

Factory Mutual Insurance Company

And Subsidiaries

Key Rating Drivers

Favorable Business Profile: Factory Mutual Insurance Company (FM Global) maintains a strong franchise in the commercial property market for highly protected risks. In 2018, based on statutory results, FM Global 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 industrywide premiums. FM Global was also the largest writer of allied lines and second-largest writer of fire business in 2018.

Underwriting Results Improve: FM Global's GAAP combined ratio improved to 80.6% in 2019, more in line with its strong long-term underwriting performance as catastrophes and large loss events declined in the period. While FM Global's underwriting results in 2017 and 2018 exceeded the company's historical averages, Fitch Ratings continues to view the company's long-term results as supportive of its ratings.

Greater Volatility in Net Earnings: At YE 2019, FM Global adopted accounting rules requiring the reporting of net unrealized gains and losses on equity investments through the income statement for GAAP-based financial statements. FM Global's reporting of consolidated GAAP net income is expected to be more volatile going forward as a result, but Fitch's assessment of the company's financial performance is neutral to the change in accounting.

Very Strong Capitalization: FM Global's capital position is very strong and remains well positioned to manage the inherent volatility of the group's results. FM Global's GAAP policyholders' surplus increased by approximately 23%, to \$14.6 billion at Dec. 31, 2019, due to strong underwriting income and favorable performance of equity market investments. FM Global's score in Fitch's Prism capital model remained at 'Extremely Strong' based on 2018 data.

Liquid Investment Portfolio: Fitch believes FM Global's high-quality, fixed-income portfolio provides ample liquidity to meet its policyholder obligations. As of Dec. 31, 2019, the company held approximately \$2.0 billion of consolidated cash and cash equivalents.

Common Equity Allocation: FM Global maintains an investment portfolio with an above-average allocation to equities relative to industry norms. At Dec. 31, 2019, FM Global's allocation of unaffiliated equities to total cash and invested assets on a GAAP basis was approximately 40%. The company's long-term total return philosophy enabled it to grow its book value over the years and provides greater near-term uncertainty of investment portfolio returns.

Rating Sensitivities

Negative Rating Sensitivities: Key sensitivities for FM Global's ratings that could lead to a downgrade include severe deterioration in long-term 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; a sustained period of net losses or catastrophe losses out of proportion with market share; or a significant deterioration in FM Global's capitalization as measured by Prism.

Near-Term Upgrade Unlikely: Key rating sensitivities that could lead to an upgrade over the long term include achieving consistent levels of strong capital associated with higher rating levels over a multiyear period, including a Prism capital model score of 'Extremely Strong', as well as a material decline in common equity investments, reducing volatility in surplus.

Ratings

Factory Mutual Insurance Co.
Affiliated FM Insurance Co.
Appalachian Insurance Co.
FM Insurance Company Ltd.
FM Global de Mexico, S.A.
FM Insurance Europe S.A.

Insurer Financial Strength AA

Outlook

Stable

Financial Data

| Factory Mutual Insurance Company | | |
|----------------------------------|-------|-------|
| (\$ Mil.) | 2018 | 2019 |
| Net Earned Premium | 3,892 | 4,211 |
| Net Income | 161 | 2,479 |
| Combined Ratio (%) | 128.6 | 80.6 |
| Return on Average Surplus (%) | 1.3 | 18.8 |
| Debt and Hybrids | — | — |

Source: Factory Mutual Insurance Company.

Applicable Criteria

[Insurance Rating Criteria \(November 2019\)](#)

Related Research

[U.S. Commercial Lines Market Update \(Recovery in Results Still Slow to Emerge\) \(August 2019\)](#)

[U.S. Hurricane Season 2019 \(A Desk Reference for Insurance Investors\) \(June 2019\)](#)

