengthened by an excellent franchise. Overall, Fitch considers that the Munich Re group has a leading global business profile and large scale.

Strong Competitive Positioning

Munich Re's franchise is supported by a dominant, long-established P&C reinsurance market shares that has endured tough (re)insurance pricing and credit cycles. Munich Re has the scale to deploy underwriting capacity in larger volumes than smaller peers across multiple classes, a requirement that has grown in importance because reinsurance is more commonly being transacted with larger primary insurers that place centralised multi-risk covers through global broker programmes. Being able to lead programmes gives Munich Re greater ability to influence pricing and terms and conditions. Munich Re typically occupies one of the strongest and most-secure positions on reinsurance panels.

Multi-Channel Distribution

The group's reinsurance business comes direct from primary insurers or through brokers. It has strong partnerships with leading broker firms and receives business from large clients through captives or alternative risk-transfer initiatives. ERGO's strategy encompasses various distribution channels. In addition to its own sales network of 12,500 tied agents, ERGO has forged partnerships with a variety of brokers and manages its direct business via ERGO Direkt.

Munich Re group accepts risks in the US principally through Munich Reinsurance America Corporation and benefits from writing business through a US entity, which helps the group avoid being treated as an "alien reinsurer" in the US and therefore potentially having to collateralise its reinsurance obligations.

Primary Operations Support Diversification

Munich Re is very well diversified both by product line and by geography. The largest segment is the property and casualty reinsurance business which accounts for 42% of GWP. The second largest segment is life and health reinsurance with 22% of GWP followed by the primary life and health business, ERGO Life and Health Germany, with 19% of GWP. ERGO Property & Casualty Germany makes up a further 7% and the remaining 10% comes from the international primary insurance business, ERGO International.

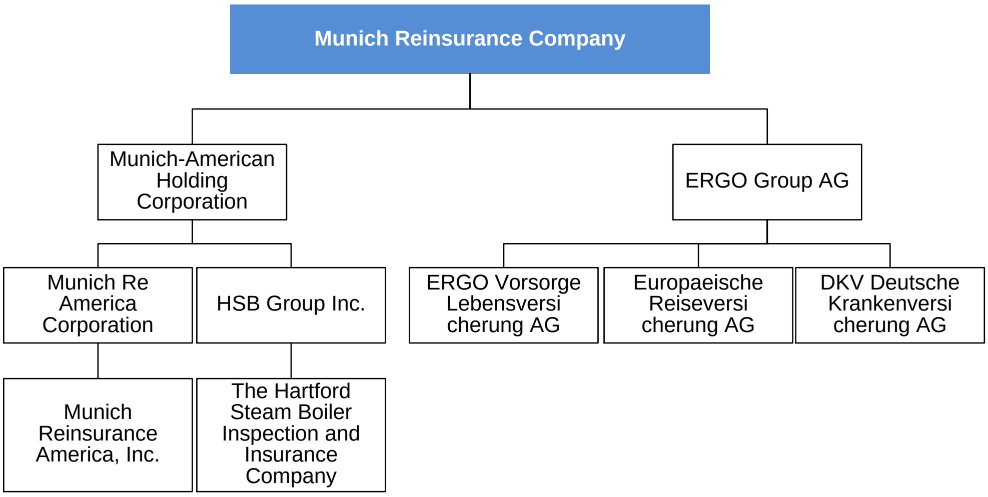
Ownership Neutral to Rating

Munich Re is a listed group, with the majority of its shares held by institutional investors (79.6% at end-June 2019) and private investors (20.4%).

Shareholders are mainly European, with 39.4% of share capital held in Germany, 13.4% in the UK and 21.8% in the rest of Europe, while 24.9% are held in North America.

