FitchRatings

Insurance
Non-Life Insurers
United States

Factory Mutual Insurance Company

Key Rating Drivers

Favorable Company Profile: Factory Mutual Insurance Company (FM; AA/Stable) maintains a strong franchise in the commercial property market for highly protected risks. In 2023, based on statutory results, FM held the No. 1 market share position in the boiler and machinery line of business among all U.S. property/casualty groups based on direct premiums written, representing roughly one-third of industry-wide premiums. FM was also the largest writer of allied lines and fire business in 2023.

Underwriting Results Improve: The GAAP combined ratio was very strong at 82.0% through October 2024, including the impact of policyholder credits, compared with the prior ten-year average (2014 to 2023) of 90.7%. The favorable rate environment for commercial property and manageable loss activity was reflected in very strong underwriting margin, consistent with long-term results.

FM's portfolio of property business is inherently volatile, as the company is one of the leading providers of large-limit commercial property capacity. However, the company's risk management sophistication, loss control and pricing expertise allowed it to achieve very strong financial performance over the long term.

Very Strong Capitalization: FM's capital position is very strong and remains well positioned to manage the inherent volatility of the group's results. FM's score in Fitch Ratings' Prism capital model remained at 'Extremely Strong' based on 2023 data. Prism results benefited from surplus growth and expectations for continued improvement in underwriting results.

GAAP policyholders' surplus increased by about 13.2%, to $25.5 billion at October 2024, largely the result of positive underwriting results and overall favorable investment returns.

Liquid Investment Portfolio: Fitch believes FM's high-quality, fixed-income portfolio provides ample liquidity to meet its policyholder obligations. Through October 2024, the company held nearly $1.7 billion of consolidated cash and cash equivalents.

Investment Risk: FM's above-average allocation to equities moderated somewhat relative to recent periods, as the company increased diversification across risk assets in an effort to reduce expected portfolio volatility. FM's ratio of unaffiliated equities to total cash and invested assets on a GAAP basis was about 51% as of 10M24. The company's long-term total return philosophy enabled it to grow its book value over time and provides greater near-term uncertainty of investment portfolio returns.

Financial Flexibility: As a mutual insurer, the company's financial flexibility is somewhat limited relative to stock company peers. However, the company has no outstanding debt, which Fitch regards as a positive credit factor relative to other 'AA' rated insurers.

Ratings

Factory Mutual Insurance Company	
Insurer Financial Strength	AA
Subsidiaries	
Insurer Financial Strength	AA

Note: See additional ratings on page 8.

Outlook

Insurer Financial Strength	Stable

Financial Data

Factory Mutual Insurance Company

(USD Mil.)	2022	2023
Net premiums earned	5,773	6,411
Net income	-296	3,749
Combined ratio (%)	76.7	67.4
Return on surplus (%)	-1.6	18.3
Debt and hybrids	0.0	0.0

Source: Fitch Ratings, Factory Mutual Insurance Company.

Applicable Criteria

Insurance Rating Criteria (March 2024)

Related Research

Fitch Affirms FM's IFS Ratings at 'AA' (November 2024)

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Rating Sensitivities

Factors that Could, Individually or Collectively, Lead to Negative Rating Action/Downgrade

- Severe deterioration in long-term underwriting results, to the point where the company no longer outperforms its peers;
- Consolidated U.S. operating and net leverage approaching 0.75x and 1.75x, respectively;
- Significant deterioration in FM's capitalization as measured by Fitch's Prism capital model;
- A sustained period of net losses or catastrophe losses out of proportion with market share.