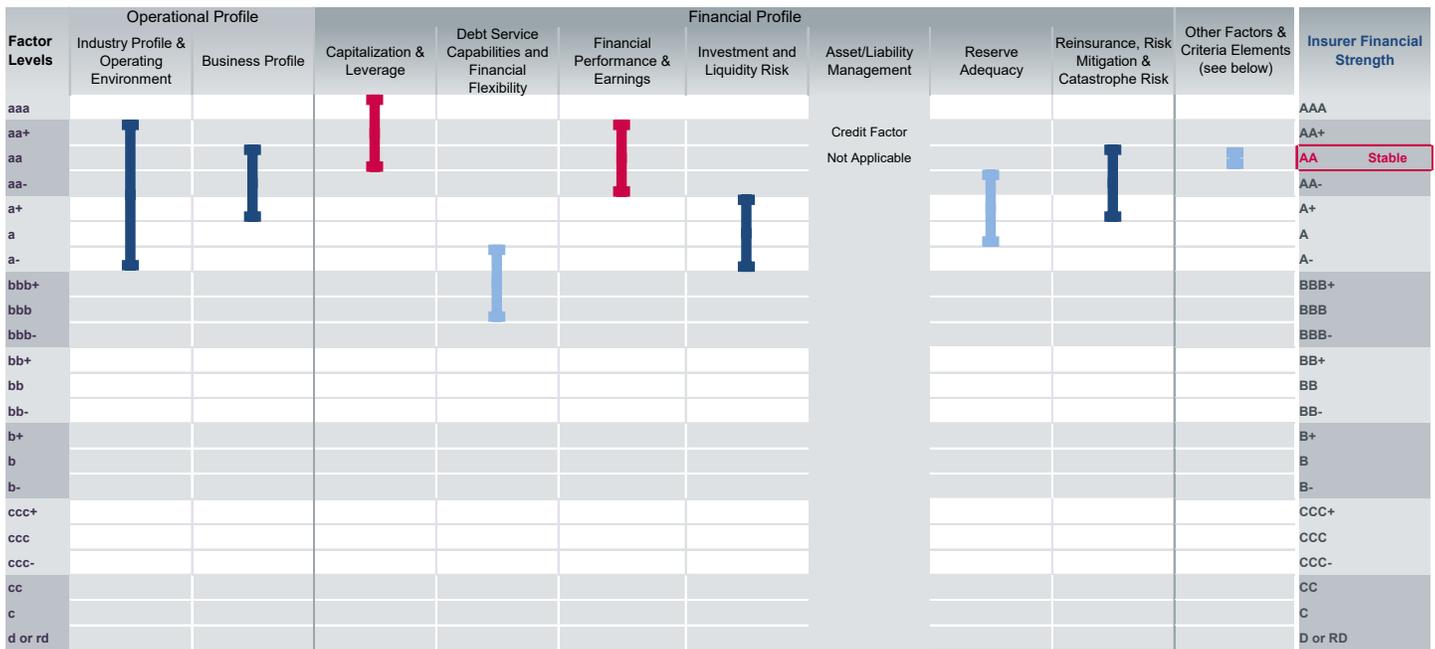
[U.S. Cyber Insurance Market Share and Performance \(Premium Expansion Slows amid Favorable Performance in 2018\) \(May 2019\)](#)

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Key Credit Factors – Scoring Summary



| 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 / Group Support | 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: n.a. |

| 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 |

Business Profile

Fitch ranks FM Global's business profile as a favorable compared with 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 Global's business profile at 'aa-' under its rating guidelines and it carries a moderate weight.

Favorable Competitive Position in Market for Highly Protected Risks

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

Less Favorable Business Risk

Fitch views FM Global'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 Global's year to year operating performance. Fitch considers FM Global the industry leader in incorporating engineering expertise into insurance products and underwriting processes, which helps to mitigate the volatility in results.

Diversity from Global Business Franchise

FM Global 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 more than 1,800 engineers that provide loss control expertise and provide consistency in underwriting practices around the globe.

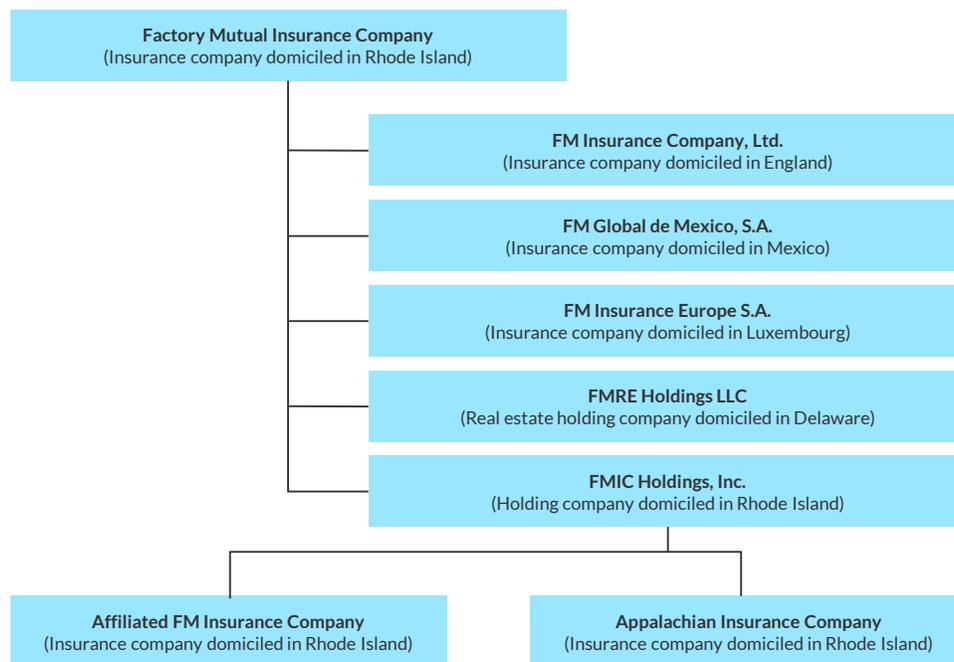
Fitch also believes FM Global's dual product distribution methods provide diversification as the company uses direct distribution and brokers to market its products and maintains a relatively high degree of operational control over its distribution. The operations staff is comprised of engineers and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