Group Structure

(Showing entities rated by Fitch)



Wholly owned subsidiaries
Source: Fitch Ratings, Munich Re annual report

Capitalisation and Leverage

(EURbn)	2014	2015	2016	2017	2018	Fitch's expectation
Group solvency II coverage (%)	308	302	267	244	245	We expect capitalisation and leverage to remain very strong. Future capital management through share buy-back programmes will depend on the level of major losses.
Gross leverage (x)[a]	3.1	3.1	2.6	3.0	3.4	
Net leverage (x)[b]	2.9	3.0	2.4	2.8	3.2	
Net premiums written/equity (x)	0.9	0.9	0.7	0.8	1	
Financial leverage ratio (%)	15	14	15	12	15	
Total financing and commitments ratio (x)	0.4	0.4	0.4	0.3	0.5	

[a] Sum of non-life gross written premiums and gross technical reserves, divided by total equity
[b] Sum of non-life net written premiums and net technical reserves, divided by total equity
Source: Fitch Ratings, Munich Re

Very Strong Capitalisation and Leverage

Fitch views Munich Re's risk-adjusted capitalisation as very strong and supportive of its rating level with a 'Very Strong' Prism FBM score and a solvency II ratio of 245%. Munich Re's financial leverage is also supportive of the rating category.

'Very Strong' Prism FBM Score

Munich Re's available capital fell in 2018 on lower shareholders' equity following dividend payments and share buy-backs, among other factors. Based on Fitch's Prism Factor-Based Capital Model (Prism FBM), Munich Re's capitalisation remained 'Very Strong', however. Fitch does not foresee a material weakening of its capital strength in the medium term, assuming a normal level of catastrophe activity.

Solvency II SCR Above Target Range

Munich Re's coverage of the solvency capital requirement (SCR) under Solvency II remained stable at 245% (end-2017: 244%), with strong earnings generation offset by share buy-backs and dividend payments. Coverage remains well above the 220% top end of the reinsurer's target range and we expect the company will manage this down over time.

Low Financial Leverage

Financial leverage increased to 15% at end-2018 (end-2017: 12%), which is low in absolute terms and compared with peers. The slight increase was due to the issuance of a EUR1.25 billion subordinated bond in November 2018.

Average Total Financing Commitments Ratio

Munich Re's TFC ratio deteriorated slightly to 0.5x at end-2018 (end-2017: 0.3x) as a result of a combination of subordinated debt issuance, increased securities lending and increased loan commitments. Munich Re's end-2018 TFC ratio fell within the 'medium' range when considered in the broader context of the reinsurance sector.

Fitch recognises that a significant proportion of the ratio numerator consists of utilised letter-of-credit (LOC) facilities. We believe that in the unlikely event that the LOC facilities were to become unavailable, Munich Re would have sufficient financial resources to maintain the business currently backed by the LOC facilities.

Overall, the level of TFC is neutral to Munich Re's ratings.

TFC Range and Ratio Descriptions

TFC range (x)	Qualitative description
1.5 and over	Very High (High Caution)
0.8–1.5	High (Caution)
0.4–0.8	Medium (Neutral)
Under 0.4	Low (Neutral)

Source: Fitch Ratings

Debt Service Capabilities and Financial Flexibility

(%)	2014	2015	2016	2017	2018	Fitch's expectation
Fixed-charge coverage ratio[a]	10.0	15.5	10.9	-2.6	16.3	We expect fixed-charge coverage to remain very strong across the rating horizon of two years, assuming catastrophe losses do not exceed the long-term average.

[a] Excluding realised and unrealised gains
Source: Fitch Ratings, Munich Re

Holding Company Liquidity

Munich Re AG is the group's holding company and main reinsurance operating company. Munich Re has no refinancing requirements until 2021.

Very Strong Coverage and Financial Flexibility

Fitch considers Munich Re's financial flexibility and debt service capabilities to be very strong and supportive of the rating. Overall debt service and financial flexibility have a low influence in determining Munich Re's ratings.

Fixed-Charge Coverage Affected by Catastrophe Losses

Munich Re's five-year average fixed-charge coverage ratio, excluding realised and unrealised gains and losses of 10x is very strong and supportive of the rating. Assuming an average level of natural catastrophe losses, Fitch expects Munich Re to maintain very strong fixed-charge coverage.

Share Buy-Backs Dependent on Major Losses

Fitch views the continued management of capital through share repurchase programmes as dependent on the level of major loss activity. We believe that the programmes announced over the past five years reflect the strength of Munich Re's balance sheet despite the losses in 2017 and 2018. During 2018, Munich Re repurchased EUR1 billion of shares (2017: EUR1 billion). Since 2006, the reinsurer has returned more than EUR20 billion to its shareholders through share buy-backs and dividends.

