Best's Credit Rating Effective Date
January 23, 2020

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Financial Data Presented

Financial data in this report: (i) includes data of affiliated entities that are not rating unit members where analytics benefit from inclusion; and/or (ii) excludes data of rating unit member entities if they operate in different segments or geographic areas than the Rating Unit generally. See list of companies for details of rating unit members and any such included and/or excluded entities.

The financial data in this report reflects the most current data available to the Analytical Team at the time of the rating. Updates to the financial exhibits in this report are available here: Best's Financial Report.

FM Global Group

AMB #: 018502
Associated Ultimate Parent: AMB # 004067 - Factory Mutual Insurance Company

Best's Credit Ratings – for the Rating Unit Members

Financial Strength Rating (FSR)	Issuer Credit Rating (ICR)
A+	**aa**
Superior	**Superior**
Outlook: **Stable**	Outlook: **Stable**
Action: **Affirmed**	Action: **Affirmed**

Assessment Descriptors

Balance Sheet Strength	**Strongest**
Operating Performance	**Strong**
Business Profile	**Favorable**
Enterprise Risk Management	**Appropriate**

Rating Unit - Members

Rating Unit: FM Global Group | AMB #: 018502

AMB #	Rating Unit Members
000103	Affiliated FM Insurance Co
002345	Appalachian Insurance Co
086513	FM Insurance Company Limited
095193	FM Insurance Europe S.A.
004067	Factory Mutual Insurance Co

Rating Rationale

Balance Sheet Strength: Strongest

- FM Global's risk-adjusted capitalization, as measured by Best's Capital Adequacy Ratio (BCAR), is considered to be at the strongest category at the 99.6% confidence level. FM Global's balance sheet has been time-tested, as a leading global property insurer and its ability to withstand catastrophes year over year.
- Substantial reinsurance capacity for CATs and terrorism mitigation plays an integral role in preserving capital.
- The group's ability to generate capital is impressive when measured on a compound average growth rate (CAGR) over the last 10 years. This includes the 10% decrease in 2018 from significant CATs and the fourth-quarter equity market correction, which has since rebounded.
- Surplus and premium growth have both outpaced the growth of Total Insured Value (TIV) over the past 10 years, including a moderate TIV reduction in 2019.
- Equity leverage is consistently higher than that of the composite, generating significant long-term gains through prudent management, but it exposes the balance sheet to periodic market corrections. As a privately owned mutual company, management is able to take a long view on its investment horizons and ride out market swings.

Operating Performance: Strong

- Historical operating performance is generally strong with non-catastrophe trends neutral/slightly positive and prospective operating performance is expected to be strong. However, volatility due to catastrophes is moderate to high.
- Above-average underwriting performance -- a direct byproduct of FM Global's extensive risk management, loss prevention services and engineering expertise. Also reflects FM Global's leadership position in insuring highly protected risks (HPR), which are facilities that meet the highest protection standards.
- Strong results are net of membership premium credits afforded to policyholders, which are due to favorable loss experience and implementation of the group's loss control and loss prevention recommendations.
- Accident year (AY) loss reserve development has been generally favorable. Legacy asbestos and environmental reserves are long-dated and have been benign.

Business Profile: Favorable

- The group is a well-recognized, global market leader in the commercial and industrial property space.
- A broker market "go to" for large commercial highly protected property risks.
- Strong defensible competitive advantages through its global reach, extensive engineering expertise and risk mitigation / loss prevention services.
- Diversified operations in key markets that have high to moderate barriers to entry with low competition.
- Strong management team coupled with highly effective research-based engineering and a strong reinsurance program.

Enterprise Risk Management: Appropriate

- FM Global has demonstrated excellent ERM through loss control and minimization recommendations implemented by its policyholders that have been manifested in superior operating profitability, driving balance sheet strength that AM Best assesses as 'Strongest.'
- The insurer's ERM framework is well developed and/or appropriate given the size and complexity of its operations. Risk management capabilities are very good and are well aligned with the risk profile of the group.
- The group is a well-run organization that has been a consistent property and casualty insurer with a strong and experienced management team that has plenty of depth.
- FM Global has an embedded all-encompassing framework and plan instilled in its corporate culture to effectively identify, measure, monitor, report and control or mitigate both its internal and external sources of risk.
- The ERM strategy is embedded into multiple levels of internal controls that ensure adherence and compliance in transacting the group's business model.

Outlook

- The stable outlooks reflect AM Best's expectation that FM Global Group's risk-based capitalization and operating performance will continue its generally excellent trends through the near to medium term.

Rating Drivers

- Positive rating action could result if the group's operating profitability demonstrates lesser volatility over an extended period of time, reflecting superior risk management.
- Negative rating action could result if operating performance or risk-adjusted capitalization falls markedly short of AM Best's expectations.