Ownership

FM Global is a mutual insurance company that specializes in providing engineered loss prevention services and high-limit commercial property coverage to its member clients. FM Global 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), and participated in various reinsurance agreements with one another.

The company's primary domestic insurance subsidiaries are Affiliated FM Insurance Company (with its Canada branch) and Appalachian Insurance Company. The organization conducts insurance operations internationally through subsidiaries in Luxembourg (FM Insurance Europe S.A.), the UK (FMI) and Mexico (FM Global de Mexico, S.A.) and branch offices in Canada, Australia, New Zealand, Singapore, Hong Kong and Labuan.

Simplified Organizational Chart



Source: Factory Mutual Insurance Company.

Capitalization and Leverage

Very Strong Capitalization Supports Rating Level

Financial Highlights

| | 2014 | 2015 | 2016 | 2017 | 2018 | Fitch's Expectation |
|---------------------------------|--------|--------|--------|--------|--------|--|
| PHS (\$ Mil.) | 10,142 | 10,547 | 11,519 | 12,502 | 11,241 | FM Global is expected to maintain strong capitalization, measured by the low levels of underwriting and net leverage, solid NAIC RBC ratio, and a 'Very Strong' Prism score or better. Risk-adjusted capital is expected to remain strong in 2019, given normal catastrophe loss experience during the year. |
| Net Premiums Written/PHS (x) | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | |
| Net Leverage (x) | 0.9 | 0.9 | 0.8 | 0.9 | 1.1 | |
| Gross Leverage (x) | 1.2 | 1.1 | 1.1 | 1.2 | 1.4 | |
| NAIC RBC Ratio ^a (%) | 454 | 462 | 462 | 349 | 330 | |

^aLead company RBC of the company action level. PHS – Policyholders' surplus. Note: Statutory accounting. Source: S&P Global Market Intelligence.

Very Strong Capitalization and Leverage

Fitch views FM Global's capital to be very strong and supportive of the current rating category. Overall, capital has a high influence in determining FM Global's ratings.

Recovery in Consolidated Surplus

FM Global has consistently grown policyholders' surplus in recent years, although the company reported a 9% decline in GAAP surplus in 2018, largely related to unrealized investment losses, particularly with respect to the equity market decline in December 2018. The company's GAAP policyholders' surplus rebounded in 2019, increasing by approximately 23%, to \$14.6 billion at Dec. 31, 2019, due to strong underwriting income and favorable performance of equity market investments.

Leverage Is Supportive of Strong Ratings

FM Global continues to use a conservative amount of operating leverage. At Dec. 31, 2018, 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 Global's operating leverage remains supportive of the current rating level. FM Global issues no debt and accordingly uses zero financial leverage, which Fitch considers a positive rating factor.