Very Strong Financial Flexibility

Munich Re has very stable market access and a long history of funding from diverse sources, including debt and equity markets, as well as through the use of alternative capital management tools such as catastrophe bonds and other risk transfer products.

Financial Performance and Earnings

(%)	2014	2015	2016	2017	2018	Fitch's expectation
Net income (EURm)	3,152	3,107	2,580	376	2,309	Fitch expects Munich Re's reinsurance combined ratio to improve to below 100%, assuming a normal level of catastrophe activity.
Combined ratio – P&C RI	93	90	96	114	99	
Combined ratio – primary – Germany	95	98	97	98	96	
Combined ratio – primary – Intl	97	105	98	95	95	
Return on equity	11	10	8	1	9	
Change in gross written premiums	-4	3	-3	1	0	

Source: Fitch Ratings, Munich Re

Very Strong Financial Performance

Fitch considers Munich Re's financial performance and earnings to be very strong and supportive of the current rating category, despite two consecutive years of significant catastrophe losses. Overall financial performance and earnings has high influence in determining Munich Re's ratings.

P&C Re: Significant but Lower Catastrophe Losses

Munich Re's reported P&C reinsurance combined ratio improved to 99% in 2018 (2017: 114%) as a result of a lower impact from major losses. Major losses added 12pp to the combined ratio in 2018 (2017: 26%) which was in line with Munich Re's annual expectation for major losses.

2017 was an exceptional year for natural catastrophe losses with three major hurricanes hitting the US and the Caribbean – Harvey, Irma and Maria – and costing Munich Re EUR2.7 billion after retrocession, with further significant losses from California wildfires and Mexico earthquakes.

The combined ratio, normalised for reserve variations and major losses, was stable at 100% in 2018 (2017: 101%), reflecting the effects of a protracted soft market.

At the 1 January 2019 renewals, when Munich Re renewed roughly 46% of its P&C book, overall price development was largely flat. Munich Re reported significant top-line growth at the January renewals, with significant volume increases in property and casualty excess of loss (XL) lines as well as in its marine book. The flat pricing was influenced by price decreases in European property XL business which offset price increases in aviation and marine business which was supported by primary market rate increases.

ERGO Maintains Profitability

The restructuring of Munich Re's primary insurance businesses is now making a consistent contribution to net earnings. In 2018, ERGO recorded a profit of EUR412 million, significantly exceeding Munich Re's original guidance of EUR250 - 300 million. The company is targeting a net profit of EUR530 million in 2020.

In the P&C Germany segment, ERGO reported a combined ratio of 96% (2017: 97.5%), in line with Munich Re's guidance. ERGO International also reported a strong combined ratio of 94.6% (2017: 95.3%). ERGO Life and Health Germany continued to perform well with strong earnings from the health segment and an improving performance on the life book.

Life Re: Results Improving

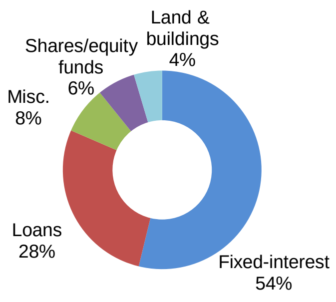
Munich Re reported a strong technical result on its life and health reinsurance book in 2018 as a result of positive claims experience, particularly on mortality business in the USA. However, claims expenditure was slightly higher than anticipated in Canada and, as in the previous year, the Australian disability business saw increased claims expenses, partly driven by the strengthening of provisions for outstanding claims. The developments partly offset the positive operating performance in the US, Asia and Europe.

Investment and Asset Risk

(%)	2014	2015	2016	2017	2018	Fitch's expectation
Risky assets to equity	55	56	60	80	74	Fitch expects Munich Re to retain its
Non-investment-grade bonds to equity	16	20	17	23	24	conservative strategy on investment risk.
Unaffiliated equity investments to equity	34	32	37	49	40	Equity exposure could increase slightly.
Affiliated investments to equity	5	4	5	8	10	