Key Financial Indicators

Best's Capital Adequacy Ratio (BCAR) Scores (%)

Confidence Level	95.0	99.0	99.5	99.6
BCAR Score	68.1	58.1	53.5	52.4

Source: Best's Capital Adequacy Ratio Model - P/C, US

	9-Months		Year End - December 31				
Key Financial Indicators USD (000)	**2019**	**2018**	**2018**	**2017**	**2016**	**2015**	**2014**
Premiums Written:							
Direct	3,273,180	2,917,771	3,928,922	3,550,622	3,508,681	3,422,594	3,441,729
Assumed*	1,285,827	1,288,252	1,002,058	955,569	882,411	917,198	852,723
Ceded*	1,593,745	1,432,004	1,302,396	1,082,896	1,106,109	1,071,976	1,005,683
Net	2,965,262	2,774,019	3,628,584	3,423,295	3,284,984	3,267,817	3,288,769
Net Operating Income	615,529	-159,106	-852,823	-569,066	559,689	505,145	640,190
Net Income	1,102,657	405,293	-103,165	-363,668	695,841	680,696	803,774
Total Admitted Assets	21,336,937	21,599,141	20,423,211	20,660,155	18,243,619	16,910,776	16,291,711
Policyholders' Surplus	12,819,788	12,900,830	11,241,267	12,501,777	11,519,356	10,546,654	10,141,846

Source: BestLink® - Best's Financial Suite
*Quarterly premiums include affiliated reinsurance premiums that are eliminated in annual assumed and ceded values.

*The numbers presented in this report are combined by AMBest for ratings analytics purposes utilizing its standardized consolidation process and may differ from the Group's internally combined statements. Percentages and ratios in this report are calculated per AMBest's generated data.

	9-Months		Year End - December 31					
Key Financial Ratios (%)	**2019**	**2018**	**2018**	**2017**	**2016**	**2015**	**2014**	**Weighted Average**
Profitability:								
Combined Ratio	80.5	114.4	138.6	138.3	83.6	86.5	76.2	105.7
Reserve Development Combined Ratio Impact	-9.6	-2.7	-2.1	-2.9	-7.6	2.0	-6.4	-3.4
Net Investment Yield	1.9	1.7	1.9	1.8	1.8	2.0	2.0	1.9
Pre-Tax Operating Return on Net Earned Premiums	27.4	-7.6	-29.9	-28.3	25.3	22.4	31.5	3.2
Net Income Return on Policyholders' Surplus	12.2	4.3	-0.9	-3.0	6.3	6.6	8.3	3.1
Total Return on Policyholders' Surplus	19.2	3.8	-11.0	10.4	8.9	4.9	11.0	4.5
Leverage:								
Net	1.0	0.9	1.1	0.9	0.9	0.9	0.9	...
Gross	...	...	1.4	1.2	1.1	1.2	1.2	...
Non-affiliated Investment	68.5	72.5	68.9	73.6	73.0	72.6	74.5	...

Source: BestLink® - Best's Financial Suite

Credit Analysis

Balance Sheet Strength

Capitalization

Notwithstanding the elevated level of catastrophe (CAT) losses that occurred in 2017 and 2018, FM Global's balance sheet once again showed its resilience as the group continued to grow capital and surplus at a growth rate that outperforms the industry average. The group has more than doubled its policyholder surplus over the past 10 years at a ten-year compound annual growth rate of approximately 9% (as of YE 2018). The group's surplus decreased by 10.1% in 2018 due to underwriting losses including CATs, exacerbated by the 4Q18 equity market downturn. With the lack of CATs in 2019 and rebound of the equity markets, surplus has increased by 14% through the end of 3Q19. Risk-adjusted capitalization more than adequately supports FM Global's risks at the highest confidence intervals, as measured by Best's Capital Adequacy Ratio (BCAR). This favorable capital position is reflective of the group's conservative underwriting leverage, slightly offset by FM Global's elevated common stock leverage and comparatively high level of high risk (schedule BA) assets. Although the group maintains exposure to natural and man-made catastrophes, these risks are mitigated through an extensive risk management program and reinsurance which mitigates FM Global's net exposures to levels in line with the group's capital level.

The group has achieved solid surplus growth through operating earnings, along with steady investment income. However, future surplus growth may be tempered by sudden swings in the equities markets, like the ones that have occurred over the past two years. Surplus growth has outpaced growth in Total Insured Values (TIV). Based on the group's history, the expectation is that underwriting profits will continue to favorably impact surplus over the medium term, with results dipping in select years under heightened loss experience. AM Best expects risk-adjusted capitalization will remain at the strongest levels over the medium term. The expectation assumes a normalized level of natural catastrophes, absence of a major terrorist event and stabilization of equity markets.