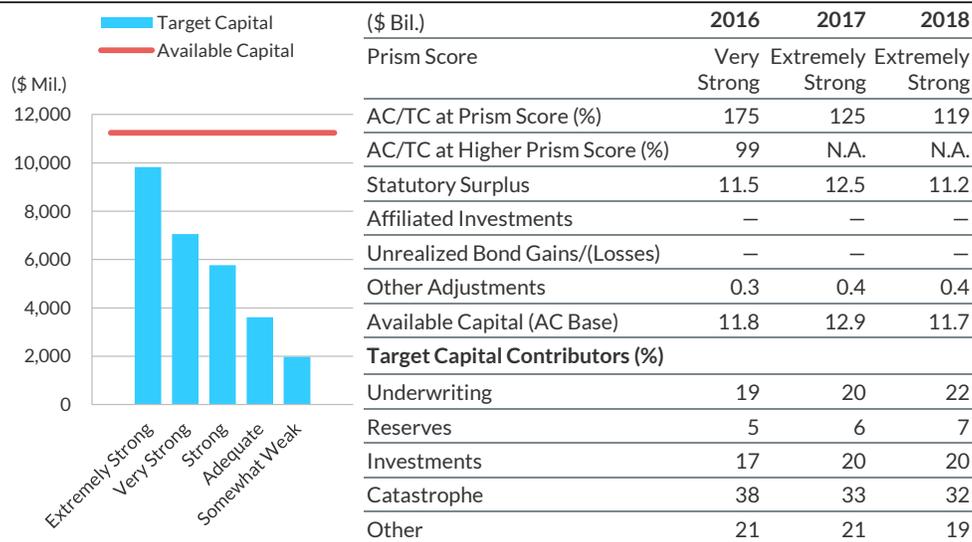
RBC Ratio Stronger than Peers

FM Global's YE 2018 NAIC RBC ratio was 330% of the company action level. The company's RBC declined over the past two years from a recent high of 462% in 2016, largely as the result of the NAIC's inclusion of catastrophe risk as a calculation component. Fitch still views the company's RBC ratio as being higher than many comparably rated peers.

'Extremely Strong' Capital Under Prism

FM Global's score in Fitch's Prism capital model improved to 'Extremely Strong' based on 2018 data, as the company's available capital increased during the period, and natural catastrophe risk contributed a smaller proportion of overall target capital than in prior years. See the *Reinsurance, Risk Management and Catastrophe Risk* section of this report on page 12 for further details on FM Global's catastrophe risks and risk mitigation tools.

2018 Prism Score – Factory Mutual Insurance Company



AC – Available capital. TC – Target capital. N.A. – Not applicable. Note: Red line is AC base.
Source: Fitch Ratings, S&P Global Market Intelligence.

Debt Service Capabilities and Financial Flexibility

Strong Liquidity with No Debt to Service

Financial Highlights

| | 2015 | 2016 | 2017 | 2018 | 2019 | Fitch's Expectation |
|---------------------------|--------|--------|--------|--------|--------|---|
| Consolidated Surplus | 11,036 | 11,921 | 13,028 | 11,826 | 14,583 | The company's mutual ownership structure limits its access to funds from the capital markets. Fitch believes the company manages this lack of flexibility through its management of capital and cash flows. |
| Cash and Cash Equivalents | 1,297 | 1,485 | 1,835 | 2,208 | 1,960 | |
| Long-Term Debt | — | — | — | — | — | |
| Interest Expense | — | — | — | — | — | |
| | | | | | | |

Note: GAAP.

Source: Factory Mutual Insurance Company annual reports.

Lower Influence in Determining Ratings

Fitch views FM Global'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 Global's ratings.

Ownership Reduces Financial Flexibility

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

Lack of Financial Leverage

FM Global has never issued debt through the capital markets and the company's capital structure consists entirely of policyholder owned funds.

Significant Liquidity from Cash and Cash Equivalents

FM Global maintains a significant balance of cash and cash equivalents that provides liquidity to fund losses in the underwriting portfolio and limits the need for additional liquidity from third-party sources.

Financial Performance and Earnings

Results for 2019 Return to Long-Term Underwriting Profitability

Financial Highlights

| (\$ Mil.) | 2015 | 2016 | 2017 | 2018 | 2019 | Fitch's Expectation |
|------------------------------------|-------|-------|-------|-------|-------|---|
| Net Earned Premiums | 3,579 | 3,601 | 3,910 | 3,892 | 4,211 | Assuming normal catastrophe loss experience in 2020, Fitch would expect FM Global's underwriting results to remain at levels comparable with the company's long-term results. |
| Net Income ^a | 738 | 797 | 254 | 161 | 2,479 | |
| Combined Ratio (%) | 85.3 | 83.2 | 129.9 | 128.6 | 80.6 | |
| Operating Ratio (%) | 74.5 | 72.0 | 118.2 | 116.2 | 67.4 | |
| Return on Surplus (%) ^a | 6.8 | 6.9 | 2.0 | 1.3 | 18.8 | |

^a2019 include net unrealized gains and losses on equity investments through the income statement. Note: GAAP.
Source: Factory Mutual Insurance Company.

Long-Term Underwriting Success with Potential for Volatility

Fitch views FM Global's financial performance and earnings to be very strong and supportive of the current rating category. Overall profitability has a higher influence in determining FM Global's ratings.