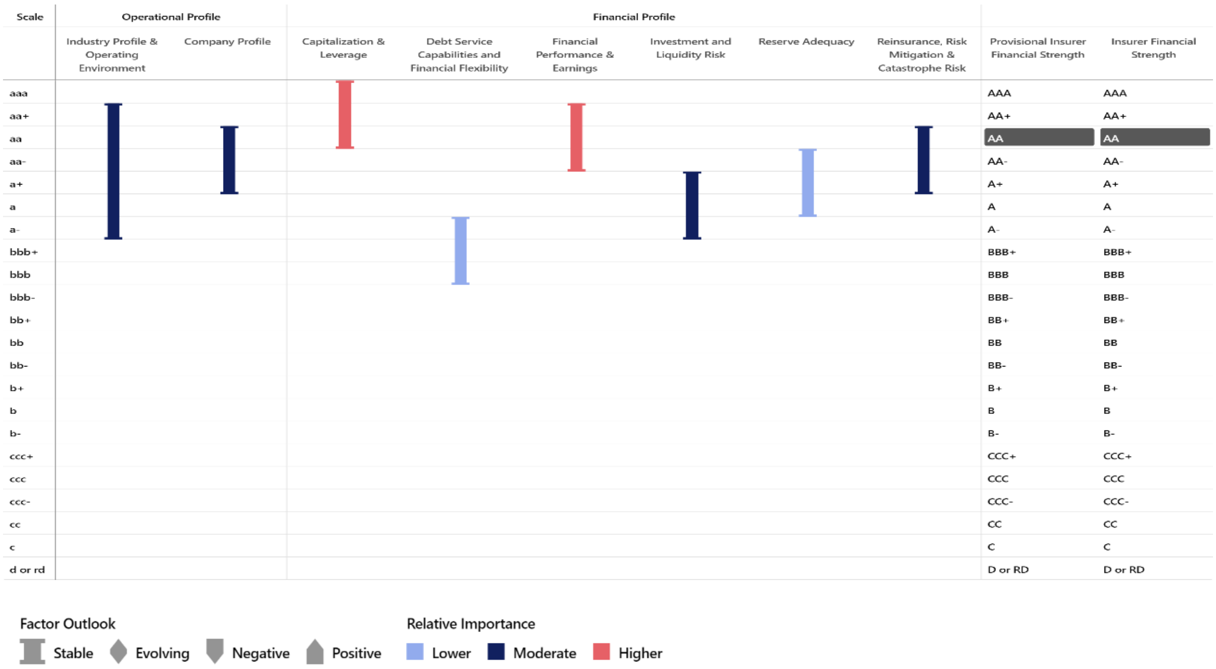
Factors that Could, Individually or Collectively, Lead to Positive Rating Action/Upgrade

- Fitch views a potential upgrade as somewhat limited by Fitch's broader view of the risks inherent in the company's profile;
- Consistent levels of strong capital associated with higher rating levels over a multiyear period, including a Prism capital model score of 'Extremely Strong';
- A material decline in common equity investments, reducing volatility in surplus.

Latest Developments

In July 2024, the company announced that it had updated its branding to "FM" from the previous name of "FM Global". FM will serve as the parent brand for the flagship mutual insurance company and its commercial insurance subsidiaries.

Key Rating Drivers - Scoring Summary



Other Criteria Elements

Provisional Insurer Financial Strength		**AA**
Non-Insurance Attributes	Neutral	0
Ownership/Group Support	Neutral	0
Transfer & Convertibility/Country Ceiling	AAA	0
Insurer Financial Strength		**AA**

Source: Fitch Ratings

Company Profile

Strong Franchise in Commercial Property Insurance Market

Fitch ranks FM 's business profile as a 'Favorable' compared to all other U.S. non-life insurers, due to the company's unique franchise, largely derived from its engineering capabilities and loss prevention services that are difficult for competitors to replicate. Given the favorable ranking, Fitch scores FM's business profile at 'aa–' under its rating guidelines and it carries a moderate weight.

FM maintains a strong franchise in the commercial property market for highly protected risks. In 2023, based on statutory results, FM held the No. 1 market share position in the boiler and machinery line of business among all U.S. property and casualty groups based on direct premiums written, representing roughly one-third of industry-wide premiums. FM was also the largest writer of both fire and allied lines in 2023.

