

LOOKING
FORWARD
WITH
PURPOSE

2016 Annual Report



ASPEN



2016

Annual Report

ASPEN INSURANCE
HOLDINGS LIMITED



DRIVING THE BUSINESS FORWARD

*Building a
powerful future*

Aspen is strongly positioned for success in an increasingly complex marketplace. Our Insurance business offers exceptional insight into underwriting complicated risks and is growing globally and across chosen product lines. Our Reinsurance business provides superior service to clients through local presence, deep customer knowledge and intelligent risk-taking. We have industry-leading expertise and products, and a sound strategy and operational model to navigate changing market conditions. In our 15th anniversary year, we are solidly on course for our next stage of profitable growth.

OUR UNIQUE VISION



VIEW OF LONDON
Christopher O’Kane (left) and
Glyn Jones (right)
London Office

**TO OUR FELLOW
STAKEHOLDERS, CLIENTS
AND BROKERS:**

Since Aspen's founding in 2002, we have aspired to become a leading, diversified specialty insurance and reinsurance company. Currently, we have about 1,600 employees in almost 40 offices around the globe, leading market expertise in a number of niche lines of business and strong relationships with our valued clients across the markets we serve.

We are and always have been an underwriting company. We emphasize the quality of our underwriting and understand the importance of geographic and product diversification.

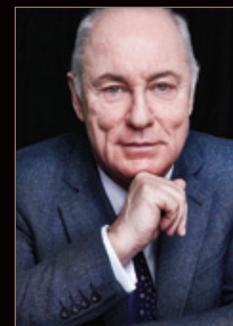
Aspen is an innovator in the management of complex risks on behalf of our clients and, over the last fifteen years, we have built a diversified, financially strong and highly-regarded specialty (re)insurance business. We are focused intensely on providing carefully tailored underwriting solutions in select markets where talent, technical expertise and underwriting skills are rewarded. We execute our strategy with great discipline and have developed enduring relationships with our clients, brokers and business partners based on integrity, mutual respect and trust.

We celebrate our 15th anniversary in 2017, and as we look ahead, we are excited for the future at Aspen.

Positioning Ourselves for the Future

At Aspen, our strategic plans address the immediate challenges for the business and position the Company for future profitable growth. In 2016, our Reinsurance segment continued its record of strong results, exemplifying the strength of its strategy. During the year we were able to further diversify the segment with the addition of AgriLogic, a specialist crop business and integrated agricultural consultancy, which increased our crop business meaningfully. In our Insurance segment, we took significant actions and completed the alignment of our global organizational structure in 2016, while simultaneously working to identify and invest in the best opportunities for long-term profitable growth. The repositioning in our Insurance segment impacted our financial results for the year. However, the underlying quality of our book of business is very strong, and we are confident that these changes have positioned us well for the future.

The strategic initiatives we implemented in 2016 established a clear course for the future. We will continue to focus on markets that reward innovation, technical expertise and underwriting excellence as we believe these will deliver, higher and more stable returns over time. As we approach our 15th anniversary, we are looking forward with confidence and purpose to our next chapter of long-term profitable growth.



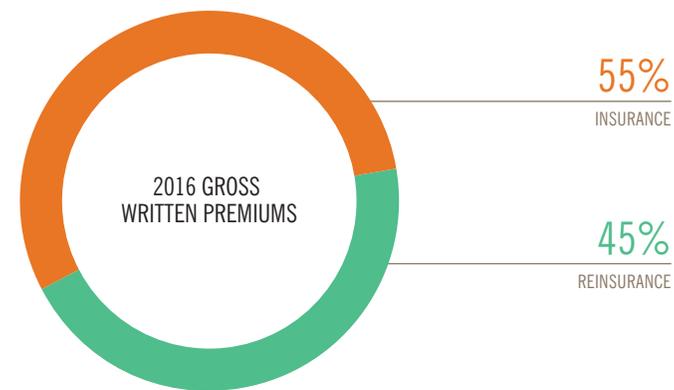
Christopher O'Kane



Glyn P. Jones

**ASPEN IS A LEADING GLOBAL
SPECIALTY INSURER AND
REINSURER. WE APPLY
INTELLIGENCE, EXPERIENCE
AND INSIGHT TO EVERY
PART OF OUR BUSINESS IN
ORDER TO PROVIDE THE BEST
SERVICE TO OUR CLIENTS.
IN THIS WAY WE GARNER
RESPECT FOR OUR ABILITY
TO SOLVE EVEN THE MOST
COMPLEX OF CHALLENGES.**

“ ASPEN RE IS EVOLVING AND ADAPTING WHILE NAVIGATING THE CHALLENGING MARKET CONDITIONS.”



REINSURANCE

Further enhancing a premier franchise

Our reinsurance business, Aspen Re, began as a property-dominated reinsurer participating selectively in markets that we knew and understood, and where we believed we could leverage our underwriting expertise. Today, it is a diversified global reinsurance partner that has deep relationships with clients, significant industry expertise and an excellent performance record. In 2016, Aspen Re wrote approximately \$1.4 billion of gross written premiums.

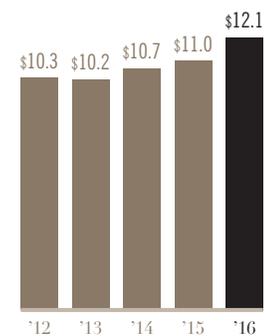
Aspen Re has long understood the importance of proximity to our clients. We have built a network of regional hubs, staffed with great local market talent and, with the perspective we glean from being close to clients, our underwriters are able to offer solutions that are highly innovative and customized. In 2016, we continued to grow our network with a new hub in Dubai for the Middle East and Africa, and expansion in China through the Lloyd's platform.

Aspen Re is evolving and adapting while navigating the challenging market conditions. In 2016, we diversified further our product capabilities and expanded our distribution through the acquisition and successful integration of AgriLogic, a specialist U.S. crop business and integrated agricultural consultancy. The AgriLogic team has exceptional insights into crop risks and innovative technology to help price those risks. We are delighted with the success of this business in its first year as a part of Aspen.

The involvement of third-party capital in the reinsurance market is now well-established. Aspen Capital Markets (ACM) continues to enhance its position, providing investors with direct access to our underwriting expertise, providing brokers and clients with additional capacity, and providing us with flexibility in managing our exposures. Our ACM team has established relationships with long-term capital allocators and now manages third-party capital of approximately \$450 million, a record level.

“ OUR GLOBAL STRUCTURE OPENS
NEW OPPORTUNITIES FOR GROWTH
IN BOTH GEOGRAPHY AS WELL AS
PRODUCT OFFERING.”

TOTAL
ASSETS
(dollars in millions)



\$3.6B TOTAL
SHAREHOLDERS'
EQUITY
(2015: \$3.4B)

INSURANCE

A global business with a clear focus

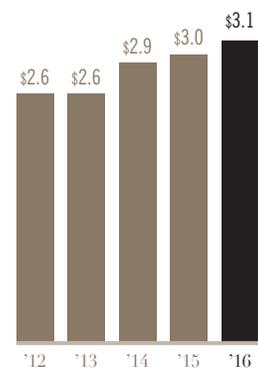
Aspen Insurance began as a small franchise based around the Lloyd's market. It is now a fully integrated global business that generated more than \$1.7 billion of gross written premiums in 2016. Our International Insurance platform is highly respected, with teams diversified by platform and product line. Our U.S. market platform is now well established with a known market presence and continues to help our clients both locally and globally.

In 2016, we aligned our organizational structure around 12 global product lines. We now have a truly global operation, with leaders for each global product line, offering a consistent approach to management and underwriting. Through this operating framework, we can better meet the needs of our clients and brokers as it is aligned with how business is placed in global markets. Our global products are supported by our regional teams which allow us to continue to serve our clients in the way that best suits their needs.

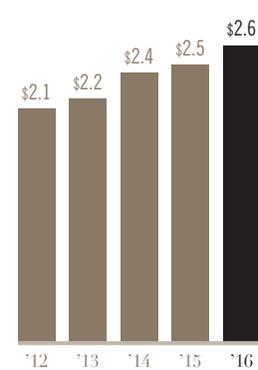
Our global structure opens new opportunities for growth in both geography as well as product offering. In 2016, we launched new products, including Railroad and Product Contamination/ Recall in the U.S., as well as broadened our existing product range in areas such as Cyber and Environmental. We also expanded geographically. We leveraged our institutional knowledge of Singapore, which we learned from opening our Singapore Reinsurance office in 2008, and opened a Singapore Insurance office that serves the Asia-Pacific market. We also acquired a specialty marine business in Puerto Rico. We continue to build on our new structure, and we expect compelling opportunities going forward.

At Aspen, our employees are the key to our success and one of our competitive advantages. We maintain a sharp focus on talent acquisition and development at all times. Within our Insurance segment, we have the right people in the right roles and in the right places, and we have transformed our organizational structure and deepened our expertise to enable us to better meet the challenges of the marketplace.

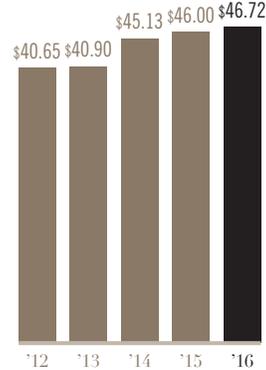
GROSS WRITTEN PREMIUMS
(dollars in billions)



NET EARNED PREMIUMS
(dollars in billions)



DILUTED BOOK VALUE PER SHARE
TREASURY STOCK METHOD
(dollars)



Managing Capital Efficiently

Aspen strives to provide exceptional service to our clients while creating superior value for our shareholders. We do this by maintaining a thoughtful and disciplined approach to the use of our capital. Our first priority is to invest in the business but when there are no attractive investment opportunities available we will return capital to shareholders. In 2016, we invested in our business for future growth as well as increased the dividend by 5% and repurchased \$75 million of ordinary shares. In early 2017, our Board authorized a new two-year \$250 million share repurchase program and a 9.1% increase in dividends on our ordinary shares.

Looking Forward with Purpose

The insurance and reinsurance markets continue to pose challenges and grow in complexity but Aspen is well positioned to meet those challenges. As we approach our 15th anniversary, we renew our commitment to deliver on what we do best: offer our clients exceptional expertise to analyze and understand market risks and create innovative and highly-effective solutions to meet our clients' evolving needs. This clarity of focus and commitment to excellence has been the key to our success. It's why we enjoy enduring relationships with our clients and why we attract some of the greatest talent in the industry.

We thank our clients, brokers and stakeholders for helping Aspen achieve this significant milestone, and we look forward to continuing to put our expertise to work for you—and to writing the next chapter of Aspen's history.

Christopher O'Kane
Chief Executive Officer

Glyn P. Jones
Chairman

FIVE-YEAR SUMMARY

(*\$ millions except per share amounts and percentages*)

	2012	2013	2014	2015	2016
SUMMARY INCOME STATEMENT DATA					
Gross written premiums	\$ 2,583.3	\$ 2,646.7	\$ 2,902.7	\$ 2,997.3	\$ 3,147.0
Net written premiums	2,246.9	2,299.7	2,515.2	2,646.2	2,593.7
Net earned premiums	2,083.5	2,171.8	2,405.3	2,473.3	2,637.3
Loss and loss adjustment expenses	(1,238.5)	(1,223.7)	(1,307.5)	(1,366.2)	(1,576.1)
Net investment income	204.9	186.4	190.3	185.5	187.1
Net income (loss)	280.4	329.3	355.8	323.1	203.4
SELECTED RATIOS (based on US GAAP income statement data)					
	%	%	%	%	%
Loss ratio ¹	59.4	56.3	54.4	55.2	59.8
Expense ratio ¹	34.9	36.3	37.3	36.7	38.7
Combined ratio ¹	94.3	92.6	91.7	91.9	98.5
Net income ROE	8.5	10.6	11.1	10.0	5.4
Net operating income ROE	8.5	9.7	11.5	10.0	4.8
SUMMARY BALANCE SHEET DATA					
Cash and investments ²	\$ 8,203.9	\$ 8,253.4	\$ 8,607.4	\$ 8,811.7	\$ 9,174.1
Total assets	10,310.6	10,230.5	10,716.3	11,048.8	12,090.1
Loss and loss adjustment expense reserves	4,779.7	4,678.9	4,750.8	4,938.2	5,319.9
Long-term debt	499.1	549.0	549.1	549.2	549.3
Total shareholders' equity	3,488.4	3,299.6	3,419.3	3,419.9	3,648.3
PER SHARE DATA					
Basic earnings per share ³	\$ 3.50	\$ 4.03	\$ 5.11	\$ 4.62	\$ 2.37
Diluted earnings per share ³	3.37	3.88	5.01	4.51	2.33
Book value per share	42.12	41.87	46.16	46.99	47.68
Diluted book value per share (treasury stock method)	40.65	40.90	45.13	46.00	46.72
Cash dividends declared per ordinary share	0.66	0.71	0.78	0.83	0.86
Basic weighted average shares outstanding (millions)	71.1	66.9	64.5	61.3	60.5
Diluted weighted average shares outstanding (millions)	73.7	69.4	65.9	62.7	61.9

(1) Based on net premiums earned.

(2) Total cash and investments include cash, cash equivalents, fixed income securities, equities, bank loans, other investments, short-term investments and catastrophe bonds. Also include cash within consolidated variable interest entities of \$291.3 million as at December 31, 2016 and \$243.3 million as at December 31, 2015.

(3) Based on operating income adjusted for preference share dividends.

Note: See Aspen's quarterly financial supplement for a reconciliation of operating income to net income, average equity to closing shareholders' equity and diluted book value per share to basic book value per share in the Investor Relations section of Aspen's website at www.aspen.co

At-A-Glance

We are a diversified, well-capitalized and strongly rated company that provides carefully tailored underwriting solutions in select markets where we can add a high level of value. Our progress is built on our ability to identify and respond swiftly to emerging opportunities and to operate across a wide range of countries and specialist business lines.

BUSINESS

REINSURANCE

Aspen Re is founded on a thorough understanding of client needs, as well as exceptional expertise in assessing and managing risk. We focus on building long-term relationships with clients who have track records for sound underwriting, along with exposures that make risk transfer a vital aspect of their business needs.

INSURANCE

Aspen Insurance is an established leader in many of our chosen markets. Each of our business lines is run by a group of highly-respected and experienced industry experts who possess in-depth knowledge of the industries we serve, as well as an exceptional ability to create targeted product solutions.

PLATFORMS

We are a Bermudian holding company, incorporated on May 23, 2002, and conduct insurance and reinsurance business through our principal operating subsidiaries: Aspen Insurance UK Limited and Aspen Underwriting Limited, corporate member of Syndicate 4711 at Lloyd's of London and managed by Aspen Managing Agency Limited (United Kingdom), Aspen Bermuda Limited (Bermuda), and Aspen Specialty Insurance Company and Aspen American Insurance Company (United States). Aspen also has branches in Cologne (Germany), Dubai (United Arab Emirates), Dublin (Ireland), Paris (France), Zurich (Switzerland), Singapore, Australia and Canada.

Reinsurance business is also written through Aspen Capital Markets via Silverton Re Limited and Peregrine Reinsurance Limited. We operate in the global markets for property and casualty insurance and reinsurance.

CLIENTS

We attract insurance and reinsurance clients from around the world who are seeking flexible solutions to a wide variety of risks. We differentiate ourselves by creating innovative and customized solutions to complex risks.

DISTRIBUTION

We conduct most of our business through intermediaries and have developed deep and enduring relationships with a range of business partners, including the three leading global brokers.

SETTLING CLAIMS

We are committed to settling valid claims quickly and fairly, and we continually invest in claims workflow technology to facilitate this goal.

US \$1.2B
NET CLAIMS PAID
IN THE YEAR
(2015: US \$1.1B)

CAPITAL MANAGEMENT

We believe capital management should be methodical, forward thinking and flexible. We seek to deploy capital to areas where we can generate an appropriate return. We expand and contract our balance sheet to take advantage of opportunities as they arise, while maintaining a prudent ratio of debt to equity.

Ratings:
Standard & Poor's: A
A.M. Best: A (Excellent)
Moody's: A2

US \$2.1B
CAPITAL RETURNED
SINCE INCEPTION
(Through
December 31, 2016)

INVESTMENT MANAGEMENT

Our investment strategy is focused on delivering stable investment income and total return through all market cycles while maintaining appropriate portfolio liquidity and credit quality to meet the requirements of our customers, rating agencies and regulators.

US \$9.2B
CASH AND INVESTMENTS
(2015: US \$8.8B)

PEOPLE

Aspen's employees are among the industry's best and brightest. Our underwriters combine a deep knowledge of their sectors with entrepreneurial flair and a belief in close client relationships. We support their efforts with an outstanding team of skilled professionals in operations, claims, finance and other functions who are fully committed to providing excellent service.

1,602
EMPLOYEES
(2015: 1,121)

WE OFFER ELEVATED THINKING, SUPERIOR UNDERWRITING EXPERTISE AND CUSTOMIZED APPROACHES ACROSS A GLOBAL PLATFORM.



The power of our new structure

INSURANCE

2016 was an important year in the evolution of Aspen Insurance. It was a year that saw a number of fundamental changes, and also significant progress towards our goal of creating an insurance business that consistently performs within the top quartile of our peer group.

The first change related to leadership. We named a new CEO, Stephen Postlewhite, and made a number of other senior appointments. Under this new leadership, we embarked on a new strategy, underpinned by our Global Management, Regional Execution model. We developed global product teams and aligned their operations under a common framework for delivering our products to the global market. This has created a strong, consistent foundation in product delivery to our brokers and clients wherever they do business. We are now able to respond in a consistent manner and provide the same excellent service wherever a risk is submitted.

Together with other key elements of our strategy, these changes were fundamental in positioning our business for the next phase of our development. The global scope of our products and product leadership, together with a diverse and differentiated suite of specialty products, allows us to explore new markets from the strong base we have built. This is yielding exciting new opportunities for our regional teams, who are empowered to respond quickly and creatively by working within the global structure. They have access to deep product expertise and this collaborative approach allows them to provide excellent service and innovative thinking to the local clients and brokers they serve, working in tandem with our operations, claims and actuarial support teams.

An example of this strategy was the establishment of our Singapore insurance office in early 2016. We responded rapidly to market demand for a broader suite of products, attracting talent across a number of specialty lines, empowering this talent locally within the global product framework, while maintaining the key tenets of our risk appetite. This has been extremely well received by the local market, and the team is having significant success in expanding our regional footprint.

Aspen Insurance has developed significantly our talent pool during 2016. We completed the appointment of all of our global product leaders, attracting a number of top underwriting experts from outside the organization, while at the same time recognizing and promoting our most talented leaders from within the business, emphasizing our ongoing commitment to industry-leading talent development. We have a team of underwriting leaders who are truly outstanding, each one an expert in their own area, but who are also able to collaborate outside of their own specialism, bringing insight, innovation, creative thinking and challenge to the products we offer and the technical process of underwriting more broadly. This collaborative approach maximizes the impact of our strategy across all product areas. We have also strengthened the ranks of our regional teams through several internal promotions, supplemented by new appointments, giving our leaders the opportunity to grow and develop their people and meet the challenges of our marketplace.

The move towards global product leadership also allows the senior management team to manage the overall portfolio more proactively. We have the adaptability and flexibility to deploy both human and financial capital to the most attractive product opportunities we see, emphasizing or de-emphasizing specific areas of the portfolio, and thereby respond with agility to changes in market dynamics to generate the best possible returns.

During 2016, we conducted a comprehensive review of our product portfolio under the leadership of our President and Chief Underwriting Officer, David Cohen. The objective was to optimize our existing portfolio, identify areas for future investment and growth, as well as areas we should de-emphasize or remove from the portfolio either to reduce volatility or enhance the overall level of return.

This work re-affirmed our confidence in certain lines we believe can outperform our profitability targets and where we are positioned for growth: lines including UK Property & Casualty, Professional Lines, Credit and Political Risk, Surety, Cyber, Accident & Health and Crisis Management.

We also identified some areas within the existing portfolio that did not meet our long-term profitability expectations. We took action to remove our exposure to these areas. We believe this approach will yield better long-term profitability, which is more resilient and sustainable. Portfolio optimization is a continuous process that will ensure we reach our performance goals.

We continue to invest in best-in-class technical support, in the form of pricing processes and rating tools, data and analytics, and capital modelling support, which we believe are key differentiators for delivering our strategy.

The global specialty insurance marketplace continues to evolve and grow more complex. 2016 was significant for Aspen Insurance as we took action to leverage our key differentiators and enhance our flexibility to navigate market conditions. We have set a clear and bold strategic direction, which defines our operational structure, and empowers decision-making, collaboration and innovation. We have the right people, the right products and the right proximity to our key business partners. 2017 will be about executing on this exciting new direction and an unflinching focus on the delivery of our plans.

\$1.7B INSURANCE
GROSS WRITTEN
PREMIUMS
(2015: \$1.7B)



THE CRITICAL WORK WE COMPLETED IN 2016 WILL ENABLE ASPEN INSURANCE TO NAVIGATE INCREASING COMPLEXITY IN THE MARKETPLACE WITH GREATER ASSUREDNESS, RESILIENCE AND SPEED. WE ARE NOW LASER-FOCUSED ON SUSTAINABLE GROWTH AND POWERFULLY POSITIONED FOR THE FUTURE.

ASPEN RE HAS BUILT A STRONG RECORD OF SUCCESS OVER MANY YEARS AND HAS SHOWN AN ABILITY TO THRIVE IN A WIDE VARIETY OF MARKET CONDITIONS. WE HAVE DONE THIS BY REMAINING CLOSE TO OUR BROKERS AND CLIENTS, AND DEMONSTRATING OUR ONGOING RELEVANCE BY HELPING THEM UNDERSTAND AND MITIGATE RISKS THROUGH INNOVATIVE SOLUTIONS CREATED BY OUR TALENTED UNDERWRITERS.



REINSURANCE

\$1.4B

REINSURANCE
GROSS WRITTEN
PREMIUMS
(2015: \$1.2B)

We continued to find areas of opportunity in 2016 through our deep and enduring market relationships and targeted new partnerships. While the environment for the industry remained challenging with high capital levels and ongoing pricing pressure, the pace of price reductions has slowed as many global reinsurers, including ourselves, exercise discipline.

Aspen Re has developed a fully diverse portfolio and multi-line business model that is agile and allows us to direct capital and resources to areas where rates are adequate and there is growth potential. We have built a global network of regional offices that keeps our people and products close to customers and deepens our understanding of their unique needs. With the knowledge we gain through our regional presence, we are able to identify new ways to address our clients' challenges. We deliver greater value and relevance to them, while opening new pockets of growth.

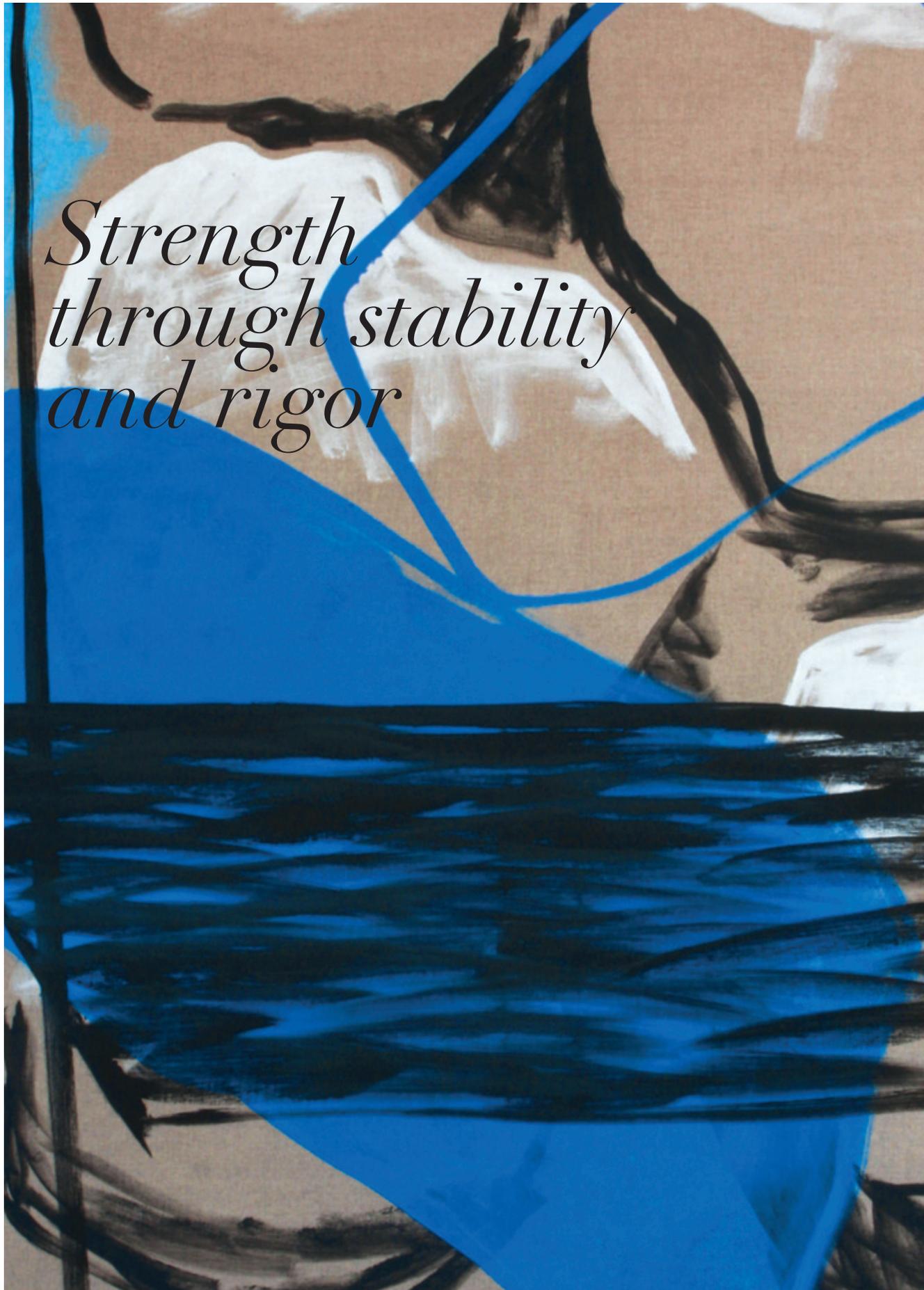
We continued our regional expansion in 2016, laying strong foundations for future organic growth through the opening of a new hub for the Middle East and Africa in Dubai, entering the South African market and expanding our Australian operations. Building on the success of our underwriting presence in Shanghai through Lloyd's China, we also opened an office in Beijing through Lloyd's. This has developed Aspen Re's profile substantially in China, growing client relationships and premium volume.

We also enhanced our product diversification and added to our distribution footprint in 2016, with the acquisition and successful integration of AgriLogic, a highly-regarded agriculture insurance and consulting company. We are now focused on expanding its crop business and its strategic consulting capabilities.

Through Aspen Capital Markets (ACM), we offer investors the opportunity to access diversifying, expertly managed capital and services by leveraging our underwriting and risk management expertise. In 2016, we continued to expand our presence in the market and our Aspen Capital Advisors, Inc. subsidiary completed its three-year track record in fund management and is now registered as an investment advisor. We have proven infrastructure in place to access capital for both sidecar and managed fund vehicles, and investor demand has grown, with third-party capital in ACM rising to a record \$450 million.

We recognize that our employees and culture are keys to our strategy. Under the new leadership of Chief Executive Officer, Thomas Lillelund, we continue to focus on developing our talent, attracting the best minds from across the industry, and further building a diverse and entrepreneurial culture.

While market conditions remain challenging, we started 2017 well with success in the January renewal season. Aspen Re's strong and enduring client relationships, our focus on serving those clients exceptionally well through local presence and superior underwriting expertise position us strongly for the future.



*Strength
through stability
and rigor*

INVESTMENT MANAGEMENT

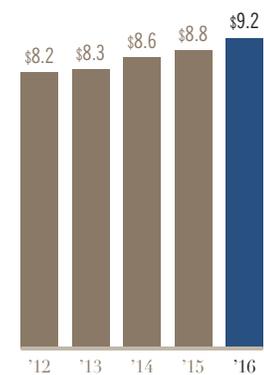
Aspen's rigorous and time-tested investment strategy is focused on delivering stable investment income and total return through all cycles of the market while maintaining appropriate portfolio liquidity and credit quality to meet the needs of our customers, rating agencies and regulators.

Aspen's aggregate investment portfolio delivered net investment income of \$187 million in 2016, and a positive total return that increased to 2.2%.

Our investment portfolio includes primarily high-quality fixed-income securities with an average credit quality of AA-. We also invest a portion of our portfolio in equities and USD BBB emerging market debt and we calibrate this mix according to our view of the markets. For example, in late 2016, we took advantage of rising equity markets and sold \$200 million of our equity portfolio and reinvested the proceeds from the sales into our core fixed income strategy. At the end of 2016, 10.8% of the portfolio was invested in risk asset investments, including 6.8% in equities, 3.8% in BBB-rated emerging market debt and 0.2% in risk asset portfolio cash.

Ongoing uncertainty in the global economy and the possibility of rising interest rates will be critical forces shaping the investment climate throughout 2017. We will continue to focus on identifying opportunities to enhance our investment returns, while remaining vigilant about responsibly balancing risk.