Underwriting Results Improve

FM Global's GAAP combined ratio improved to 80.6% in 2019, more in line with its strong long-term underwriting performance as catastrophes and large loss events declined in the period. FM Global'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 have allowed the company to achieve very strong financial performance the long term. While FM Global's underwriting results in 2017 and 2018 exceeded the company's historical averages, Fitch continues to view the company's long-term results as supportive of its ratings.

GAAP Results Historical Comparison

| (%) | 10-Year Avg. (2010-2019) | 2017 | 2018 | 2019 |
|------------------------------------|--------------------------|-------|-------|------|
| Reported | | | | |
| Loss Ratio | 67.6 | 100.8 | 100.1 | 52.5 |
| Expense Ratio | 27.8 | 29.1 | 28.5 | 28.1 |
| Combined Ratio | 95.4 | 129.9 | 128.6 | 80.6 |
| Excluding Membership Credit | | | | |
| Loss Ratio | 63.3 | 95.3 | 91.7 | 51.9 |
| Expense Ratio | 26.0 | 27.5 | 26.1 | 27.8 |
| Combined Ratio | 89.3 | 122.8 | 117.8 | 79.7 |

Source: Factory Mutual Insurance Company.

Strong Long-Term Underwriting Results

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

History of Paying Membership Credits

FM Global paid membership credits to its policyholders of over \$2.5 billion between 2010 and 2019. Results for 2019 include \$47 million of membership credits paid to policyholders, adding 0.9 percentage points to the company's calendar-year combined ratio. The payment of membership credits effectively reduces the level of net earned premium reported by the company. From 2017 to 2019, membership credits increased FM Global's combined ratio by an average of 6.2 percentage points.

Investment and Liquidity

Large Allocation to Equity Risk with Strong Liquidity

Financial Highlights

| | 2014 | 2015 | 2016 | 2017 | 2018 | Fitch's Expectation |
|---|--------|--------|--------|--------|--------|--|
| Cash and Invested Assets (\$ Mil.) | 15,047 | 15,765 | 17,051 | 19,000 | 18,317 | Fitch expects FM Global to maintain an above-average investment allocation to equity securities, which is consistent with the company's long-term total return strategy. |
| Invested Assets/Surplus (x) | 1.5 | 1.5 | 1.5 | 1.5 | 1.6 | |
| Investment Yield (%) | 1.9 | 2 | 1.8 | 1.7 | 1.9 | |
| Risky Assets Ratio (%) | 83 | 81 | 81 | 81 | 78 | |
| Liquid Assets/Loss and LAE Reserves (%) | 488 | 478 | 493 | 326 | 277 | |

LAE- Loss adjustment expense. Note: Statutory accounting.
Source: S&P Global Market Intelligence.

Investment Risk a Moderate Influence on Rating

Fitch views FM Global's investment and liquidity to be strong and lower than the current rating category. Overall investments and liquidity have a moderate influence in determining FM Global's ratings.

Above-Average Allocation to Common Equity Securities

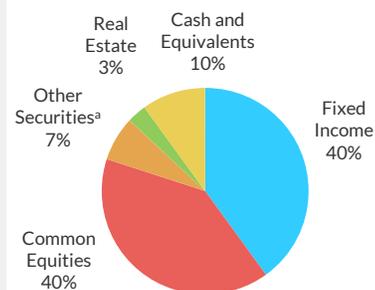
FM Global's investment portfolio is managed on a total return basis with a long-term investment horizon. The company invests in fixed-income securities to support the relatively short-duration liabilities generated by its property insurance reserves and equities to support surplus growth. As a result,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

At Dec. 31, 2019, Fitch estimated FM Global's asset allocation to unaffiliated equities on a GAAP basis was approximately 40%. Because of the high correlation of the portfolio to the Standard & Poor's 500 Index, the company remains exposed to potential surplus volatility in the near to intermediate term. Additionally, FM Global's higher than industry average allocation to equities is reasonable in the long term, while recognizing that investment returns will tend to fluctuate year to year.

High-Quality, Fixed-Income Portfolio

FM Global's bond portfolio exhibits high credit quality and liquidity. At Dec. 31, 2019, approximately 95% of the portfolio consisted of publicly traded investment-grade bonds, which translates into statutory surplus exposure to below-investment-grade bonds of 5%.

Invested Asset Mix (As of Dec. 31, 2019)



^aConsists primarily of partnerships and alternative investments accounted for under the equity method. Note: GAAP.
Source: Factory Mutual Insurance Company.