	9-Months		Year End - December 31				
Capital Generation Analysis USD (000)	**2019**	**2018**	**2018**	**2017**	**2016**	**2015**	**2014**
Beginning Policyholders' Surplus	11,241,267	12,501,777	12,501,777	11,519,356	10,546,654	10,141,846	9,153,455
Net Operating Income	615,529	-159,106	-852,823	-569,066	559,689	505,145	640,190
Net Realized Capital Gains (Losses)	487,128	564,399	749,659	205,398	136,152	175,551	163,584
Net Unrealized Capital Gains (Losses)	633,145	-42,687	-1,207,144	1,608,234	283,176	-169,818	252,798
Stockholder Dividends	...	-166	-333	-333	-333	-333	-333
Other Changes in Capital and Surplus	-157,280	36,614	50,130	-261,812	-5,982	-105,737	-67,849
Net Change in Policyholders' Surplus	1,578,522	399,053	-1,260,510	982,421	972,702	404,808	988,390
Ending Policyholders' Surplus	12,819,788	12,900,830	11,241,267	12,501,777	11,519,356	10,546,654	10,141,846
Net Change in Policyholders' Surplus (%)	14.0	3.2	-10.1	8.5	9.2	4.0	10.8
Net Change in Policyholders' Surplus (5 yr CAGR)	...	...	4.2	...	...	...	...

Source: BestLink® - Best's Financial Suite

	9-Months		Year End - December 31				
Liquidity Analysis	**2019**	**2018**	**2018**	**2017**	**2016**	**2015**	**2014**
Net Operating Cash Flow USD (000)	70,923	84,169	-26,079	192,324	678,353	618,199	768,002
Current Liquidity (%)	183.3	186.3	160.6	189.5	209.5	202.6	200.3

Source: BestLink® - Best's Financial Suite

Asset Liability Management - Investments

FM Global invests its assets in a manner that is designed to ensure adequate liquidity to fund future liabilities. To the extent that its total assets exceed its liabilities (i.e. surplus), excess assets are generally invested in equity securities in accordance with management's view of a long term investment horizon.

The group's common stock leverage is well above its peer composite average (by design), but has declined over the years. Approximately 1/3 of total investments are in long term bonds. The group also invests in high risk assets consisting of real estate held by an affiliate and in approximately 83 limited partnerships. These investments represent approximately 10% of the group's investment

Balance Sheet Strength (Continued...)

portfolio and approximately 15% of surplus. The group has approximately $450 million in contractual unfunded commitments to these partnerships.

Liquidity

FM Global's balance sheet is sound, with invested assets exceeding liabilities by comfortable margins. Current and quick liquidity measures compare favorably to industry composite norms and are enhanced by strong underwriting and operating cash flows. With the implementation of higher deductibles and attachment points, as well as ongoing rate adequacy, and engineering and loss control initiatives, cash flows from underwriting and operations have remained strong since 2002. Given the group's historically strong cash flows and solid risk-based level of capitalization, FM Global is largely protected against the need to liquidate any investments at a loss in order to meet its cash needs. A.M. Best expects cash flows from operations to remain strong in the medium term.

	9-Months		Year End - December 31				
Composition of Cash and Invested Assets	**2019**	**2018**	**2018**	**2017**	**2016**	**2015**	**2014**
Total Cash and Invested Assets USD (000)	19,639,180	19,728,335	18,317,283	19,000,390	17,051,460	15,764,639	15,047,039
Composition Percentages (%)							
Unaffiliated:							
Cash and Short Term Investments	5.7	8.1	8.2	6.9	6.1	6.5	5.5
Bonds	35.6	32.2	36.6	32.2	34.0	34.1	33.3
Stocks	37.6	41.3	35.3	41.9	42.1	40.7	42.4
Other Invested Assets	5.0	4.6	5.2	4.8	5.5	6.0	5.8
Total Unaffiliated	84.0	86.1	85.3	85.7	87.6	87.3	87.0
Investments in Affiliates	16.0	13.9	14.7	14.3	12.4	12.7	13.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: BestLink® - Best's Financial Suite

	Years					
Bonds and Short Term Investments - Distribution by Maturity (%)	**0-1**	**1-5**	**5-10**	**10-20**	**20+**	**Average (Years)**
Government Bonds	0.2	18.2	8.9	...	0.8	5.0
Government Agencies and Municipal Bonds	0.4	8.1	13.1	5.4	13.0	13.2
Industrial and Miscellaneous Bonds	0.9	16.0	12.4	0.4	2.1	6.3
Bank Loans	...	...	0.1	...	...	5.7
Total Bonds	1.6	42.3	34.5	5.8	15.8	8.7

Source: BestLink® - Best's Financial Suite

Reserve Adequacy

The group has reported favorable loss reserve development across most accident years driven by the recognition of redundancies in property lines of business, with some adverse development occasionally recorded for asbestos & environmental (A&E) losses.