TOTAL CASH
AND INVESTMENTS
(dollars in millions)



\$12.1B

TOTAL
ASSETS
(2015: \$11.0B)

BLOCKADE
Alice Brown 2013
Oil on canvas
Courtesy the Artist and Limoncello

CAPITAL MANAGEMENT

Aspen maintains a proven and proactive capital stewardship strategy, constantly monitoring changing market conditions and closely assessing our business needs and opportunities. We retain the capital we require to cover risks and advance our business growth goals, while meeting the requirements of our regulators and rating agencies.

Since our founding in 2002, the Aspen franchise has generated approximately \$4.5 billion of capital. Through December 31, 2016, we have returned more than \$2.1 billion to shareholders through ordinary dividends and cumulative repurchases. During the year, we repurchased \$75 million of our ordinary shares, and in early 2017, we announced a new \$250 million share repurchase authorization. In April, the Board also approved a 9.1% increase in our quarterly cash dividend.

We also took advantage of favorable conditions in the capital markets to issue 10 million shares of 5.625% Perpetual Non-Cumulative Preference Shares in September 2016. We used a portion of the proceeds to redeem our outstanding 7.401% Perpetual Non-Cumulative Preference Shares at the start of 2017 and intend to redeem our 7.250% Perpetual Non-Cumulative Preference Shares when they become redeemable in July 2017.

Aspen maintains a strong balance sheet, with \$12.1 billion in total assets, \$5.3 billion in gross reserves and \$3.6 billion in total shareholders' equity at the end of 2016. As a result of our disciplined and steady approach to managing capital, we have the financial flexibility and stable ratings we need to drive growth and generate significant shareholder value.

TOTAL SHAREHOLDERS' EQUITY
(dollars in millions)



\$2.1B

TOTAL CAPITAL RETURNED SINCE INCEPTION
(2015: \$2.0B)

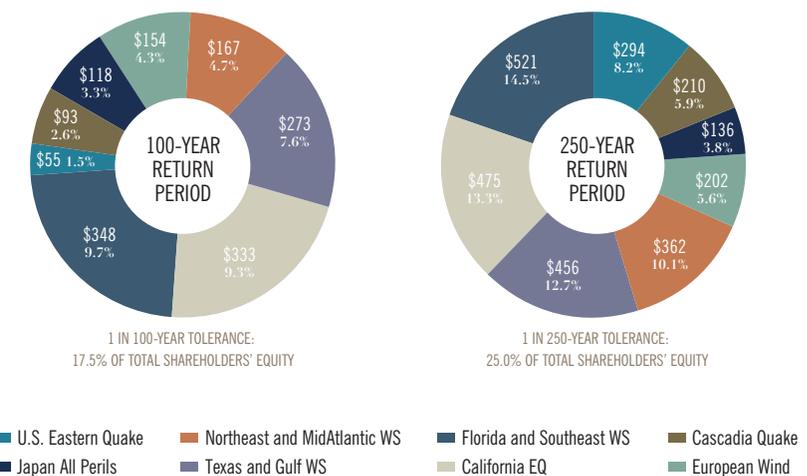
RISK MANAGEMENT

Aspen practices a comprehensive, integrated approach to risk management which has been built to deliver shareholder value in a sustainable and efficient manner, while providing an outstanding level of policyholder protection. Our risk management approach is designed to identify, measure, monitor and manage material risks that could adversely affect our financial conditions and operating results.

We have invested significant resources to develop appropriate risk management policies and procedures. This framework for managing risk guides our strategic business decision making and is embedded within our day-to-day operations.

Our senior leaders assiduously review and analyze our business plans to ensure they optimize the levels of returns with the associated risk. Throughout our everyday business operations, our team of risk management and analytics professionals follows this example, combining the knowledge provided by our qualitative and quantitative findings with their deep understanding of our marketplace to give Aspen a powerful competitive edge.

UNDERWRITING EXPERTISE:
ASPEN'S NATURAL CATASTROPHE EXPOSURES IN MAJOR PERIL ZONES
(As % of Total Shareholders' Equity and in \$ Millions)
As at April 1, 2017



PMLs are net of reinsurance and Aspen Capital Markets' third-party capital



IT'S OUR TALENT THAT COUNTS

It is the strength of our people that allows us to explore new opportunities in the marketplace and scale new heights. We look to attract and retain insurance industry professionals with exceptional expertise and commitment to their craft and to our clients. We understand the best way to grow our business is to develop the talents of our employees, especially those we have identified as future leaders, and allow them to excel and achieve their full potential.

We have created a performance-driven culture that encourages innovation and brings together a broad diversity of talent. We know that the combination of experience, creative thinking and diverse perspectives enables us to solve our clients' challenges and forge new trails in the market.

At Aspen, we constantly strive to create a workplace culture where the most talented people in the industry come together to offer superior solutions and create value in an environment that rewards them appropriately and inspires excellence.



FIGURE 10
 Fiona Rae 2015
 Oil and acrylic on canvas
 Courtesy of the Artist

BOARD OF DIRECTORS

Glyn Jones
Chairman of the Board

Christopher O'Kane
*Chief Executive Officer and
 Executive Director*

Albert Beer
Non-Executive Director

Matthew Botein
Non-Executive Director

John Cavoores
Non-Executive Director

Gary Gregg
Non-Executive Director

Heidi Hutter
*Non-Executive Director and
 Lead Independent Director*

Gordon Ireland
Non-Executive Director

Karl Mayr
Non-Executive Director

Bret Pearlman
Non-Executive Director

Ronald Pressman
Non-Executive Director

EXECUTIVE COMMITTEE

Christopher O'Kane
Group Chief Executive Officer

Tim Aman
Group Chief Risk Officer

Brian Boornazian
*Chairman, Aspen Re;
 President, Aspen Re America*

Michael Cain
*Group General Counsel and
 Company Secretary; Chief
 Executive Officer, Aspen
 Bermuda Limited*

David Cohen
*President and Chief Underwriting
 Officer, Aspen Insurance*

Karen Green
*Chief Executive Officer,
 Aspen Insurance U.K. Limited
 and Aspen Managing Agency
 Limited; Office of the Chief
 Executive Officer and Head
 of Corporate Development,
 Aspen Group*

Emil Issavi
*President and Chief Underwriting
 Officer, Aspen Re*

Scott Kirk
Group Chief Financial Officer

Thomas Lillelund
*Chief Executive Officer,
 Aspen Re*

Stephen Postlewhite
*Chief Executive Officer,
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Richard Thornton
*Group Chief Operating Officer
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Kate Vacher
Group Director of Underwriting

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(I) Insurance
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SHAREHOLDER INFORMATION

STOCK LISTING

Ordinary Shares
New York Stock Exchange
Symbol: AHL



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Foreign holders
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www.computershare.com/investor

SHAREHOLDER REPORTS

Copies of the Proxy Statement and the Annual Report on Form 10-K for the year ended December 31, 2016 filed with the U.S. Securities and Exchange Commission are available upon request and also are available at www.aspen.co.

INVESTOR RELATIONS

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SEC AND NYSE CERTIFICATION

The certifications of our Chief Executive Officer and Chief Financial Officer, required under Sections 302 and 906 of Sarbanes-Oxley Act of 2002, have been filed as exhibits to our Annual Report on Form 10-K for the year ended December 31, 2016.

Designed and produced by:
Wynk Design, Inc.

Corporate photography by:
José Pope

LOOKING
BACK
WITH
CLARITY

2016 FORM 10-K



ASPEN



Aspen Insurance Holdings Limited is a leading global specialty insurance and reinsurance company that is diversified, well capitalized and strongly rated. We specialize in providing customized underwriting solutions to clients and brokers across an array of geographies, products and perils. Our success is founded on our financial strength, underwriting expertise and risk management insight, and it is backed by our client-focused philosophy.

Domiciled in Hamilton, Bermuda, Aspen operates across three underwriting platforms: Bermuda, the U.K. and the U.S. The company has approximately 1,600 employees across 10 countries. At year-end 2016, Aspen reported \$12.1 billion in total assets, \$5.3 billion in gross reserves, \$3.6 billion in shareholders' equity, and \$3.1 billion in gross written premiums. Our shares are listed on the New York Stock Exchange under the ticker symbol AHL.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended December 31, 2016

Or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 001-31909

ASPEN INSURANCE HOLDINGS LIMITED

(Exact name of registrant as specified in its charter)

Bermuda

(State or other jurisdiction of
incorporation or organization)

Not Applicable

(I.R.S. Employer
Identification No.)

141 Front Street
Hamilton, Bermuda

(Address of principal executive offices)

HM 19

(Zip Code)

Registrant's telephone number, including area code

(441) 295-8201

Securities registered pursuant to Section 12(g) of the Exchange Act:

<u>Title of Each Class</u>	<u>Name of Each Exchange on Which Registered</u>
Ordinary Shares, 0.15144558¢ par value	New York Stock Exchange, Inc.
7.401% Perpetual Non-Cumulative Preference Shares	New York Stock Exchange, Inc.
7.250% Perpetual Non-Cumulative Preference Shares	New York Stock Exchange, Inc.
5.95% Fixed-to-Floating Rate Perpetual Non-Cumulative Preference Shares	New York Stock Exchange, Inc.
5.625% Perpetual Non-Cumulative Preference Shares	New York Stock Exchange, Inc.

Securities registered pursuant to Section 12(b) of the Exchange Act: None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months (or for such shorter periods that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in the definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the ordinary shares held by non-affiliates of the registrant, as of June 30, 2016, was approximately \$2.8 billion based on the closing price of the ordinary shares on the New York Stock Exchange on that date, assuming solely for the purpose of this calculation that all directors and employees of the registrant were "affiliates." The determination of affiliate status is not necessarily a conclusive determination for other purposes and such status may have changed since June 30, 2016.

As of February 15, 2017, there were 59,834,048 outstanding ordinary shares, with a par value of 0.15144558¢ per ordinary share, outstanding.

ASPEN INSURANCE HOLDINGS LIMITED
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Aspen Holdings and Subsidiaries

Unless the context otherwise requires, references in this Annual Report on Form 10-K (this “report”) to “the Company,” “the Group,” “we,” “us” or “our” refer to Aspen Insurance Holdings Limited (“Aspen Holdings”) or Aspen Holdings and its subsidiaries, Aspen Insurance UK Limited (“Aspen U.K.”), Aspen (UK) Holdings Limited (“Aspen U.K. Holdings”), Aspen (US) Holdings Limited (“Aspen U.S. Holdings”), Aspen Insurance UK Services Limited (“Aspen U.K. Services”), AIUK Trustees Limited (“AIUK Trustees”), Aspen Bermuda Limited (“Aspen Bermuda”, formerly Aspen Insurance Limited), Aspen Underwriting Limited (“AUL”, corporate member of Lloyd’s Syndicate 4711, “Syndicate 4711”), Aspen European Holdings Limited (“Aspen European”), Aspen Managing Agency Limited (“AMAL”), Aspen Singapore Pte. Ltd. (“Aspen Singapore”), Aspen U.S. Holdings, Inc. (“Aspen U.S. Holdings”), Aspen Specialty Insurance Company (“Aspen Specialty”), Aspen Specialty Insurance Management, Inc. (“Aspen Management”), Aspen Re America, Inc. (“Aspen Re America”), Aspen Insurance U.S. Services Inc. (“Aspen U.S. Services”), Aspen Specialty Insurance Solutions LLC (“ASIS”), Acorn Limited (“Acorn”), Blue Waters Insurers, Corp. (“Blue Waters”), APJ Continuation Limited (“APJ”), APJ Asset Protection Jersey Limited (“APJ Jersey”), Aspen UK Syndicate Services Limited (“AUSSL”, formerly APJ Services Limited), Aspen Risk Management Limited (“ARML”), Aspen American Insurance Company (“AAIC”), Aspen Recoveries Limited (“Aspen Recoveries”), Aspen Capital Management, Ltd (“ACM”), Silverton Re Ltd. (“Silverton”), Aspen Capital Advisors Inc. (“Aspen Advisors”), Peregrine Reinsurance Ltd (“Peregrine”), Aspen Cat Fund Limited (“ACF”), AG Logic Holdings, LLC (“AgriLogic”), AgriLogic Insurance Services, LLC (“AgriLogic Services”), AgriLogic Consulting, LLC (“AgriLogic Consulting”), AG Logic Acquisition, LLC (“AgriLogic Acquisition”), Golden State Crop and Insurance Services, Inc. (“Golden State”), Crop Insurance Services, Inc. (“Crop Insurance”) and any other direct or indirect subsidiary collectively, as the context requires. Aspen U.K., Aspen Bermuda, Aspen Specialty, AAIC and AUL (as corporate member of Syndicate 4711 which is managed by AMAL) are our principal operating subsidiaries and each referred to herein as an “Operating Subsidiary” and collectively referred to as the “Operating Subsidiaries.” References in this report to “U.S. Dollars,” “dollars,” “\$” or “¢” are to the lawful currency of the United States of America, references to “British Pounds,” “pounds,” “GBP” or “£” are to the lawful currency of the United Kingdom and references to “euros” or “€” are to the lawful currency adopted by certain member states of the European Union (the “E.U.”), unless the context otherwise requires.

Forward-Looking Statements

This Form 10-K (this “report”) contains, and the Company may from time to time make other verbal or written, forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), that involve risks and uncertainties, including statements regarding our capital needs, business strategy, expectations and intentions. Statements that use the terms “believe,” “do not believe,” “anticipate,” “expect,” “assume,” “objective,” “target,” “plan,” “estimate,” “project,” “seek,” “will,” “may,” “aim,” “likely,” “continue,” “intend,” “guidance,” “outlook,” “trends,” “future,” “could,” “would,” “should,” “on track” and similar expressions are intended to identify forward-looking statements. These statements reflect our current views with respect to future events and because our business is subject to numerous risks, uncertainties and other factors, our actual results could differ materially from those anticipated in the forward-looking statements, including those set forth below under Item 1, “Business,” Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and elsewhere in this report. The risks, uncertainties and other factors set forth below and under Item 1A, “Risk Factors” and other cautionary statements made in this report should be read and understood as being applicable to all related forward-looking statements wherever they appear in this report.

All forward-looking statements address matters that involve risks and uncertainties. Accordingly, there are or will be important factors that could cause actual results to differ materially from those indicated in these statements. We believe that these factors include, but are not limited to, those set forth under “Risk Factors” in Item 1A, and the following:

- our ability to successfully implement steps to further optimize the business portfolio, ensure capital efficiency and enhance investment returns;
- the possibility of greater frequency or severity of claims and loss activity, including as a result of natural or man-made (including economic and political risks) catastrophic or material loss events, than our underwriting, reserving, reinsurance purchasing or investment practices have anticipated;
- the assumptions and uncertainties underlying reserve levels that may be impacted by future payments for settlements of claims and expenses or by other factors causing adverse or favorable development, including our assumptions on inflation costs associated with long-tail casualty business which could differ materially from actual experience;
- the political, regulatory and economic effects arising from the vote and resulting negotiations as a result of the vote by the U.K. electorate in favor of a U.K. exit from the European Union in the June 2016 referendum;

- the reliability of, and changes in assumptions to, natural and man-made catastrophe pricing, accumulation and estimated loss models;
- decreased demand for our insurance or reinsurance products;
- cyclical changes in the insurance and reinsurance industry;
- the models we use to assess our exposure to losses from future natural catastrophes (“catastrophes”) contain inherent uncertainties and our actual losses may differ significantly from expectations;
- our capital models may provide materially different indications than actual results;
- increased competition from existing (re)insurers and from alternative capital providers and insurance-linked funds and collateralized special purpose insurers on the basis of pricing, capacity, coverage terms, new capital, binding authorities to brokers or other factors and the related demand and supply dynamics as contracts come up for renewal;
- our ability to execute our business plan to enter new markets, introduce new products and teams and develop new distribution channels, including their integration into our existing operations;
- our acquisition strategy;
- changes in market conditions in the agriculture industry, which may vary depending upon demand for agricultural products, weather, commodity prices, natural disasters, and changes in legislation and policies related to agricultural products and producers;
- termination of, or changes in, the terms of the U.S. Federal Multiple Peril Crop Insurance Program or the U.S. Farm Bill, including modifications to the Standard Reinsurance Agreement put in place by the Risk Management Agency of the U.S. Department of Agriculture;
- the recent consolidation in the insurance and reinsurance industry;
- loss of one or more of our senior underwriters or key personnel;
- our ability to exercise capital management initiatives, including capital available to pursue our share repurchase program at various levels or to declare dividends, or to arrange banking facilities as a result of prevailing market conditions, the level of catastrophes or other losses or changes in our financial results;
- changes in general economic conditions, including inflation, deflation, foreign currency exchange rates, interest rates and other factors that could affect our financial results;
- the risk of a material decline in the value or liquidity of all or parts of our investment portfolio;
- the risks associated with the management of capital on behalf of investors;
- a failure in our operational systems or infrastructure or those of third parties, including those caused by security breaches or cyber-attacks;
- evolving issues with respect to interpretation of coverage after major loss events;
- our ability to adequately model and price the effects of climate cycles and climate change;
- any intervening legislative or governmental action and changing judicial interpretation and judgments on insurers’ liability to various risks;
- the risks related to litigation;
- the effectiveness of our risk management loss limitation methods, including our reinsurance purchasing;
- changes in the availability, cost or quality of reinsurance or retrocessional coverage;
- changes in the total industry losses or our share of total industry losses resulting from events, such as catastrophes, that have occurred in prior years or may occur and, with respect to such events, our reliance on loss reports received from cedants and loss adjusters, our reliance on industry loss estimates and those generated by modeling techniques, changes in rulings on flood damage or other exclusions as a result of prevailing lawsuits and case law;
- the impact of one or more large losses from events other than catastrophes or by an unexpected accumulation of attritional losses and deterioration in loss estimates;

- the impact of acts of terrorism, acts of war and related legislation;
- any changes in our reinsurers' credit quality and the amount and timing of reinsurance recoverables;
- the continuing and uncertain impact of the current depressed lower growth economic environment in many of the countries in which we operate;
- our reliance on information and technology and third-party service providers for our operations and systems;
- the level of inflation in repair costs due to limited availability of labor and materials after catastrophes;
- a decline in our Operating Subsidiaries' ratings with Standard & Poor's Ratings Services ("S&P"), A.M. Best Company Inc. ("A.M. Best") or Moody's Investors Service Inc. ("Moody's");
- the failure of our reinsurers, policyholders, brokers or other intermediaries to honor their payment obligations;
- our reliance on the assessment and pricing of individual risks by third parties;
- our dependence on a few brokers for a large portion of our revenues;
- the persistence of heightened financial risks, including excess sovereign debt, the banking system and the Eurozone crisis;
- changes in government regulations or tax laws in jurisdictions where we conduct business;
- changes in accounting principles or policies or in the application of such accounting principles or policies;
- increased counterparty risk due to the credit impairment of financial institutions; and
- Aspen Holdings or Aspen Bermuda becoming subject to income taxes in the United States or the United Kingdom.

In addition, any estimates relating to loss events involve the exercise of considerable judgment in the setting of reserves and reflect a combination of ground-up evaluations, information available to date from brokers and cedants, market intelligence, initial tentative loss reports and other sources. The actuarial range of reserves provided, if any, is based on our then current state of knowledge and explicit and implicit assumptions relating to the incurred pattern of claims, the expected ultimate settlement amount, inflation and dependencies between lines of business. Due to the complexity of factors contributing to losses and the preliminary nature of the information used to prepare estimates, there can be no assurance that our ultimate losses will remain within stated amounts.

The foregoing review of important factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included in this report. We undertake no obligation to publicly update or review any forward-looking statement, whether as a result of new information, future developments or otherwise, or to disclose any difference between our actual results and those reflected in such statements.

If one or more of these or other risks or uncertainties materialize or if our underlying assumptions prove to be incorrect, actual results may vary materially from what we projected. Any forward-looking statements you read in this report reflect our current views with respect to future events and are subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, growth strategy and liquidity. All subsequent written and oral forward-looking statements attributable to us or individuals acting on our behalf are expressly qualified in their entirety by the points made above. You should specifically consider the factors identified in this report which could cause actual results to differ before making an investment decision.

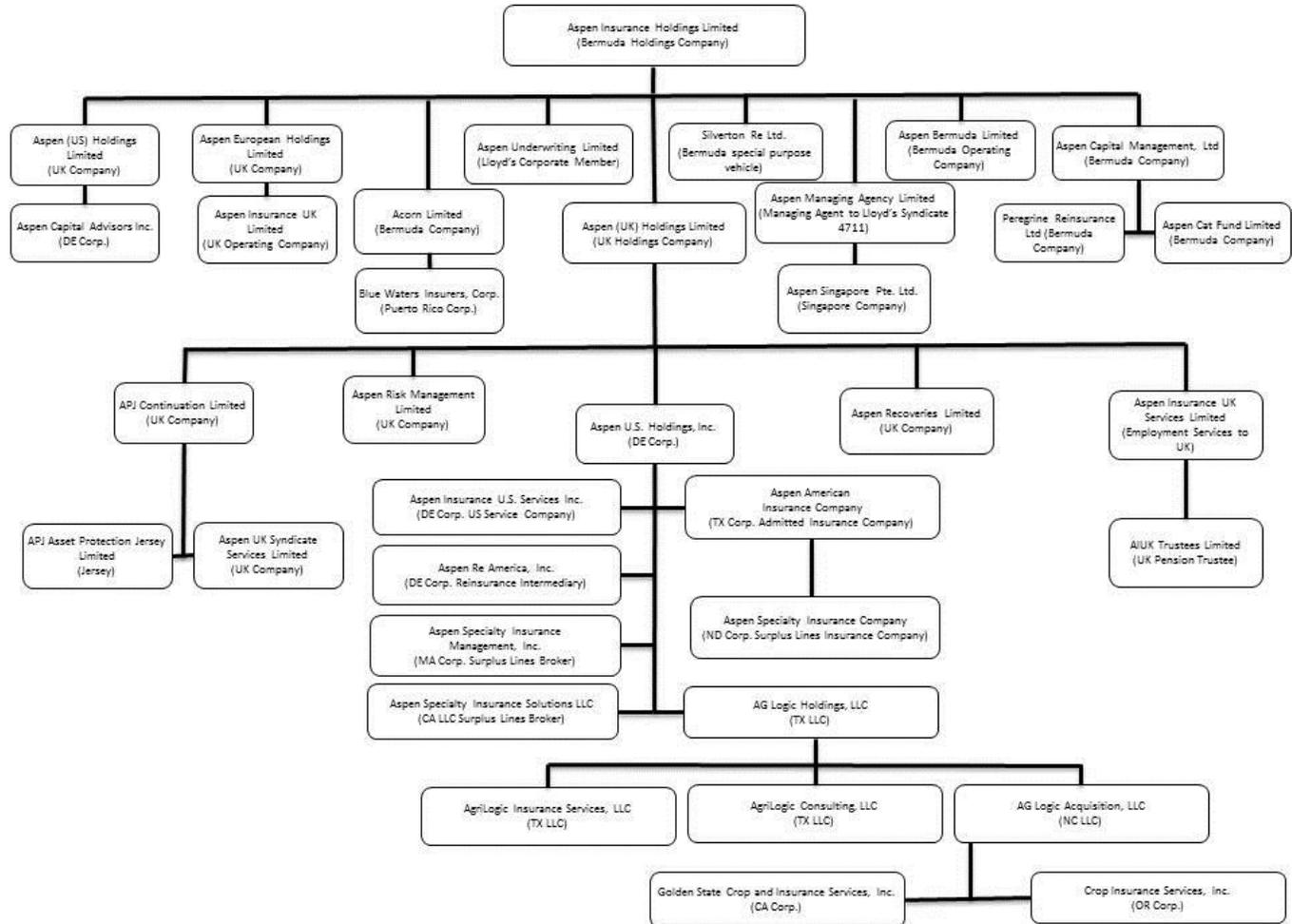
PART I

Item 1. Business

General

Aspen Insurance Holdings Limited (“Aspen Holdings”) was incorporated on May 23, 2002 as a holding company headquartered in Bermuda. We underwrite specialty insurance and reinsurance on a global basis through our Operating Subsidiaries based in Bermuda, the United States and the United Kingdom: Aspen U.K. and AUL, corporate member of Syndicate 4711 at Lloyd’s of London and managed by AMAL (United Kingdom), Aspen Bermuda (Bermuda) and Aspen Specialty and AAIC (United States). We also have branches in Australia, Canada, France, Germany, Ireland, Singapore, Switzerland and the United Arab Emirates.

The following corporate chart illustrates how the Company and its subsidiaries operated as at December 31, 2016. For a complete list of our subsidiaries, please see Exhibit 21 of this report.



We manage our insurance and reinsurance businesses as two distinct business segments, Aspen Insurance and Aspen Reinsurance (“Aspen Re”), to enhance and better serve our global customer base. Financial data relating to our two business segments is included in Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and in Note 5 of our consolidated financial statements, “Segment Reporting.”

Aspen Reinsurance. Aspen Re consists of (i) property catastrophe reinsurance (including the business written through Aspen Capital Markets), (ii) other property reinsurance, (iii) casualty reinsurance, and (iv) specialty insurance and reinsurance. Aspen Re is led by Thomas Lillelund, Chief Executive Officer of Aspen Re, Brian Boornazian, Chairman of Aspen Re, and Emil Issavi, President and Chief Underwriting Officer of Aspen Re.

In Aspen Re, property reinsurance business is assumed by Aspen Bermuda, Aspen U.K. and AUL (which is the sole corporate member of Syndicate 4711 at Lloyd’s of London (“Lloyd’s”) managed by AMAL) and written by teams located in Bermuda, France, Germany, Singapore, Switzerland, the United Kingdom, the United States, the United Arab Emirates and Australia. The property reinsurance business written in the United States is written exclusively by Aspen Re America as reinsurance intermediaries.

Casualty reinsurance is mainly assumed by Aspen U.K. and AUL and written by teams located in Singapore, Switzerland, the United Kingdom, the United States, the United Arab Emirates and Australia. A small number of casualty reinsurance contracts are written by Aspen Bermuda. The business written in the United States is produced by Aspen Re America.

Specialty reinsurance is assumed by Aspen Bermuda, Aspen U.K. and AUL and written by teams located in Ireland, Singapore, Switzerland, the United Kingdom, the United States, the United Arab Emirates and Australia. A small number of specialty reinsurance contracts are written by Aspen Bermuda. The reinsurance business written in the United States is produced by Aspen Re America. Specialty crop insurance business is written by AAIC and produced by AG Logic Holdings, LLC and its subsidiaries (“AgriLogic”), a wholly owned specialist U.S. admitted crop intermediary with an integrated agricultural consultancy, in the United States.

Aspen Re continued its participation in the alternative reinsurance market through Aspen Capital Markets. Aspen Capital Markets focuses on developing alternative reinsurance structures to leverage Aspen Re’s existing underwriting franchise, increase its operational flexibility in the capital markets and provide investors direct access to its underwriting expertise.

Aspen Insurance. Our insurance segment consists of (i) property and casualty insurance, (ii) marine, aviation and energy insurance, (iii) and financial and professional lines insurance. The insurance segment is led by Stephen Postlewhite, Chief Executive Officer of Aspen Insurance, and David Cohen, President and Chief Underwriting Officer of Aspen Insurance.

In our insurance segment, property and casualty insurance is written primarily in the London Market by Aspen U.K. and in the United States by AAIC and Aspen Specialty (on an admitted and excess and surplus lines basis, respectively). Our marine, aviation and energy insurance and financial and professional lines insurance are written mainly by Aspen U.K. and AUL with most of the same lines also written in the United States by AAIC and Aspen Specialty. We also write property, casualty and financial and professional lines business through Aspen Bermuda and marine, energy, financial and professional lines business through Aspen Singapore.

Our Business Strategy

Our goal is to generate superior value and long-term return on capital for our shareholders as a leading globally diversified specialty insurance and reinsurance company while ensuring that we have sufficient capital and liquidity to meet our obligations. We believe the recent investments we have made to increase the scale of the Company, expand our global underwriting talent and product capabilities, coupled with our ongoing expense discipline and risk management focus, uniquely positions us to achieve this goal. The key strategies we employ are as follows:

Key strategies for Aspen Re. From time to time, the underwriting cycle allows us to deploy additional capacity on a more opportunistic basis and a key part of our strategy for Aspen Re is to maintain the ability to identify such situations and take advantage of them when they arise. We aim to maintain sufficient capital strength and access to capital markets to ensure that major losses can be absorbed and to meet additional demand from existing or new clients.

Our strategic execution is focused on geographical proximity to our clients. The establishment of a hub in Dubai for the Middle East and Africa in April 2016 is consistent with Aspen Re’s strategy of maximizing opportunities in markets with profitable growth potential. Aspen Re likewise continued to build out its regional presence, including in Shanghai through Lloyd’s China. Aspen Re’s largest market is the United States where we are well established and have solid market penetration. While the markets in Latin America, Middle East and Africa, and Asia-Pacific have been historically less significant for Aspen Re, we believe they offer significant growth potential, especially in the medium and longer-term.

Our strategy for Aspen Re is to ensure that we have the tools to remain relevant and agile in order to continue to diversify our portfolio. An example of this is our acquisition of AgriLogic, a specialist U.S. admitted crop intermediary with an integrated agricultural consultancy, on January 20, 2016. We successfully integrated AgriLogic and aim to continue to develop its in-depth technical capabilities and industry knowledge to provide customized risk management solutions to the agricultural community.