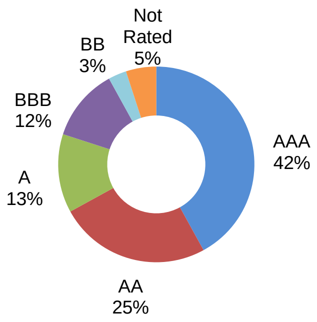
Source: Fitch Ratings, Munich Re

Investment Portfolio, 2018



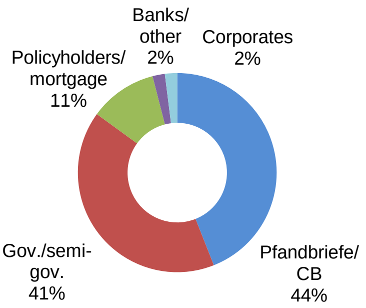
Source: Fitch Ratings, Munich Re

Fixed-Income Portfolio 2018



Source: Fitch Ratings, Munich Re

Loans Portfolio, 2018



Source: Fitch Ratings, Munich Re

Very Strong Investment Risk

Fitch views Munich Re's investment and asset risk as low, due to its prudent investment strategy and strong liquidity. This has a lower influence in determining Munich Re's overall ratings.

Low Equity Exposure

Munich Re's investment portfolio consists largely of highly rated fixed-interest instruments and loans, making up 82% of total investments. Munich Re's exposure to equity investments marginally decreased to 6.2% of total investments (end-2017: 7.3%). Equity exposure after hedging decreased to 5.2% of total investments at end-2018 (end-2017: 6.7%). Unaffiliated equities totalled 40% of shareholders' funds (end-2017: 49%), which Fitch views as very strong.

Increased Credit Risk Exposure

Munich Re is taking on slightly more risk on its fixed-income portfolio but overall credit quality remains strong. At end-2018, 68% of fixed-income securities were rated 'AA' or 'AAA' (end-2017: 67%). 53% of the fixed-income portfolio is invested in government and semi-government bonds of overall high credit quality.

Munich Re is exposed to some credit risk in its corporate bond portfolio (12% of the fixed-income portfolio). Of the overall fixed-income portfolio, 8% was not rated or rated below investment-grade at end-2018. Within the bank portfolio (2% of the fixed-income portfolio), the proportion of subordinated bonds and loss-bearing bonds is limited.

High-quality Loan Portfolio

The investment portfolio contained sizeable loans totalling EUR64 billion at end-2018 (2017: EUR65 billion). The loans are of high quality, with 85% being rated either 'AAA' or 'AA', and a further 12% being secured against mortgages.

Asset/Liability and Liquidity Management

(%)	2014	2015	2016	2017	2018	Fitch's expectation
Liquid assets to policyholder liabilities	72	70	72	68	66	Fitch expects the duration gap between assets and liabilities to remain below 1 year.
Duration gap (years)	0.1	0.1	0.1	0.3	0.7	

Source: Fitch Ratings, Munich Re

Very Strong Assets and Liability Management

Fitch views Munich Re's asset/liability management risk as low, due to its very strong liquidity and sophisticated asset/liability matching. This has a moderate influence in determining Munich Re's overall ratings.

Very Strong Liquid Profile

Fitch regards liquidity in Munich Re's investment portfolio as very strong. Of the group's EUR232 billion portfolio, EUR198 billion (54%) is composed of highly liquid fixed-income securities. At end-2018, Munich Re held 5% of its investments in real estate and 28% in loans, which are relatively illiquid. Munich Re has sufficient investment-grade bonds and cash to cover its technical reserves despite the large loan portfolio. The Fitch-calculated liquid-assets-to-policyholder-liabilities ratio was 66% in 2018 (2017: 68%).

Limited Duration Gap

Fitch views Munich Re's efforts to keep the duration gap of assets and liabilities low at group level as being positive for the rating. At end-2018, the duration of assets and liabilities at group level had been fairly closely matched, with asset duration of 7.5 years and liabilities of 8.2 years.

Within Munich Re's reinsurance operations, the duration of assets (five years) is shorter than the duration of liabilities (5.8 years). Similarly, in the primary operations, the liability duration (9.2 years) is longer than the asset duration (8.8 years).

Receiver Swaptions Mitigate Interest-Rate Exposure

ERGO has derivatives in place to protect the life operations against reinvestment risk in a sustained low interest-rate environment. As interest rates fall, the value of these receiver swaptions rises and offsets the increased economic value of the liabilities caused by interest-rate falls, providing additional protection against further declines in interest rates.