FM conducts onsite loss prevention and engineering reviews at the majority of its insured sites, including all of its larger policyholder sites. Fitch believes that these reviews have a significant positive effect on the company's underwriting results. These results are due in part to the extensive engineering and loss prevention studies the company conducts at its state-of-the-art engineering test facility. Fitch views FM's ability to conduct these studies and the insights they bring to the company's underwriting process as key competitive advantages.

Fitch views FM's risk appetite as greater than that of the industry, as the company provides capacity for large commercial risks and has the ability to offer large limits on property exposures. The company's underwriting portfolio of large property risks brings inherent volatility to FM's year-to-year operating performance. Fitch considers FM the industry leader in incorporating engineering expertise into insurance products and underwriting processes, which helps to mitigate the volatility in results.

FM writes business for commercial clients around the globe, providing the company with significant geographic diversification. The company maintains robust underwriting standards that are employed in the same manner for all of the properties around the world for which the company provides coverage. The organization employs approximately 2,000 loss prevention engineers that provide loss control expertise and provide consistency in underwriting practices around the globe.

Fitch also believes FM's dual product distribution methods provide diversification, as the company uses direct distribution and brokers to market its products, maintaining a relatively high degree of operational control over its distribution. The operations staff is comprised of engineers and underwriters, who complement the company's distribution channels and have a significant amount of client interaction.

Company Profile Scoring

Business profile assessment	Favorable
Business profile subfactor score	aa–
Corporate governance assessment	Neutral
Corporate governance impact (notches)	0 notches
Company profile factor score	aa–

Source: Fitch Ratings

Ownership

Mutual Ownership Is Neutral to the Ratings

FM is a mutual insurance company that specializes in providing engineered loss prevention services and high-limit commercial property coverage to its member clients. FM was formed in mid-1999 through the merger of Allendale Mutual Insurance Company, Protection Mutual Insurance Company and Arkwright Mutual Insurance Company. Prior to the merger, these companies shared an engineering and research facility, as well as ownership of FM Insurance Company, Ltd. (FMI; AA/Stable) and participated in various reinsurance agreements with one another.

The company's primary domestic insurance subsidiaries are Affiliated FM Insurance Company (FM Affiliated) (AA/Stable), with its Canada branch, and Appalachian Insurance Company (AA/Stable). The organization conducts insurance operations internationally through subsidiaries in Luxembourg, FM Insurance Europe S.A. (AA/Stable), the U.K., FMI, and Mexico, FM Global de Mexico, S.A. de C.V. (AA/Stable), as well as branch offices in Canada, Australia, New Zealand, Singapore, Hong Kong, India, South Korea and Labuan. Risk Engineering Insurance Company Limited (AA/Stable) is a wholly owned subsidiary of FM that only assumes business ceded to it from other FM group companies.

Capitalization and Leverage

Very Strong Capitalization Supports Rating Level

FM consistently grew policyholders' surplus in recent years, as the company remains well-positioned to manage the inherent volatility of the group's results. GAAP policyholders' surplus increased by approximately 13.2%, to $25.5 billion at October 2024, largely as a result of positive underwriting results and overall favorable investment returns.

The insurer continues to use a conservative amount of operating leverage. At year-end (YE) 2023, the company's annualized ratio of net premiums written to statutory surplus was 0.3x, which is equal to the company's five-year average. Fitch believes FM's operating leverage remains supportive of the current rating level. FM issues no debt and accordingly uses zero financial leverage, which Fitch considers to be a positive rating factor.

FM's YE 2023 NAIC risk-based capital (RBC) ratio was 408% of the company action level, as the company maintains very strong levels of policyholders' surplus at the lead company. Fitch views the company's RBC ratio as being higher than many comparably rated peers.

The Prism capital model score remained in the 'Extremely Strong' category based on 2023 data, with results benefiting from surplus growth and expectations for continued improvement in underwriting results. The Prism score remains supportive of current ratings.