As result of our Aspen Capital Markets division, Aspen Re’s strategy is also centered on developing alternative reinsurance structures to leverage our existing underwriting franchise, increase our operational flexibility in the capital markets and provide investors with direct access to our underwriting expertise. In December 2016, Aspen Re renewed Silverton, our first sidecar launched in 2013, and also expanded Peregrine to include segregated accounts that reinsure portfolios of Group risks which are backed by third party investors. Both structures provide additional collateralized capacity to support Aspen Re’s global reinsurance business. Silverton is able to provide investors with exposure to diversified catastrophe risk backed by the distribution, underwriting, analysis and research expertise of Aspen Re and Peregrine is able to provide investors with exposure to a variety of risks insured by the Group, including property catastrophe, other property and specialty lines. Through Aspen Capital Markets, we are also able to leverage our capacity through other collateralized reinsurance arrangements. As a result, we continued a managed reduction in our exposure to property catastrophe.

Key strategies for Aspen Insurance. A core part of Aspen Insurance's strategy is to continue to make progress on our global and regional product strategy, building on products and geographies to further strengthen our portfolio of business. In 2016, Aspen Insurance announced the appointment of global product heads as part of its strategy to leverage its global platform and better align product capabilities and distribution. Our global products are supported by regional teams which allow us to continue to serve our clients. Aspen Insurance launched a number of new products in 2016, including product recall / contamination, and also expanded in other areas, such as accident and health, cyber, energy and environmental.

Consistent with Aspen Insurance's strategy of leveraging its existing strength and expertise in certain product lines in its target markets globally, Aspen Insurance established a presence in Singapore in January 2016. Aspen Insurance's operation in Singapore has initially focused on the provision of onshore and offshore energy, marine hull, accident and health, terrorism, financial and corporate risks, professional indemnity, technology, data protection and cyber, and credit and political risk insurance risks.

Risk Management. We have a comprehensive risk management framework that defines the corporate risk appetite, risk strategy and the policies required to monitor, manage and mitigate the risk inherent in our business. In doing so, we aim to comply with emerging regulations, corporate governance and industry best practice and monitor and take remedial action against six main risk objectives: (i) extreme losses falling within planned limits, (ii) volatility of results falling within planned limits, (iii) compliance with regulatory requirements, (iv) preserving rating agency credit ratings, (v) maintaining solvency and liquidity, and (vi) avoiding reputational risk.

Capital Management. We continue to focus on capital management and maintain our capital at an appropriate level as determined by our internal risk appetite and the financial strength required by our customers, regulators and rating agencies. We monitor and review our group and operating entities' capital and liquidity positions on an ongoing basis and allocate our capital in the most efficient way, which may include investing in new business opportunities, rebalancing our investment portfolio within acceptable risk parameters and returning capital to shareholders, subject to market conditions.

Investment Management. Our investment strategy is focused on delivering stable investment income and total return through all market cycles while maintaining appropriate portfolio liquidity and credit quality to meet the requirements of our customers, rating agencies and regulators. This includes tactically adjusting the portfolio duration and asset allocation based on our views of interest rates, credit spreads and markets for different assets, as well as making appropriate decisions to enhance investment returns where possible.

Business Segments

We are organized into two business segments: reinsurance and insurance. In addition to the way we manage our business, we consider similarities in economic characteristics, products, customers, distribution, the regulatory environment of our business segments and quantitative thresholds to determine our reportable segments. Profit or loss for each of the Company's business segments is measured by underwriting profit or loss. Underwriting profit is the excess of net earned premiums over the sum of losses and loss expenses, amortization of deferred policy acquisition costs and general and administrative expenses. Underwriting profit or loss provides a basis for management to evaluate the segment's underwriting performance.

We provide additional disclosures for corporate and other (non-underwriting) income and expenses. Corporate and other income and expenses include net investment income, net realized and unrealized investment gains or losses, expenses associated with managing the Group, certain strategic and non-recurring costs, changes in fair value of derivatives and changes in fair value of loan notes issued by variable interest entities, interest expense, net realized and unrealized foreign exchange gains or losses and income taxes, which are not allocated to the business segments. Corporate expenses are not allocated to our business segments as they typically do not fluctuate with the levels of premiums written and are not directly related to our business segment operations. We do not allocate our assets by segments as we evaluate underwriting results of each segment separately from the results of our investment portfolio.

The gross written premiums are set forth below by business segment for the twelve months ended December 31, 2016, 2015 and 2014:

Business Segment	Twelve Months Ended December 31, 2016		Twelve Months Ended December 31, 2015		Twelve Months Ended December 31, 2014	
	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total
	(\$ in millions, except for percentages)					
Reinsurance.	\$ 1,413.2	44.9%	\$ 1,248.9	41.7%	\$ 1,172.8	40.4%
Insurance.	1,733.8	55.1	1,748.4	58.3	1,729.9	59.6
Total.	<u>\$ 3,147.0</u>	<u>100.0%</u>	<u>\$ 2,997.3</u>	<u>100.0%</u>	<u>\$ 2,902.7</u>	<u>100.0%</u>

For a review of our results by segment, see Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Note 5 of our consolidated financial statements, "Segment Reporting."

Reinsurance

Aspen Re consists of property catastrophe reinsurance, other property reinsurance (risk excess, pro rata and facultative), casualty reinsurance (U.S. treaty, international treaty and global facultative) and specialty insurance and reinsurance (credit and surety, mortgage reinsurance and insurance, agriculture insurance and reinsurance, marine, aviation, terrorism, engineering and other specialty lines). In addition, Aspen Capital Markets has added collateralized capacity to Aspen Re's property catastrophe line of business by focusing on the property catastrophe business through the use of alternative capital.

The reinsurance business we write can be analyzed by geographic region, reflecting the location of the reinsured risks, as follows for the twelve months ended December 31, 2016, 2015 and 2014:

Reinsurance	Twelve Months Ended December 31, 2016		Twelve Months Ended December 31, 2015		Twelve Months Ended December 31, 2014	
	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total
	(\$ in millions, except for percentages)					
Australia/Asia	\$ 117.3	8.3%	\$ 122.8	9.8%	\$ 114.4	9.8%
Caribbean	10.0	0.7	13.5	1.1	11.0	0.9
Europe (excluding U.K.).	99.1	7.0	100.9	8.1	101.3	8.6
United Kingdom	14.1	1.0	15.3	1.2	15.5	1.3
United States & Canada ⁽¹⁾	698.4	49.4	530.1	42.5	453.6	38.7
Worldwide excluding United States ⁽²⁾	36.5	2.6	40.3	3.2	50.6	4.3
Worldwide including United States ⁽³⁾	357.6	25.3	345.9	27.7	363.8	31.0
Others	80.2	5.7	80.1	6.4	62.6	5.4
Total	<u>\$ 1,413.2</u>	<u>100.0%</u>	<u>\$ 1,248.9</u>	<u>100.0%</u>	<u>\$ 1,172.8</u>	<u>100.0%</u>

- (1) “United States and Canada” comprises individual policies that insure risks specifically in the United States and/or Canada, but not elsewhere.
- (2) “Worldwide excluding the United States” comprises individual policies that insure risks wherever they may be across the world but specifically excludes the United States.
- (3) “Worldwide including the United States” comprises individual policies that insure risks wherever they may be across the world but specifically includes the United States.

Our gross written premiums by our principal lines of business within our reinsurance segment for the twelve months ended December 31, 2016, 2015 and 2014 are as follows:

Reinsurance	Twelve Months Ended December 31, 2016		Twelve Months Ended December 31, 2015		Twelve Months Ended December 31, 2014	
	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total
	(\$ in millions, except for percentages)					
Property catastrophe reinsurance	\$ 273.0	19.3%	\$ 274.3	22.0%	\$ 301.5	25.7%
Other property reinsurance	328.2	23.2	360.3	28.8	343.0	29.3
Casualty reinsurance	320.6	22.7	287.5	23.0	281.9	24.0
Specialty reinsurance (1)	491.4	34.8	326.8	26.2	246.4	21.0
Total	<u>\$ 1,413.2</u>	<u>100.0%</u>	<u>\$ 1,248.9</u>	<u>100.0%</u>	<u>\$ 1,172.8</u>	<u>100.0%</u>

- (1) Includes gross written premium of \$178.9 million related to AgriLogic.

Property Catastrophe Reinsurance: Property catastrophe reinsurance is generally written on a treaty excess of loss basis where we provide protection to an insurer for an agreed portion of the total losses from a single event in excess of a specified loss amount. In the event of a loss, most contracts provide for coverage of a second occurrence following the payment of a premium to reinstate the coverage under the contract, which is referred to as a reinstatement premium. The coverage provided under excess of loss reinsurance contracts may be on a worldwide basis or limited in scope to selected regions or geographical areas.

Our sidecar Silverton continued to provide quota share support for Aspen Re’s global property catastrophe excess of loss reinsurance business. Silverton was further renewed in December 2016, raising \$130.0 million (of which \$105.0 million was provided by third parties). For the twelve months ended December 31, 2016, Silverton’s gross written premiums were \$28.5 million, all of which were classified within property catastrophe reinsurance. Through Aspen Capital Markets we have also increased our capacity through other collateralized reinsurance arrangements. For more information on Silverton, see Note 7 of our consolidated financial statements, “Variable Interest Entities.”

Other Property Reinsurance: Other property reinsurance includes property risks written on excess of loss and proportional treaties, facultative or single risk reinsurance. Risk excess of loss reinsurance provides coverage to a reinsured where it experiences a loss in excess of its retention level on a single “risk” basis. A “risk” in this context might mean the insurance coverage on one building or a group of buildings for fire or explosion or the insurance coverage under a single policy which the reinsured treats as a single risk. This line of business is generally less exposed to accumulations of exposures and losses but can still be impacted by catastrophes, such as earthquakes and hurricanes.

Proportional treaty reinsurance provides proportional coverage to the reinsured, meaning that, subject to event limits where applicable and ceding commissions, we pay the same share of the covered original losses as we receive in premiums charged for the covered risks. Proportional contracts typically involve close client relationships which often include regular audits of the cedants’ data.

Casualty Reinsurance: Casualty reinsurance is written on an excess of loss, proportional and facultative basis and consists of U.S. treaty, international treaty and casualty facultative reinsurance. Our U.S. treaty and facultative business comprises exposures to workers’ compensation (including catastrophe), medical malpractice, general liability, auto liability, professional liability and excess liability including umbrella liability. Our international treaty business reinsures exposures mainly with respect to general liability, auto liability, professional liability, workers’ compensation and excess liability.

Specialty Reinsurance: Specialty reinsurance is written on an excess of loss and proportional basis and consists of credit and surety reinsurance, agriculture reinsurance and other specialty lines. Our credit and surety reinsurance business consists of trade credit, surety (mainly European, Japanese and Latin American risks) and mortgage reinsurance and insurance and political risks. Our specialty agricultural reinsurance and insurance business covers crop and multi-peril business. Other specialty lines include reinsurance treaties and some insurance policies covering policyholders’ interests in marine, energy, aviation liability, space, contingency, terrorism, engineering, nuclear and personal accident. In addition, specialty reinsurance includes admitted and direct U.S. crop insurance.

A high percentage of the property catastrophe reinsurance contracts we write exclude or limit coverage for losses arising from the peril of terrorism. Within the U.S., our other property reinsurance contracts generally include limited coverage for acts that are certified as “acts of terrorism” by the U.S. Treasury Department under the Terrorism Risk Insurance Act (“TRIA”), the Terrorism Risk Insurance Extension Act of 2005 (“TRIEA”), the Terrorism Risk Insurance Program Reauthorization Act of 2007 (“TRIPRA”), which expired on December 31, 2014, and now the Terrorism Risk Insurance Program Reauthorization Act of 2015 (the “2015 TRIA Reauthorization”). We have written a limited number of property reinsurance contracts, both on a pro rata and risk excess basis, specifically covering the peril of terrorism. These contracts typically exclude coverage protecting against nuclear, biological, chemical or radiological attack, though we have written a small number of contracts that do not exclude such attacks, the coverage of which may be applicable to non-terrorism events.

Insurance

Our insurance segment consists of property and casualty insurance, marine, aviation and energy insurance and financial and professional lines insurance.

The insurance business we write can be analyzed by geographic region, reflecting the location of the insured risk, as follows for the twelve months ended December 31, 2016, 2015 and 2014:

Insurance	Twelve Months Ended December 31, 2016		Twelve Months Ended December 31, 2015		Twelve Months Ended December 31, 2014	
	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total
(\$ in millions, except for percentages)						
Australia/Asia	\$ 23.2	1.3%	\$ 17.2	1.0%	\$ 15.7	0.9%
Caribbean	4.3	0.2	6.8	0.4	8.7	0.5
Europe (excluding U.K.)	10.6	0.6	12.7	0.7	12.6	0.7
United Kingdom	217.3	12.5	208.2	11.9	193.8	11.2
United States & Canada ⁽¹⁾	898.6	51.8	949.4	54.3	903.7	52.3
Worldwide excluding United States ⁽²⁾	54.2	3.2	66.9	3.8	65.6	3.8
Worldwide including United States ⁽³⁾	479.6	27.7	447.7	25.6	488.0	28.2
Others	46.0	2.7	39.5	2.3	41.8	2.4
Total	<u>\$ 1,733.8</u>	<u>100.0%</u>	<u>\$ 1,748.4</u>	<u>100.0%</u>	<u>\$ 1,729.9</u>	<u>100.0%</u>

- (1) “United States and Canada” comprises individual policies that insure risks specifically in the United States and/or Canada, but not elsewhere.
- (2) “Worldwide excluding the United States” comprises individual policies that insure risks wherever they may be across the world but specifically excludes the United States.
- (3) “Worldwide including the United States” comprises individual policies that insure risks wherever they may be across the world but specifically includes the United States.

Our gross written premiums by our principal lines of business within our insurance segment for the twelve months ended December 31, 2016, 2015 and 2014 are as follows:

Insurance	Twelve Months Ended December 31, 2016		Twelve Months Ended December 31, 2015		Twelve Months Ended December 31, 2014	
	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total
(\$ in millions, except for percentages)						
Property and casualty insurance	\$ 858.2	49.5%	\$ 890.6	51.0%	\$ 801.0	46.3%
Marine, aviation and energy insurance	396.3	22.9	427.3	24.0	519.3	30.0
Financial and professional lines insurance	479.3	27.6	430.5	25.0	409.6	23.7
Total	<u>\$ 1,733.8</u>	<u>100.0%</u>	<u>\$ 1,748.4</u>	<u>100.0%</u>	<u>\$ 1,729.9</u>	<u>100.0%</u>

Property and Casualty Insurance: The property and casualty insurance line consists of U.S. and U.K. commercial property, commercial liability, U.S. primary casualty, excess casualty, environmental liability, railroad liability, and programs business, written on a primary, excess, quota share, program and facultative basis.

U.S. and U.K. Commercial Property: Property insurance provides physical damage and business interruption coverage for losses arising from weather, fire, theft and other causes. The U.S. commercial property team covers mercantile, manufacturing, municipal and commercial real estate business. The U.K. commercial team’s client base is predominantly U.K. institutional property owners, small and middle market corporates and public sector clients.

Commercial Liability: Commercial liability is primarily written in the United Kingdom and provides employers’ liability coverage, products and public liability coverage for insureds domiciled in the United Kingdom and Ireland. The U.K. regional team also covers directors’ and officers’ (“D&O”) and professional indemnity, predominantly to small and medium corporates.

U.S. Primary Casualty: The U.S. primary casualty account consists primarily of lines written within the primary insurance sectors. We are focused on delivering expertise to brokers and customers in hospitality, real estate, construction and products liability.

Excess Casualty: The excess casualty line comprises medium and large, sophisticated and risk-managed insureds worldwide and covers broad-based risks at lead/high excess attachment points, including general liability, commercial and residential construction liability, life science, railroads, trucking, product and public liability and associated types of cover found in general liability policies in the global insurance market, written from the United Kingdom, the United States and Bermuda. It also includes a portfolio of U.K. and other non-U.S. employers' liability and public liability coverage written through a managing general agent.

Environmental Liability: The environmental account primarily provides contractors' pollution liability and pollution legal liability across industry segments that have environmental regulatory drivers and contractual requirements for coverage including: real estate and public entities, contractors and engineers, energy contractors and environmental contractors and consultants. The business is written in both the primary and excess insurance markets in the United States and the United Kingdom.

Railroad Liability: Our railroad liability business was established in 2016 and comprises primary and excess liability business for freight, commuter and excursion railroads. While also providing general liability coverage to the railroad support industry (contractors, repair shops and products manufacturers) as well as contingent liability for railcar fleet owners/managers and railroad protective liability in the United States.

Programs: Our programs business was historically reported as a separate class of business within property and casualty insurance. We reduced our exposure to programs business in 2016 and therefore decided to no longer have a distinct and separate programs unit. Programs business that was renewed during the year has been included within the predominant property and casualty class of business.

On a significant portion of our property and casualty insurance contracts we are obligated to offer terrorism under TRIPRA, and now the 2015 TRIA Reauthorization. Wherever possible, we exclude coverage protection against nuclear, biological, chemical or radiological ("NBCR") attacks. However, certain U.S. states (notably New York and Florida) prohibit admitted market companies, such as AAIC, from fully excluding such perils, resulting in some level of exposures to NBCR as well as fire following such events. In addition, we would expect to benefit from the protection of 2015 TRIA Reauthorization and the over-arching \$100 billion industry loss cap (subject to the relevant deductible and co-retention).

Marine, Aviation and Energy Insurance: Our marine, aviation and energy insurance line consists of marine and energy liability, onshore energy physical damage, offshore energy physical damage, marine hull, specie, inland and ocean marine, and aviation, written on a primary, excess, quota share, program and facultative basis.

Marine and Energy Liability: The marine and energy liability business based in the U.K. includes marine liability cover mainly related to the liabilities of ship-owners and port operators, including reinsurance of Protection and Indemnity Clubs ("P&I Clubs"). It also provides liability cover globally (including the U.S.) for companies in the oil and gas sector, both onshore and offshore and in the power generation sector. Our liability for U.S. commercial construction is now being written under our global excess casualty line and we are no longer writing new construction liability in this class.

Onshore Energy Physical Damage: Our marine, energy and construction property unit underwrites a variety of worldwide onshore energy and construction sector classes of business with a focus on property covers.

Offshore Energy Physical Damage: Offshore energy physical damage provides insurance cover against physical damage losses in addition to operators' extra expenses for companies operating in the oil and gas exploration and production sector.

Marine Hull: The marine hull team insures physical damage to ships (including war and associated perils) and related marine assets.

Specie: The specie business line focuses on the insurance of high value property items on an all risks basis, including fine art, general and bank related specie, jewelers' block and armored car.

Inland and Ocean Marine: The inland and ocean marine team writes business principally covering builders' construction risk, contractors' equipment, and global transportation exposures such as marine cargo, inland transit, warehousing and war, in addition to exhibition, fine arts and museums insurance. The book also consists of our newly acquired Managing General Agent, Blue Waters Insurers, Corp., which consists of inland, ocean marine and cargo business.

Aviation: The aviation team writes physical damage insurance on hulls and spares (including war and associated perils), aviation hull deductible cover and comprehensive legal liability for airlines, smaller operators of airline equipment, airports and associated business and non-critical component part manufacturers.

Financial and Professional Lines Insurance: Our financial and professional lines consists of financial and corporate risks, professional liability, management liability, credit and political risks, crisis management, accident and health, surety risks, and technology liability (cyber risks), written on a primary, excess, quota share, program and facultative basis.

Financial and Corporate Risks: Our financial institutions business is written on both a primary and excess of loss basis and consists of professional liability, crime insurance and D&O cover, with the largest exposure comprising risks headquartered in the United Kingdom, followed by Australia, the United States and Canada. We cover financial institutions including commercial and investment banks, asset managers, insurance companies, stockbrokers and insureds with hybrid business models. This account also includes a book of D&O insurance for commercial insureds located outside of the United States and a worldwide book of representations and warranties and tax indemnity business.

Professional Liability: Our professional liability business is written out of the United States (including errors and omissions (“E&O”)), the United Kingdom, Switzerland and Bermuda and is written on both a primary and excess of loss basis. The U.K. team focuses on risks in the United Kingdom with some Australian and Canadian business while the U.S. team focuses on the United States. We insure a wide range of professions including lawyers, accountants, architects, engineers, doctors and medical technicians. This account also includes a portfolio of technology liability and data protection insurance. The data protection insurance covers firms for first party costs and third party liabilities associated with their breach of contractual or statutory data protection obligations.

Management Liability: Our management liability business is written out of the United States and Bermuda. We insure a diverse group of commercial and financial institutions predominantly on an excess basis. Our products include D&O liability, fiduciary liability, employment practices liability, fidelity insurance and blended liability programs including E&O liability. The focus of the account is predominantly on risks headquartered in the U.S. or risks with a material U.S. exposure.

Credit and Political Risks: The credit and political risks team writes business covering the credit and contract frustration risks on a variety of trade and non-trade related transactions, as well as political risks (including multi-year war on land cover). We provide credit and political risks cover worldwide but with concentrations in a number of countries, such as China, Brazil, Russia (where we significantly reduced our exposures from 2014), the Netherlands and the United States.

Crisis Management: The Crisis Management team writes insurance designed to protect individuals and corporations operating in high-risk areas around the world, including covering the shipping industry’s exposure to acts of piracy. It also writes terrorism and political violence insurance, providing coverage for damage to property (largely fixed assets such as buildings) resulting from acts of terrorism, strikes, riots, civil commotion or political violence, in addition to product recall business, a new product we began to write in 2016. This book is written on a global basis, although capacity is selectively deployed.

Accident and Health: The global accident and health team focuses on insurance and reinsurance products which help protect individuals, groups and companies from the consequences of accidental death or disability whether resulting from accident or sickness. This may include single or multi-person losses as well as major catastrophic events such as air crashes, earthquakes or terrorist attacks. Coverage written includes whole account treaty and facultative reinsurance protection for insurance companies.

Surety Risks: Our surety team writes commercial surety risks, admiralty bonds and similar maritime undertakings including, but not limited to, federal and public official bonds, license and permits and fiduciary and miscellaneous bonds, focused on Fortune 1000 companies and large, privately owned companies in the United States.

Technology Liability (Cyber Risks): Technology liability is written globally and provides coverage for technology, media and telecommunications firms offering protection for damages and legal defense expenses associated with financial loss claims from third parties and various forms of intellectual property breaches. We also incorporate data protection indemnity insurance against costs and liabilities that may arise when a company breaches its data protection obligations.

Underwriting and Reinsurance Purchasing

Our objective is to create a diversified portfolio of insurance and reinsurance risks, diversified across lines of business, products, geographic areas of coverage, cedants and sources. The acceptance of appropriately priced risk is the core of our business. Underwriting requires judgment, based on important assumptions about matters that are inherently unpredictable and beyond our control, and for which historical experience and probability analysis may not provide sufficient guidance. We view underwriting quality and risk management as critical to our success.

Underwriting. In 2016, our underwriting activities were managed in two product areas: reinsurance and insurance. For a discussion of our business and business segments, see above “Business — General” and “Business — Business Segments.”

Our Group Chief Executive Officer is supported by our Group Director of Underwriting. Our Group Director of Underwriting assists in the management of the underwriting process by developing our underwriting control framework and acting as an independent reviewer of underwriting activity across our businesses.

We underwrite according to the following principles:

- operate within agreed boundaries as defined by the Aspen Underwriting Principles for the relevant class of business;
- operate within prescribed maximum underwriting authority limits, which we delegate in accordance with an understanding of each individual's capabilities, tailored to the classes of business written by the particular underwriter;
- evaluate the underlying data provided by clients and adjust such data where we believe it does not adequately reflect the underlying exposure;
- price each submission based on our experience in the class of business, and where appropriate, by deploying one or more actuarial models either developed internally or licensed from third-party providers;
- maintain a peer review process to sustain high standards of underwriting discipline and consistency and a sampling methodology for simpler insurance risks;
- more complex risks may involve peer review by several underwriters and input from catastrophe risk management specialists, our team of actuaries and senior management; and
- risks outside of agreed underwriting authority limits are referred to the Group Chief Executive Officer and/or to the appropriate entity board as exceptions for approval before we accept the risks.

Reinsurance Purchasing. We purchase reinsurance and retrocession to mitigate and diversify our risk exposure to a level consistent with our risk appetite and to increase our insurance and reinsurance underwriting capacity. These agreements provide for recovery of a portion of our losses and loss adjustment expenses from our reinsurers. The amount and type of reinsurance that we purchase varies from year to year and is dependent on a variety of factors, including, but not limited to, the cost of a particular reinsurance contract and the nature of our gross exposures assumed, with the aim of securing cost-effective protection. We have a centralized ceded reinsurance department which coordinates the placement of all of our treaty reinsurance placements.

We have reinsurance covers in place for the majority of our insurance classes of business on an excess-of-loss basis and/or proportional treaty basis. The excess of loss covers provide protection in various layers and excess of varying attachment points according to the scope of cover provided. In 2016, we increased proportional reinsurance protection compared to our previous coverage in 2015. We anticipate this continuing in 2017. In addition, we purchased an adverse development cover in the fourth quarter of 2016 for certain casualty business which we have ceased to underwrite.

In respect of our purchased non-catastrophe specific reinsurance contracts, in 2017 we will be retaining shares in only a few of our excess of loss contracts and proportional reinsurance treaties in the form of co-insurance.

With respect to natural perils coverage, we buy protections that cover both our insurance and reinsurance lines of business through a variety of products, including, but not limited to, excess of loss reinsurance, facultative reinsurance, aggregate covers, whole account covers and collateralized products which can be on either an indemnity or an index linked basis. For example, we may purchase industry loss warranty reinsurance which provides retrocessional coverage when insurance industry losses for a defined event exceed a certain level. We expect the type and level of coverage that we purchase will vary over time, reflecting our view of the changing dynamics of the underlying exposure and the reinsurance markets. We manage our risk by seeking to limit the amount of exposure assumed from any one reinsured and the amount of the aggregate exposure to catastrophe losses from a single event in any one geographical zone. Additionally, Aspen Re has quota share protection for worldwide catastrophe losses through its sidecar, Silverton, and through other collateralized reinsurance arrangements.

Although reinsurance agreements contractually obligate our reinsurers to reimburse us for an agreed-upon portion of our gross paid losses, we remain liable to our insureds to the extent that our reinsurers do not meet their obligations under these agreements. As a result, and in line with our risk management objectives, we evaluate the financial condition of our reinsurers and monitor concentrations of credit risk on an on-going basis. In general, we seek to place our reinsurance with highly rated companies with which we have a strong trading relationship or have fully collateralized arrangements in place. We maintain a list of authorized reinsurers graded for short, medium and long tail business which is regularly reviewed and updated by the Reinsurance Credit Committee. For additional information, please refer to Note 9, "Reinsurance" of our consolidated financial statements.

Risk Management

In this section, we provide a summary of our risk governance arrangements and current risk management strategy. We also provide more detail on the management of core underwriting and market risks and on our internal model. The internal model is an economic capital model which has been developed internally for use in certain business decision-making processes, the assessment of risk-based capital requirements and for various regulatory purposes.

Risk Governance

Board of Directors. The Board of Directors of the Company (the “Board”) considers effective identification, measurement, monitoring, management and reporting of the risks facing our business to be key elements of its responsibilities and those of the Group Chief Executive Officer and management. Matters relating to risk management that are reserved to the Board include approval of the internal controls and risk management framework and any changes to the Group’s risk appetite statement and key risk limits. The Board also receives reports at each scheduled meeting from the Group Chief Risk Officer and the Chairman of the Risk Committee as well as training in risk management processes including the design, operation, use and limitations of the internal model. As a result of these arrangements and processes, the Board, assisted by management and the Board Committees, is able to exercise effective oversight of the operation of the risk management strategy described in “Risk Management Strategy” below.

Board Committees. The Board delegates oversight of the management of certain key risks to its Risk, Audit and Investment Committees. Each of the committees is chaired by an independent director of the Company who also reports to the Board on the committees’ discussions and matters arising.

Risk Committee: The purpose of this committee is to assist the Board in its oversight duties in respect of the management of risk, including:

- making recommendations to the Board regarding management’s proposals for the risk management framework, risk appetite, key risk limits and the use of our internal model;
- monitoring compliance with the agreed Group risk appetite and key risk limits; and
- oversight of the process of stress and scenario testing established by management.

Audit Committee: This committee is primarily responsible for assisting the Board in its oversight of the integrity of the financial statements. It is also responsible for reviewing the adequacy and effectiveness of the Company’s internal controls and receives regular reports from both internal and external audit in this regard.

Investment Committee: This committee is primarily responsible for setting and monitoring the Group’s investment risk and asset allocation policies and ensuring that the Chairman of the Risk Committee is kept informed of such matters.

Management Committees. The Group also has a number of executive management committees which have oversight of certain risk management processes including the following:

Group Executive Committee: This is the main executive committee responsible for advising the Group Chief Executive Officer on matters relating to the strategy and conduct of the Group’s business.

Capital and Risk Principles Committee: The primary purpose of the Capital and Risk Principles Committee is to assist the Group Chief Executive Officer and the Group Chief Risk Officer in their oversight duties in respect of the design and operation of the Group’s risk management systems. In particular, it has specific responsibilities in relation to the internal model and for the establishment of risk limits for accumulating underwriting exposures and monitoring solvency and liquidity requirements.

Reserve Committee: This committee is responsible for managing reserving risk and making recommendations to the Group Chief Executive Officer and the Group Chief Financial Officer relating to the appropriate level of reserves to include in the Group’s financial statements.

Underwriting Committee: The purpose of this committee is to assist the Group Chief Executive Officer in his oversight duties in respect of the management and control of underwriting risk, including oversight of the independent review of the quality of each team’s underwriting.

Reinsurance Credit Committee: The purpose of this committee is to seek to minimize credit risks arising from insurance and reinsurance counterparties by the assessment and monitoring of collateralized reinsurance arrangements, direct cedants, intermediaries and reinsurers.