Reserve Adequacy

History of Moderate Favorable Reserve Experience

Financial Highlights

| (\$ Mil.) | 2014 | 2015 | 2016 | 2017 | 2018 | Fitch's Expectation |
|---|-------|-------|-------|-------|-------|---|
| Loss Reserves | 2,154 | 2,352 | 2,381 | 3,956 | 4,570 | FM Global is expected to maintain its adequate reserve position in the near term. |
| Loss Adjustment Expense Reserves | 214 | 223 | 235 | 284 | 294 | |
| Asbestos Reserves Adverse Development | — | 125 | — | 55 | — | |
| Other Adverse (Favorable) Reserve Development | (198) | (52) | (219) | (124) | (38) | |
| Adverse (Favorable) Res. Development/NPE (%) | (6.2) | 2.2 | (6.6) | (2.0) | (1.1) | |

NPE - Net premiums earned. Note: Statutory accounting.
Source: S&P Global Market Intelligence.

Reserve Position Is Adequate

FM Global's reserve adequacy is supportive of the current rating category. Overall reserve adequacy has a lower influence in determining FM Global's ratings.

Consolidated Statutory Reserve Levels Are Adequate

Fitch believes FM Global'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 Global'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 Global's YE 2018 data, Fitch's model estimates an adequate level of reserves using paid loss data and case-incurred data.

Starting with accident-year 2002, each subsequent accident year developed favorably since FM Global's initial reserve estimates, displaying conservatism in setting the company's reserves that compare favorably with peers and the overall industry.

Asbestos-Related Exposures Still Material

Unfavorable development on asbestos-related reserves generated adverse reserve movement in two of the past five years, with approximately \$180 million of reserve strengthening since 2015. Despite these unfavorable developments, FM Global produced overall favorable prior-year reserve experience during that five-year period.

Fitch believes that FM Global's reserves for asbestos-related claims are strong and, unlike many of its peers, FM Global bolstered its asbestos reserves while still generating strong calendar-year profitability. The company's gross and net survival ratios based on three-year average paid asbestos losses were 18.3x and 22.6x, respectively, at YE 2018. Fitch also believes that FM Global has solid reserves for environmental claims. At YE 2018, the company's gross and net survival ratios based on three-year average paid environmental losses were 35.6x and 24.8x, respectively. Net asbestos and environmental reserves totaled \$690 million at YE 2018, representing approximately 14% of FM Global's overall net loss and loss adjustment expense reserves.

Reinsurance, Risk Mitigation and Catastrophe Risk

Fitch views FM Global's reinsurance, risk mitigation and catastrophe risk to be very strong and supportive of the current rating category. Overall, this category has a moderate influence in determining FM Global's ratings.

Extensive Reinsurance Programs Protect Against Property Risks

Fitch believes that FM Global'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 Global has a significant exposure to natural and man-made catastrophic losses from its large book of property insurance. As a result, Fitch believes that reinsurance is a very important component of FM Global's risk management process.

FM Global'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, and the company's catastrophe reinsurance program separately provides coverage on catastrophe losses from all perils in excess of \$450 million.

The highest layers of FM Global's catastrophe reinsurance program provide protection from the company's largest catastrophe exposure, North American earthquake. The company secured additional protection from this risk as part of its risk transfer program in 2019.

High-Quality Reinsurance Recoverables

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

Detailed Analysis of Catastrophe Exposures

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

Appendix A: Industry Profile and Operating Environment

This section discusses the U.S. non-life insurance sector. Most insurers in this sector have Insurer Financial Strength (IFS) ratings in the 'AA' and 'A' categories. The industry assessment considers the following perspectives.

Regulatory Oversight

U.S. regulatory oversight is very developed and transparent with effective enforcement. Insurance regulation is focused at the state level with activities coordinated through the National Association of Insurance Commissioners. More recently, the Federal Insurance Office was formed, in part to foster relations with international bodies in considering regulatory management equivalency across nations. U.S. insurance regulations include robust financial reporting and capital requirements for insurers. Effectiveness in meeting dual objectives of protecting policyholders and fostering insurance company solvency is demonstrated by limited insurer market conduct actions, and historically few regulatory seizures, insolvencies or liquidations.

Technical Sophistication of Insurance Market; Diversity and Breadth

The U.S. insurance market is very technically sophisticated with diverse and very deep product offerings. The size and complexity of the U.S. economy has promoted demand for coverage. Many global risk management and insurance products have U.S. origins. Policyholders' broad access to diverse insurance products and expertise provided by a robust agent and broker distribution system are factors leading to very high insurance penetration rates in the U.S.