According to AM Best's estimates, FM Global ranks among the top 30 largest carriers in the United States in terms of its potential exposure to asbestos and environmental claims, with an historical market share (based on net premiums) of 0.2%. FM Global reported approximately $690 million in net A&E reserves at year-end 2018, with 86% of this amount pertaining to asbestos liabilities. The group's net A&E reserves represent approximately 15% of its overall net loss reserve base and roughly 6% of consolidated surplus. A considerable portion of the group's potential A&E liability stems from its discontinued assumed reinsurance business, which poses more uncertainty than primary business due to its reliance on ceding companies for claims information. Also, claim payments tend to develop more slowly than for primary insurers. The group maintains a centralized claims unit that continues to evaluate, monitor and process claims.

Reserves increased in 2018 to $4.9 billion primarily due to a high volume of individual risk losses and 2018 catastrophe experience. They have since declined due to payment of claims in resolution; better than expected actual versus modeled losses; and a lower year of CAT claims in 2019

Balance Sheet Strength (Continued...)

As a result of changes in estimates of insured events related to prior years, the provision for losses and loss adjustment expenses decreased by $72 million and $101 million in 2018 and 2017, respectively. The decreases were due to the reduction of incurred-but-not-reported (IBNR) reserves based on actual experience and decreases on a small number of individual losses.

	9-Months		Year End - December 31				
Loss and Loss Adjustment Expense Reserves and Development - Calendar Year	**2019**	**2018**	**2018**	**2017**	**2016**	**2015**	**2014**
Loss and LAE Reserves USD (000)	3,919,990	4,366,330	4,666,516	4,015,725	2,304,602	2,149,544	2,232,968
Loss and LAE Reserves Development USD (000)	-264,231	-69,832	...	-38,477	-175,250	-289,771	-684
Development to:							
Original Reserves (%)	...	...	...	-0.9	-7.1	-11.9	...
Prior Year End Reserves (%)	-5.4	-1.6	...	...	...	...	...
Prior Year End Surplus (%)	-2.4	-0.6	...	-0.3	-1.5	-2.7	...

Source: BestLink® - Best's Financial Suite

	Year End - December 31				
Loss and Loss Adjustment Expense Reserves and Development - Accident Year	**2018**	**2017**	**2016**	**2015**	**2014**
Original Loss and ALAE Reserves USD (000)	2,619,452	2,656,533	1,256,178	1,214,507	1,082,789
Loss and ALAE Reserves Developed thru Latest Year End USD (000)	2,619,452	2,724,206	1,153,677	1,001,054	995,747
Development to Original Reserves (%)	...	2.5	-8.2	-17.6	-8.0
Accident Year Loss and LAE Ratio (%)	112.0	112.6	58.4	48.9	53.6
Accident Year Combined Ratio (%)	140.7	142.5	87.1	77.3	79.3

Source: BestLink® - Best's Financial Suite

Operating Performance

Historically, FM Global has produced strong operating returns, driven by solid underwriting earnings along with sound and steady investment income. The group's underwriting earnings have resulted from the group's persistent loss control procedures, low expense ratio and (particularly in prior years) favorable market conditions. As market conditions have softened, operating profits have remained strong due to the group's adherence to conservative risk management and pricing strategies. Aside from the group's higher than average catastrophe loss years in 2017 and 2018, the group has generated significant underwriting profits. Above average results are primarily due to its strong market position, highly protected risk expertise, and strong risk management capabilities.

Underwriting results included approximately 44 and 50 points of catastrophe losses for 2018 and 2017, respectively. Prior to 2017, results were reflective of more normalized loss years, with 2014, and subsequently 2019, being relatively benign catastrophe years.

While the group's income benefits from its consistent generation of investment income, investment yields slightly lag the average of its peer group. This is primarily the result of FM Global's above-average investment allocation to common equities, which have a lower dividend yield than the average yield on the bonds that comprise a larger percentage of the portfolios of its industry peers. While FM Global's elevated investment leverage adds to earnings volatility with generally below average total return on invested assets, it has generally boosted overall long-term return measures. As a result, the group's total returns on revenue and surplus, which include capital gains and losses, strongly and consistently outperform its peer composite.

Underwriting Results:

FM Global has typically produced strong non-CAT underwriting results, reflecting strong risk management capabilities, adequate rates and careful management of terms and conditions. Solid underwriting results in recent years have led the company to provide membership credits, which allow its policyholders to benefit from these favorable results and which encourage the long-term and stable relationship between the group and its customers. 2018 marks the group's fifth consecutive year of membership credits (tenth overall). The company has paid approximately $4 billion since 2001.

Operating Performance (Continued...)