Group Chief Risk Officer: Among other things, our Group Chief Risk Officer provides the Board and the Risk Committee with reports and advice on risk management issues.

Risk Management Strategy

We operate an integrated enterprise-wide risk management strategy designed to deliver shareholder value in a sustainable and efficient manner while providing a high level of policyholder protection. The execution of our integrated risk management strategy is based on:

- the establishment and maintenance of a risk management and internal control system based on a three lines of defense approach to the allocation of responsibilities between risk accepting units (first line), risk management activity and oversight from other central control functions (second line) and independent assurance (third line);
- identifying material risks to the achievement of the Group's objectives including emerging risks;
- the articulation at Group level of our risk appetite and a consistent set of key risk limits for each material component of risk;
- the cascading of key risk limits for material risks to each operating subsidiary and, where appropriate, risk accepting business units;
- measuring, monitoring, managing and reporting risk positions and trends;
- the use, subject to an understanding of its limitations, of the internal model to test strategic and tactical business decisions and to assess compliance with the risk appetite statement; and
- stress and scenario testing, including reverse stress testing, designed to help us better understand and develop contingency plans for the likely effects of extreme events or combinations of events on capital adequacy and liquidity.

Risk Appetite Statement. The risk appetite statement is a central component of the Group's overall risk management framework and is approved by the Board. It sets out, at a high level, how we think about risk in the context of our business model, Group objectives and strategy. It sets out boundary conditions and limits for the level of risk we assume, together with a statement of the reward we aim to receive for this level of risk.

Our risk appetite statement comprises the following components:

- *Risk preferences:* a high level description of the types of risks we prefer to assume and those we prefer to minimize or avoid;
- *Return objective:* the levels of return on capital we seek to achieve, subject to our risk constraints;
- *Volatility constraint:* a target limit on earnings volatility; and
- *Capital constraint:* a minimum level of risk adjusted capital.

Risk Components. The main types of risks that we face are summarized as follows:

Insurance risk: The risk that underwriting results vary from their expected amounts, including the risk that reserves established in respect of prior periods differ significantly from the level of reserves included in the Group's financial statements.

Market risk: The risk of variation in the income generated by, and the fair value of, our investment portfolio, cash and cash equivalents and derivative contracts including the effect of changes in foreign currency exchange rates.

Credit risk: The risk of diminution in the value of insurance receivables as a result of counter-party default. This principally comprises default and concentration risks relating to amounts receivable from intermediaries, policyholders and reinsurers. We include credit risks related to our investment portfolio under market risk. We include credit risks related to insurance contracts (e.g. credit and political risk policies) under insurance risk.

Liquidity risk: The risks of failing to maintain sufficient liquid financial resources to meet liabilities as they fall due or to provide collateral as required for commercial or regulatory purposes.

Operational risk: The risk of loss resulting from inadequate or failed internal processes, personnel or systems, or from external events.

Strategic risk: The risk of adverse impact on shareholder value or income and capital of adverse business decisions, poor execution or failure to respond to market changes.

Regulatory risk: The risk of non-compliance with regulatory requirements, including ensuring we understand and comply with changes to those requirements. There is a residual risk that changes in regulation impact our ability to operate profitably in some jurisdictions or some lines of business.

Taxation risk: The risk that we do not understand, plan for and manage our tax obligations. There is a residual risk that changes in taxation impact our ability to operate profitably in some jurisdictions or some lines of business.

Emerging risk: The risk that events or issues not previously identified or fully understood impact the operations or financial results of the Group.

We divide risks into “core” and “non-core” risks. Core risks comprise those risks which are inherent in the operation of our business, including insurance risks in respect of our underwriting operations and market and liquidity risks in respect of our investment activity. We intentionally expose the Company to core risks with a view to generating shareholder value but seek to manage the resulting volatility in our earnings and financial condition within the limits defined by our risk appetite. However, these core risks are intrinsically difficult to measure and manage and we may not, therefore, be successful in this respect. All other risks, including regulatory and operational risks, are classified as non-core. We seek, to the extent we regard as reasonably practicable and economically viable, to avoid or minimize our exposure to non-core risks.

Key Risk Limits. We use the term risk limit to mean the upper limit of our tolerance for exposure to a given risk. Key risk limits are a sub-set of risk limits and are subject to annual approval by the Board on the advice of the Risk Committee as part of the annual business planning process. If a risk exceeds key risk limits, the Group Chief Risk Officer is required to report the excess and management’s plans for dealing with it to the Risk Committee.

Business Distribution

Our business is produced principally through brokers and reinsurance intermediaries. The brokerage distribution channel provides us with access to an efficient, global distribution system without the significant time and expense which would be incurred in creating wholly-owned distribution networks. The brokers and reinsurance intermediaries typically act in the interest of ceding clients or insurers and are instrumental to our continued relationship with our clients.

The following tables show our gross written premiums by broker for each of our segments for the twelve months ended December 31, 2016, 2015 and 2014:

	Twelve Months Ended December 31, 2016		Twelve Months Ended December 31, 2015		Twelve Months Ended December 31, 2014	
	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total
Reinsurance						
	(\$ in millions, except for percentages)					
Aon Corporation	\$ 394.6	27.9%	\$ 367.2	29.4%	\$ 321.3	27.4%
Marsh & McLennan Companies, Inc.	285.1	20.2	307.2	24.6	287.3	24.5
Willis Group Holdings, Ltd.	291.8	20.6	291.0	23.3	287.3	24.5
Others	441.7 ⁽¹⁾	31.2	283.5	22.7	276.9	23.6
Total	<u>\$ 1,413.2</u>	<u>100.0%</u>	<u>\$ 1,248.9</u>	<u>100.0%</u>	<u>\$ 1,172.8</u>	<u>100.0%</u>

(1) Includes gross written premium of \$178.9 million related to AgriLogic.

Insurance	Twelve Months Ended December 31, 2016		Twelve Months Ended December 31, 2015		Twelve Months Ended December 31, 2014	
	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total
	(\$ in millions, except for percentages)					
Aon Corporation	\$ 183.1	10.6%	\$ 192.5	11.0%	\$ 196.0	11.3%
Marsh & McLennan Companies, Inc.	177.1	10.2	155.1	8.9	151.9	8.8
Willis Group Holdings, Ltd.	137.8	7.9	142.7	8.2	110.8	6.4
Ryan Specialty	89.9	5.2	106.7	6.1	99.7	5.8
Brownstone Agency	75.7	4.4	92.7	5.3	95.8	5.5
Amwins	66.6	3.8	76.2	4.4	60.4	3.5
Jardine Lloyd Thompson Ltd.	47.7	2.8	49.4	2.8	54.6	3.2
Arthur J Gallagher (UK) Limited	45.1	2.6	33.1	1.9	26.4	1.5
Brown & Brown	44.2	2.5	42.5	2.4	39.2	2.3
Others	866.6	50.0	857.4	49.0	895.2	51.7
Total	<u>\$ 1,733.8</u>	<u>100.0%</u>	<u>\$ 1,748.4</u>	<u>100.0%</u>	<u>\$ 1,729.9</u>	<u>100.0%</u>

Claims Management

We have a staff of experienced claims professionals organized into insurance and reinsurance teams which are managed separately. We have developed processes and internal business controls for identifying, tracking and settling claims, and authority levels have been established for all individuals involved in the reserving and settlement of claims.

The key responsibilities of our claims management departments are to:

- process, manage and resolve reported insurance or reinsurance claims efficiently and accurately to ensure the proper application of intended coverage, reserving in a timely fashion for the probable ultimate cost of both indemnity and expense and make timely payments in the appropriate amount on those claims for which we are legally obligated to pay;
- select appropriate counsel and experts for claims, manage claims-related litigation and regulatory compliance;
- contribute to the underwriting process by collaborating with both underwriting teams and senior management in terms of the evolution of policy language and endorsements and providing claim-specific feedback and education regarding legal activity;
- contribute to the analysis and reporting of financial data and forecasts by collaborating with the finance and actuarial functions relating to the drivers of actual claim reserve developments and potential for financial exposures on known claims; and
- support our marketing efforts through the quality of our claims service.

On those accounts where it is applicable, a team of in-house claims professionals oversees and regularly audits claims handled under outsourcing agreements and manages those large claims and coverage issues on referral as required under the terms of those agreements.

Senior management receives a regular report on the status of our reserves and settlement of claims. We recognize that fair interpretation of our reinsurance agreements and insurance policies with our customers, and timely payment of valid claims, are a valuable service to our clients and enhance our reputation.

Reserves

Under U.S. Generally Accepted Accounting Principles (“U.S. GAAP”) and applicable insurance laws and regulations in the countries in which we operate, we are required to establish loss reserves for the estimated unpaid portion of the ultimate liability for losses and loss expenses under the terms of our policies and agreements with our insured and reinsured customers. The process of estimating these reserves involves a considerable degree of judgment and, as of any given date, is inherently uncertain. For a full discussion regarding our loss and loss expenses reserving process, see Part II, Item 7, “Management’s Discussion and Analysis

of Financial Condition and Results of Operations — Critical Accounting Policies — Reserving Approach” and Part II, Item 8, “Financial Statements and Supplementary Data” and Item 1A, “Risk Factors — Our financial condition and operating results may be adversely affected if actual claims exceed our loss reserves.”

Investments

The Investment Committee of the Board establishes investment guidelines and supervises our investment activity. The Investment Committee regularly monitors our overall investment results and our performance against our investment objectives and guidelines. These guidelines specify minimum criteria on the overall credit quality and liquidity characteristics of the portfolio, and include limitations on the size of certain holdings and restrictions on purchasing certain types of securities. Management and the Investment Committee review our investment performance and assess credit and market risk concentrations and exposures to issuers. We follow an investment strategy designed to emphasize the preservation of capital and provide sufficient liquidity for the prompt payment of claims.

As of December 31, 2016, our investments consisted of a diversified portfolio of fixed income securities including U.S. Dollar BBB Emerging Market Debt, global equities and money market funds. Our overall portfolio strategy remains focused on high quality fixed income investments. As at December 31, 2016, approximately 10.8% of our total cash and investments, excluding catastrophe bonds and funds held by variable interest entities (the “Managed Portfolio”), was invested in equities and U.S. Dollar BBB Emerging Market Debt (2015 — 12.6%). In November 2016, we reduced our holdings in our global equity strategy and received net proceeds of \$200.0 million. Proceeds from the sales were reinvested into a core fixed income strategy. As at December 31, 2016, we had a 6.8% (2015 — 8.7%) position in equities, a 3.8% (2015 — 3.5%) position in U.S. Dollar BBB Emerging Market Debt and 0.2% (2015 — 0.4%) in risk asset portfolio cash.

In the course of 2016, we engaged BlackRock Financial Management Inc., Alliance Capital Management L.P., Deutsche Investment Management Americas Inc., Pacific Investment Management Company LLC, Goldman Sachs Asset Management L.P. and Conning Asset Management Limited to provide investment advisory and management services for our portfolio of fixed income and equity investments. We have agreed to pay investment management fees based on the average market values of total assets held under management at the end of each calendar quarter. These agreements may be terminated generally by either party on short notice without penalty.

The total return of our investable assets, defined as the total of investments, cash and cash equivalents, accrued interest, receivables for securities sold and payables for securities purchased, for the twelve months ended December 31, 2016 was 2.2% (2015 — 1.1%). Total return is calculated based on total net investment return (*i.e.*, net of investment management fees) including interest on cash equivalents and any change in unrealized gains/losses on our investments, divided by the average market value of our investable assets during the twelve months ended December 31, 2016.

Fixed Income Portfolio. We employ an active investment strategy that focuses on the outlook for interest rates, the yield curve and credit spreads. In addition, we manage the duration of our fixed income portfolio having regard to the average liability duration of our reinsurance and insurance risks.

We decided to let our interest rate swap program roll-off and not renew maturing positions. This decision was made in 2014 after an extensive reassessment of the costs of maintaining an interest rate swap program in a steep yield curve environment. In addition, the continued uncertainty in the global economy makes it difficult to gauge the timing and speed of further interest rate rises by the Federal Reserve. In 2015, \$195.0 million of interest rate swaps matured. We had a further \$500.0 million of interest rate swaps rolling off in the first quarter of 2016 and on May 9, 2016 we terminated all remaining outstanding interest rate swaps under our International Swap Dealers Association agreement. As at December 31, 2016, the fixed income portfolio duration was 3.89 years. As at December 31, 2015, the fixed income portfolio duration was 3.65 years excluding the impact of the interest rate swaps and 3.57 years including the impact of the interest rate swaps. As at December 31, 2016, the fixed income portfolio book yield was 2.49% compared to 2.59% as at December 31, 2015.

Emerging Market Debt Portfolio. In August 2013, we invested in a \$200.0 million U.S. Dollar BBB Emerging Market Debt portfolio, which is reported below in corporate and foreign government securities. In 2015, the net proceeds of \$82.5 million from the sale of our BB Bank Loans were reinvested into the U.S. Dollar BBB Emerging Market Debt portfolio.

The following tables present the cost or amortized cost, gross unrealized gains and losses, and estimated fair market value of available for sale investments in fixed income securities, short-term investments and equity securities as at December 31, 2016 and 2015:

As at December 31, 2016				
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Market Value
(\$ in millions)				
U.S. Government	\$ 1,207.9	\$ 9.4	\$ (11.2)	\$ 1,206.1
U.S. Agency	117.7	1.9	—	119.6
Municipal	23.2	1.6	(0.4)	24.4
Corporate	2,566.9	39.6	(20.0)	2,586.5
Non-U.S. Government-backed Corporate	89.2	0.7	(0.1)	89.8
Foreign Government	477.7	11.8	(0.8)	488.7
Asset-backed	62.6	0.4	—	63.0
Non-agency Commercial Mortgage-backed	12.3	0.3	—	12.6
Agency Mortgage-backed	1,062.6	19.6	(8.3)	1,073.9
Total Fixed Income Securities — Available for Sale	5,620.1	85.3	(40.8)	5,664.6
Total Short-term Investments — Available for Sale	145.3	—	—	145.3
Total	<u>\$ 5,765.4</u>	<u>\$ 85.3</u>	<u>\$ (40.8)</u>	<u>\$ 5,809.9</u>

As at December 31, 2015				
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Market Value
(\$ in millions)				
U.S. Government	\$ 1,113.9	\$ 13.0	\$ (3.8)	\$ 1,123.1
U.S. Agency	154.5	4.3	(0.1)	158.7
Municipal	25.0	1.6	—	26.6
Corporate	2,626.2	49.5	(15.1)	2,660.6
Non-U.S. Government-backed Corporate	81.6	0.6	(0.1)	82.1
Foreign Government	634.6	10.5	(0.9)	644.2
Asset-backed	75.4	0.9	(0.3)	76.0
Non-agency Commercial Mortgage-backed	25.5	1.2	—	26.7
Agency Mortgage-backed	1,130.8	27.6	(5.3)	1,153.1
Total Fixed Income Securities — Available for Sale	5,867.5	109.2	(25.6)	5,951.1
Total Short-term Investments — Available for Sale	162.9	—	—	162.9
Total	<u>\$ 6,030.4</u>	<u>\$ 109.2</u>	<u>\$ (25.6)</u>	<u>\$ 6,114.0</u>

The following tables present the cost or amortized cost, gross unrealized gains and losses, and estimated fair market value of trading investments in fixed income securities, short-term investments and equity securities as at December 31, 2016 and 2015:

As at December 31, 2016

	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Market Value
	(\$ in millions)			
U.S. Government	\$ 82.8	\$ 0.4	\$ (0.8)	\$ 82.4
Municipal	15.7	—	(0.2)	15.5
Corporate	817.8	9.9	(7.1)	820.6
Foreign Government	203.4	3.5	(4.1)	202.8
Asset-backed	14.5	—	—	14.5
Agency Mortgage-backed	130.6	0.2	(0.9)	129.9
Total Fixed Income Securities — Trading	1,264.8	14.0	(13.1)	1,265.7
Total Short-term Investments — Trading	185.4	—	—	185.4
Total Equity Securities — Trading	554.3	55.4	(25.0)	584.7
Total Catastrophe Bonds — Trading	42.5	—	—	42.5
Total	<u>\$ 2,047.0</u>	<u>\$ 69.4</u>	<u>\$ (38.1)</u>	<u>\$ 2,078.3</u>

As at December 31, 2015

	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Market Value
	(\$ in millions)			
U.S. Government	\$ 27.4	\$ —	\$ (0.1)	\$ 27.3
Municipal	0.5	—	—	0.5
Corporate	561.9	5.9	(9.6)	558.2
Foreign Government	181.5	1.7	(3.7)	179.5
Asset-backed	20.7	—	(0.2)	20.5
Bank Loans	2.2	—	(0.2)	2.0
Total Fixed Income Securities — Trading	794.2	7.6	(13.8)	788.0
Total Short-term Investments — Trading	9.5	—	—	9.5
Total Equity Securities — Trading	722.5	57.3	(43.4)	736.4
Catastrophe Bonds — Trading	55.2	0.3	(0.1)	55.4
Total	<u>\$ 1,581.4</u>	<u>\$ 65.2</u>	<u>\$ (57.3)</u>	<u>\$ 1,589.3</u>

Gross Unrealized Losses. As at December 31, 2016, we held 677 available for sale fixed income securities (December 31, 2015 — 793 fixed income securities) in an unrealized loss position with a fair value of \$2,554.1 million (2015 — \$2,562.1 million) and gross unrealized losses of \$40.8 million (2015 — \$25.6 million). We believe that the gross unrealized losses are attributable mainly to a combination of widening credit spreads and interest rate movements. We have assessed these securities which are in an unrealized loss position and believe the decline in value to be temporary.

U.S. Government and Agency Securities. U.S. government and agency securities are composed of bonds issued by the U.S. Treasury and corporate debt issued by agencies such as Government National Mortgage Association (“GNMA”), Federal National Mortgage Association (“FNMA”), Federal Home Loan Mortgage Corporation (“FHLMC”) and Federal Home Loan Bank.

Corporate Securities. Corporate securities are composed of short-term, medium-term and long-term debt issued by corporations and supra-national entities.

Foreign Government Securities. Foreign government securities are composed of bonds issued and guaranteed by foreign governments and their agents including, but not limited to, the U.K., Australia, Canada, France and Germany.

Municipal Securities. Municipal securities are composed of bonds issued by U.S. municipalities.

Asset-Backed Securities. Asset-backed securities are securities backed by notes or receivables against assets other than real estate.

Mortgage-Backed Securities. Mortgage-backed securities are securities that represent ownership in a pool of mortgages. Both principal and income are backed by the group of mortgages in the pool. They include bonds issued by government-sponsored enterprises such as FNMA, FHLMC and GNMA.

Short-Term Investments. Short-term investments comprise highly liquid debt securities with a maturity greater than three months but less than one year from the date of purchase and are held as part of our investment portfolio. Short-term investments are classified as either trading or available for sale according to the facts and circumstances of the investment held, and carried at estimated fair value.

Equity Securities. Equity securities are comprised of U.S. and foreign equity securities and are classified as trading. The portfolio invests in global equity securities.

Catastrophe Bonds. Catastrophe bonds are variable rate fixed income investments with redemption values adjusted based on the occurrence of a covered event usually windstorms and earthquakes.

Interest Rate Swaps. As at December 31, 2016, we no longer held any fixed for floating interest rate swaps (2015 — notional \$756.3 million).

For additional information concerning our investments, see Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations”, Note 6 of our consolidated financial statements, “Investments,” and Note 8 of our consolidated financial statements, “Fair Value Measurements.”

For additional information concerning Other-Than-Temporary Impairment of Investments, see Note 2(c) of our consolidated financial statements, “Basis of Preparation and Significant Accounting Policies — Accounting for Investments, Cash and Cash Equivalents.”

Competition

The insurance and reinsurance industries are mature and highly competitive. Competition varies significantly on the basis of product and geography. Insurance and reinsurance companies compete on the basis of many factors, including premium charges, general reputation and perceived financial strength, the terms and conditions of the products offered, ratings assigned by independent rating agencies, speed of claims payments, reputation and experience in the particular risk to be underwritten, quality of service, the jurisdiction where the reinsurer or insurer is licensed or otherwise authorized, capacity and coverages offered and various other factors.

We compete with major U.S., U.K., Bermudian, European, and other international insurers and reinsurers and underwriting syndicates from Lloyd’s, some of which have longer operating histories, more capital and/or more favorable ratings than we do, as well as greater marketing, management and business resources. We also compete with capital market participants that create alternative products, such as catastrophe bonds, that are intended to compete with traditional reinsurance products. The availability of these non-traditional products could reduce the demand for both traditional insurance and reinsurance products.

Our competitors include, but are not limited to, American International Group, Inc., Arch Capital Group Ltd., Axis Capital Holdings Limited, Chubb Limited, Endurance Specialty Holdings Ltd., Everest Re Group Limited, Hannover Re, Lancashire Holdings Limited, Munich Re, PartnerRe Ltd., QBE Insurance Group Limited, Renaissance Re Holdings Ltd., SCOR SA, Swiss Re, Validus Holdings Ltd., XL Catlin and various Lloyd’s syndicates.

Increased competition could result in fewer submissions for our products and services, lower rates charged, slower premium growth and less favorable policy terms and conditions, any of which could adversely impact our growth and profitability.

Ratings

Ratings by independent agencies are an important factor in establishing the competitive position of (re)insurance companies and are important to our ability to market and sell our products and services. Rating organizations continually review the financial positions of insurers, including us. As of February 1, 2016 and February 1, 2017, our Operating Subsidiaries were rated as follows:

Aspen U.K.:

A.M. Best	A (Excellent) (third highest of fifteen levels)
S&P	A (Stable) (seventh highest of twenty-three levels)
Moody's	A2 (sixth highest of twenty-one levels)

Aspen Bermuda:

A.M. Best	A (Excellent) (third highest of fifteen levels)
S&P	A (Stable) (seventh highest of twenty-three levels)
Moody's	A2 (sixth highest of twenty-one levels)

Aspen Specialty:

A.M. Best	A (Excellent) (third highest of fifteen levels)
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AAIC:

A.M. Best	A (Excellent) (third highest of fifteen levels)
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These ratings reflect A.M. Best's, S&P's and Moody's respective opinions of the ability of Aspen U.K., Aspen Bermuda, Aspen Specialty and AAIC to pay claims and are not evaluations directed to investors in our ordinary shares and other securities and are not recommendations to buy, sell or hold our ordinary shares and other securities. A.M. Best maintains a letter scale rating system ranging from "A++" (Superior) to "F" (in liquidation). S&P maintains a letter scale rating system ranging from "AAA" (Extremely Strong) to "D" (Default). Moody's maintains a letter scale rating system ranging from "Aaa" (Exceptional) to "C" (Lowest). Aspen Specialty's and AAIC's ratings reflect the Aspen group rating issued by A.M. Best. These ratings are subject to periodic review by, and may be revised downward or revoked at the sole discretion of, A.M. Best, S&P and Moody's, respectively.

Employees

As of December 31, 2016, we employed 1,602 persons through the Company and our subsidiaries, Aspen Bermuda, Aspen U.K. Services, Aspen U.S. Services, AgriLogic Services, Golden State and Blue Waters, none of whom was represented by a labor union. As at December 31, 2016 and 2015, our employees were located in the following countries:

Country	As at December 31, 2016	As at December 31, 2015
United Kingdom	658	579
United States ⁽¹⁾	797	412
Bermuda	56	52
Switzerland	39	37
Singapore	23	19
Ireland	12	12
Dubai	6	—
France	4	5
Germany	4	3
Australia	3	2
Total	1,602	1,121

⁽¹⁾ The increase in the number of employees in the United States is largely associated with our acquisition of AgriLogic in January 2016.

Regulatory Matters

General

The business of insurance and reinsurance is regulated in most countries, although the degree and type of regulation varies significantly from one jurisdiction to another. The discussion below summarizes the material laws and regulations applicable to our Operating Subsidiaries and, where relevant, Peregrine, Silverton and Aspen Capital Markets. Our Operating Subsidiaries have met or exceeded the solvency margins and ratios applicable to them as at December 31, 2016.

Bermuda Regulation

The Insurance Act 1978, as amended (the "Insurance Act"), regulates insurance companies in Bermuda, and it provides that no person may carry on any insurance business in or from within Bermuda unless registered as an insurer by the Bermuda Monetary Authority (the "BMA") under the Insurance Act. The Insurance Act applies to both insurance and reinsurance business. We have one Bermuda-based Operating Subsidiary, Aspen Bermuda, a Class 4 insurer under the Insurance Act. We also have entities licensed as Special Purpose Insurers ("SPI") under the Insurance Act, Peregrine and Silverton. We also have a Bermuda-based insurance management subsidiary, ACM, which is registered under the Insurance Act as an insurance manager and as an insurance agent.

On March 25, 2016, Bermuda's prudential framework for (re)insurance and group supervision was confirmed as being fully equivalent to the regulatory standards applied to European reinsurance companies and insurance groups in accordance with the requirements of the Solvency II Directive. Bermuda was granted this full 'Solvency II equivalence' for an unlimited period by the European Commission based on an assessment conducted by the European Insurance and Occupational Pensions Authority, and the equivalence decision was applied retroactively to January 1, 2016.

Group Supervision. The BMA has implemented a framework for group supervision. The BMA may, in respect of an insurance group, determine whether it is appropriate for it to be the group supervisor of that group. For purposes of the Insurance Act, an insurance group is defined as a group of companies that conducts insurance business. Where the BMA determines that it is the group supervisor, it shall designate a specified insurer that is a member of the insurance group to be the "designated insurer" in respect of that insurance group and it shall give written notice to the designated insurer and other competent authorities that it is the group supervisor. Pursuant to the Insurance Act, the BMA acts as the group supervisor of the Aspen group of companies and has designated Aspen Bermuda as the designated insurer. The role of the designated insurer is to facilitate and maintain compliance by the group with the Group Rules (as defined below).

In carrying out its functions, the BMA makes rules for assessing the financial situation and the solvency position of the Group and/or its members and rules in respect of the system of governance and risk management of the insurance group and supervisory reporting and disclosures of the insurance group.

The current supervision and solvency rules (together, the "Group Rules") apply to our group so long as the BMA remains our Group supervisor. Through the Group Rules, the BMA may take action which affects the Company. Significant requirements of the Group Rules are set out below.

Group Financial Statements and Group Statutory Financial Return. Every insurance group is required to prepare an annual group statutory financial return and group statutory financial statements which must be submitted to the BMA by the designated insurer within five months after its financial year end (unless specifically extended by the BMA for a longer period not exceeding eight months). The Group Rules prescribe the rules pertaining to the preparation and substance of the group statutory financial statements (which include, in statutory form, a group balance sheet, a group income statement, a group statement of capital and surplus, and notes thereto).

The group statutory financial return must consist of the following documents: a cover sheet, an insurance group business solvency certificate, an opinion of a BMA approved group actuary, particulars of ceded reinsurance comprising of the top ten unaffiliated reinsurers for which the group has the highest recoverable balances and any reinsurer with recoverable balances exceeding 15% of the insurance group's statutory capital and surplus, any adjustments applied to the group financial statements by the group to produce the statutory financial statements in the form of a reconciliation of amounts reported as total assets, total liabilities, net income and total statutory capital and surplus and a list of non-insurance financial regulated entities owned by the group.

Every insurance group must prepare and submit, on an annual basis, consolidated audited financial statements including notes to the financial statements of the parent company of the group prepared under GAAP Standards ("Group Financial Statements"). The Group Financial Statements must be audited annually by the group's approved auditor who must prepare an auditor's report in accordance with generally accepted auditing standards. The designated insurer is required to file with the BMA annually the audited Group Financial Statements within five months from the end of the relevant financial year, or such longer period as permitted by the BMA not exceeding eight months, and shall be accompanied by an unaudited statement for public disclosure

with respect to the group's compliance with the MSM and Group Enhanced Capital Requirement ("ECR"). The Group Financial Statements are published by the BMA on its website.

In addition to the annual filings, every insurance group is required to submit quarterly consolidated financial statements of the parent company of the group, comprising unaudited consolidated group financial statements and a schedule of intra-group transactions and risk concentrations which will include details of material intra-group transactions, details surrounding all intra-group reinsurance and retrocession arrangements that have materialized since the most recent quarterly or annual financial return filed with the BMA and details of the top ten largest exposures to unaffiliated counterparties exposures exceeding 10% of the insurer's statutory capital and surplus.

Group Capital and Solvency Return. Every insurance group must also prepare and submit a group capital and solvency return ("Group CSR"), which includes the Group Bermuda Solvency Capital Requirement ("BSCR"), a risk-based capital adequacy model, and associated schedules, including a Group Solvency Self-Assessment ("GSSA"), each of which is to be prepared in accordance with the Group Rules. The Group Rules require that the insurance group perform the GSSA, which provides a determination of both the quality and quantity of the capital required to adequately cover material risks, at least annually. The Group CSR must include a declaration signed by two directors of the parent company, one of which may be the chief executive, and either the chief risk officer or the chief financial officer of the parent company. The Group CSR must be filed within five months after the end of the financial year or such longer period, not exceeding eight months, as the BMA may determine.

Group Minimum Solvency Margin and Group Enhanced Capital Requirements. Aspen Holdings must ensure that the group's statutory assets exceed the amount of its statutory liabilities by the aggregate minimum margin of solvency of each qualifying member. A member is a qualifying member of the insurance group if it is subject to solvency requirements in the jurisdiction in which it is registered.