Financial Highlights

	2022	2023
Policyholders' surplus (USD Mil.)	17,560	21,340
Net premiums written/PHS (x)	0.3	0.3
Net leverage (x)	0.8	0.7
NAIC RBC ratio[a] (%)	388	408

[a] Lead company RBC of the company action level. PHS – Policyholders surplus. Note: Statutory accounting.
Source: Fitch Ratings, S&P Global Market Intelligence

Fitch's Expectations

- FM is expected to maintain very strong capitalization in 2024, measured by the low levels of underwriting and net leverage, solid NAIC RBC ratio, and a 'Very Strong' Prism score or better.
- Fitch forecasts GAAP net premiums written to surplus to remain in the range of 0.3x to 0.35x through 2024. (See *Appendix C* for discussion of Fitch forecasts.)

2023 Prism Score - Factory Mutual Insurance Company

AC – Available Capital. TC – Target Capital. Note: Red line is AC base.
Source: Fitch Ratings, S&P Global Market Intelligence.

2023 Prism Score

($ Mil.)	2021	2022	2023
Prism Score	Extremely strong	Extremely strong	Extremely strong
AC/TC at Prism Score (%)	141	130	137
AC/TC at higher Prism Score (%)	Not applicable	Not applicable	Not applicable
Statutory surplus	17,858	17,560	21,340
Affiliated investments	-	-	-
Unrealized bond gains/losses	-	-	-
Other adjustments	1,326	704	918
Available Capital	19,184	18,264	22,258
Target Capital Contributors (%)			
Underwriting	30	32	32
Reserves	5	3	4
Investments	18	18	19
Catastrophe	22	23	20
Other	25	25	25

Source: Fitch Ratings

Debt Service Capabilities and Financial Flexibility

Strong Liquidity with No Debt to Service

Fitch views FM's financial flexibility and debt service to be weaker than that of peers with public ownership and lower than the current rating category. Overall, financial flexibility has a lower influence in determining FM's ratings.

As a mutual insurer, FM has no access to the equity capital markets. The company also has limited access to the debt capital markets, thus reducing its financial flexibility. However, management's strategy accounts for this and manages the company's cash flows accordingly.

FM has never issued debt through the capital markets and its capital structure consists entirely of policyholder-owned funds. The company maintains a significant balance of cash and cash equivalents, which provides liquidity to fund losses in the underwriting portfolio and limits the need for additional liquidity from third-party sources.

Financial Highlights

(USD Mil.)	2022	2023
Cash and cash equivalents	2,132	1,779
Long-term debt	-	-
Interest expense	-	-

Note: Reported on a GAAP basis.
Source: Fitch Ratings, Factory Mutual Insurance Company

Fitch's Expectations

- FM is expected to maintain the current strong level of liquidity.

Financial Performance and Earnings

Long-Term Underwriting Success with Potential for Volatility

FM's GAAP combined ratio through October 2024 was strong at 82.0%, compared to its prior five-year average (from 2014 to 2023) of 90.7%. The company's portfolio of property business is inherently volatile, as it is one of the leading providers of large-limit commercial property capacity. However, the company's risk management sophistication, loss control and pricing expertise allowed the company to achieve very strong financial performance over the long term. Fitch continues to view FM's long-term results as supportive of its ratings.

The company's operating performance over the long term has been very strong, despite exposure to periodic catastrophe losses. This reflects the company's underwriting expertise, expense efficiencies and generally favorable market conditions. Fitch believes there is a significant amount of inherent volatility in FM's year-to-year operating performance due to the company's large book of property insurance and its corresponding exposure to natural and man-made catastrophe-related losses. Given this potential volatility, Fitch believes FM's underwriting results are best evaluated on a cumulative basis over a relatively long period.