Underwriting results are underpinned by the group's very detailed knowledge of each risk. FM Global does not use actuarial methods to set prices but instead relies on its staff to establish appropriate rates based on exposure and risk mitigation initiatives of individual insureds. This expertise has contributed to ultimate catastrophe losses approximating 1/2 of modeled losses in recent CATs. The group employs more engineers (nearly 2,000) than the next ten competitors combined. Additionally, the group has a state-of-the-art industrial testing facility that tests both the causes of loss (largely fire focused) and mitigation / minimization of losses.

The group's underwriting performance remains exposed to future acts of terrorism. Under the TRIPRA extension, FM Global's retention (deductible) is $607 million for 2018, plus 18% of all certified losses in excess of this deductible. Nearly 60% of FM Global's policyholders have accepted the terrorism coverage offered by the group under TRIPRA. However, the vast majority of these exposures are represented by horizontal or campus-like risks that are generally not exposed to a total loss. The group does purchase additional terrorism reinsurance outside of TRIPRA. The company has conceptual contingency plans to manage its risks in the event TRIPRA would ever be permitted to expire.

Investment Results:

FM Global's investment yields have declined slightly over the current five-year period and are somewhat below industry composite results, reflecting the group's elevated level of common equity holdings. Total investment returns (including capital gains) slightly exceed those of the group's peer composite but have volatility caused by capital gains and losses on the group's substantial equity portfolio, rising and falling with shifts in the equity market. Over the five-year period, the group's net investment income has generally increased, primarily driven by growth in the invested asset base as a result of favorable operating income and positive cash flows offset by modest dividend income on the group's increasing equity holdings and declines in interest yields on the group's long-term bonds. As such, despite the increase in invested assets, the group's overall yield declined on its bond portfolio while a greater percentage of its investment holdings produced minimal income on the year.

	9-Months		Year End - December 31					
Operating and Financial Performance Ratios (%) - Company	**2019**	**2018**	**2018**	**2017**	**2016**	**2015**	**2014**	**Weighted Average**
Calendar Year Loss and LAE Ratio	54.7	85.7	109.9	108.4	54.8	58.1	50.4	77.3
Expense and Policyholder Dividend Ratio	25.8	28.7	28.7	29.9	28.8	28.4	25.8	28.3
Combined Ratio	80.5	114.4	138.6	138.3	83.6	86.5	76.2	105.7
Reserve Development Ratio Impact	-9.6	-2.7	-2.1	-2.9	-7.6	2.0	-6.4	-3.4
Net Investment Yield	1.9	1.7	1.9	1.8	1.8	2.0	2.0	1.9
Pre-Tax Operating Return on Net Earned Premiums	27.4	-7.6	-29.9	-28.3	25.3	22.4	31.5	3.2
Net Income Return on Policyholders' Surplus	12.2	4.3	-0.9	-3.0	6.3	6.6	8.3	3.1
Total Return on Policyholders' Surplus	19.2	3.8	-11.0	10.4	8.9	4.9	11.0	4.5

Source: BestLink® - Best's Financial Suite

	9-Months		Year End - December 31					
Operating and Financial Performance Ratios (%) - Composite	**2019**	**2018**	**2018**	**2017**	**2016**	**2015**	**2014**	**Weighted Average**
Calendar Year Loss and LAE Ratio	62.1	67.8	73.1	78.2	56.7	58.4	60.0	65.7
Expense and Policyholder Dividend Ratio	33.9	34.7	38.1	36.2	36.7	34.7	33.5	35.9
Combined Ratio	96.0	102.5	111.1	114.4	93.4	93.1	93.5	101.6
Reserve Development Ratio Impact	-2.6	-2.5	-2.6	-2.8	-11.2	0.4	0.3	-3.1
Net Investment Yield	2.3	2.4	2.6	2.9	2.1	2.2	2.2	2.4
Pre-Tax Operating Return on Net Earned Premiums	9.6	1.9	-4.6	-4.6	12.6	16.1	13.6	6.2
Net Income Return on Policyholders' Surplus	7.9	4.0	0.9	0.8	5.3	7.2	7.2	4.1
Total Return on Policyholders' Surplus	11.7	3.0	-5.8	7.1	8.1	5.5	8.2	4.4

Source: BestLink® - Best's Financial Suite

Industry Composite: Commercial Property Composite - BestLink® - Best's Financial Suite

Business Profile

FM Global is one of the largest underwriters of highly protected risk (HPR) within the commercial property market and is widely recognized throughout the industry for its extensive loss control, risk management and engineering capabilities. FM Global is afforded a distinct competitive advantage over most insurers by virtue of its professional property engineering expertise, inspection and loss prevention services, training and research. These bundled professional services assist FM Global's policyholders in the identification, assessment and management of property risks. In addition to providing global insurance products and value-added services, FM Global is also known for its captive-like orientation and its focus on long-term business partnerships which, in some cases, span more than 100 years. Many of the group's largest policyholder organizations are also members of FM Global's board of directors, advisory boards and risk management executive councils, which reinforces its understanding of the needs of its clients. The majority of FM Global's policyholders maintain worldwide operating facilities and are typically large industrial companies operating in varied manufacturing and servicing industries. Business is produced on a direct basis and through brokers.