For the financial year ending December 31, 2016, Aspen Holdings was required to maintain available group capital and surplus at a level equal to or exceeding 80% of the ECR and this requirement will increase by increments of 10% in each of the following years until 100% ECR is required for the 2018 financial year. An insurance group's ECR is to be calculated at the end of its relevant year by reference to either the BSCR Model or a BMA approved group internal capital model. For the financial year ending December 31, 2016, Aspen Holdings has relied on the BSCR model.

The BMA expects insurance groups to operate at or above a group Target Capital Level ("TCL") which exceeds the Group ECR. The TCL for insurance groups is set at 120% of its Group ECR.

Economic Balance Sheet Framework. The Economic Balance Sheet ("EBS") framework is an accounting balance sheet approach using market consistent values for all current assets and current obligations relating to in-force business which applies to Class 3A and 4 insurers and insurance groups for which the BMA is group supervisor from the 2016 financial year end. The EBS framework is embedded as part of the Capital and Solvency Return and forms the basis for the insurer's ECR.

Public Disclosures. For financial years after January 1, 2016, the Group Rules also include the requirement for insurance groups to prepare and publish a Financial Condition Report ("FCR"). Among other things, the FCR must provide details of measures governing business operations, the corporate governance framework, solvency and the financial performance of an insurance group. The FCR is to be publicly disclosed and is intended to provide additional information to the public in relation to the group's business model, whereby they can make an informed assessment on whether the business is run in a prudent manner. The FCR will be required to be filed with the BMA on or before the filing date of the insurance group's statutory financial return (May 31st of each year for Aspen Holdings) and will need to be published on the insurance group's website, no later than fourteen days after being filed with the BMA. In December 2016, the BMA agreed to extend both the filing and publication date for the FCR for the 2016 financial year to June 30, 2017.

Group Eligible Capital. The Group Rules also outline the eligible capital regime for insurance groups. The tiered capital system classifies all capital instruments into one of three tiers based on their "loss absorbency" characteristics with the highest quality capital classified as Tier 1 Capital and lesser quality capital classified as either Tier 2 Capital or Tier 3 Capital.

Group Governance. The Group Rules require the parent company holding board to establish and effectively implement corporate governance policies and procedures, which it must periodically review to ensure they continue to support the overall organizational strategy of the group. In particular, the parent company board must: (i) ensure that operational and oversight responsibilities of the group are clearly defined and documented and that the reporting of material deficiencies and fraudulent activities are transparent and devoid of conflicts of interest; (ii) establish systems for identifying on a risk sensitive basis those policies and procedures that must be reviewed annually and those policies and procedures that must be reviewed at other regular intervals; (iii) establish a risk management and internal controls framework and ensure that it is assessed regularly and such assessment is reported to the parent company board and the chief and senior executives; (iv) establish and maintain sound accounting and financial reporting procedures and practices for the group; and (v) establish and keep under review group functions relating to actuarial, compliance, internal audit and risk management functions which must address certain specific requirements as set out in the Group Rules.

A Supervisory College was held by relevant regulators of the Group (i.e., the BMA, the PRA, North Dakota and Texas) in April 2016. Supervisory Colleges are a regular and integral part of the group supervision process. It is a regulatory tool intended to facilitate supervision both on a group and legal entity level and it allows involved supervisors from various jurisdictions to acquire a better understanding of the group with respect to risk exposures and inherent risks, financial position and soundness, capital adequacy, business activities, as well as risk management and governance systems. This was the first Supervisory College held for the Group and no material issues were identified.

Local Entity Supervision. Aspen Bermuda, as an insurer carrying on general insurance business under the Insurance Act, is registered as a Class 4 insurer. In addition, the Insurance Act outlines provisions for SPIs, such as Peregrine and Silverton.

Principal Representative, Head and Principal Office. The Insurance Act requires every insurer, such as Aspen Bermuda, to appoint and maintain a principal representative resident in Bermuda and to maintain a principal office in Bermuda. The principal representative must be knowledgeable in insurance and is responsible for arranging the maintenance and custody of the statutory accounting records and for ensuring that the annual Statutory Financial Return and Capital and Solvency Return for the insurer are filed. The principal representative is also responsible for notifying the BMA where the principal representative believes there is a likelihood of Aspen Bermuda becoming insolvent or that a reportable “event” under the Insurance Act has, to the principal representative’s knowledge, occurred or is believed to have occurred.

Further, any registered insurer that is a Class 3A, 3B, or Class 4 insurer, such as Aspen Bermuda, is required to maintain a head office in Bermuda and direct and manage its insurance business from Bermuda. This amendment to the Bermuda Insurance Act was implemented in 2016 and provides that in considering whether an insurer satisfies the requirements of having its head office in Bermuda, the BMA may consider (i) where the underwriting, risk management and operational decision making occurs; (ii) whether the presence of senior executives who are responsible for, and involved in, the decision making are located in Bermuda; and (iii) where meetings of the board of directors occur. The BMA will also consider (i) the location where management meets to effect policy decisions; (ii) the residence of the officers, insurance managers or employees; and (iii) the residence of one or more directors in Bermuda.

Approved Independent Auditor. Aspen Bermuda, as a Class 4 insurer, must appoint an independent auditor who will annually audit and report on the statutory financial statements, GAAP financial statements and the statutory financial return of the insurer, all of which are required to be filed annually with the BMA. The independent auditor must be approved by the BMA.

Loss Reserve Specialist. Class 4 insurers are required to submit an opinion of their BMA approved loss reserve specialist with their statutory financial return in respect of their loss and loss expense provisions.

Annual Financial Statements, Annual Statutory Financial Return and Annual Capital and Solvency Return. As prescribed by the Insurance Act, Aspen Bermuda, a Class 4 insurer, must prepare annual statutory financial statements. The statutory financial return shall consist of an insurer information sheet, a report of the approved independent auditor on the GAAP financial statements, a statutory balance sheet, a statutory statement of income, a statutory statement of capital and surplus, notes to the statutory financial statements and a statutory declaration of compliance.

In addition to preparing statutory financial statements, Aspen Bermuda must file financial statements prepared in accordance with GAAP in respect of each financial year. Such statements must be filed with the BMA within a period of four months from the end of the financial year or such longer period, not exceeding seven months, as the BMA may determine. The audited financial statements will be published by the BMA.

For financial years after January 1, 2016, commercial insurers will also be required to prepare an FCR providing details of, among other things, measures governing the business operations, corporate governance framework, solvency and financial performance of the insurer. Where the commercial insurer is part of an insurance group, as Group Supervisor, the BMA may waive the submission of the legal entity FCR and may require the submission of the group FCR which must clearly include information specific to the insurer. Aspen Bermuda has been granted a waiver for the submission of the legal entity FCR for the financial year ending December 31, 2016.

In addition, Class 4 insurers are required to file a capital and solvency return in respect of their general business which shall include the regulatory risk based capital model and associated schedules. It also includes the requirement to perform an assessment of the insurer’s own risk and solvency requirements, referred to as a Commercial Insurer’s Solvency Self Assessment (“CISSA”), at least annually. The CISSA allows the BMA to obtain an insurer’s view of the capital resources required to achieve its business objectives and to assess the company’s governance, risk management and controls surrounding this process. Class 4 insurers must also file a Catastrophe Risk Return with the BMA which assesses an insurer’s reliance on vendor models in assessing catastrophe exposure.

Enhanced Capital Requirements and Minimum Solvency Margin. The BMA utilizes a risk-based capital adequacy model called the BSCR for Class 4 insurers like Aspen Bermuda to assist the BMA both in measuring risk and in determining appropriate levels

of capitalization. The BSCR employs a standard mathematical model that correlates the risk underwritten by Bermuda insurers to the capital that is dedicated to their business. The BSCR applies a standard measurement format to the risk associated with an insurer's assets, liabilities and premiums, including a formula to take account of the catastrophe risk exposure. Aspen Bermuda must maintain available capital and surplus in an amount equal to or exceeding its ECR calculated using the BSCR model.

In order to minimize the risk of a shortfall in capital arising from an unexpected adverse deviation, the BMA expects that insurers operate at or above a threshold captive level (termed the target capital level ("TCL")), which exceeds an insurer's ECR. The TCL for a Class 4 insurer is set at 120% of ECR. Aspen Bermuda holds capital in excess of its TCL.

As a Class 4 Insurer, Aspen Bermuda is also required to meet a minimum margin of solvency, which is the minimum amount by which the value of the general business assets of the insurer must exceed its general business liabilities, being equal to the greater of: (i) \$100,000,000; or (ii) 50% of net premiums written (being gross premiums written less any premiums ceded by the insurer, but the insurer may not deduct more than 25% of gross premiums when computing net premiums written) in its current financial year; or (iii) 15% of net losses and loss expense provisions and other insurance reserves; or (iv) 25% of the ECR reported at the end of its relevant year.

Minimum Liquidity Ratio. The Insurance Act provides a minimum liquidity ratio for general business insurers, like Aspen Bermuda. An insurer engaged in general business is required to maintain the value of its relevant assets at not less than 75% of the amount of its relevant liabilities. Relevant assets include, but are not limited to, cash and time deposits, quoted investments, unquoted bonds and debentures, investments in mortgage loans on real estate, investment income due and accrued, accounts and premiums receivable, reinsurance balances receivable and funds held by ceding reinsurers. There are certain categories of assets which, unless specifically permitted by the BMA, do not automatically qualify as relevant assets, such as unquoted equity securities, investments in and advances to affiliates and real estate and collateral loans. The relevant liabilities are total general business insurance reserves and total other liabilities less deferred income tax, sundry liabilities (by interpretation, those not specifically defined), and letters of credit and guarantees.

The BMA performed a prudential review of Aspen Bermuda in November 2016. No material issues were identified.

Supervision, Investigation and Intervention. The BMA may appoint an inspector with extensive powers to investigate the affairs of an insurer, such as Aspen Bermuda, if it believes that such an investigation is in the best interests of its policyholders or persons who may become policyholders. In order to verify or supplement information otherwise provided to the BMA, the BMA may direct an insurer to produce documents or information relating to matters connected with its business. If it appears to the BMA that there is a risk of an insurer becoming insolvent, or being in breach of the Insurance Act, or any conditions imposed upon its registration under the Insurance Act, the BMA may, among other things, direct the insurer: (i) not to take on any new insurance business; (ii) not to vary any insurance contract if the effect would be to increase its liabilities; (iii) not to make certain investments; (iv) to realize certain investments; (v) to maintain in or transfer to the custody of a specified bank certain assets; (vi) not to declare or pay any dividends or other distributions, or to restrict the making of such payments; (vii) to limit its premium income; (viii) to remove a controller or officer; and/or (ix) to file a petition for the winding up of the insurer.

The BMA has the power to assist other regulatory authorities, including foreign insurance regulatory authorities, with their investigations involving insurance and reinsurance companies in Bermuda if it is satisfied that the assistance being requested is in connection with the discharge of regulatory responsibilities and that such cooperation is in the public interest.

Restrictions on Dividends, Distributions and Reduction of Capital. Aspen Bermuda, Peregrine, Silvertown and Aspen Holdings must comply with the provisions of the Bermuda Companies Act 1981, as amended (the "Companies Act"), regulating the payment of dividends and distributions. A Bermuda company may not declare or pay a dividend or make a distribution out of contributed surplus if there are reasonable grounds for believing that: (i) the company is, or would after the payment be, unable to pay its liabilities as they become due; or (ii) the realizable value of the company's assets would thereby be less than its liabilities. Further, an insurer may not declare or pay any dividends during any financial year if it would cause the insurer to fail to meet its relevant margins, and an insurer which fails to meet its relevant margins on the last day of any financial year may not, without the approval of the BMA, declare or pay any dividends during the next financial year. In addition, as a Class 4 insurer, Aspen Bermuda may not in any financial year pay dividends which would exceed 25% of its total statutory capital and surplus, as shown on its statutory balance sheet in relation to the previous financial year, unless it files with the BMA a solvency affidavit at least seven days in advance. Further, Aspen Bermuda must obtain the prior approval of the BMA before reducing by 15% or more its total statutory capital as set out in its previous year's financial statements.

Special Purpose Insurer. Peregrine and Silvertown are registered as SPIs licensed to carry on special purpose business under the Insurance Act. Special purpose business is defined under the Insurance Act as insurance business under which an insurer fully funds its liabilities to the persons insured through (i) the proceeds of any one or more of (x) a debt issuance where the repayment rights of the providers of such debt are subordinated to the rights of the person insured, or (y) some other financing mechanism

approved by the BMA; (ii) cash; and (iii) time deposits. An SPI may only enter into contracts, or otherwise assume obligations, that are solely necessary for it to give effect to the special purpose for which it has been established.

Unlike other (re)insurers, SPIs are fully funded to meet their (re)insurance obligations and are deemed “bankruptcy remote”. As a result, the application and supervision processes are streamlined to facilitate the transparent structure. As SPIs, Peregrine and Silverton need to maintain a minimum solvency margin by which the value of the special purpose business assets must exceed its special purpose business liabilities by at least \$1.00. Further, SPIs are currently not required to file annual loss reserve specialist opinions and the BMA has the discretion to modify such insurer’s accounting requirements under the Insurance Act. Like other (re)insurers, the principal representative of an SPI has a duty to inform the BMA in relation to solvency matters, where applicable.

Segregated Account Companies. Peregrine and Silverton are also registered in Bermuda as segregated accounts companies under the Segregated Accounts Companies Act 2000, as amended. As a segregated accounts company, Peregrine and Silverton are required to segregate the assets and liabilities linked to their respective segregated accounts from the assets and liabilities linked to their other respective segregated accounts and from their general account assets and liabilities. The assets of each segregated account are only intended to be used to meet liabilities to creditors of that segregated account and are not intended to be available to meet liabilities to creditors in respect of other segregated accounts or, except where otherwise agreed and permitted by law, general account creditors of Peregrine or Silverton. The segregated account representative of a segregated accounts company has the duty to inform the Registrar of Companies in relation to solvency matters and non-compliance, where applicable.

Change of Controller and Officer Notifications. Under the Insurance Act, where the shares of a shareholder or insurer or the shares of its parent company are traded on a recognized stock exchange, each shareholder or prospective shareholder will be responsible for notifying the BMA in writing of his becoming or ceasing to be a shareholder controller, directly or indirectly, of 10%, 20%, 33% or 50% of Aspen Holdings and ultimately Aspen Bermuda, Peregrine and Silverton within 45 days of such a change. The BMA may serve a notice of objection on any shareholder controller of Aspen Bermuda, Peregrine and Silverton if it appears to the BMA that the person is no longer fit and proper to be such a controller. A shareholder controller must notify the BMA where he has reduced or disposed of his holding in a Class 4 insurer where the proportion of the voting rights in the insurer held by him will have reduced or fallen below 10%, 20%, 33% or 50% not later than 45 days after such disposal.

Aspen Bermuda is required to notify the BMA in writing in the event of any person becoming or ceasing to be a controller, a controller being a managing director, chief executive of the insurer or of another company of which it is a subsidiary, or other person in accordance with whose directions or instructions the directors or controllers of the insurer or of another company of which it is a subsidiary are accustomed to act, including any person who holds, or is entitled to exercise, 10% or more of the voting shares or voting power or is able to exercise a significant influence over the management of Aspen Bermuda. Peregrine and Silverton are required to file with the annual statutory financial statements a list of every person who has become or ceased to be a shareholder controller or director during the financial year.

Each of Aspen Holdings and Aspen Bermuda are required to notify the BMA in writing in the event any person has become or ceased to be an officer of it, an officer being a director, chief executive or senior executive performing duties of underwriting, actuarial, risk management, compliance, internal audit, finance or investment matters.

No insurer shall take any steps to give effect to a material change, unless it has first served such notice on the BMA that it intends to effect such material change and before the end of 30 days, either the BMA has notified such company in writing that it has no objection to such change or that period has lapsed without the BMA having issued a notice of objection.

Designated insurers are also required to give notice to the BMA if any member of its group intends to give effect to any material change as defined under the Insurance Act. The designated insurer shall notify the BMA of any material change, effected by a member of the group, within 30 days of such material change taking effect.

Advance Notification of Material Changes. All registered insurers are required to give the BMA 14 days’ advance notice of certain matters that are likely to be of material significance to the BMA in carrying out its supervisory function under the Insurance Act.

The Bermuda Insurance Code of Conduct. All Bermuda insurers are required to comply with the BMA’s Insurance Code of Conduct (the “Bermuda Insurance Code”) effective July 1, 2010, as amended in July 2015. The Bermuda Insurance Code is divided into six categories, including: (i) Proportionality Principle; (ii) Corporate Governance; (iii) Risk Management; (iv) Governance Mechanism; (v) Outsourcing; and (vi) Market Discipline and Disclosure. These categories contain the duties, requirements and compliance standards to be adhered to by all insurers under the Insurance Act. Failure to comply with these requirements will be a factor taken into account by the BMA in determining whether an insurer is conducting its business in a sound and prudent manner under the Insurance Act and could result in the BMA exercising its powers of intervention and will be a factor in calculating the operational risk charge applicable in accordance with that insurer’s risk based capital model.

The BMA has introduced an Insurance Manager Code of Conduct (the “Manager Code”) that insurance managers such as ACM must have implemented by December 31, 2016. The Manager Code establishes duties, requirements and standards to be complied with by insurance managers registered under the Insurance Act, including the procedures and principles to be observed by such persons.

U.K. and E.U. Regulation

General. U.K. insurance companies are regulated by the Prudential Regulatory Authority (the “PRA”) and the Financial Conduct Authority (the “FCA”). The PRA is responsible for prudential regulation of banks, building societies, credit unions, insurers and major investment firms and the FCA is responsible, among other things, for the regulation of the conduct of business of financial services firms.

Aspen U.K. is authorized by the PRA to effect and carry out contracts of insurance (which includes reinsurance) in the U.K. in all classes of general (non-life) business and is regulated by both the PRA and the FCA for prudential and conduct of business matters respectively.

An insurance company with authorization to write insurance business in the U.K. may provide cross-border services in other member states of the European Economic Area (“EEA”) subject to having notified the appropriate EEA host state regulator via the PRA prior to commencement of the provision of services and the appropriate EEA host state regulator not having good reason to refuse consent. As an alternative, such an insurance company may establish a branch office within another member state, subject to it also notifying the appropriate EEA host state regulator via the PRA. Aspen U.K. notified the Financial Services Authority (the “FSA”) (the PRA’s predecessor) of its intention to write insurance and reinsurance business in all other EEA member states. As a result, Aspen U.K. is licensed to write insurance business under the “freedom of services” within all EEA member states and under the “freedom of establishment” rights in France, Germany and Ireland (freedom of services and freedom of establishment rights together, “Passporting Rights”) contained in the European Council’s Insurance Directives. As a general insurer Aspen U.K. is able to carry out reinsurance business on a cross-border services basis across the EEA. The PRA is responsible for prudential regulation of Aspen U.K.’s European branches and the FCA and the appropriate EEA host state regulators are responsible for the conduct of business regulation of those branches.

Following the vote in favor of the withdrawal of the United Kingdom from the E.U. (“Brexit”) in the referendum on the United Kingdom’s membership in the E.U. held in June 2016, our U.K. operations could lose their EEA financial services Passporting Rights. For more information on the uncertainty surrounding the implementation and effect of Brexit, please see “Risk Factors — The vote by the U.K. electorate in favor of a U.K. exit from the E.U. in the recent referendum could adversely impact our business, results of operations and financial condition” below.

The PRA and the FCA have extensive powers to intervene in the affairs of an authorized person, culminating in the ultimate sanction of the removal of authorization to carry on a regulated activity. The PRA and the FCA have power, among other things, to enforce and take disciplinary measures in respect of breaches of their rules by authorized firms and approved persons.

Supervision. The PRA’s most recent review of Aspen U.K. was in February 2016 when they undertook their Periodic Summary Meeting. The FCA conducted a review of Aspen U.K. in February 2015. No material issues were raised as a result of these reviews and for the small number of areas where additional work was requested this has subsequently been completed.

Restrictions on Dividend Payments. The company law of England and Wales prohibits Aspen U.K., AMAL or AUL from declaring a dividend to its shareholders unless it has “profits available for distribution.” The determination of whether a company has profits available for distribution is based on its accumulated realized profits and other distributable reserves less its accumulated realized losses. While the U.K. insurance regulatory rules impose no statutory restrictions on a general insurer’s ability to declare a dividend, the PRA’s rules require each authorized insurance company within its jurisdiction to maintain its solvency margin at all times. On October 21, 2013, and in line with common market practice for regulated institutions, the PRA requested that it be afforded with the opportunity to provide a “non-objection” prior to all future dividend payments made by Aspen U.K.

Solvency Requirements. An E.U. directive covering the capital adequacy, risk management and regulatory reporting for insurers, known as Solvency II (the “Solvency II Directive”), was adopted by the European Parliament in April 2009 and implemented on January 1, 2016. Under the new Solvency II regime, an insurer has the option of seeking the approval of a full or partial internal model from its regulator or to use a standard formula to calculate its capital requirements. On December 5, 2015, Aspen U.K. received approval from the PRA to use an agreed Internal Model to calculate its Solvency Capital Requirement (“SCR”) for Aspen U.K. and Aspen European as from January 1, 2016. Aspen U.K. is required to ensure that the Internal Model operates properly on a continuous basis and that it continues to comply with the “Solvency Capital Requirements - Internal Models” provisions as set out in the PRA rulebook and Solvency II Delegated Acts. If Aspen U.K. fails to comply with these requirements, the PRA may revoke Aspen U.K.’s approval to use the Internal Model. Aspen U.K. must maintain the ability to calculate its SCR using the Standard Formula as prescribed by EIOPA in accordance with the Solvency II Directive. Aspen U.K. is required to maintain a

minimum margin of solvency equivalent to its SCR at all times, the calculation of which depends on the type and amount of insurance business written. The financial resources maintained in support of the SCR must be adequate, both as to amount and quality, to ensure that there is no significant risk that Aspen U.K.'s liabilities cannot be met as they fall due. If the PRA considers that there are insufficient capital resources, it can give guidance advising an insurer of the amount and quality of capital resources it considers necessary for that insurer. For more information regarding the risks associated with Solvency II, please refer to Item 1A, "Risk Factors."

Under the Solvency II regime, solvency requirements apply to both Aspen U.K. and Aspen European. Aspen U.K. is also required to meet local capital requirements for its branches in Canada, Singapore, Australia and its insurance activities in Switzerland. Aspen U.K. holds capital in excess of all of its regulatory capital requirements.

European Sub-Group U.K. and Branch Financial Statements and Returns. Under the Solvency I regime, Aspen U.K. was required to submit an annual PRA return which is subject to review by its auditors. As a consequence of the EU Insurance Groups Directive ("IGD") a group capital adequacy calculation was also performed at the ultimate EEA parent undertaking level, Aspen European, and the ultimate insurance parent undertaking, AIHL. Every three years Aspen U.K. was also required to submit to the PRA an assessment of its own capital needs through an Individual Capital Adequacy assessment ("ICA"). The Solvency I regime applied until January 1, 2016 when it was replaced by Solvency II.

Under the Solvency II regime, Aspen U.K. is required to disclose to the PRA quarterly and annually Quantitative Reporting Templates ("QRTs") and, at least every three years, a narrative Regular Supervisory Report ("RSR"). Both of these are submitted directly to the regulator. The QRTs report on a mixture of quantitative information on a Solvency II and local GAAP basis, which includes among others, the Balance Sheet and own funds, Solvency II capital position, invested assets, premiums, claims and technical provisions, reinsurance and group specific information. The RSR includes both qualitative and quantitative information and is more forward looking. In addition Aspen U.K. must complete a set of annual National Specific Templates ("NSTs") required by the PRA which are applicable to solo firms only. An annual Solvency and Financial Condition report ("SFCR"), which is a public document, must be completed and must include a mixture of narrative information and a sub-set of the QRTs. Similarly, an annual Own Risk and Solvency Assessment ("ORSA") must be completed for Aspen U.K. and submitted to the PRA. On October 12, 2016, the PRA notified Aspen U.K. that it had been granted a waiver for five years absolving it from the requirement to produce the QRTs, RSR, SFCR and ORSA at EEA-sub-group level due to Aspen Bermuda being subject to equivalent Group supervision. Certain quantitative and qualitative information included in the "Valuation for solvency purposes" and "Capital management" sections of the SFCR of insurers prepared at the solo, group and sub group level are subject to review by external auditors. However the sections of the SFCR which refer to metrics derived from an approved full or partial internal model are exempt from such review.

There are additional returns required by local regulators for Aspen U.K.'s branches in Australia, Canada and Singapore and its insurance Branch in Zurich.

Change of Control. The PRA and the FCA regulate the acquisition of "control" of any U.K. insurance company and Lloyd's managing agent which are authorized under the Financial Services and Markets Act 2000 ("FSMA"). Any company or individual that (together with any person with whom it or he is "acting in concert") directly or indirectly acquires 10% or more of the shares in a U.K. authorized insurance company or Lloyd's managing agent, or their parent company, or is entitled to exercise or control the exercise of 10% or more of the voting power in such authorized insurance company or Lloyd's managing agent or their parent company, would be considered to have acquired "control" for the purposes of the relevant legislation, as would a person who had significant influence over the management of such authorized insurance company or their parent company by virtue of his shareholding or voting power in either. A purchaser of 10% or more of the ordinary shares of the Company would therefore be considered to have acquired "control" of Aspen U.K. or AMAL. Under FSMA, any person proposing to acquire "control" over a U.K. authorized insurance company must give prior notification to the PRA and the FCA of his intention to do so. The PRA and the FCA would then have upwards of sixty working days to consider that person's application to acquire "control." Failure to make the relevant prior application could result in action being taken against Aspen U.K. or AMAL (as relevant) by the PRA and the FCA. Failure to make the relevant prior application would constitute criminal offense. A person who is already deemed to have "control" will require prior approval of the PRA and the FCA if such person increases their level of "control" beyond certain percentages. These percentages are 20%, 30% and 50%.

PRA, FCA and Bank of England Powers Over Unregulated Parent Companies. A feature of regulation of U.K. insurance companies was introduced in April 2013 when the Financial Services Act 2012 came into effect. This created additional powers for the FCA, PRA and the Bank of England to impose requirements on U.K. parent companies, such as Aspen European, of certain regulated firms. The powers allow the regulators to: (i) direct qualifying parent undertakings to comply with specific requirements; (ii) take enforcement action against qualifying parent undertakings if those directions are breached; and (iii) gather information from qualifying parent undertakings. For example, if an authorized firm is in crisis, the new powers may allow a regulator to direct a parent company to provide that firm with capital or liquidity necessary to improve the position of the firm. The definition of "qualifying parent undertakings" could allow the regulators to exercise these powers against an intermediate U.K. parent

company of an insurer that is not at the head of the ownership chain. How the FCA, PRA and Bank of England will exercise these powers over unregulated holding companies remains uncertain but the FCA, PRA and Bank of England have indicated that they will be used rarely and only where the other regulatory tools available are ineffective.

Senior Insurance Managers Regime. As part of the implementing measures of Solvency II, Aspen U.K. and AMAL responded to the requirements of the Senior Insurance Managers Regime. Firms were required to have governance maps in place by December 31, 2015 detailing the positions of senior personnel and key functions (used by the PRA and FCA in its supervision of Aspen U.K. and AMAL) and were required to submit “Grandfathering Notifications” to the PRA by February 8, 2016 in order to enroll existing senior managers within the new regime. The Senior Insurance Managers Regime came into full effect on March 7, 2016. Aspen U.K. and AMAL are compliant with the new regime.

Branch Regulations

Switzerland

General. Aspen U.K. established a branch in Zurich, Switzerland to write property and casualty reinsurance. The Federal Office of Private Insurance, a predecessor to the Financial Markets Supervisory Authority (“FINMA”) confirmed that the Swiss branch of Aspen U.K. for its reinsurance operations is not subject to its supervision under the Insurance Supervision Act (Switzerland), so long as the Swiss branch only writes reinsurance.

On October 29, 2010, Aspen U.K. received approval from FINMA to establish another branch in Zurich, Switzerland to write insurance products. The activities of the Switzerland insurance branch are regulated by FINMA pursuant to the Insurance Supervision Act (Switzerland). On April 25, 2016, it was confirmed that FINMA was obliged to supervise the reinsurance operations of Aspen U.K.’s Swiss branch as a result of having both insurance and reinsurance operations in Switzerland.

Supervision. FINMA conducted a review of Aspen U.K.’s Swiss operations in November 2016. No material issues were identified and we are in the process of performing additional work which was requested.

Singapore

General. On June 23, 2008, Aspen U.K. received approval from the Monetary Authority of Singapore (“MAS”) to establish a reinsurance branch in Singapore. The activities of the Singapore branch are regulated by the MAS pursuant to The Insurance Act of Singapore. Aspen U.K. is also registered by the Accounting and Corporate Regulatory Authority (“ACRA”) as a foreign company in Singapore and in that capacity is separately regulated by ACRA pursuant to The Companies Act of Singapore. AMAL set up a subsidiary company, Aspen Singapore Pte. Ltd. (“ASPL”), to access insurance business in Singapore and regulatory approval for ASPL to act as an intermediary was received from the MAS on December 21, 2015. ASPL was incorporated by ACRA on December 22, 2015 as a local company regulated by the Companies Act of Singapore.

Supervision. The MAS conducted a review in August 2016 of the Singapore branch of Aspen U.K. No material issues were identified.