FM announced that eligible policyholders would collectively receive a record $1.4 billion in membership credits, driven by the company's strong performance in 2023 along with an additional $400 million in resilience credits. The payment of policyholder credits effectively reduces the level of net earned premium reported by the company. The GAAP combined ratio through October 2024 included 11 percentage points (pp) related to policyholder credits, compared to 6.8pp in the prior year period.

Financial Highlights

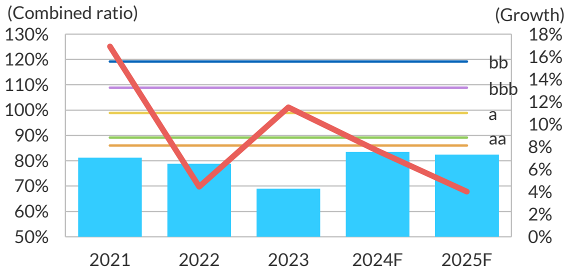
(USD Mil.)	2022	2023
Net premiums earned	5,773	6,411
Net income	-296	3,749
Combined ratio (%)	76.7	67.4
Operating ratio (%)	66.3	55.5
Return on surplus (%)	-1.6	18.3

Note: Reported on a GAAP basis.
Source: Fitch Ratings, Factory Mutual Insurance Company

Fitch's Expectations

- FM's underwriting results in 2023 are expected to remain at levels comparable with the company's long-term results. Fitch forecasts the GAAP calendar-year combined ratio to range between 72% and 82% in 2024, based on strong rates continuing to earn into the book of business, assuming normal catastrophe experience.
- Fitch expects net premium growth to remain strong through 2024, ranging between 4% and 8%.

Performance: Combined Ratio (Non-Life)



F – Forecast.
Source: Fitch Ratings, company data

Investment and Asset Risk

Large Allocation to Equity Risk with Strong Liquidity

FM's investment portfolio is managed on a total return basis with a long-term investment horizon. The company invests in fixed-income securities to support the relatively short-duration liabilities generated by its property insurance reserves and equities to support surplus growth. As a result, FM is significantly overweight in common stock investments relative to the industry.

FM's above-average allocation to equities moderated relative to recent periods, as the company increased diversification across risk assets in an effort to reduce expected portfolio volatility. FM's ratio of unaffiliated equities to total cash and invested assets on a GAAP basis was approximately 51% as of October 2024. The company's long-term total return philosophy has enabled it to grow its book value over the years, though it produces greater near-term uncertainty in investment portfolio returns.

FM's bond portfolio exhibits high credit quality and liquidity, with modest exposure to below-investment-grade bonds. At YE 2023, approximately 90% of the statutory combined group fixed-income portfolio consisted of NAIC 1 and 2 bonds, compared with 91% in 2022. Statutory surplus exposure to risky assets was 75% at YE 2023, compared with 74% at YE 2022.

Financial Highlights

(USD Mil.)	2022	2023
Cash and invested assets	24,119	28,368
Cash and invested assets/surplus (x)	1.4	1.3
Investment yield (%)	1.1	1.9
Risky-asset ratio (%)	74	75
Risk-weighted liquidity ratio (%)	422	541

Note: Statutory accounting.
Source: Fitch Ratings, S&P Global Market Intelligence

Fitch's Expectations

- The company is expected to maintain an above-average investment allocation to equity securities, which is consistent with its long-term total return strategy.

Reserve Adequacy

History of Moderate Favorable Reserve Experience

Fitch believes FM's loss reserves are adequate and that the company follows a disciplined approach when establishing reserves. Fitch also believes that the relatively short duration of FM's reserves reduces reserve uncertainty. The vast majority of the company's loss reserves tend to develop into paid losses within three years.

Fitch uses a reserve adequacy model, and reported paid loss and incurred loss data from Schedule P are used to estimate ultimate accident-year losses and required accident-year reserves. Using FM's YE 2023 data, Fitch's model estimates an adequate level of reserves using both paid loss data and case-incurred data. FM's long-term reserve experience has displayed conservatism in setting the company's reserves, which compare favorably with peers and the overall industry.