Competitive Profile

The U.S. insurance market is highly competitive with market share dispersed among a large number of independent entities in the overall industry and nearly all significant product segments, which supports widespread choice and availability of coverage for policyholders. Less concentrated markets and relative ease in entering insurance markets also promotes price competition and cyclical underwriting performance.

Financial Markets Development

The U.S. has the largest and most developed financial markets 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 favorable trade execution. U.S. financial markets also provide insurers 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 insurer size, ownership structure and other factors.

Country Risk

Insurers' ratings are unconstrained by sovereign risk issues as Fitch maintains a 'AAA' country rating with a Stable Outlook on the U.S. The rating is supported by economic size, high per-capita income, strong institutions, dynamic business environment, and the world's pre-eminent reserve currency. This stable environment is beneficial for U.S. insurers. Longer term concerns regarding the U.S. sovereign rating are tied to government spending and financing activity, particularly growth in government deficits and the ability to meet long-term obligations, such as retirement and healthcare entitlements for an aging population.

Appendix B: Peer Analysis

Strong Competitive Position Relative to Peers

Relative to other commercial peers, FM Global is smaller in size and narrowly focused on large commercial accounts that benefit from extensive engineering and loss prevention services. However, Fitch views FM Global's market share and competitive positioning in its key lines of business to be better than those of its peers. FM Global also is the only company in its peer group that issues no debt, which Fitch considers a positive rating factor relative to peers.

FM Global is comparable with similarly rated companies on a long-term basis. The company's average combined ratio of 94.3% for the 10-year period through 2018 was roughly 4 points better than large commercial peer average, although its combined ratio standard deviation was considerably higher than that of the peer median over the period.

Relative to peers, FM Global has a lower operating leverage. However, Fitch believes the usefulness of this measure in evaluating FM Global's capital adequacy is limited since it does not capture the company's potential earnings volatility.

Fitch believes that because of the short-tail nature of FM Global's business, the company has comparably less reserving risks relative to peers, outside of legacy asbestos-related exposures.

Commercial Peer Comparison

| (As of Sept. 30, 2019) | IFS Rating | Net Premium Earned (\$ Mil.) | Combined Ratio (%) | 2010-9M19 Avg. Combined Ratio (%) | Total Equity (\$ Mil.) | Annualized NPW/Equity (x) | Debt/Capital (%) |
|------------------------------|------------|------------------------------|--------------------|-----------------------------------|------------------------|---------------------------|------------------|
| FM Global | AA | 3,078 | 79.2 | 95.3 | 13,543 | 0.3 | — |
| Chubb Ltd. | AA | 21,625 | 89.9 | 90.6 | 54,572 | 0.6 | 22.9 |
| American International Group | A | 20,066 | 109.8 | 109.8 | 67,445 | 0.5 | 28.3 |
| Travelers Cos. Inc. | AA | 21,022 | 97.9 | 94.7 | 25,607 | 1.2 | 22.7 |

IFS - Insurer Financial Strength. NPW - Net premium written. Note: GAAP.
Source: Fitch Ratings, S&P Global Market Intelligence.

Appendix C: Other Ratings Considerations

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

Group 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 Global 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. UK-domiciled FM Insurance Company Ltd.; Luxembourg-domiciled FM Insurance Europe S.A.; and Mexico-domiciled FM Global de Mexico, S.A. benefit from significant reinsurance support from FM Global as well policy level guarantees. All operating companies have a ‘AA’ IFS rating based on a combined group assessment.

Notching

For notching purposes, the regulatory environment of the U.S. is assessed by Fitch as being Effective and classified as following a Ring-Fencing approach.

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.

Short-Term Ratings

Not applicable.

Hybrid – Equity/Debt Treatment

Not applicable.

Corporate Governance and Management

FM Global has no corporate governance issues. The company has an 11-member board of directors, who are elected by policyholders for three-year terms.

Transfer and Convertibility Risk (Country Ceiling)

None.

Criteria Variations

None.