Insurance coverage provided includes all-risk policies and policies providing fire and extended coverage, boiler and machinery, difference in conditions, ocean cargo or any combination of these lines of coverage. Business interruption insurance is also offered as a supplement to these lines of coverage. With the implementation of the U.S. government reinsurance of terrorism exposures in November 2002, FM Global was required to offer terrorism coverage to all its insureds with full limits. If TRIPRA was ever permitted to lapse, insureds will be subject to a significantly lower terrorism coverage sub-limit. Management states FM Global would be reinsured to its $450 million net retention (2019 renewal) in a worst case event.

Insurance activities are conducted in the U.S., Canada, and Asia-Pacific through Factory Mutual Insurance Company (FMIC), the lead U.S. carrier and ultimate parent. Additional insurance activities are conducted in the U.S. and Canada through two U.S. operating companies and two Canadian branch offices. FMIC is the lead carrier in the FM Global Group. Affiliated FM specializes in underwriting small and mid-sized highly protected risks as well as better quality non-HPR accounts of all sizes. In addition, Affiliated FM writes associated coverage, including boiler and machinery and ocean cargo. Appalachian writes coverage on a surplus lines basis.

Through its U.K.-based subsidiary, FM Insurance Company Limited (FMI), the group covers the U.K. exposures of its core US companies. US risks with international exposure are accepted by U.S. underwriter and then allocated to US and UK companies proportionally based on its geographical exposure.

FMI had been used to sell policies across the EU from one EU country, using “passporting rights”. Since insurers and other financial service firms no longer expect to be able to retain those rights after the British exit from the European Union (BREXIT), FM Global established FM Insurance Europe SA (FMIE SA) in Luxembourg in 2016 as its European Economic Area (EEA) hub since it is a multinational business-friendly financial center with regulatory expertise that permits EU pass-porting. FMIE SA has seven European branches. It began writing business in 2018.

FMI and FMIE SA will continue to comprise approximately 6% of the group’s premiums together as a portion of its EU business shifts from FMI to FMIE SA in response to BREXIT.

Risk Engineering Insurance Company Limited {REICL) is incorporated in Bermuda and its ultimate parent is Factory Mutual Insurance Company. REICL is registered in Bermuda as a Class 3A insurer under the Bermuda Insurance Act 1978, as amended {the "Insurance Act"). REICL provides facultative reinsurance to its parent and affiliates.

In the U.S., members of the FM Global Group operate under an intercompany pooling arrangement, effective January 1, 1999. Under this agreement, each company agrees to pool net premiums earned, net loss and loss adjustment expenses incurred, and other underwriting expenses incurred. Effective January 1, 2005, the participation percentages are FMIC, 86%; Affiliated FM, 12%; and Appalachian, 2%.

Business Profile (Continued...)

Premium Composition and Growth	9-Months 2019	9-Months 2018	Year End - December 31 2018	2017	2016	2015	2014	5 Year CAGR
Direct Premiums Written USD (000)	3,273,180	2,917,771	3,928,922	3,550,622	3,508,681	3,422,594	3,441,729	...
% Change	12.2	7.5	10.7	1.2	2.5	-0.6	-3.8	1.9
Reinsurance Premiums Assumed USD (000)*	1,285,827	1,288,252	1,002,058	955,569	882,411	917,198	852,723	...
% Change	-0.2	8.3	4.9	8.3	-3.8	7.6	-8.2	1.5
Reinsurance Premiums Ceded USD (000)*	1,593,745	1,432,004	1,302,396	1,082,896	1,106,109	1,071,976	1,005,683	...
% Change	11.3	17.5	20.3	-2.1	3.2	6.6	-18.2	1.1
Net Premiums Written USD (000)	2,965,262	2,774,019	3,628,584	3,423,295	3,284,984	3,267,817	3,288,769	...
% Change	6.9	3.3	6.0	4.2	0.5	-0.6	0.4	2.1

Source: BestLink® - Best's Financial Suite

*Quarterly premiums include affiliated reinsurance premiums that are eliminated in annual assumed and ceded values.