Fitch sees the use of these derivative products as tangible evidence of strong risk management and considers the potential relief that such transactions can provide as credit-positive.

In times of rising interest rates, the receiver swaptions will negatively affect the life operation's IFRS profitability. In addition to the hedge against low interest rates, ERGO has also acquired structured products that provide a hedge against rapidly increasing interest rates.

IFRS Equity Exposed to Currency Movements

Munich Re applies economic steering principles that aim to limit currency risk, including extensive matching of assets and liabilities. Although the company runs a largely neutral economic currency position, under IFRS a stronger US dollar and weaker euro tend to benefit shareholders' equity and can also benefit the profit and loss account.

Reserve Adequacy

(%)	2014	2015	2016	2017	2018	Fitch's expectation
Loss reserves/CY incurred losses	3	3	3	3	3	Fitch expects Munich Re to maintain its prudent reserving standards, which should continue the trend of positive prior-year development.
Change in loss reserve/earned premium ratio	10	-1	6	6	-4	
One-year development/PY equity	-5	-5	-5	-3	-7	
One-year development/PY loss reserves	-3	-3	-3	-2	-4	

Note: Negative numbers denote positive reserve developments. CY: Current Year. PY: Prior Years
Source: Fitch Ratings, Munich Re

Very Strong Reserve Adequacy

Fitch considers Munich Re's reserving to be very prudent and supportive of the current rating category. Overall reserve adequacy has a moderate influence in determining Munich Re's ratings.

Consistently Favourable Reserve Development

Fitch maintains a credit-favourable view of Munich Re's reserving approach, which has been undertaken consistently and has led to many successive years of positive development.

'Neutral' Growth, 'Positive' Adequacy

Over a three- and five-year period, Fitch assesses loss-reserve growth as 'Neutral', indicating that reserve growth has been in line with underwriting exposures.

We view Munich Re's reserve adequacy as 'Positive', indicating that reserves are towards the higher end of the best-estimate range.

Asbestos and Environmental Liabilities in Line with Peers

Fitch regards asbestos liability as an important area of uncertainty in relation to reserves and believes that this source of risk could limit future earnings. Munich Re's asbestos and environmental three-year survival ratios at end-2018 were 16.3x (end-2017: 14.1x) and 14x (end-2017: 16.1x), respectively. The survival ratio is the number of years that current reserves will suffice if average future payments equal average current payments. The asbestos survival ratio is towards the lower end of the range for the industry, while the environmental ratio is closer to the average. Munich Re's survival ratio for asbestos risks has been stable in recent years and Fitch would expect any reported reserve deterioration to be substantially lower in future years.

Reinsurance, Risk Management and Catastrophe Risk

(%)	2014	2015	2016	2017	2018	Fitch's expectation
NWP/GWP	96	96	96	96	96	Fitch expects Munich Re's prudent risk management and conservative reinsurance purchasing to continue.

Source: Fitch Ratings, Munich Re

Material but Manageable Exposure to Catastrophe Risk

Fitch views Munich Re's reinsurance, risk management and catastrophe risk exposure management to be strong and supportive of the current rating category. Overall this factor has moderate influence in determining the company's ratings.

Catastrophe Exposure Increasing but Manageable

Munich Re uses limited retrocession coverage or other forms of risk mitigation relative to peers, which means that net losses remain closer to gross losses and have a bigger impact on earnings than for some peers.

For its peak exposures, some of Munich Re's losses are covered by retrocession and catastrophe bonds, resulting in net exposure of EUR5 billion (2017: EUR4.3 billion) for a return period of 200 years for an Atlantic hurricane and EUR4.9 billion (2017: EUR3.6 billion) for a North American earthquake.

The increase in net exposures in 2018 was driven mainly by strong growth in catastrophe exposed lines of business due to the improving pricing environment.

Limited Use of Retrocession and Other Risk Mitigation

Munich Re acts as an opportunistic purchaser of retrocession capacity focusing on economic efficiency. The group also uses derivatives such as swaps as tools to mitigate volatility in earnings.

Munich Re is active in supplementing its retrocession programme through the use of alternative capital market instruments, which act as a diversification within the group's risk management programme.