Canada

General. Aspen U.K. has a Canadian branch whose activities are regulated by the Office of the Superintendent of Financial Institutions (“OSFI”). OSFI is the federal regulatory authority that supervises federal Canadian and non-Canadian insurance companies operating in Canada pursuant to the Insurance Companies Act (Canada). In addition, the branch is subject to the laws and regulations of each of the provinces and territories in which it is licensed.

Supervision. OSFI carried out an inspection visit to the Canadian branch of Aspen U.K. in September 2014. No material issues were identified.

Australia

General. On November 27, 2008, Aspen U.K. received authorization from the Australian Prudential Regulation Authority (“APRA”) to establish a branch in Australia. The activities of the Australian branch are regulated by APRA pursuant to the Insurance Act of Australia 1973. Aspen U.K. is also registered by the Australian Securities and Investments Commission as a foreign company in Australia under the Corporations Act of Australia 2001.

Supervision. APRA undertook a review of Aspen U.K.’s Australian branch in September 2015. No material issues were identified.

For additional information on our branches, refer to Note 19(a) of our consolidated financial statements, “Commitments and Contingent Liabilities — Restricted Assets.”

Other Regulated Firms

General. AUKSSL (previously APJ Services Limited) and ARML are authorized and regulated by the FCA. Both companies are subject to a separate prudential regime and other requirements for insurance intermediaries under the FCA Handbook.

Dubai

General. AUKSSL has established a branch in Dubai through which it places reinsurance business into Aspen U.K. The Dubai Financial Services Authority confirmed its approval of the branch on November 15, 2015.

Lloyd’s Regulation

General. We participate in the Lloyd’s market through our ownership of AMAL and AUL. AMAL is the managing agent for Syndicate 4711. AUL provides underwriting capacity to Syndicate 4711 and is a Lloyd’s corporate member. Our Lloyd’s operations are authorized by the PRA and regulated by the FCA and the PRA. AMAL received FSA (predecessor to the PRA and FCA) authorization on March 28, 2008. Our Lloyd’s operations are also subject to supervision by the Council of Lloyd’s. AMAL received authorization from Lloyd’s for Syndicate 4711 on April 4, 2008. The PRA and the FCA have been granted broad authorization and intervention powers as they relate to the operations of all insurers, including Lloyd’s syndicates, operating in the U.K. Lloyd’s market is authorized by the PRA and regulated by both the PRA and the FCA and is required to implement certain rules prescribed by the PRA and the FCA, which it does by the powers it has under the Lloyd’s Act 1982 relating to the operation of the Lloyd’s market. Lloyd’s prescribes, in respect of its managing agents and corporate members, certain minimum standards relating to their management and control, solvency and various other requirements. The PRA and the FCA directly monitors Lloyd’s managing agents’ compliance with their own regulatory requirements. If it appears to the PRA or the FCA that either Lloyd’s is not fulfilling its regulatory responsibilities or that managing agents are not complying with the applicable regulatory rules and guidance, they may intervene in accordance with their powers under the FSMA. By entering into a membership agreement with Lloyd’s, AUL undertakes to comply with all Lloyd’s byelaws and regulations as well as the provisions of the Lloyd’s Acts and FSMA that are applicable to it. The operation of Syndicate 4711, as well as AMAL and their respective directors, are subject to the Lloyd’s supervisory regime.

Supervision. AMAL was in scope for the PRA Periodic Summary Meeting performed in February 2016. No material issues were raised as a result of this review and for the small number of areas where additional work was requested this has subsequently been completed.

Solvency Requirements. Underwriting capacity of a member of Lloyd’s must be supported by providing a deposit (referred to as “Funds at Lloyd’s”) in the form of cash, securities or letters of credit in an amount determined in accordance with Lloyd’s requirements and the Solvency II regime. The amount of such deposit is calculated for each member through the completion of an annual capital adequacy exercise. Under these requirements, Lloyd’s must demonstrate that each member has sufficient assets to meet its underwriting liabilities plus a required solvency margin. This margin can have the effect of reducing the amount of funds available to distribute as profits to the member or increasing the amount required to be funded by the member to cover its solvency margin. On December 5, 2015, Lloyd’s received confirmation that its application to use its Internal Model to calculate its SCR was approved by the PRA. Effective January 1, 2016, Lloyd’s Internal Model has been used to calculate AMAL’s capital requirement.

Restrictions. A Reinsurance to Close (“RITC”) is a reinsurance contract to transfer the responsibility for discharging all the liabilities that attach to one year of account of a syndicate into a later year of account of the same or different syndicate in return for a premium. A RITC is usually put in place after the third year of operations of a syndicate year of account. If the managing agency concludes that an appropriate RITC for a syndicate that it manages cannot be determined equitably or negotiated on commercially acceptable terms in respect of a particular underwriting year, the underwriting year must remain open and be placed into run-off. During this period there cannot be a release of the Funds at Lloyd’s of a corporate member that is a member of that syndicate without the consent of Lloyd’s and such consent will only be considered where the member has surplus Funds at Lloyd’s.

Intervention Powers. The Council of Lloyd’s has wide discretionary powers to regulate members’ underwriting at Lloyd’s. It may, for instance, change the basis on which syndicate expenses are allocated or vary the Funds at Lloyd’s or the investment criteria applicable to the provision of Funds at Lloyd’s. Exercising any of these powers might affect the return on an investment of the corporate member in a given underwriting year. Further, the annual business plans of a syndicate are subject to the review and approval of the Lloyd’s Franchise Board. The Franchise Board is responsible for setting risk management and profitability targets for the Lloyd’s market and operates a business planning and monitoring process for all syndicates.

If a member of Lloyd's is unable to pay its debts to policyholders, such debts may be payable by the Lloyd's Central Fund, which in many respects acts as an equivalent to a state guaranty fund in the United States. If Lloyd's determines that the Central Fund needs to be increased, it has the power to assess premium levies on current Lloyd's members. The Council of Lloyd's has discretion to call or assess up to 3% of a member's underwriting capacity in any one year as a Central Fund contribution. Our syndicate capacity for the 2017 underwriting year is \$737.0 million (2016 underwriting year — \$745.8 million). Above this level, it requires consent of members voting at a general meeting.

Jersey Regulation

General. On March 22, 2010, we purchased APJ Jersey, a Jersey registered insurance company, which is subject to the jurisdiction of the Jersey Financial Services Commission ("JFSC"). The JFSC sets the solvency regime for those insurance companies under its jurisdiction. APJ Jersey holds funds in excess of the minimum requirement.

Supervision. JFSC undertook a review of APJ Jersey in March 2013. No material matters were identified.

U.S. Regulation

General. AAIC is a Texas-domiciled insurance company and is licensed to write insurance on an admitted basis in 50 U.S. states, the District of Columbia, Puerto Rico and the U.S. Virgin Islands. In addition, AAIC is a certified surety approved by the U.S. Department of the Treasury and an approved insurance provider for crop insurance by the U.S. Department of Agriculture.

We also write surplus lines policies on an approved, non-admitted basis through Aspen Specialty, Aspen U.K. and AMAL. Aspen Specialty is an insurance company domiciled and licensed in North Dakota and is therefore subject to North Dakota laws and regulations applicable to domestic insurers. Aspen Specialty is not licensed in any other state, however it is eligible to write surplus lines policies on a non-admitted basis in all 50 U.S. states and the District of Columbia. Aspen Specialty accepts business only through surplus lines brokers and does not market directly to the public.

Aspen U.K. is not licensed in any state in the U.S., however it is an alien insurer eligible to write surplus lines business in all 50 U.S. States and the District of Columbia based on its listing in the Quarterly Listing of the International Insurers Department ("IID") of the National Association of Insurance Commissioners ("NAIC"). Pursuant to IID requirements, Aspen U.K. has established a U.S. surplus lines trust fund with a U.S. bank to secure U.S. surplus lines policies. As noted above, we participate in the Lloyd's market through our ownership of AMAL and AUL; AMAL is the managing agent for Syndicate 4711, and AUL provides underwriting capacity to Syndicate 4711 and is therefore a Lloyd's corporate member. Syndicate 4711 also appears on the IID. As of December 31, 2016, Aspen U.K.'s and Syndicate 4711's surplus lines trust funds were \$185.7 million.

Following the enactment of the Non-Admitted and Reinsurance Reform Act (the "NRRRA"), which took effect on July 21, 2011 as part of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), no U.S. state can prohibit a surplus lines broker from placing business with a non-admitted insurer domiciled outside the U.S., such as Aspen U.K., that appears on the IID. IID filing and eligibility requirements were amended in February 2012 and, among other changes, beginning January 1, 2013, IID listed insurers are required to report and continually maintain a capital and/or surplus amount of \$45 million. As a matter of U.S. federal law, this means that Aspen U.K. should be surplus lines eligible in every U.S. state, even in states where Aspen U.K. had not previously been an eligible surplus lines insurer. Some states have developed eligibility standards and filing requirements separate from the IID listing, and our satisfaction of this additional listing or filing requirement is necessary to maintain our eligibility and acceptance by surplus lines brokers in those states.

Aspen Specialty, Aspen U.K. and AMAL are subject to limited state insurance regulations in states where they are surplus lines eligible. Specifically, rate and form regulations otherwise applicable to authorized insurers generally do not apply to Aspen Specialty, Aspen U.K. and AMAL's surplus lines transactions. In addition, because Aspen U.K. is not licensed under the laws of any U.S. state, U.S. solvency regulation tools, including risk-based capital standards, investment limitations, credit for reinsurance and holding company filing requirements, otherwise applicable to authorized insurers do not generally apply to alien surplus lines insurers such as Aspen U.K. However, Aspen U.K. and AMAL are subject to federal and state incidental regulations in areas such as those pertaining to federal reporting related to terrorism coverage and post-disaster emergency orders. We monitor federal and state regulations and directives and comply as necessary for all affected subsidiaries.

Aspen Management is a Massachusetts corporation licensed as a surplus line broker in Massachusetts, Connecticut, New York and Texas. ASIS is a California limited liability company licensed as a surplus line broker in California. Aspen Management and ASIS serve as surplus line brokers only for companies within the Aspen Group, and do not act on behalf of non-Aspen third parties or market directly to the public.

Aspen Re America is a Delaware corporation and functions as a reinsurance intermediary with offices in Connecticut, Florida, Georgia, Illinois and New York. Aspen Re America acts as a reinsurance intermediary for Aspen U.K. and as an approved Lloyd's

coverholder for the purpose of accessing certain Latin American reinsurance business for AMAL only. Aspen Re America does not provide reinsurance intermediary services for non-Aspen third parties or market directly to the public.

Aspen U.S. Services is a Delaware corporation that provides administrative and technical services to our U.S. entities, primarily from our Rocky Hill, Connecticut office. It is authorized to do business in the various states where we have physical offices. No filings are required with state insurance departments.

In January 2016, Aspen U.S. Holdings purchased AgriLogic, a Texas limited liability company, from IAT Reinsurance Company Limited (“IAT”) and employed certain members of AgriLogic management. On July 1, 2016, AAIC became an approved insurance provider (“AIP”) under the Federal Agriculture Improvement and Reform Act of 1996, the Federal Crop Insurance Act and regulations promulgated by the Risk Management Agency (“RMA”) of the United States Department of Agriculture. Federal crop and livestock insurance coverage issued by AgriLogic on behalf of AAIC is regulated primarily by the RMA through RMA management and the Federal Crop Insurance Corporation, which is a federal sponsored reinsurance company that AAIC is required to cede reinsurance coverage to as part of the federal crop insurance program. AgriLogic and AAIC are also subject to market conduct and financial reviews by the RMA. A portion of the AAIC policies issued by AgriLogic are not part of the federal crop insurance program and are subject to traditional state based insurance regulation. As discussed above, AAIC is a Texas-domiciled insurance company and is therefore subject to Texas laws and regulations applicable to domestic insurers.

In October 2016, Acorn purchased Blue Waters Insurers, Corp., a Puerto Rico licensed insurance producer (“Blue Waters”). As of the acquisition date, Blue Waters is authorized to issue marine coverage on behalf of AAIC. Puerto Rico, a territory of the U.S., is an NAIC accredited jurisdiction.

U.S. Insurance Holding Company Regulation. Aspen U.S. Holdings is a Delaware corporation and the holding company parent of all of the above U.S. entities. Aspen Specialty and its affiliates are subject to the insurance holding company laws of North Dakota, and AAIC and its affiliates are subject to the insurance holding company laws of Texas. The holding company laws require that each insurance company within the holding company system furnish annual information about certain transactions with affiliated companies. Generally, all material transactions among companies in the holding company system affecting Aspen Specialty or AAIC, including sales, loans, reinsurance agreements, service agreements and dividend payments, must be fair and, if material or of a specified category, require prior notice and approval or non-disapproval by the North Dakota Commissioner of Insurance for Aspen Specialty or the Texas Commissioner of Insurance for AAIC.

The NAIC adopted amendments to the model insurance holding company act and regulations (the “Model HCA Amendments”) in December 2010 and December 2014. The Model HCA Amendments expanded the scope of regulatory oversight of, and required reporting by, insurers based in the U.S. and included the following requirements: (i) annual submission of an enterprise risk report by the domestic insurer’s ultimate controlling person identifying risks likely to have a material adverse effect upon the financial condition or liquidity of such insurer or its insurance holding company system as a whole; and (ii) prior notice of the proposed divestiture of a controlling interest in a domestic insurer. Both Texas and North Dakota have adopted substantially similar versions of the Model HCA Amendments. In September 2012, the NAIC adopted the Risk Management and Own Risk and Solvency Assessment Model Act (the “ORSA Model Act”), which requires insurers to conduct an internal own risk and solvency assessment of its material risks in normal and stressed environments and submit an annual summary report, which is a confidential assessment of the material and relevant risks associated with such insurer’s business plan, as well as the sufficiency of its capital resources to support these risks. Texas and North Dakota enacted substantially similar versions of the ORSA Model Act in 2015. We filed the required summary report of our own risk and solvency assessment in 2016 with the Texas Department of Insurance, our lead U.S. regulator.

Change of Control. Before a person can acquire control of a U.S. domestic insurer or its holding company, prior written approval must generally be obtained from the insurance commissioner of the state where the insurer is domiciled. Prior to granting approval of an application to acquire control of a domestic insurer or its holding company, the domiciliary state insurance commissioner will consider such factors as the financial strength of the proposed acquirer, the integrity and management of the acquirer’s Board of Directors and executive officers, the acquirer’s plans for the future operations of the domestic insurer and any anti-competitive results that may arise from the consummation of the acquisition of control. These laws may discourage potential acquisition proposals and may delay, deter or prevent a change of control involving us, including through unsolicited transactions, that some or all of our shareholders might consider to be desirable.

State Insurance Regulation. State insurance authorities have broad authority to regulate admitted insurance business, including licensing, admitted assets, capital and surplus, market conduct, regulating unfair trade and claims practices, establishing reserve requirements or solvency standards, filing of rates and forms and regulating investments and dividends.

AAIC and Aspen Specialty prepare statutory financial statements in accordance with Statutory Accounting Principles (“SAP”) and procedures prescribed or permitted by applicable domiciliary states. State insurance laws and regulations require Aspen Specialty and AAIC to file statutory financial statements with insurance departments in every state where they are licensed. State insurance departments also conduct periodic examinations of the books and records, financial reporting, policy filings and market

conduct of insurance companies licensed in their states. Coordinated financial examinations are generally carried out every five years by the insurance departments of the domiciliary states under guidelines promulgated by the NAIC. In 2014, AAIC and ASIC completed Texas and North Dakota financial examinations for the five-year period ending December 31, 2012 and no material issues were identified. The next financial examination of AAIC and ASIC is expected to commence in late 2017 for the period January 1, 2013 through December 31, 2017.

Statutory Accounting Principles. SAP is a basis of accounting developed to assist insurance regulators in monitoring and regulating the solvency of insurance companies. SAP is generally designed to report information in respect of an insurance company's ability to meet its obligations to policyholders and claimants, and focuses on surplus adequacy. Accordingly, statutory accounting focuses on valuing assets and liabilities of insurers at financial reporting dates in accordance with appropriate insurance law and regulatory provisions applicable in each insurer's domiciliary state.

U.S. GAAP is concerned with a company's solvency, but it is also concerned with other financial measurements, such as income and cash flows. Accordingly, U.S. GAAP gives more consideration to appropriate matching of revenue and expenses and accounting for management's stewardship of assets than does SAP. As a direct result, different assets and liabilities and different amounts of assets and liabilities will be reflected in financial statements prepared in accordance with U.S. GAAP as opposed to SAP.

The application of the SAP rules on AAIC and Aspen Specialty, established by the NAIC and adopted by the Departments of Insurance of the states, establishes, among other things, the amount of statutory surplus and statutory net income of our U.S. Operating Subsidiaries and thus determines, in part, the amount of funds they have available to pay as dividends to parent company entities. In October 2016, Aspen U.S. Holdings contributed all outstanding shares of Aspen Specialty to AAIC so that Aspen Specialty is now a direct, wholly owned subsidiary of AAIC. The transaction affects the calculation of statutory surplus of Aspen Specialty and AAIC.

State Dividend Limitations. Under North Dakota and Texas law, respectively, Aspen Specialty and AAIC may only pay dividends out of earned surplus as distinguished from contributed surplus. In addition, under North Dakota and Texas law, an insurance company's policyholder surplus after payment of a dividend must be reasonable in relation to its outstanding liabilities and adequate to its financial needs.

In addition, the ability of Aspen Specialty or AAIC to declare extraordinary dividends is subject to prior approval of the applicable state insurance regulator. The North Dakota insurance law defines an extraordinary dividend as a dividend that exceeds, together with all dividends declared or distributed by the insurer within the preceding twelve months, the lesser of:

- 10% of its policyholders surplus as of the preceding December 31; or
- the net income, not including realized capital gains, for the preceding calendar year.

The Texas insurance law defines an extraordinary dividend as a dividend that exceeds, together with all dividends declared or distributed by the insurer within the preceding twelve months, the greater of:

- 10% of its policyholders surplus as of the preceding December 31; or
- the net income for the preceding calendar year.

Aspen U.S. Holdings must also meet its own dividend eligibility requirements under Delaware corporate law in order to distribute any dividends received from Aspen Specialty and AAIC. In particular, any dividend paid by Aspen U.S. Holdings must be declared out of surplus or net profits.

The dividend limitations imposed by the North Dakota and Texas insurance laws are based on the financial results of Aspen Specialty and AAIC determined by using SAP accounting practices, which differ in certain respects from accounting principles used in financial statements prepared in conformity with U.S. GAAP. The significant differences relate to deferred acquisition expenses, deferred income taxes, required investment reserves, reserve calculation assumptions and surplus notes. Since both North Dakota and Texas law require insurance companies to pay dividends out of earned surplus as distinguished from contributed surplus, neither Aspen Specialty nor AAIC could pay a dividend as of December 31, 2016.

State Risk-Based Capital Regulations. Most states require their domestic insurers to annually report their risk-based capital based on a formula that takes into account the risk characteristics of the insurer, including asset risk, insurance risk, interest rate risk and business risk. The states use the formula as an early warning regulatory tool to identify possibly inadequately capitalized insurers for the purposes of initiating regulatory action, and not as a means to rank insurers generally. Most states' insurance law imposes broad confidentiality requirements on those engaged in any manner in the insurance business and on the regulator as to the use and publication of risk-based capital data. The regulator typically has explicit regulatory authority to require various actions by, or to take various actions against, insurers whose total adjusted capital does not exceed certain risk-based capital levels.

Additionally, since February 2016, the NAIC has been developing a standard set of guidelines for the calculation of group capital requirements for all the entities in a group as a way to supplement the current entity based capital standards. The goal is to provide a simple method for regulators to aggregate the available capital and the minimum capital of each entity in a group in a way that applies to all companies regardless of their structure. One conceptual issue with the group capital calculation is its intended use, which regulators have still not articulated, other than characterizing it as “another regulatory tool,” rather than a regulatory requirement. While it is still under discussion, it is expected that the new group capital requirements will incorporate existing risk-based capital requirements.

Guaranty Funds and Residual Market Mechanisms. Licensed and admitted U.S. insurers such as Aspen Specialty and AAIC are required to participate in various state residual market mechanisms whose goal is to provide affordability and availability of insurance to those consumers who may not otherwise be able to obtain insurance, including, for example catastrophe insurance in high-risk areas. The mechanics of how each state’s residual markets operate may differ, but generally, risks are either assigned to various private carriers or the state manages the risk through a pooling arrangement. If losses exceed the funds the pool has available to pay those losses, the pools have the ability to assess insurers to provide additional funds to the pool. The amounts of the assessment for each company are normally based upon the proportion of each insurer’s (and in some cases the insurer’s and its affiliates’) written premium for coverages similar to those provided by the pool, and are frequently uncapped. State guaranty associations also have the ability to assess licensed U.S. insurers in order to provide funds for payment of losses for insurers which have become insolvent. In many cases, but not all, assessed insurers may recoup the amount of these guaranty fund and state pool assessments through premium rates, premium tax credits or policy surcharges.

Operations of Aspen U.K. and Aspen Bermuda. Aspen U.K. and Aspen Bermuda are not admitted to engage in the business of insurance in the U.S. although, as stated above, Aspen U.K. and Syndicate 4711, due to their inclusion in the NAIC Quarterly Listing of Alien Insurers, are eligible to write surplus lines business as alien, non-admitted insurers in 50 U.S. states, the District of Columbia and other NAIC jurisdictions such as Puerto Rico in accordance with the Dodd-Frank Act. The laws of most states regulate or prohibit the sale of insurance and reinsurance within their jurisdictions by non-admitted insurers and reinsurers. We do not intend that Aspen Bermuda maintain an office or solicit, advertise, settle claims or conduct other insurance activities in any jurisdiction other than Bermuda where the conduct of such activities would require Aspen Bermuda to be so admitted. Aspen U.K. does not maintain an office in the U.S. but it reinsures U.S. primary risk as an alien accredited/trusted reinsurer in 50 U.S. states and the District of Columbia and, as noted above, writes excess and surplus lines business as an eligible, but non-admitted, alien surplus lines insurer. It accepts business only through U.S. licensed surplus lines brokers and does not market directly to the public. Although it does not underwrite or handle claims directly in the U.S., Aspen U.K. may grant limited underwriting authorities and retain third-party administrators, duly licensed, for the purpose of facilitating U.S. business. Aspen U.K. has also issued limited underwriting authorities to various affiliated U.S. entities described above.

In addition to the regulatory requirements imposed by the jurisdictions in which they are licensed, reinsurers’ business operations are affected by regulatory requirements in various U.S. states governing “credit for reinsurance” laws imposed on ceding companies. In general, a ceding company which obtains reinsurance from a reinsurer that is licensed, accredited or approved by the jurisdiction or state in which the reinsurer files statutory financial statements is permitted to reflect in its statutory financial statements a credit in an aggregate amount equal to the liability for unearned premiums (which are that portion of premiums written which applies to the unexpired portion of the policy period) and loss reserves and loss adjustment expense reserves ceded to the reinsurer. However, cedants are permitted to take a credit to statutory surplus resulting from reinsurance obtained from a non-licensed and non-accredited reinsurer only to the extent that the reinsurer provides a letter of credit, trust account or other acceptable security arrangement.

For its U.S. reinsurance activities, Aspen U.K. has established and must maintain a multi-beneficiary U.S. trust fund for the benefit of its U.S. cedants so that they are able to take financial statement credit for reinsurance without the need for Aspen U.K. to post contract-specific security. The minimum trust fund amount is \$20.0 million plus an amount equal to 100% of Aspen U.K.’s U.S. reinsurance liabilities collateralized under this arrangement. The total market value of assets in the Aspen U.K. multi-beneficiary trust were \$1,351.2 million as at December 31, 2016 and \$1,334.9 million as at December 31, 2015. For its U.S. reinsurance activities, Aspen Bermuda likewise has established and must maintain a multi-beneficiary U.S. trust fund for the benefit of its U.S. cedants so that they are able to take financial statement credit for reinsurance without the need for Aspen Bermuda to post contract specific security. The minimum trust fund amount is \$20.0 million plus an amount equal to 100% of Aspen Bermuda’s U.S. reinsurance liabilities collateralized under this arrangement. As further explained below, Aspen Bermuda has obtained approval to post reduced collateral in Florida, New York and North Dakota (i.e., 20% versus 100%). As at December 31, 2016, the total assets held in the U.S. trust fund and other assets available to secure against the U.S. trust fund’s liabilities were \$1,267.4 million (2015 —\$1,211.3 million).

As a result of the Dodd-Frank Act, only a ceding insurer’s state of domicile can dictate the credit for reinsurance requirements. Other NAIC jurisdictions in which a ceding insurer is licensed are no longer able to require additional collateral from non-admitted reinsurers or otherwise impose their own credit for reinsurance laws on ceding insurers domiciled in other states. In 2011, the

NAIC adopted revisions to its Credit for Reinsurance Model Law and Model Regulation (together the “Amended Credit for Reinsurance Model Act”). As at December 1, 2016, the Amended Credit for Reinsurance Model Act has been adopted in at least 27 states, including North Dakota, where the law took effect on January 1, 2016. In those states that have adopted the Amended Credit for Reinsurance Model Act, qualifying non-admitted reinsurers domiciled in “qualified jurisdictions” who meet certain minimum rating and capital requirements would, upon application to and approval by the state Insurance Departments, be permitted to post less than the 100% collateral currently required with respect to a cedant domiciled in that state. Bermuda is among the approved “qualified jurisdictions” which allows U.S. states that have adopted the Amended Credit for Reinsurance Model Act to implement reduced collateral requirements with respect to reinsurers domiciled in Bermuda, such as Aspen Bermuda. Aspen Bermuda has obtained approval to post reduced collateral in Florida, New York and North Dakota (i.e., 20% versus 100%). We will continue to monitor developments in collateral reduction with a view to seeking approval to post reduced collateral in other relevant states over time.

Further, the Dodd-Frank Act authorizes the U.S. Department of Treasury (“Treasury”) and the Office of the U.S. Trade Representative (“USTR”) to negotiate covered agreements governing certain matters relating to insurance with foreign jurisdictions. Such covered agreements could pre-empt state insurance laws. In November 2015, Treasury and the USTR announced their intention to enter into negotiations of a covered agreement with the European Union on matters including reinsurance collateral and obtaining equivalent treatment for the U.S. insurance regulatory regime under certain European Union laws. On January 13, 2017, the U.S. federal authorities and their E.U. counterparts announced the successful completion of their negotiations of a covered agreement between the U.S. and the E.U., and the U.S. federal authorities gave notice to the U.S. Congress, as required under the Dodd-Frank Act, that such negotiations had been completed. The covered agreement, if it comes into force, would eliminate reinsurance collateral requirements in the U.S. for an alien, non-admitted reinsurer domiciled in the E.U. (such as Aspen U.K.), in connection with the assumption of insurance business by such reinsurer from U.S. cedants, and only in the event such reinsurer meets certain specified minimum criteria. As to whether the covered agreement comes into force, the U.S. Congress does have a variety of general authorities under which it could make implementation of the covered agreement by federal agencies difficult or impossible, including the authority to prohibit the expenditure of federal funds for such implementation. The covered agreement would also prevent U.S. states from maintaining or adopting any new requirements with substantially the same impact on an E.U. reinsurer as the collateral requirements eliminated under the covered agreement. These reduced collateral provisions in the covered agreement would apply on the later of: (i) the date on which the reduced collateral measure under the covered agreement becomes effective, and (ii) the effective date of a new reinsurance agreement or an amendment or renewal of an existing reinsurance agreement, as applicable. There is no guarantee, however, that the covered agreement will come into force. There is also no guarantee that cedants will be willing to accept reduced collateral requirements.

Lloyd’s is licensed as a market in Illinois, Kentucky and the U.S. Virgin Islands to write insurance business. It is also eligible to write surplus lines and reinsurance business in all other U.S. states and territories. Lloyd’s as a whole makes certain returns to U.S. regulators and each syndicate makes quarterly trust returns to the New York Department of Financial Services with respect to its surplus lines and reinsurance business. Separate trust funds are in place to support this business. As at December 31, 2016, Syndicate 4711 had \$69.4 million held in trust for its surplus lines business and \$42.1 million held in trust for its reinsurance business.

Investment adviser regulation. Our subsidiary Aspen Capital Advisors Inc. (“Aspen Advisors”) is registered with the United States Securities and Exchange Commission (“SEC”) as a registered investment adviser. Aspen Capital is the investment adviser to a private investment fund that primarily invests in securities tied to weather, natural disasters or other insurance risks as well as certain collateralized property catastrophe reinsurance contracts. In the future, Aspen Capital may form and manage additional privately offered pooled investment vehicles, customize funds for single investors or groups of investors or manage separately managed accounts of other qualified clients on a limited basis. Aspen Capital’s net assets under management as at December 31, 2016 were \$81.7 million, all of which were managed on a discretionary basis. The amount disclosed differs from Aspen Capital’s “regulatory assets under management” disclosed in Part 1 of its Form ADV, which is calculated in accordance with the requirements of that form.

Aspen Capital is subject to regulation as an investment adviser by the SEC. Federal and state securities laws and regulations are primarily intended to protect investors in the securities markets and generally grant regulatory agencies broad rulemaking and enforcement powers, including the power to limit or restrict the conduct of business for failure to comply with such laws and regulations. The SEC and state securities regulatory authorities from time to time may make inquiries and conduct examinations regarding compliance by Aspen Capital with securities and other laws and regulations. We intend to cooperate with such inquiries and examinations and take corrective action when warranted. Aspen Capital may also be subject to similar laws and regulations in foreign countries if it provides investment advisory services, offers products similar to those described above or conducts other activities.