2018 By Line Business	Direct Premiums Written USD (000)	%	Reinsurance Premiums Assumed USD (000)	%	Reinsurance Premiums Ceded USD (000)	%	Net Premiums Written USD (000)	%	Business Retention %
Allied Lines	1,277,458	32.5	238,220	23.8	465,663	35.8	1,050,016	28.9	72.1
Inland Marine	1,114,915	28.4	206,791	20.6	388,379	29.8	933,327	25.7	71.7
Fire	773,370	19.7	119,042	11.9	240,803	18.5	651,609	18.0	75.4
Boiler&Mach	654,524	16.7	428,541	42.8	190,701	14.6	892,365	24.6	88.3
Comm M.P.	83,224	2.1	171	...	12,550	1.0	70,845	2.0	85.1
Top 5	3,903,493	99.4	992,765	99.1	1,298,096	99.7	3,598,162	99.2	73.5
All Other	25,429	0.6	9,293	0.9	4,300	0.3	30,422	0.8	87.6
Total	3,928,922	100.0	1,002,058	100.0	1,302,396	100.0	3,628,584	100.0	76.5

Source: BestLink® - Best's Financial Suite

Geographic Breakdown by Direct Premiums Written USD (000)	Year End - December 31 2018	2017	2016	2015	2014
California	484,536	457,093	450,810	441,226	458,470
Canada	419,045	391,427	363,609	360,333	346,037
Aggregate Alien	284,447	256,357	234,053	226,836	115,435
Texas	273,348	252,583	259,893	251,844	251,212
New York	185,362	170,346	154,770	159,117	187,365
Top 5 States	1,646,737	1,527,807	1,463,135	1,439,356	1,358,520
All Other	2,282,185	2,022,815	2,045,546	1,983,238	2,083,209
Total	3,928,922	3,550,622	3,508,681	3,422,594	3,441,729
Geographic Concentration Index	0.05	...	...	...	...

Source: BestLink® - Best's Financial Suite

Enterprise Risk Management

FM Global's board, working in conjunction with senior management, has established risk tolerances that limit the group's exposure to loss from a variety of factors. The senior officer responsible for enterprise risk management (ERM) reports annually to the board on the group's risk tolerance and risk management framework. Risks have been identified in four broad categories: exposure; investment; regulatory/reputation; and operational. Meetings are held regularly to review risk metrics and risk management activities. Emerging risks are discussed and monitored through regular meetings of senior management, local risk management committees at FM entities around the world, and regular meetings with policyholders to discuss product and service offerings.

An important part of the group's ERM strategy is embedded in multiple levels of internal controls designed to ensure adherence and compliance in implementing the group's business model. These controls are integral to FM Global's day-to-day activities, and are monitored and managed by a cross-functional, corporate management team. Processes and procedures are established and audited

Enterprise Risk Management (Continued...)

regularly in all areas of operation based on a variety of factors, including geography, specialty operations, discipline areas and staff functions. In addition to traditional top-down reviews, regular operations reviews have been instituted to provide an assessment of activities. Additionally, the group's internal audit department evaluates and tests the system of internal controls.

Business continuity plans have been developed for all major sites, and incident command team leaders have been appointed for each of these sites. As part of the group recovery/action planning efforts, the group has documented the response to three broad scenarios: 1) lack of access to the IT infrastructure; 2) lack of access to the building; and 3) lack of employees to staff a facility, and periodically tests the planned responses to ensure continuity of availability and responsiveness to customer needs.

Catastrophe Exposure & Management: Aggregate per-risk and catastrophe reinsurance programs are utilized by FM Global to limit its exposure to severe losses, including catastrophes. Due to the complexity of its exposures, FM Global focuses extensively on risk management and maintains gross and net catastrophe exposures that are moderate, as measured by the group's estimated maximum foreseeable loss (MFL) analysis.

The group's net retention of approximately 75% reflects FM Global's ability to retain a higher level of risk than its peers given the group's strong capital position and low underwriting leverage. Although the group has a block of reinsurance recoverables from unrated captive reinsurers, such recoveries are backed by letters of credit or other forms of collateral. Further, its remaining reinsurance recoveries are from highly rated reinsurers, and total recoverables represent a modest percentage of surplus.

Reinsurance Summary

FM Global is considered to be among the market leaders in terms of global property insurance. Due to the size and complexity of its risks, FM Global utilizes facultative and excess-of-loss treaty reinsurance to reduce its exposure to significant loss events. In examining its exposure to catastrophes, all of FM Global's accounts are individually evaluated (on a location basis) based on maximum foreseeable loss (MFL) estimates. Further, management has addressed its risk appetites and client needs with a manageable cyber treaty (backed up by excess cessions) and lower attachments for what it calls 'Figure 5' risks for high challenge occupancies that include molten metal, wood, chemicals, and power generation.

The group utilizes facultative reinsurance when a policyholder's coverage requirements are outside FM Global's underwriting criteria. In addition to facultative reinsurance, the group maintains excess-of-loss protection of $1,180 million excess of its $300 million per-risk retention and $1,350 million excess of its $450 million per-catastrophe retention ($1,550 million excess of $550 million per-catastrophe retention in 2018). In 2019, it also reduced retention in its second event to $250 million from $550 million.