Overall, Munich Re's tail risk is manageable due to its highly geographically diversified catastrophe portfolio and strong capital position. Fitch regards the current retrocessional programme as effective. The security of the retrocessionaires remains strong.

Prudent Risk Management

Munich Re's risk management function is advanced and has proved effective in monitoring and mitigating investment risk in response to varying economic conditions. Risk management has a central role within the organisation, and Fitch expects progress in enterprise risk management to aid in the identification, quantification and control of risks.

Fitch views Munich Re's cycle and peak exposure management as effective.

Appendix A: Industry Profile and Operating Environment

This section discusses the global non-life/life reinsurance sector for developed markets, which has a six-notch credit factor score guideline range between 'AA+' and 'A–'.

Regulatory Oversight

Regulatory oversight of global reinsurers is very developed and transparent with effective enforcement. Global reinsurers are subject to regulation by the various counties in which they operate. However, one regulator typically serves as the group supervisor. Regulations include robust financial reporting and risk-based solvency capital requirements. Effectiveness is demonstrated by minimal reinsurer market conduct actions and limited regulatory insolvencies.

The European Insurance and Occupational Pensions Authority and Swiss Financial Market Supervisory Authority regulate European Union (EU) and Swiss reinsurers, respectively. Bermuda reinsurers are supervised by the Bermuda Monetary Authority. US regulation is state-based with coordination by the National Association of Insurance Commissioners. EU reinsurers are governed by Solvency 2. Non-EU countries operate under their own established regulatory systems; however, Bermuda and Switzerland have full equivalence under Solvency II, while Australia, Brazil, Canada, Japan, Mexico and the U.S. have provisional equivalence.

Technical Sophistication of Insurance Market; Diversity & Breadth

The global reinsurance market is very technically sophisticated with diverse and deep product offerings. The size and complexity of the major world economies has promoted demand for coverage. Broad access to diverse reinsurance products and expertise provided by a technically sophisticated, though concentrated, broker distribution system are factors leading to the significant use of reinsurance by primary insurance companies as a means to transfer risk.

Competitive Profile

The global reinsurance market is highly competitive, but rational at times, with market share dispersed among numerous independent entities in the overall industry and significant product segments. The non-life reinsurance industry is larger and more diversified than life reinsurance, which is concentrated among a small number of large players. Capacity and credit strength play a large role in generating competitive advantages, with IFS ratings of 'A-' or higher viewed as critical. The low barriers to entry and enduring competition from capital market alternative reinsurance products promote price competition and cyclical underwriting performance.

Financial Markets Development

The financial markets in which global reinsurers primarily operate (including the U.S. and Western Europe) are the largest and most developed in the world. The markets are very deep, robust, and highly liquid, which provides insurers the ability to maintain diversified asset portfolios, manage interest rate and credit risk exposures, and invest new cash flows with favourable trade execution. The financial markets also provide reinsurers with a variety of ways to access debt and equity capital, as well as strong bank lending capacity, though opportunities may vary depending on individual reinsurer size, ownership structure, and other factors.

Country Risk

Germany's Long-Term IDR is currently 'AAA' with a Stable Outlook. Germany's ratings are underpinned by a large, wealthy and diversified economy, strong and effective civil and social institutions and a record of macro-financial stability. Fitch generally views global reinsurance companies as being isolated from country-related risks.

Appendix B: Peer Analysis

Very Well Diversified Business Profile

Munich Re has sizeable primary operations, which accounted for over a third of its net written premiums in 2018. This reduces the usefulness of some comparative ratios that Fitch uses to assess the reinsurer against its closest peers due to the difference in business mix.

Munich Re's average reinsurance combined ratio between 2014 and 2018 was 94.6%, which is in line with its natural peer group. Munich Re's regulatory solvency and financial leverage ratios compare very favourably to multinational primary insurance groups; they also compare favourably to other large European reinsurers.