Appendix D: Environmental, Social and Governance Considerations

| Credit-Relevant ESG Derivation | | | Overall ESG Scale | |
|---|---------------------|---|-------------------|---|
| Factory Mutual Insurance Company has 8 ESG potential rating drivers | | | | |
| <ul style="list-style-type: none"> Factory Mutual Insurance Company has exposure to underwriting/reserving exposed to asbestos/hazardous materials risks but this has very low impact on the rating. Factory Mutual Insurance Company has exposure to underwriting/reserving exposed to environmental and natural catastrophe risks; impact of catastrophes on own operations or asset quality; credit concentrations but this has very low impact on the rating. Factory Mutual Insurance Company has exposure to compliance risk; treating customers fairly; pricing transparency; privacy/data security; legal/regulatory fines; exposure to insured and own cyber risk but this has very low impact on the rating. Factory Mutual Insurance Company has exposure to social responsibility and its effect on brand strength; increased vulnerability due to credit concentrations but this has very low impact on the rating. Governance is minimally relevant to the rating and is not currently a driver. | key driver | 0 | issues | 5 |
| | driver | 0 | issues | 4 |
| | potential driver | 8 | issues | 3 |
| | not a rating driver | 1 | issues | 2 |
| | | 5 | issues | 1 |

| Environmental (E) | | | | E Scale |
|--|---------|---|---|---------|
| General Issues | E Score | Sector-Specific Issues | Reference | |
| GHG Emissions & Air Quality | 1 | n.a. | n.a. | 5 |
| Energy Management | 1 | n.a. | n.a. | 4 |
| Water & Wastewater Management | 1 | n.a. | n.a. | 3 |
| 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 | 2 |
| 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 & Asset Risk | 1 |

| Social (S) | | | | S Scale |
|--|---------|---|--|---------|
| General Issues | S Score | Sector-Specific Issues | Reference | |
| Human Rights, Community Relations, Access & Affordability | 1 | n.a. | n.a. | 5 |
| 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; Business Profile; Reserve Adequacy | 4 |
| Labor Relations & Practices | 2 | Impact of labor negotiations, including board/employee compensation and composition | Corporate Governance & Management | 3 |
| Employee Wellbeing | 1 | n.a. | n.a. | 2 |
| Exposure to Social Impacts | 3 | Social responsibility and its effect on brand strength; increased vulnerability due to credit concentrations | Business Profile; Investment & Asset Risk; Financial Performance & Earnings; Reinsurance, Risk Mitigation & Catastrophe Risk | 1 |

| Governance (G) | | | | G Scale |
|------------------------|---------|--|---|---------|
| General Issues | G Score | Sector-Specific Issues | Reference | |
| Management Strategy | 3 | Operational implementation of strategy | Corporate Governance & Management; Business Profile | 5 |
| 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 | Corporate Governance & Management | 4 |
| Group Structure | 3 | Organizational structure; appropriateness relative to business model; opacity; intra-group dynamics; ownership | Corporate Governance & Management; Ownership | 3 |
| Financial Transparency | 3 | Quality and timing of financial reporting and auditing processes | Corporate Governance & Management | 2 |
| | | | | 1 |

How to Read This Page

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

The Environmental (E), Social (S) and Governance (G) tables break out the individual components of the scale. The left-hand box shows the aggregate E, S, or G score. General Issues are relevant across all markets with Sector-Specific Issues unique to a particular industry group. Scores are assigned to each sector-specific issue. These scores signify the credit-relevance of the sector-specific issues to the issuing entity's overall credit rating. The Reference box highlights the factor(s) within which the corresponding ESG issues are captured in Fitch's credit analysis.

The Credit-Relevant ESG Derivation table shows the overall ESG score. This score signifies the credit relevance of combined E, S and G issues to the entity's credit rating. The three columns to the left of the overall ESG score summarize the issuing entity's sub-component ESG scores. The box on the far left identifies the [number of] general ESG issues that are drivers or potential drivers of the issuing entity's credit rating (corresponding with scores of 3, 4 or 5) and provides a brief explanation for the score.

Classification of ESG issues has been developed from Fitch's sector and sub-sector ratings criteria and the General Issues and the Sector-Specific Issues have been informed with SASB's Materiality Map.

Sector references in the scale definitions below refer to Sector as displayed in the Sector Details box on page 1 of the navigator.

| CREDIT-RELEVANT ESG SCALE | |
|--|---|
| How relevant are E, S and G issues to the overall credit rating? | |
| 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 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 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 Navigator. |
| 2 | Irrelevant to the entity rating but relevant to the sector. |
| 1 | Irrelevant to the entity rating and irrelevant to the sector. |

ESG Considerations

Unless otherwise disclosed in this section, the highest level of Environmental, Social and Governance (ESG) credit relevance is a score of 3 – ESG issues are credit neutral or have only a minimal credit impact on the entity, either due to their nature or the way in which they are being managed by the entity.

For more information on our ESG Relevance Scores, visit www.fitchratings.com/esg

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.

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