Financial Statements

Balance Sheet	9-Months 2019 USD (000)	%	Year End - December 31 2018 USD (000)	%	2017 USD (000)	%
Cash and Short Term Investments	1,127,067	5.3	1,495,073	7.3	1,302,763	6.3
Bonds	6,991,548	32.8	6,709,920	32.9	6,108,870	29.6
Preferred and Common Stock	9,484,523	44.5	8,087,992	39.6	9,595,567	46.4
Other Invested Assets	2,036,042	9.5	2,024,299	9.9	1,993,190	9.6
Total Cash and Invested Assets	19,639,180	92.0	18,317,283	89.7	19,000,390	92.0
Premium Balances	897,020	4.2	813,397	4.0	688,175	3.3
Net Deferred Tax Asset	80	...	79	...	86	...
Other Assets	800,656	3.8	1,292,451	6.3	971,504	4.7
Total Assets	21,336,937	100.0	20,423,211	100.0	20,660,155	100.0
Loss and Loss Adjustment Expense Reserves:						
Net Reported Loss Reserves*	2,730,595	12.8	3,445,271	16.9	2,867,684	13.9
Net IBNR Loss Reserves*	1,189,395	5.6	1,124,795	5.5	1,088,227	5.3
Net LAE Reserves	...	...	293,633	1.4	284,444	1.4
Total Net Loss and LAE Reserves	3,919,990	18.4	4,863,699	23.8	4,240,355	20.5
Net Unearned Premiums	2,040,514	9.6	1,817,908	8.9	1,643,914	8.0
Other Liabilities	2,556,644	12.0	2,500,338	12.2	2,274,109	11.0
Total Liabilities	8,517,148	39.9	9,181,944	45.0	8,158,378	39.5
Unassigned Surplus	12,818,538	60.1	11,240,017	55.0	12,500,527	60.5
Other Surplus	1,250	...	1,250	...	1,250	...
Total Policyholders' Surplus	12,819,788	60.1	11,241,267	55.0	12,501,777	60.5
Total Liabilities and Surplus	21,336,937	100.0	20,423,211	100.0	20,660,155	100.0

Source: BestLink® - Best's Financial Suite
* Interim reserves balances include LAE.

Income Statement USD (000)	9-Months 2019	9-Months 2018	Year End - December 31 2018	2017
Net Premiums Earned	2,742,655	2,546,799	3,454,591	3,539,276
Net Losses and LAE Incurred:				
Current Accident Year	1,764,795	2,252,373	3,869,456	3,937,198
Prior Accident Years	-264,231	-69,832	-72,430	-100,906
Underwriting Expenses Incurred	764,626	795,775	1,041,999	1,024,348
Dividends to Policyholders	382	376	499	483
Net Underwriting Income	477,084	-431,893	-1,384,933	-1,321,847
Net Investment Income	277,068	249,585	356,591	324,611
Other Income (Expense)	-2,272	-10,949	-5,094	-5,263
Pre-Tax Operating Income	751,881	-193,256	-1,033,436	-1,002,499
Income Taxes Incurred	136,352	-34,150	-180,613	-433,433
Net Operating Income	615,529	-159,106	-852,823	-569,066
Net Realized Capital Gains (Losses)	487,128	564,399	749,659	205,398
Net Income	1,102,657	405,293	-103,165	-363,668

Source: BestLink® - Best's Financial Suite

Statement of Operating Cash Flows USD (000)	9-Months 2019	9-Months 2018	Year End - December 31 2018	Year End - December 31 2017
Net Premiums Collected	2,920,336	2,696,926	3,569,794	3,364,349
Net Losses Paid	2,279,935	1,967,853	3,198,859	2,157,014
Expenses Paid	691,502	902,536	1,210,525	1,158,099
Dividends to Policyholders	383	376	489	472
Net Underwriting Cash Flow	-51,485	-173,839	-840,078	48,765
Net Investment Income	296,495	335,543	547,123	338,654
Other Income (Expense)	-2,272	-10,949	-5,094	-5,263
Income Taxes Paid (Recovered)	171,815	66,587	-271,970	189,832
Net Operating Cash Flow	70,923	84,169	-26,079	192,324

Source: BestLink® - Best's Financial Suite

Related Methodology and Criteria

Best's Credit Rating Methodology, 03/05/2020

Catastrophe Analysis in A.M. Best Ratings, 10/13/2017

Available Capital & Holding Company Analysis, 10/13/2017

The Treatment of Terrorism Risk in the Rating Evaluation, 10/13/2017

Understanding BCAR for U.S. Property/Casualty Insurers, 05/09/2019