Available Information

Our website is maintained at www.aspen.co. The information on our website is not incorporated by reference in this report. We make available, free of charge through our website, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the SEC. We also make available, free of charge from our website, our Code of Business Conduct and Ethics, Corporate Governance Guidelines, Audit Committee Charter, Compensation Committee Charter, Corporate Governance and Nominating Committee Charter, Disclosure Policy and Director Independence Standards. Such information is also available in print for any shareholder who sends a request to Aspen Insurance Holdings Limited, Attention: Company Secretary, 141 Front Street, Hamilton HM19, Bermuda. Reports filed with the SEC may also be viewed or obtained at the SEC Public Reference Room at 100 F Street, N.E., Washington, DC 20549. Information on the operation of the SEC Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. The SEC maintains an internet site that contains reports, proxy and information statements, and other information regarding issuers, including the Company, that file electronically with the SEC. The address of the SEC's website is www.sec.gov.

Item 1A. Risk Factors

You should carefully consider the following risk factors and all other information set forth in this report, including our consolidated financial statements and the notes thereto. Any of the risks described below could materially and adversely affect our business, operating results or financial condition and could cause the trading price of our securities to decline significantly. The risk factors described below could also cause our actual results to differ materially from those in the forward-looking and other statements contained in this report and other documents that we file with the SEC. The risks and uncertainties described below are not the only ones we face. However, these are the risks we believe to be material as of the date of this report. Additional risks not presently known to us or that we currently deem immaterial may also impair our future business or operating results.

Introduction

As with any publicly traded company, investing in our equity and debt securities carries risks. Our risk management strategy is designed to identify, measure, monitor and manage material risks that we can control and which could adversely affect our financial condition and operating results. We have invested significant resources to develop the appropriate risk management policies and procedures to implement this strategy. Nonetheless, the future business environment is intrinsically uncertain and difficult to forecast and, as a result, our risk management methods may not be successful.

We set out below the risks we have identified. For this purpose, we divide risks into core and non-core risks as further described above under Item 1, “Business - Risk Management - Risk Management Strategy.” We classify insurance risk and market risk in pursuance of our underwriting and investment strategies as core risks. We intentionally expose the Company to core risks with a view to generating shareholder value but seek to manage the resulting volatility in our earnings and financial condition within the limits defined by our risk appetite. However, these core risks are intrinsically difficult to measure and manage and therefore we may not be successful in doing so. We seek, to the extent we regard as reasonably practicable and economically viable, to avoid or minimize our exposure to non-core risks.

Insurance Risks

Our financial condition and operating results may be adversely affected by the occurrence of catastrophic events.

As part of our insurance and reinsurance operations, we assume substantial exposure to losses resulting from catastrophic events. Catastrophes can be caused by various unpredictable events, including, but not limited to, severe weather, floods, wildfires, volcanic eruptions, earthquakes and tsunamis. The severe weather events to which we are exposed include tropical storms, cyclones, hurricanes, winter storms, tornadoes, hailstorms and severe rainfall causing flash floods.

The incidence, severity and magnitude of catastrophes are inherently unpredictable and our losses from such catastrophes have been and can be substantial. In addition, we expect that increases in the values and concentrations of insured property will increase the severity of such occurrences in the future and that global climate change may increase the frequency and severity of severe weather events and flooding. Although we attempt to manage our exposure to such events through a multitude of approaches, including geographic diversification, geographic limits, individual policy limits, exclusions or limitations from coverage, purchase of reinsurance and expansion of supportive collateralized capacity, the availability of these management tools may be dependent on market factors and, to the extent available, may not respond in the way that we expect. In addition, a single catastrophic event could affect multiple geographic zones or the frequency or severity of catastrophic events could exceed our estimates. As a result, the occurrence of one or more catastrophic events or an unusual frequency of smaller events may result in substantial volatility in, and may materially affect, our business, financial condition or operating results.

The models we use to assess our exposure to losses from future catastrophes contain inherent uncertainties and our actual losses may therefore differ significantly from expectations.

To help assess our exposure to losses from catastrophes we use computer-based models, which simulate multiple scenarios using a variety of assumptions. These models are developed in part by third party vendors and their effectiveness relies on the numerous inputs and assumptions contained within them, including, but not limited to, scientific research, historical data, exposure data provided by insureds and reinsureds, data on the terms and conditions of insurance policies and the professional judgment of our employees and other industry specialists. While the models have evolved considerably over time, they do not necessarily accurately measure the statistical distribution of future losses due to the inherent limitations of the inputs and assumptions on which they rely. These limitations are evidenced by significant variation in the results obtained from different models, material changes in model results over time due to refinement of the underlying data elements and assumptions and the uncertain predictive capability and performance of models over longer time intervals. The effect of these limitations is that future losses from catastrophic events may be larger and more frequent than expected or reported in our financial statements to date based on model assumptions.

Global climate change may have a material adverse effect on our operating results and financial condition if we do not adequately assess and price for any increased frequency and severity of catastrophes resulting from these environmental factors.

Weather patterns, including the frequency and severity of severe weather events, are believed to be influenced by cyclical phenomena operating over periods of months or years. There is widespread consensus in the scientific community that there is a long-term upward trend in global air and sea temperatures which is likely to increase the severity and frequency of severe weather events over the coming decades. Rising sea levels are also expected to add to the risks associated with coastal flooding in many geographical areas. Large scale climate change could also increase both the frequency and severity of our loss costs associated with property damage and business interruption due to storms, floods and other weather-related events. In addition, global climate change could impair our ability to predict the costs associated with future weather events and could also give rise to new environmental liability claims in the energy, manufacturing and other industries we serve.

Given the scientific uncertainty of predicting the effect of climate cycles and climate change on the frequency and severity of catastrophes and the lack of adequate predictive tools, we may not be able to adequately model the associated exposures and potential losses in connection with such catastrophes which could have a material adverse effect on our business, financial condition or operating results.

Our operating results may be adversely affected by one or more large losses from events other than catastrophes.

Large losses from single events can occur if we are exposed to such events through more than one (re)insurance contract. Such losses are referred to as “clash losses.” We seek to manage our exposure to large losses from events other than catastrophes by identifying possible scenarios under which we could be exposed and limiting our exposure to these potential scenarios. Some of the more significant scenarios we have identified are terrorist attacks, fire, explosion or spill at a refinery or offshore oil and gas installation, the collapse of a major office building, accidents at nuclear power stations, a series of simultaneous cyber attacks, the collision of two ships, an explosion in a port and the loss of a passenger airplane.

These risks are inherently unpredictable. It is difficult to predict the frequency of events of this nature and to estimate the amount of loss that any given occurrence will generate. Some of these large losses may also have the potential for exposure across multiple lines of business. As a consequence, our results could be materially adversely affected if there is an unexpected large number of clash losses in a period or if there is one or more of such losses of an unexpected large value. Our results may also be adversely affected if losses arise from a scenario we have not modeled. To the extent that losses from these risks occur, our financial condition and operating results could be materially affected.

We could face unanticipated losses from war, terrorism and political unrest, government action that is hostile to commercial interests and from sovereign, sub-sovereign and corporate defaults, and these or other unanticipated losses could have a material adverse effect on our financial condition, operating results and/or liquidity.

We have substantial exposure to unexpected, large losses resulting from man-made catastrophic events such as, but not limited to, acts of war, acts of terrorism and losses resulting from political instability, government action that is hostile to commercial interests and sovereign, sub-sovereign and corporate defaults. These risks are inherently unpredictable. It is difficult to predict their occurrence with statistical certainty or to estimate the amount of loss such an occurrence may generate. Terrorist attacks around the globe and ongoing unrest in the Middle East have highlighted the unpredictable but increasingly present threat of terrorism and political instability. These recent terrorist events could generate greater interest in political violence insurance coverage and greater awareness of the risks multinational corporations face in conflict-prone regions. We closely monitor the amount and types of coverage we provide for terrorism risk under insurance policies and reinsurance treaties. Even in cases where we have deliberately sought to exclude such coverage, there can be no assurance that a court or arbitration panel will interpret policy language or issue a ruling favorable to us. Accordingly, there remains a risk that our reserves will not be adequate to cover such losses should they materialize. Notably, the Terrorism Risk Insurance Program Reauthorization Act of 2015 (the “2015 TRIA Reauthorization”) does not provide coverage for reinsurance losses.

In addition, we have limited terrorism coverage for exposure to catastrophe losses related to acts of terrorism in the reinsurance that we purchase. Although the 2015 TRIA Reauthorization provides benefits in the event of certain acts of terrorism occurring in the United States, those benefits are subject to a deductible and other limitations.

The 2015 TRIA Reauthorization fixed the insurer deductible at 20% of an insurer’s direct earned premium of the preceding calendar year and the federal share of compensation at 85% of insured losses that exceed insurer deductibles, but only until January 1, 2016, at which time the federal share decreases by 1 percentage point per calendar year until equal to 80%. Given the unpredictable frequency and severity of terrorism losses and the limited terrorism coverage in our own reinsurance program, future losses from acts of terrorism could materially and adversely affect our operating results, financial condition and/or liquidity.

Our operating results may be adversely affected by an unexpected accumulation of attritional losses.

In addition to our exposures to catastrophes and other large losses as discussed above, our operating results may be adversely affected by unexpectedly large accumulations of attritional losses. We seek to manage this risk by using appropriate underwriting processes to guide the pricing, terms and acceptance of risks. These processes, which may include pricing models, are intended to ensure that premiums received are sufficient to cover the expected levels of attritional losses and a contribution to the cost of catastrophes and large losses where necessary. However, it is possible that our underwriting approaches or our pricing models may not work as intended and that actual losses from a class of risks may be greater than expected. Our pricing models are also subject to the same limitations as the models used to assess our exposure to catastrophe losses noted above. Accordingly, these factors could adversely impact our financial condition and/or operating results.

The effects of emerging claim and coverage issues on our business are uncertain.

Claim and coverage issues can arise when the application of (re)insurance policy language to potentially covered claims is unclear or disputed by the parties. When such issues emerge they may adversely affect our business by extending coverage beyond our underwriting intent or increasing the number or size of claims. In some instances, these changes may not become apparent until after we have issued (re)insurance contracts that are affected by such changes. As a result, the full extent of our liability under (re)insurance policies may not be known for many years after the policies are issued. Emerging claim and coverage issues could therefore have an adverse effect on our operating results and financial condition. In particular, our exposure to casualty (re)insurance lines increases our potential exposure to this risk due to the uncertainties of expanded theories of liability and the “long-tail” nature of these lines of business.

In addition, we may face continued exposure as a result of litigation related to the 2008 crisis in financial markets and subsequent recessions, volatility in capital and credit markets, distressed financial institutions, sovereign debt crises, the LIBOR scandal which involved manipulating daily LIBOR rates, and the foreign exchange scandal which involved front-running client orders and manipulating daily foreign exchange rates. These economic and market conditions and related events may increase allegations of misconduct, fraud and negligence, which may result in increased levels of insured claims in certain lines of business including, but not limited to, financial institutions, management liability and professional liability and in the reinsurance of these lines. The full extent of our liability and exposure to these types of claims may not be known for many years, which could adversely affect our financial condition or operating results.

The monetary impact of certain claims may be difficult to predict or ascertain upon inception and potential losses from such claims can be significant. For example, the full extent of our liability and exposure from claims of bad faith is not ascertainable until the claim has been presented and investigated. As such, a significant award in monetary terms on the basis of bad faith could adversely affect our financial condition or operating results.

The insurance and reinsurance business is historically cyclical and we expect to experience periods with excess underwriting capacity and unfavorable premium rates and policy terms and conditions.

The insurance and reinsurance industry has historically been cyclical. It is characterized by periods of intense competition on price and policy terms and conditions due to excessive underwriting capacity (a “soft” market) and periods when shortages of capacity permit favorable premium levels (a “hard” market). We are currently in a prolonged phase of the soft market cycle in most areas and, as a result, most products we write are experiencing varying degrees of rate pressure.

The supply of insurance and reinsurance has increased over the past several years as a result of capital provided by new entrants to the market, including alternative third party capital providers, and the commitment of additional capital by existing or new insurers or reinsurers which has caused premium rates to decrease. Further development of these factors could lead to a significant reduction in premium rates, less favorable policy terms and conditions and fewer submissions for our underwriting services. In addition, hard markets, if any, are likely to be shorter and more regional than in the past as a result of this new capital. Changes in the frequency and severity of losses suffered by insureds and insurers may also significantly affect the cycles of the insurance and reinsurance business. To the extent these trends continue, our financial condition or operating results could be adversely affected.

A material proportion of our business relies on the assessment and pricing of individual risks by third parties, including insurance companies which we reinsure and agents to whom we delegate underwriting authority for certain insurance products.

From time to time, we authorize managing general agents, general agents and other producers to write business on our behalf within underwriting authorities we prescribe. We rely on the underwriting controls of these agents and producers to write business within the underwriting authorities we provide. Although we monitor our underwriting on an ongoing basis, our monitoring efforts may not be adequate and our agents and producers may exceed their underwriting authorities or otherwise breach obligations owed

to us. In addition, our agents, producers, insureds or other third parties may commit fraud or otherwise breach their obligation to us. To the extent that our agents, producers, insureds or other third parties exceed their authorities, commit fraud or otherwise breach obligations owed to us, our operating results and financial condition may be materially adversely affected.

Our reliance on third party assessment and pricing of individual risk extends to our reinsurance treaty business. Similar to other reinsurers, we do not separately evaluate each of the individual risks assumed under most reinsurance treaties. Therefore, we are largely dependent on the original underwriting decisions made by ceding companies. We are subject to the risk that the ceding companies may not have adequately evaluated the risks to be reinsured and that the premiums ceded to us may not adequately compensate us for the risks we assume and the losses we may incur. As a result of this reliance on third parties, our operating results and financial condition may be materially adversely affected.

The failure of any risk management and loss limitation methods we employ could have a material adverse effect on our financial condition and operating results.

We seek to mitigate our loss exposure by writing a number of our insurance and reinsurance contracts on an excess of loss basis, such that we only pay losses that exceed a specified retention. We also seek to limit certain risks, such as catastrophes and political risks, by geographic diversification. Geographic zone limitations involve significant underwriting judgments, including the determination of zone boundaries and the allocation of policy limits to zones. In the case of proportional (also known as pro rata) property reinsurance treaties, we often seek per occurrence limitations or loss and loss expense ratio caps to limit the impact of losses from any one event, although we may not be able to obtain such limits in certain markets.

Various provisions in our policies intended to limit our risks, such as limitations or exclusions from certain coverage and choice of forum, may not always be enforceable. Purchasing reinsurance is another loss limitation method we employ which may not always respond in the way intended due to disputes relating to coverage terms, exclusions or counterparty credit risk. We cannot guarantee that any of these loss limitation methods will be effective or that disputes relating to coverage will be resolved in our favor. As a result of the risks that we (re)insure, unforeseen events could result in claims that substantially exceed our expectations, which could have a material adverse effect on our financial condition or operating results.

The reinsurance that we purchase may not always be available on favorable terms or we may choose to retain a higher proportion of particular risks than in previous years.

From time to time, market conditions have limited, and in some cases prevented, insurers and reinsurers from obtaining the types and amounts of reinsurance that they consider adequate for their business needs. Accordingly, we may not be able to obtain our desired amount of reinsurance or retrocession protection on terms that are acceptable to us from entities with a satisfactory credit rating or which is collateralized. Even if such capacity is available, we may also choose to retain a higher proportion of particular risks than in previous years due to pricing, terms and conditions or strategic emphasis. Compared to prior years, we expect to retain less risk in most of our lines of business due to increased purchasing of reinsurance. We may also seek alternative means of transferring risk, including expanded participation via our Aspen Capital Markets platform in alternative reinsurance structures. These solutions may not provide commensurate levels of protection compared to traditional retrocession. Our inability to obtain adequate reinsurance or other protection for our own account at favorable prices and on acceptable terms could have a material adverse effect on our business, operating results and financial condition.

Our financial condition and operating results may be adversely affected if actual claims exceed our loss reserves.

Our operating results and financial condition depend on our ability to accurately assess the potential losses associated with the risks that we insure and reinsure. While we believe that our loss reserves as of December 31, 2016 were adequate, establishing an appropriate level of loss reserves is an inherently uncertain process and requires a considerable amount of judgment. In addition, changes in the level of inflation also result in an increased level of uncertainty in our estimation of loss reserves, particularly for those lines of business that are considered “long-tail,” such as casualty, as they require a relatively long period of time to finalize and settle claims for a given accident year. To the extent actual claims exceed our expectations, we will be required immediately to recognize the less favorable experience. This could cause a material increase in our provisions for liabilities and a reduction in our profitability, including operating losses and reduction of capital. For example, if catastrophic events or other large losses occur, we may fail to adequately estimate our reserve requirements and our actual losses and loss expenses may deviate, perhaps substantially, from our reserve estimates.

Only reserves applicable to losses incurred up to the reporting date may be set aside in our financial statements, with no allowance for future losses. However, there are specific areas of our current reserves which have additional uncertainty associated with them. In property reinsurance, there is uncertainty relating to the ultimate settlement of losses related to the explosion in the port of Tianjin, China, Superstorm Sandy in 2012 and the New Zealand earthquake losses in 2010 and 2011. The explosion in the port of Tianjin, China in 2015 has likewise caused additional uncertainty in specialty reinsurance. In casualty reinsurance, there are

additional uncertainties associated with claims emanating from the 2008 global financial crisis and subsequent market events, and the potential for new types of claim to arise given the long-tail nature of many of the reinsurance risks. In the insurance segment, we wrote a book of financial institutions risks which have a number of notifications relating to the financial crisis in 2008 and subsequent market events. Our marine and energy liability account, which is a long-tail class, experienced higher than anticipated claims development during 2013 and in 2014 experienced higher than anticipated claims development in the construction liability account and could experience further unexpected development in future years. These factors can impact the claims adjustment processes which are dependent on the gathering of the necessary information on which to assess coverage, liability, causation and quantum.

Our calculation of reserves for losses and loss expenses also includes assumptions about future payments for settlement of claims and claims-handling expenses, such as medical treatment and litigation costs. We write casualty business in the United States, the United Kingdom, Australia and certain other territories where claims inflation has in many years run at higher rates than general inflation. To the extent inflation causes these costs to increase above reserves established for these claims, we will be required to increase our loss reserves with a corresponding reduction in our net income in the period in which the deficiency is identified.

See Item 1 above, “Business — Reserves” and Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” for a description of our reserving process and methodology.

The preparation of our financial statements requires us to make many estimates and judgments that are more difficult than companies operating outside the financial sector.

The preparation of our consolidated financial statements requires us to make many estimates and judgments that affect the reported amounts of assets, liabilities (including reserves), revenues and expenses and related disclosures of contingent liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, insurance and other reserves, reinsurance recoverables, investment valuations, intangible assets, bad debts, impairments, income taxes, contingencies, derivatives and litigation. We base our estimates on market prices, where possible, and on various other assumptions we believe to be reasonable under the circumstances, which form the basis for our judgments about the carrying values of assets and liabilities that are not readily apparent from other sources.

We have begun to place greater reliance on our actual actuarial experience for our long-tail lines of business that we have written since our inception in 2002. We believe that our earliest accident years are now capable of providing us with meaningful actuarial indications. Estimates and judgments for new insurance and reinsurance lines of business are more difficult to make than those made for more mature lines of business because we have more limited historical information through December 31, 2016. A significant part of our current loss reserves is in respect of incurred but not reported (“IBNR”) reserves. This IBNR reserve is based almost entirely on estimates involving actuarial and statistical projections of our expectations of the ultimate settlement and administration costs. In addition to limited historical information for certain lines of business, we utilize actuarial models as well as historical insurance industry loss development patterns to establish loss reserves. Accordingly, actual claims and claim expenses paid may deviate, perhaps substantially, from the reserve estimates reflected in our financial statements.

If actual renewals of our existing policies and contracts do not meet expectations, our gross written premiums in future fiscal periods and our future operating results could be materially adversely affected.

A majority of our insurance policies and reinsurance contracts are for a one-year term. We make assumptions about the renewal rate and pricing of our prior year’s policies and contracts in our financial forecasting process. If actual renewals do not meet expectations, our gross written premiums in future fiscal periods and our future operating results and financial condition could be materially adversely affected. For Aspen Re, this risk is especially prevalent in the first quarter of each year when a large number of annual reinsurance contracts are subject to renewal.

Cyber threats are an evolving risk area affecting not only the specific cyber insurance we provide but also the liability coverage we provide.

We have introduced processes to manage our potential liabilities as a result of specific cyber coverage and other cover we provide to our (re)insurance clients. However, given that this is an area where the threat landscape is uncertain and continuing to evolve, there is a risk that increases in the frequency and effectiveness of cyber attacks on our clients could adversely affect our financial condition and operating results. This risk is also dependent on the measures our clients use to protect themselves to keep pace with the emerging threat, as well as the development and issuance of policy terms which are reactive to the evolving threat landscape.

Market and Liquidity Risks

Our financial condition and operating results may be adversely affected by reductions in the aggregate value of our investment portfolio.

Our operating results depend in part on the performance of our investment portfolio. Our funds are invested by several professional investment management firms in accordance with our investment guidelines. Our investment guidelines stress diversification of risks, preservation of capital and provision of liquidity. For more information on our investment guidelines, see “Business — Investments” under Item 1 above. However, our investments are subject to a variety of financial and capital market risks including, but not limited to, changes in interest rates, credit spreads, equity prices, foreign currency exchange rates, market volatility and risks inherent to particular securities. Prolonged and severe disruptions in the public debt and equity markets, including, among other things, widening of credit spreads, bankruptcies, defaults, and significant ratings downgrades, may cause significant losses in our investment portfolio. Market volatility can make it difficult to value certain securities if their trading becomes infrequent. Depending on market conditions, we could incur substantial additional realized and unrealized investment losses in future periods.

Separately, the occurrence of large claims may force us to liquidate securities at an inopportune time, which may cause us to realize capital losses. Large investment losses could decrease our asset base and thereby affect our ability to underwrite new business. Additionally, such losses could have a material adverse impact on our shareholders’ equity, business and financial strength and debt ratings. For the twelve months ended December 31, 2016, \$232.3 million of our income before tax was derived from our net invested assets.

As further described under “— The vote by the U.K. electorate in favor of a U.K. exit from the E.U. in the recent referendum could adversely impact our business, results of operations and financial condition” below, the long-term effect of the United Kingdom’s withdrawal from the E.U. on the value of our investment portfolio at this time is uncertain, and in the short-term, market volatility is also resulting in fluctuations in the value of our portfolio. Such uncertainty and volatility will likely continue as negotiations progress to determine the future terms of the United Kingdom’s relationship with the E.U.

The aggregate performance of our investment portfolio depends to a significant extent on the ability of our investment managers to select and manage appropriate investments. As a result, we are also exposed to operational risks which may include, but are not limited to, a failure of our investment managers to perform their services in a manner consistent with our investment guidelines, technological and staffing deficiencies, inadequate disaster recovery plans, interruptions to business operations due to impaired performance or failure or inaccessibility of information or IT systems. The result of any of these operational risks could adversely affect our investment portfolio, financial performance and ability to conduct our business.

Our results of operations and investment portfolio are materially affected by conditions impacting the level of interest rates in the global capital markets and major economies, such as central bank policies on interest rates and the rate of inflation.

As a global insurance and reinsurance company, we are affected by the monetary policies of the Bank of England, the European Central Bank, the U.S. Federal Reserve Board and other central banks around the world. These central banks have taken a number of actions in recent years to spur economic activity by keeping interest rates low, and may take further action to influence interest rates in the future. Unconventional easing from the major central banks and ongoing global economic weakness remain key uncertainties for markets and our business. Such actions may have a material impact on the pricing levels of our fixed-income investments.

Our exposure to interest rate risk relates primarily to the market price and cash flow variability of fixed income instruments that are associated with changes in interest rates. Our investment portfolio contains interest rate sensitive instruments, such as fixed income securities, which have been and will likely continue to be affected by changes in interest rates from central bank monetary policies, domestic and international economic and political conditions, levels of inflation and other factors beyond our control.

A low interest rate environment can result in reductions in our investment yield as new cash flows and proceeds from sales and maturities of fixed income securities are invested at lower rates. Interest rates are highly sensitive to many factors, including governmental monetary policies, inflation, domestic and international economic and political conditions and other factors beyond our control. For example, inflation could lead to higher interest rates causing the current unrealized gain position in our fixed maturity portfolio to decrease. Furthermore, as a result of the current low interest rate environment, we have diversified our investment portfolio by investing in equities and emerging market debt to enhance the returns on our investment portfolio. However, these assets are riskier in nature and could adversely impact our investment portfolio.

Interest rate fluctuations could also have an adverse effect on our mortgage reinsurance business. In both the U.S. and international mortgage markets, rising interest rates, among other factors, generally reduce the volume of new mortgage originations. A decline in the volume of new mortgage originations would have an adverse effect on our new mortgage reinsurance written. Conversely, declining interest rates historically have increased the rate at which borrowers refinance their existing mortgages, thereby resulting in cancellations of the mortgage insurance covering the refinanced loans, potentially having an adverse effect on the volume of mortgage insurance underlying our reinsurance, our levels of premium and any growth in such business.

Steps that may be taken by central banks to raise interest rates in the future could lead to higher inflation than we had anticipated which could, in turn, lead to an increase in our loss costs. Changes in the level of inflation also result in an increased level of uncertainty in our estimation of loss reserves for our long-tail lines of business.

Unexpected volatility or illiquidity associated with some of our investments could significantly and negatively affect our financial results, liquidity and ability to conduct business.

We hold or may in the future purchase certain investments which include, but are not limited to, publicly traded equities, high yield bonds, bank loans, emerging market debt, non-agency residential mortgage-backed securities, asset-backed securities and commercial mortgage-backed securities. During the height of the financial crisis, both fixed income and equity markets were more illiquid and volatile than expected. If we require significant amounts of cash on short notice in excess of normal cash requirements, we may have difficulty selling these investments in a timely manner and/or be forced to sell them for less than we otherwise would have been able to realize. If we are forced to sell our assets in unfavorable market conditions, there can be no assurance that we will be able to sell them for the prices at which we have recorded them and we may be forced to sell them at significantly lower prices. As a result, our business, financial condition, liquidity or operating results could be adversely affected.

The continuation of heightened systemic financial risks, including excess sovereign debt, risks to the banking system and weak economic growth could have a material adverse effect on global and regional economies and capital markets which could adversely affect our business prospects, financial condition, operating results and liquidity.

In recent years, global financial markets have been characterized by volatility and uncertainty and there continues to be uncertainty regarding the timeline for a full global economic recovery in many developed countries. Unfavorable economic conditions could increase our funding costs, limit our access to the capital markets or make credit harder to obtain. Uncertainties in the financial and commodity markets may also affect our counterparties which could adversely affect their ability to meet their obligations to us. For example, a significant portion of the business sourced by AgriLogic, our agriculture managing general agency, provides revenue protection to farmers for their expected crop revenues which can be affected by changes in crop prices. Significant losses to our agriculture classes of business could be incurred in the event of a decline in the applicable commodity prices prior to harvest.

Further deterioration or volatility in the financial markets or general economic and political conditions could result in a prolonged economic downturn or trigger another recession and our operating results, financial position and liquidity could be materially and adversely affected. Further, unfavorable economic conditions could have a material adverse effect on certain of the lines of business we write, including, but not limited to, credit and political risks, professional liability and surety risks.

We provide credit reinsurance to mortgage guaranty insurers and commercial credit insurers. We are exposed to the risk that losses from mortgage insurance materially exceed the net premiums that are received to cover such risks, which may, subject to liability caps, result in operating and economic losses to us. Mortgage insurance underwriting losses that have the potential to exceed our risk appetite are associated with the systemic impacts of severe mortgage defaults, driven by large scale economic downturns and high unemployment. As of December 31, 2016, the majority of our exposure to mortgage-related underwriting risks was in the United States, with a smaller amount of exposure in Australia.

Global markets also continue to be impacted by fiscal and monetary conditions in the Eurozone. As of December 31, 2016, we had no exposure to the sovereign debt of Greece, Italy, Ireland, Portugal or Spain (“GIIPS”). See “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Balance Sheet — Total cash and investments” for more information.

Concerns about the political and economic stability of countries within the E.U. and in regions outside the E.U., including China, Ukraine and Russia, have contributed to global market volatility. Concerns about the economic conditions, capital markets and the solvency of certain E.U. member states, including Greece, Portugal, Ireland, Italy, and Spain, and of financial institutions that have significant direct or indirect exposure to debt issued by these countries have caused elevated levels of market volatility.

A resurgence of the Eurozone crisis may cause investors to lose confidence in the safety and soundness of European financial institutions and the stability of Eurozone member economies, and likewise affect U.K. and U.S. based financial institutions, the stability of the global financial markets and any economic recovery. If a Eurozone member state were to default on its obligations

or seek to leave the Eurozone, the impact on the financial and currency markets would be significant and could materially impact all financial institutions, including our business, financial condition, operating results and liquidity.

A downgrade of U.S. or non-U.S. government securities by credit rating agencies could adversely impact the value of such securities in our investment portfolio and create uncertainty in the market generally.

A downgrade of U.S. or non-U.S. government securities by credit rating agencies has the potential to adversely impact the value of our investment portfolio and may cause the average credit rating of our investment portfolio to fall and create greater volatility in the prices of our other investments. In addition, a downgrade in the rating of U.S. or non-U.S. government securities may have an adverse impact on fixed income markets or have a material adverse effect on our financial condition or operating results.

The determination of the amount of allowances and impairments taken on our investments is highly subjective and could materially impact our operating results or financial position.