Fitch believes that FM's reserves for asbestos-related claims are strong. Unfavorable development on asbestos-related reserves was not been reported between 2017 and 2023.

The company's gross and net survival ratios based on three-year average paid asbestos losses, were 26.2x and 27.4x, respectively, at YE 2023. Fitch also believes that FM has solid reserves for environmental claims. At YE 2023, the company's gross and net survival ratios, based on three-year average paid environmental losses, were 52.6x and 34.3x, respectively. Net asbestos and environmental reserves totaled $550 million at YE 2023, representing approximately 16% of FM 's overall statutory net loss and loss adjustment expense reserves.

Financial Highlights

(USD Mil.)	2022	2023
Loss reserves	3,463	3,255
Loss adjustment expense reserves	249	220
Discontinued lines reserve development	-	-
Other adverse (favorable) reserve development	190	-122
Reserve development/premiums earned (%)	3.6	-2.1

Note: Statutory accounting.
Source: Fitch Ratings, S&P Global Market Intelligence

Fitch's Expectations

- Maintenance of the adequate reserve position is expected.

Reinsurance, Risk Mitigation and Catastrophe Risk

Strong Focus on Risk Management

Fitch believes FM's reinsurance programs provide adequate protection against the large losses the company could face and that the credit quality of the company's reinsurers is good. FM has a significant exposure to natural and man-made catastrophic losses from its large book of property insurance. As a result, Fitch believes reinsurance is a very important component of FM's risk management process.

FM's excess of loss reinsurance program consists of a per-risk program and a catastrophe program. The per-risk program provides the company with coverage on individual claim losses in excess of $300 million for FM, with a $75 million retention for FM Affiliated. The company's catastrophe reinsurance program separately provides coverage on catastrophe losses from all perils in excess of $500 million.

FM uses a diverse mix of financially sound reinsurers and Fitch believes the overall credit quality of the company's reinsurance recoverables is strong. FM's most substantial reinsurance recoverable exposures are to large companies with high credit ratings, such as Swiss Re Group and Munich Re Group, which provide Fitch with confidence in FM's ability to recover funds owed to the company in the wake of a large claim.

FM manages its capital by examining catastrophe exposure using a probabilistic approach relative to capital and by evaluating growth in total insured values relative to growth in surplus. The company uses location-based insured data to determine its exposure in catastrophe-prone areas. As such, the company performs a ground-up analysis and does not rely solely on catastrophe model simulations to determine its potential shock losses.

Fitch believes the quality of data FM uses in its catastrophe exposure analysis is enhanced by the engineering standards it maintains and data collected in relation to its insured properties.

Financial Highlights

	2022	2023
Net premium written/gross premium written (x)	71	79

Note: Statutory accounting.
Source: Fitch Ratings, S&P Global Market Intelligence

Fitch's Expectations

- FM is expected to continue to utilize industry-leading risk assessment and loss prevention expertise in underwriting its commercial property portfolio.
- The company is expected to maintain its use of a robust risk transfer program as part of its overall risk management strategy.

Appendix A: Peer Analysis

Peer Comparison

Click here for a report that shows a comparative peer analysis of key rating driver scoring.

Appendix B: Industry Profile and Operating Environment

Industry Profile and Operating Environment (IPOE)

Click here for a link to a report that summarizes the main factors driving the above IPOE score.

Appendix C: Other Rating Considerations

Below is a summary of additional ratings considerations that are part of Fitch's *Insurance Rating Criteria*.