Peer Analysis

		Net written premiums[b]		Combined ratio (%)	Combined ratio volatility (pp)[e]	Shareholders' equity	
(USDm)[a]	IFS Rating[d]	2018	2017	Five-year average[c]	Five-year average	2018	2017
Munich Reinsurance Company	**AA/Stable**	**55,049**	**54,178**	**94.6**	**8.1**	**30,207**	**33,611**
Berkshire Hathaway	AA+/Stable	52,614	56,498	96.5	4.7	348,703	348,296
Lloyd's of London	AA-/Negative	34,162	32,259	99.0	10.6	36,143	36,143
Swiss Re	AA-/Stable	34,042	32,316	97.9	12.9	27,930	34,124
Hannover Re	AA-/Stable	20,505	18,338	95.8	2.5	10,054	10,233
SCOR S.E.	AA-/Stable	16,240	15,341	94.5	5.6	6,644	7,433
PartnerRe Company Ltd	A+/Stable	5,803	5,120	93.3	7.4	5,812	6,041

Combined ratio: Net losses and loss-adjustment expenses divided by net premiums earned plus underwriting expenses divided by net premiums earned
Shareholders' equity is organisation-wide equity and therefore depends on the company's reporting practices; it may include equity that supports operations other than property/casualty reinsurance operations
Financial statement figures for some European reinsurers have been translated into US dollars using year-end or 12-month average rates of exchange, as appropriate. This has led to some exchange-rate distortion between financial years
[a] Foreign-exchange rates used for GWP = Full year average rate
[b] NWP for reinsurance business only
[c] 2014-2018, non-life reinsurance business
[d] Denotes operating company insurer financial strength rating
[e] Standard deviation
Source: Fitch Ratings, Company annual reports, financial supplements, and SEC filings

Appendix C: Other Ratings Considerations

Below is a summary of additional ratings considerations that are part of Fitch's ratings criteria.

Complete Ratings List (Core Entities)

Munich Reinsurance Company

IFS: AA

Munich Reinsurance America Corporation

IDR: AA-

Munich Reinsurance America, Inc.

IFS: AA

Hartford Steam Boiler Inspection and Insurance Company

IFS: AA

ERGO Group AG

IDR: AA-

DKV Deutsche Krankenversicherung AG

IFS: AA

ERGO Vorsorge Lebensversicherung AG

IFS: AA

Europaeische Reiseversicherung AG

IFS: AA

Group IFS Rating Approach

The entities listed in the margin are considered 'Core' entities under Fitch's group rating methodology. The operating entities share the same IFS Ratings based on Fitch's evaluation of the strength of the group as a whole.

Notching

For notching purposes, the regulatory environment of Germany is assessed by Fitch as being Effective, and classified as following a Group Solvency approach.

Notching Summary

IFS Ratings

A baseline recovery assumption of 'Good' applies to the IFS Ratings, and standard notching was used from the IFS 'anchor' rating to the operating company IDRs.

Debt

Outstanding senior unsecured debt issued by Munich Reinsurance America Corporation (MRAC) has been rated using a baseline recovery assumption of 'Average'. Based on standard notching, the rating is therefore aligned with the IDR of MRAC.

Hybrids

For all outstanding subordinated note issues, a baseline recovery assumption of 'Below Average' and a non-performance risk assessment of Moderate was used. Notching of minus 2 was applied relative to the IDR, which was based on minus 1 for recovery and minus 1 for non-performance risk.

Source: Fitch Ratings

Short-Term Ratings

Not applicable.

Hybrids – Equity/Debt Treatment

Fitch regards the subordinated debt in the table below as 100% capital within its capital adequacy ratio and as 100% debt within its financial leverage ratio calculation.

Hybrids Treatment

Hybrid	Amount	CAR Fitch %	CAR reg. override %	FLR debt %
Munich Reinsurance Company				
XS0608392550, call 2021, 2041	EUR1,000m	0	100	100
XS0764278528, call 2022, 2042	EUR900m	0	100	100
XS0764278288, call 2022, 2042	GBP450m	0	100	100
XS1843448314, call 2029, 2049	EUR1,250m	0	100	100

CAR – Capitalization ratio: FLR – Financial leverage ratio. N.A. – Not Applicable
For CAR, % shows portion of hybrid value included as available capital, both before (Fitch %) and the regulatory override. For FLR, % shows portion of hybrid value included as debt in numerator of leverage ratio
Source: Fitch Ratings

Corporate Governance and Management

Corporate governance and management are adequate and neutral to the rating.

Transfer and Convertibility Risk (Country Ceiling)

None

Criteria Variations

None

The ratings above were solicited and assigned or maintained at the request of the rated entity/issuer or a related third party. Any exceptions follow below.