Group Insurance Financial Strength (IFS) Rating Approach

Fitch considers all rated subsidiaries as 'Core', thus Fitch applies a group rating methodology as the company has the willingness and ability to provide support to group members. FM is a party to a pooling arrangement with its wholly owned subsidiaries Appalachian Insurance Co. and Affiliated FM Insurance Co. As a result of the pooling agreement, Fitch considers these U.S.-based insurance subsidiaries to be Core. U.K.-domiciled FMI; Luxembourg-domiciled FM Insurance Europe S.A.; and Mexico-domiciled FM Global de Mexico, S.A. benefit from significant reinsurance support from FM as well policy level guarantees. Risk Engineering Insurance Company Limited is a wholly owned subsidiary of FM that only assumes business ceded to it from other FM group companies, leading to the status of 'Core'. All operating companies have a 'AA' IFS rating based on a combined group assessment.

Group Ratings Table

	Type	Rating	Outlook
Factory Mutual Insurance Company	IFS	AA	Stable
Affiliated FM Insurance Company	IFS	AA	Stable
Appalachian Insurance Company	IFS	AA	Stable
FM Insurance Company Limited	IFS	AA	Stable
FM Insurance Europe S.A.	IFS	AA	Stable
FM Global de Mexico, S.A. de C.V.	IFS	AA	Stable
Risk Engineering Insurance Company Limited	IFS	AA	Stable

Source: Fitch Ratings

Notching

Notching Summary

IFS ratings
A baseline recovery assumption of 'Good' applies to the IFS rating, and standard notching was used from the IFS anchor rating to the implied operating company IDR.
Holding company IDR
No holding company relationship exists.
Holding company debt
The company issues no debt.
Hybrids
The company issues no hybrid securities.

IFS – Insurer Financial Strength. IDR – Issuer Default Rating.
Source: Fitch Ratings

Short-Term Ratings

Not applicable.

Hybrid - Equity/Debt Treatment

Not applicable.

Recovery Analysis and Recovery Ratings

Not applicable.

Transfer and Convertibility Risk (Country Ceiling)

None.

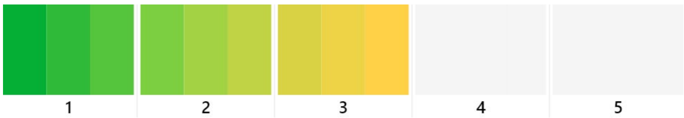
Criteria Variations

None.

About Fitch Forecasts

The forecasts shown in the main body of this report reflect Fitch's forward views from a credit perspective. They are based on a combination of Fitch's macroeconomic forecasts and viewpoints, outlook at the sector level and company-specific considerations developed by Fitch. As a result, Fitch's forecasts may differ, at times materially, from earnings and other guidance provided by a rated entity to the market. To the extent Fitch is aware of material, nonpublic information on likely future events, such as a planned recapitalization or mergers and acquisitions (M&A) activity, Fitch will not reflect these likely future events in its forecasts. This practice is to assure that such material nonpublic information is not inadvertently disclosed. However, as relevant, such information is considered by Fitch as part of the broader ratings process.

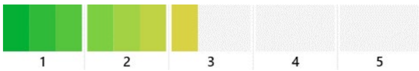
Appendix D: Environmental, Social and Governance Considerations



Environmental Relevance Scores

General Issues	Score	Sector-specific issues	Reference
GHG Emissions & Air Quality	1	Not applicable.	Not applicable.
Energy Management	1	Not applicable.	Not applicable.
Water & Wastewater Management	1	Not applicable.	Not applicable.
Waste & Hazardous Materials Management; Ecological Impacts	3	Underwriting/reserving exposed to asbestos/hazardous materials risks	Capitalization & Leverage; Financial Performance & Earnings; Reserve Adequacy; Reinsurance, Risk Mitigation & Catastrophe Risk
Exposure to Environmental Impacts	3	Underwriting/reserving exposed to environmental and natural catastrophe risks; impact of catastrophes on own operations or asset quality; credit concentrations	Capitalization & Leverage; Financial Performance & Earnings; Reserve Adequacy; Reinsurance, Risk Mitigation & Catastrophe Risk; Investment and Asset Risk

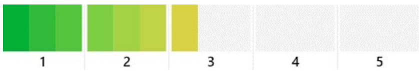
Source: Fitch Ratings



Social Relevance Scores

General Issues	Score	Sector-specific issues	Reference
Human Rights, Community Relations, Access & Affordability	1	Not applicable.	Not applicable.
Customer Welfare - Fair Messaging, Privacy & Data Security	3	Compliance risk; treating customers fairly; pricing transparency; privacy/data security; legal/regulatory fines; exposure to insured and own cyber risk	Industry Profile & Operating Environment; Company Profile; Reserve Adequacy
Labor Relations & Practices	2	Impact of labor negotiations, including board/employee compensation and composition	Company Profile
Employee Wellbeing	1	Not applicable.	Not applicable.
Exposure to Social Impacts	3	Social responsibility and its effect on brand strength; increased vulnerability due to credit concentrations	Company Profile; Investment and Asset Risk; Financial Performance & Earnings; Reinsurance, Risk Mitigation & Catastrophe Risk

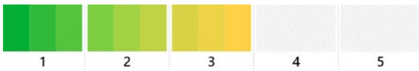
Source: Fitch Ratings



Governance Relevance Scores

General Issues	Score	Sector-specific issues	Reference
Management Strategy	3	Operational implementation of strategy	Company Profile
Governance Structure	3	Board independence and effectiveness; ownership concentration; protection of creditor/stakeholder rights; legal /compliance risks; business continuity; key person risk; related party transactions	Company Profile
Group Structure	3	Organizational structure; appropriateness relative to business model; opacity; intra-group dynamics; ownership	Company Profile; Ownership
Financial Transparency	3	Quality and timing of financial reporting and auditing processes	Company Profile

Source: Fitch Ratings



ESG Scoring

ESG relevance scores range from '1' to '5' based on a 15-level color gradation. Red (5) is most relevant to the credit rating and green (1) is least relevant.

The Environmental (E), Social (S) and Governance (G) tables break out the general and the sector-specific issues that are most relevant to each industry group. Relevance scores are assigned to each sector-specific issue, signaling the credit relevance of the sector-specific issues to an issuer's overall credit rating. The Reference column highlights the factor(s) within which the corresponding ESG issues are captured in Fitch's credit analysis.

The panels underneath the relevance scores tables are visualizations of the frequency of occurrence of the highest ESG relevance scores across the combined E, S and G categories. The Score columns summarize rating relevance and impact to credit from ESG issues. The column on the far left identifies any ESG relevance sub-factor issues that are drivers or potential drivers of an issuer's credit rating (corresponding with scores of '3', '4' or '5'). All scores of '4' and '5' are assumed to reflect a negative impact unless indicated with a '+' sign for positive impact.

Classification of ESG issues has been developed from Fitch's sector ratings criteria. The general and sector-specific issues draw on the classification standards published by the UN Principles for Responsible Investing, the Sustainability Accounting Standards Board and the World Bank.

Credit-Relevant ESG Scale

5	Highly relevant, a key rating driver that has a significant impact on the rating on an individual basis. Equivalent to 'Higher' relative importance within the Navigator.
4	Relevant to rating, not a key rating driver but has an impact on the rating in combination with other factors. Equivalent to 'Moderate' relative importance within the Navigator.
3	Minimally relevant to rating, either very low impact or actively managed in a way that results in no impact on the entity rating. Equivalent to 'Lower' relative importance within the Navigator.
2	Irrelevant to the entity rating but relevant to the sector.
1	Irrelevant to the entity rating and irrelevant to the sector.

SOLICITATION & PARTICIPATION STATUS

For information on the solicitation status of the ratings included within this report, please refer to the solicitation status shown in the relevant entity's summary page of the Fitch Ratings website.

For information on the participation status in the rating process of an issuer listed in this report, please refer to the most recent rating action commentary for the relevant issuer, available on the Fitch Ratings website.