We perform reviews of our investments on a quarterly basis to determine whether declines in fair value below the cost basis are considered other-than-temporary impairments in accordance with applicable accounting guidance regarding the recognition and presentation of other-than-temporary impairments. The process of determining whether a security is other-than-temporarily impaired requires judgment and involves analyzing many factors. For additional information regarding this process, see Note 2 (c) of our consolidated financial statements, “Basis of Preparation and Significant Accounting Policies —Accounting for Investments, Cash and Cash Equivalents.” Assessing the accuracy of the level of impairments taken, and allowances reflected, in our financial statements is inherently uncertain given the subjective nature of the process. Furthermore, additional impairments may need to be taken or allowances provided in the future with respect to events that may impact specific investments. While historically our other-than-temporary impairments have not been material, historical trends may not be indicative of future impairments or allowances.

Our investment portfolio may be materially adversely affected by global climate change regulation and other factors.

World leaders met at the 2015 United Nations Climate Change Conference in December 2015 in Paris and agreed to limit global greenhouse gas emissions in the atmosphere to 2° Celsius, with an aspiration of 1.5° Celsius (the “Paris Agreement”). In order for governments to achieve their existing and future international commitments to limit the concentration of greenhouse gases under the Paris Agreement which entered into force on November 4, 2016, there is widespread consensus in the scientific community that a significant percentage of existing proven fossil fuel reserves may not be consumed. In addition, divestment campaigns, which call on asset owners to divest from direct ownership of commingled funds that include fossil fuel equities and bonds, likewise signal a change in society’s attitude towards the social and environmental externalities of doing business. As a result, energy companies and other companies engaged in the production or storage of fossil fuels may experience unexpected or premature devaluations or write-offs of their fossil fuel reserves. As at December 31, 2016, we had \$324.7 million, or 4.40% of our Managed Portfolio, invested in the energy sector. Government policies to slow global climate change by, for example, setting limits on carbon emissions may also have an adverse impact on other sectors, such as utilities, transportation and manufacturing. A material change in the asset value of fossil fuels or the securities of energy companies and companies in these other sectors may therefore materially adversely affect our investment portfolio and our results of operations and financial condition.

Our financial condition or operating results may be adversely affected by currency fluctuations.

A significant portion of our operations is conducted outside the U.S. Accordingly, we are subject to legal, economic and market risks associated with operating in countries throughout the world, including devaluations and fluctuations in currency exchange rates, imposition or increase of investment and other restrictions by foreign governments; and the requirement of complying with a wide variety of laws.

We report our operating results and financial condition in U.S. Dollars. Outside the United States, we predominantly generate revenue and expenses in the local currency. Our U.S. operations earn revenue and incur expenses primarily in U.S. dollars. In our London market operations, we earn revenue in a number of different currencies, but expenses are almost entirely incurred in the British Pound. In addition to the U.S. Dollar and the British Pound, our functional currencies are the Euro, the Swiss Franc, the Australian Dollar, the Canadian Dollar and the Singapore Dollar. The table below gives an approximate analysis of gross written premiums and general, administrative and corporate expenses by currency for the year ended December 31, 2016.

	U.S. Dollars	GBP	Other
Gross Written Premiums	81.8%	6.2%	12.0%
General, Administrative and Corporate Expenses	66.5%	27.1%	6.4%

During the course of 2016, the U.S. Dollar/British Pound exchange rate, our most significant exchange rate exposure, fluctuated from a high of £1:\$1.5883 to a low of £1:\$1.2123. For the twelve months ended December 31, 2016, 12.0% of our gross premiums were written in currencies other than the U.S. Dollar and the British Pound (2015 - 15.3%). Further, a portion of our loss reserves and investments are also in currencies other than the U.S. Dollar and the British Pound. We may, from time to time, experience losses resulting from fluctuations in the values of these non-U.S./non-British currencies, which could adversely affect our operating results.

As a result of devaluations and fluctuations in currency exchange rates or the imposition of limitations on conversion of foreign currencies into U.S. Dollars, we are subject to currency translation exposure on the profits of our operations, in addition to economic exposure. Furthermore, the mismatch between the British Pound revenues and expenses, together with any net British Pound balance sheet position we hold in our London market operations creates a currency exchange exposure. Through our underwriting of credit and political risk, we are also exposed to the risk of paying claims in the event that a host government imposes a moratorium on the remittance overseas of foreign currency payments.

Following the U.K.'s vote to withdraw from the E.U., as further described under “— The vote by the U.K. electorate in favor of a U.K. exit from the E.U. in the recent referendum could adversely impact our business, results of operations and financial condition”, the value of the British Pound significantly weakened as compared to the U.S. Dollar. As a result, the U.S. Dollars required to be translated into British Pounds to cover our net sterling expenses decreased, which has caused our results to be slightly positively impacted. However, the net British Pound assets we hold became less valuable when translated into U.S. Dollars. This risk could have a significant adverse effect on our financial condition, cash flow and results of operations in the future if the British Pound continues to weaken.

From time to time we may hedge part of our operating exposure to exchange rate movements but such mitigating attempts may not be successful. We may use forward exchange contracts to manage some of our foreign currency exposure. However, it is possible that we will not successfully structure those contracts so as to effectively manage these risks, which could adversely affect our operating results.

Credit Risks

Our operating results may be adversely affected by the failure of policyholders, brokers or other intermediaries to honor their payment obligations to us.

In accordance with industry practice, we generally pay amounts owed on claims under our insurance and reinsurance contracts to brokers and these brokers, in turn, pay these amounts to the clients that purchased insurance and reinsurance from us. Although the law is unsettled and depends upon the facts and circumstances of the particular case, in some jurisdictions, if a broker fails to make such a payment, in a significant majority of business that we write, it is highly likely that we will be liable to the client for the deficiency because of local laws or contractual obligations. Likewise, where risk transfer terms have been agreed between parties or where local law dictates, when the client pays premiums for these policies to brokers for payment to us, these premiums are generally considered to have been paid and, in most cases, the client will no longer be liable to us for those amounts whether or not we have actually received the premiums. Consequently, we assume a degree of credit risk associated with brokers with respect to most of our insurance and reinsurance business.

In addition, bankruptcy, liquidity problems, distressed financial conditions or the general effects of economic recession may increase the risk that policyholders may not pay a part of, or the full amount of, premiums owed to us despite an obligation to do so. The terms of our contracts or local law may not permit us to cancel our insurance even if we have not received payment. If non-payment becomes widespread, whether as a result of bankruptcy, lack of liquidity, adverse economic conditions, operational failure or other events, it could have a material adverse impact on our business and operating results.

Our financial condition and operating results may be adversely affected by the failure of one or more reinsurers or capital market counterparties to meet their payment obligations to us.

We purchase reinsurance for our own account in order to mitigate the effect of certain large and multiple losses upon our financial condition. Our reinsurers or capital market counterparts are dependent on their ratings in order to continue to write business and some have suffered downgrades in ratings in the past as a result of their exposures. Our reinsurers or capital market counterparties may also be affected by adverse developments in the financial markets, which could adversely affect their ability to meet their

obligations to us. Insolvency of these counterparties, their inability to continue to write business or reluctance to make timely payments under the terms of their agreements with us could have a material adverse effect on us because we remain liable to our insureds or cedants in respect of the reinsured risks.

Our liquidity and counterparty risk exposures may be adversely affected by the impairment of financial institutions.

We routinely execute transactions with counterparties in the financial services industry, including brokers and dealers, commercial banks, investment banks and other institutions. We are exposed to the risk that these counterparties are unable to make payments or provide collateral to a third party when required, or that securities that we own are required to be sold at a loss in order to meet liquidity, collateral or other payment requirements.

In addition, our investments in various fixed income securities issued by financial institutions exposes us to credit risk in the event of default by these issuers. With respect to derivatives transactions that require exchange of collateral, due to mark to market movements, our risk may be exacerbated in the event of default by a counterparty. In such an event, we may not receive the collateral due to us from the defaulted counterparty. Any such losses could materially and adversely affect our business and operating results.

Strategic Risks

We operate in a highly competitive environment and substantial new capital inflows into the insurance and reinsurance industry may increase competition.

Insurance and reinsurance markets are highly competitive. We compete with existing international and regional (re)insurers some of which have greater financial, marketing and management resources than us. We also compete with new market entrants and alternative capital markets, funds and other providers of insurance and alternative reinsurance products such as insurance-linked securities, catastrophe bonds and derivatives. In recent years, hedge funds, pension funds, endowments and investment banks have been increasingly active in the reinsurance market and markets for related risks. Further, we believe new entrants or existing competitors may attempt to replicate all or part of our business model and provide further competition in the markets in which we participate. We generally expect increased competition from a wider range of entrants over time. We have already seen that such new or alternative capital causes reductions in prices of our products and reduces the duration or amplitude of attractive portions of the historical market cycles. See “Business — Competition” under Item 1 above for a discussion of our competitors. Recently, insureds have retained a greater proportion of their risk portfolios than previously, and industrial and commercial companies have increasingly relied on their own subsidiary insurance companies and other mechanisms for funding their risks rather than via risk transferring insurance. We have sought to address this risk by developing our own capital markets capability but there is no guarantee it will succeed.

Increased competition could result in fewer submissions, lower premium rates, less favorable policy terms and conditions and greater expenses relating to customer acquisition and retention, which could have a material adverse impact on our growth and profitability. We continue to experience increased competition in a number of lines of business which has caused a decline in rate increases or a reduction in rates. See Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

The insurance and reinsurance industries are subject to political, regulatory and legislative initiatives or proposals from time to time which could adversely affect our business.

Governments and regulatory bodies may take unpredictable action to ensure continued supply of insurance, particularly where a given event leads to withdrawal of capacity from the market. For example, regulators may seek to force us to offer certain covers to (re)insureds, constrain our flexibility to apply certain terms and conditions or constrain our ability to make changes to the pricing of our contracts. There can be no assurance as to the effect that any such governmental or regulatory actions will have on the financial markets generally or on our competitive position, business and financial condition. See “Regulatory Risks” below for more information on these types of risks.

Our Operating Subsidiaries are rated and our Lloyd’s business benefits from a rating by one or more of A.M. Best, S&P and Moody’s and a decline in any of these ratings could adversely affect our standing among brokers and customers and cause our premiums and earnings to decrease.

Ratings have become an increasingly important factor in establishing the competitive position of insurance and reinsurance companies. The ratings of our Operating Subsidiaries are subject to periodic review by, and may be placed on credit watch, revised downward or revoked at the sole discretion of, A.M. Best, Moody’s or S&P. If our Operating Subsidiaries’ or Lloyd’s ratings are reduced from their current levels by any of A.M. Best, Moody’s or S&P, our competitive position in the insurance industry might suffer and it may be more difficult for us to market our products, expand our insurance and reinsurance portfolio and renew our

existing insurance and reinsurance policies and agreements. A rating downgrade may also require us to establish trusts or post letters of credit for ceding company clients and could trigger provisions allowing some clients to terminate their insurance and reinsurance contracts with us. Some contracts also provide for the return of premium to the ceding client in the event of a rating downgrade. It is increasingly common for our reinsurance contracts to contain such terms. A significant downgrade could result in a substantial loss of business as ceding companies and brokers that place such business move to other reinsurers with higher ratings and therefore may materially and adversely impact our business, operating results, liquidity and financial flexibility.

In addition, a downgrade of the financial strength rating of Aspen U.K., Aspen Bermuda or Aspen Specialty by A.M. Best below “B++” would constitute an event of default under our revolving credit facility with Barclays Bank PLC and other lenders. A lower rating may lead to higher borrowing costs, thereby adversely impacting our liquidity and financial flexibility.

Any future acquisitions, growth of our operations through the addition of new lines of (re)insurance business, expansion into new geographic regions and/or joint ventures or partnerships may expose us to risks.

As part of our long-term strategy, we have pursued and may continue to pursue growth through acquisitions and/or strategic investments in new businesses. From time to time, we may engage in confidential acquisition negotiations that are not publicly announced unless and until those negotiations result in a definitive agreement. Such negotiations would likely require management and key personnel to expend considerable time and effort on the negotiations, which may detract from their ability to run our core business. In addition, an acquisition is expensive and time consuming. Although considerable funds may be expended in the negotiations phase, the acquisition may ultimately not be completed for a variety of reasons.

We have limited experience in identifying quality merger candidates, as well as successfully acquiring and integrating their operations. Successful integration will depend, among other things, on our ability to effectively integrate acquired businesses or new personnel into our existing risk management techniques, manage any regulatory issues created by our entry into new markets and geographic locations, retain key personnel and obtain personnel required for expanded operations.

Acquisitions could involve numerous additional risks including, but not limited to, the following:

- the clients and brokers of an acquired entity may be unwilling to place their continuing insurance and reinsurance business with us;
- creating, integrating or modifying necessary financial and operational reporting systems;
- establishing satisfactory budgetary and other financial controls;
- increased risks from organizational complexity and change leading to unclear or unobserved reporting lines or insufficient oversight of key business areas;
- rapid business change or growth leading to divergence from business plan, operational ineffectiveness, dis-economies of scale or conflicts of interest;
- funding increased capital needs, overhead expenses or cash flow shortages that may occur if anticipated revenues are not realized or are delayed, whether by general economic or market conditions or unforeseen internal difficulties;
- the value of assets acquired may be lower than expected or may diminish due to credit defaults or changes in interest rates and liabilities assumed may be greater than expected;
- obtaining additional personnel required for expanded operations and retaining key staff;
- obtaining cultural integration;
- obtaining necessary regulatory permissions and unknown or unidentified regulatory requirements;
- the assets and liabilities related to acquisitions or new ventures may be subject to foreign currency exchange rate fluctuation;
- financial exposures in the event that sellers of the entities we acquire are unable or unwilling to meet their indemnification, reinsurance and other obligations to us;
- unknown or unidentified liabilities resulting from the investment or acquisition;
- creating the expected return over time;
- the investment does not create the expected return and shareholder value is diluted; and
- adverse tax consequences at the stockholder level.

The failure to integrate successfully or to manage the challenges presented by the integration process may have an adverse effect on our business, final conditions or operating results.

Consolidation in the insurance and reinsurance industry could adversely impact our business and results of operations.

We believe that several (re)insurance industry participants are seeking to consolidate. These consolidated entities may try to use their enhanced market power to negotiate price reductions for our products and services and/or obtain a larger market share through increased line sizes. If competitive pressures reduce our prices, we would expect to write less business on a gross written premium basis. As the (re)insurance industry consolidates, competition for customers will become more intense and the importance of acquiring and properly servicing each customer will become greater. We could incur greater expenses relating to customer acquisition and retention, further reducing our operating margins. The resulting change in the competitive landscape may also impact our ability to attract the most talented insurance professionals and retain and incentivize existing employees. In addition, insurance companies that merge may be able to spread their risks across a consolidated, larger capital base so that they require less reinsurance.

If our competitors join this trend of consolidation, we could also experience more robust competition from larger, better capitalized competitors. The effect of such consolidation and possible increased scale of our competitors may mean that we experience increased pressure on rates, with the prospect that we may choose to write less business at unfavorable rates as a result. Any of the foregoing could adversely affect our business, strategy or our results of operations, or may affect us more significantly where consolidation is combined across customers and competitors.

We depend on a few brokers for a large portion of our insurance and reinsurance revenues and the loss of business provided by any one of those brokers could adversely affect us.

We market our insurance and reinsurance products worldwide primarily through insurance and reinsurance brokers. See Item 1 above, “Business — Business Distribution” for our principal brokers by segment. Several of these brokers also have, or may in the future acquire, ownership interests in insurance and reinsurance companies that compete with us, and these brokers may favor their own insurers or reinsurers over other companies. The failure or inability of brokers to market our insurance and reinsurance products successfully or the loss of all or a substantial portion of the business provided by one or more of these brokers could have a material adverse effect on our business.

In addition, similar to the (re)insurance industry as described in the risk factor above, there has been a trend of increased consolidation of agents and brokers. As we distribute most of our products through agents and brokers, consolidation could impact our ability to access business and our relationships with, and fees paid to, agents and brokers. In the Lloyds’s market, independent London wholesalers continue to be acquired by larger global brokers, which may result in enhanced market power for these larger brokers in placing (re)insurance. Consolidation of distributors may also increase the likelihood that distributors will try to renegotiate the terms of existing selling agreements to terms less favorable to us. As brokers merge with or acquire each other, any resulting failure or inability of brokers to market our products successfully, or the loss of a substantial portion of the business sourced by one or more of our key brokers, could have a material adverse effect on our business and results of operations.

Our efforts to expand in targeted markets or develop products may not be successful and may create increased risks.

A number of our planned business initiatives involve expanding existing products in targeted markets or developing new products. For example, we recently registered Aspen Advisors as an investment adviser under the U.S. Investment Advisers Act of 1940, as amended (the “1940 Act”). Through Aspen Capital Markets, our third party capital management division, we have also expanded our participation in the alternative reinsurance market through collateralized reinsurance arrangements. In addition, we recently developed a U.S. Product Contamination/Recall capability and a new Crisis Management line of business for Aspen Insurance in the United States.

To develop new markets and products, we may need to make substantial capital and operating expenditures, which may adversely affect our results in the near term. In addition, the demand for new markets or products may not meet our expectations. To the extent we are able to expand in new markets or market new products, our risk exposures may change and the data and models we use to manage such exposures may not be as sophisticated as those we use in existing markets or with existing products. This, in turn, could lead to losses in excess of expectations.

We are exposed to risks in connection with our management of capital on behalf of investors in Peregrine, Silverton and in any other entities Aspen Capital Markets manages or could manage in the future.

Those of our subsidiaries engaged in the management of third party capital as part of our Aspen Capital Markets division may owe certain legal duties and obligations to third party investors (including reporting obligations) and are subject to a variety of

often complex laws and regulations relating to the management of that third party capital. Compliance with some of these laws and regulations, all of which are subject to change, requires significant management time and attention. Although we seek to continually monitor our policies and procedures to attempt to ensure compliance, faulty judgments, simple errors or mistakes, or the failure of our personnel to adhere to established policies and procedures could result in our failure to comply with applicable laws or regulations which could result in significant liabilities, penalties or other losses and significantly harm our business and results of operations. In connection with our goal of matching well-structured risk with capital whose owners would find the risk-return trade-off attractive, we may invest capital in new and increasingly complex ventures in which we do not have a significant amount of experience, which may increase our exposure to legal, regulatory and reputational risks.

In addition, our third party capital providers may decide not to renew their interests in the entities we manage, which could materially impact the financial condition of such entities and could in turn materially impact our financial condition and results of operations. Certain of our third party capital providers provide significant capital investment in respect of the entities we manage; the loss, or alteration, of any of this capital support could be detrimental to our financial condition and results of operations. Moreover, we can provide no assurance that we may be able to attract and raise additional third party capital for our existing managed entities or for potential new managed entities and therefore we may forego existing and/or potential attractive fee income and other income-generating opportunities.

Furthermore, notwithstanding any capital holdback, we may decide to return to our investors all or a portion of the third party capital we hold as collateral prior to the maturity specified in the terms of the particular underlying transactional documents. A return of capital to our investors is final. As a result, if we release collateral early and capital is returned to our investors, in the event losses are significantly larger than we anticipated, we may not have sufficient collateral to pay the claims associated with such losses, which could have a material adverse effect on our business, results of operations and financial condition.

We may require additional capital in the future, which may not be available or may only be available on unfavorable terms.

Our future capital requirements depend on many factors, including our ability to write new business successfully, deploy capital into more profitable business lines, identify acquisition opportunities, manage investments and preserve capital in volatile markets, and establish premium rates and reserves at levels sufficient to cover losses. We monitor our capital adequacy on an ongoing basis. To the extent that our funds are insufficient to fund future operating requirements and/or cover claims losses, we may need to raise additional funds through corporate finance transactions or curtail our growth and reduce our liabilities. Our additional needs for capital will depend on our actual claims experience, especially for catastrophic events. Any equity, hybrid or debt financing, if available at all, may be on terms that are not favorable to us. In the case of equity financings, dilution to our shareholders could result and, such securities may have rights, preferences and privileges that are senior to those of our outstanding securities. If we cannot obtain adequate capital on favorable terms or at all, our business, financial condition and operating results could be adversely affected.

Our debt, credit and International Swap Dealers Association (“ISDA”) agreements may limit our financial and operational flexibility, which may affect our ability to conduct our business.

We have incurred indebtedness and may incur additional indebtedness in the future. Additionally, we have entered into credit facilities with various institutions which provide revolving lines of credit to us and our Operating Subsidiaries and issue letters of credit to our clients in the ordinary course of business. We have also entered into ISDA agreements relating to derivative transactions.

The agreements relating to our debt, credit facilities and our ISDA agreements contain covenants that may limit our ability, among other things, to borrow money, make particular types of investments or other restricted payments, sell assets, merge or consolidate. Some of these agreements also require us to maintain specified ratings and financial ratios, including a minimum net worth covenant. If we fail to comply with these covenants or meet required financial ratios, the lenders or counterparties under these agreements could declare a default and demand immediate repayment of all amounts owed to them. As a result, our business, financial condition and operating results could be adversely affected.

If we are in default under the terms of these agreements, we may also be restricted in our ability to declare or pay any dividends, redeem, purchase or acquire any shares or make a liquidation payment and are at risk of cross-default on other arrangements. In addition, the cost and availability of these arrangements vary and any adverse change in the cost or availability of such arrangements could adversely impact our business, financial condition and operating results.

The ongoing development of our U.S. excess and surplus lines insurance business is subject to execution risks and increased risk from changing market conditions.

Excess and surplus lines insurance forms a substantial portion of the business written by our U.S.-based insurance operations. We also write U.S. excess and surplus lines insurance from the U.K. Excess and surplus lines insurance covers risks that are typically more complex and unusual than standard risks and requires a high degree of specialized underwriting. As a result, excess

and surplus lines risks do not often fit the underwriting criteria of standard insurance carriers. Our excess and surplus lines insurance business fills the insurance needs of businesses with unique characteristics and is generally considered higher risk than the standard market. If our underwriting staff inadequately judges and prices the risks associated with the business underwritten in the excess and surplus lines market, our financial results could be adversely impacted.

Further, the excess and surplus lines market is significantly affected by the conditions of the property and casualty insurance market in general. This cyclicity can be more pronounced in the excess and surplus market than in the standard insurance market. During times of hard market conditions (when market conditions are more favorable to insurers because rates increase and coverage terms become more restrictive), business tends to move from the admitted market to the excess and surplus lines market and growth in the excess and surplus market tends to accelerate faster than growth in the standard insurance market. When soft market conditions are prevalent (when market conditions are less favorable to insurers because rates decrease and coverage terms become less restrictive), standard insurance carriers tend to grant more expansive coverage terms and expand market share by moving into business lines traditionally characterized as excess and surplus lines, exacerbating the effect of rate decreases. As noted previously, we are currently experiencing a prolonged period of soft market conditions and if we fail to manage the cyclical nature and volatility of the revenues and profit we generate in the excess and surplus lines market, our financial results could be adversely impacted.

Regulatory Risks

The regulatory systems under which we operate and potential changes thereto could have a material adverse effect on our business.

Our activities are subject to extensive regulation under the laws and regulations of the U.S., U.K., Bermuda, the E.U. and its member states and the other jurisdictions in which we operate. Our Operating Subsidiaries may not be able to maintain necessary licenses, permits, authorizations or accreditations in territories where we currently engage in business or obtain them in new territories, or may be able to do so only at significant cost. In addition, we may not be able to comply fully with, or obtain appropriate exemptions from, the wide variety of laws and regulations applicable to insurance or reinsurance companies or holding companies. In addition to insurance and financial industry regulations, our activities are also subject to relevant economic and trade sanctions, money laundering regulations, and anti-corruption laws including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act 2010, which may increase the costs of regulatory compliance, limit or restrict our ability to do business or engage in certain regulated activities, or subject us to the possibility of regulatory actions, proceedings and fines. Although we have in place systems and controls designed to comply with applicable laws and regulations, there can be no assurance that we, our employees, or our agents acting on our behalf are in full compliance with all applicable laws and regulations or their interpretation by the relevant authorities and given the complex nature of the risks, it may not always be possible for us to ascertain compliance with such laws and regulations. Failure to comply with or to obtain appropriate authorizations and/or exemptions under any applicable laws or regulations, including those referred to above, could subject us to investigations, criminal sanctions or civil remedies, including fines, injunctions, loss of an operating license, reputational consequences, and other sanctions, all of which could have a material adverse effect on our business. Changes in the laws or regulations to which our Operating Subsidiaries are subject could also have a material adverse effect on our business. In addition, in most jurisdictions, government regulatory authorities have the power to interpret or amend applicable laws and regulations, and have discretion to grant, renew or revoke licenses and approvals we need to conduct our activities. Such authorities may require us to incur substantial costs in order to comply with such laws and regulations. See “Business — Regulatory Matters” in Item 1 above for more information.

For example, the terms of the U.S. Federal Multi-Peril Crop Insurance Program (the “MPCI”), which is sponsored by the Risk Management Agency of the U.S. Department of Agriculture (the “RMA”), may change and adversely impact us. The Agricultural Act of 2014, also known as the 2014 U.S. Farm Bill, was signed into law in February 2014 and fixes the terms of the MPCI through February 2019. The RMA periodically reviews and proposes changes to the Standard Reinsurance Agreement (“SRA”) used in connection with the MPCI. Given that agriculture insurance premiums driven by the MPCI represent a large portion of the business produced by AgriLogic, such changes to the SRA could adversely affect our financial results.

Changes in regulations that adversely affect the U.S. mortgage insurance and reinsurance market could affect our operations significantly and could reduce the demand for mortgage insurance.

In addition to the general regulatory risks that are described herein, the reinsurance we write could also be indirectly affected by various additional regulations relating particularly to our U.S. mortgage reinsurance operations. U.S. federal and state regulations affect the scope of operations of mortgage guaranty insurers and commercial credit insurers, to whom we provide credit reinsurance. Legislative and regulatory changes could cause demand for private mortgage insurance to decrease, which could have an adverse impact on our U.S. mortgage reinsurance operations. Increases in the maximum loan amount that the U.S. Federal Housing Administration can insure, and reductions in the mortgage insurance premiums it charges, can reduce the demand for private mortgage insurance. Decreases in the maximum loan amounts government-sponsored enterprises, such as the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) (the “GSEs”), will purchase or guarantee, increases in GSE fees, or decreases in the maximum loan-to-value ratio for loans the GSEs will purchase, can also

reduce demand for private mortgage insurance. Changes in these laws or regulations could have an indirect adverse impact on the profitability of our U.S. mortgage reinsurance business.

Material changes in voting rights and related party transactions may require regulatory approval or oversight by insurance regulators.

Insurance regulators, such as the PRA, the FCA and the BMA, impose certain requirements on operating entities they regulate including notification of shareholders, whether directly or indirectly, reaching certain levels of ownership. Prior approval of ownership and transfer of shares by the regulators may be required under certain circumstances. For example, if any entity were to hold 20% or more of the voting rights or 20% or more of the issued ordinary shares of Aspen Holdings, transactions between Aspen U.K. and such entity may have to be reported to the PRA if the value of those transactions exceeds certain threshold amounts that would render them material connected party transactions. In these circumstances, we can give no assurance that these material connected party transactions will not be subject to regulatory intervention by the PRA or other insurance regulators. See “Business — Regulatory Matters — U.S. Regulation — Change in Control” in Item 1 above for a discussion on our U.S. regulators.

Any transactions between companies within the Aspen Group that are material related party transactions also have to be reported to certain insurance regulators. We can give no assurance that the existence or effect of such related party transactions and the insurance regulator’s assessment of the overall solvency of Aspen Holdings and its subsidiaries, even in circumstances where the Operating Subsidiary has on its face sufficient assets of its own to cover its required margin of solvency, would not result in regulatory intervention by the insurance regulators with regard to such Operating Subsidiary. See “Business — Regulatory Matters” in Item 1 above for more information.

One or more of our insurance subsidiaries may be required by its regulator to hold additional capital to meet relevant solvency requirements.

Any of our Operating Subsidiaries may be required to hold additional capital in order to meet solvency requirements. Among other matters, Bermuda statutes, regulations and policies of the BMA require Aspen Bermuda to maintain minimum levels of statutory capital, surplus and liquidity to meet solvency standards. The BMA has a risk-based capital adequacy model called the BSCR to assist the BMA both in measuring risk and in determining appropriate levels of capitalization for Aspen Bermuda and the Aspen Group (under the Group Supervision Regime). Further, the BMA requires Class 4 commercial insurers and insurance groups to perform an assessment of their own risk and solvency requirements. The Commercial Insurers / Group Solvency Self-Assessment have the insurer/insurance group determine the capital resources required to achieve its strategic goals, after assessing all reasonably foreseeable material risks arising from its operations or operational environment. These statutes and regulations may restrict our ability to write insurance and reinsurance policies, make certain investments and distribute funds. See “Business — Regulatory Matters — Bermuda Regulation — Group Solvency Margin and Group Enhanced Capital Requirements” in Item 1 above for more information.

Similarly, under the Solvency II regime which became effective on January 1, 2016, Aspen European and Aspen U.K. are required to provide the PRA with calculations of their solvency position. If they do not meet the solvency requirements this could trigger regulatory intervention by the PRA. Our Syndicate 4711 is also required to provide Lloyd’s with a calculation of the capital requirement for the next year’s syndicate business plan. Lloyd’s review that calculation and can require additional Funds at Lloyd’s to be lodged if they determine that there are issues with such calculation. See “Business — Regulatory Matters — U.K. and E.U. Regulation — Solvency Requirements” in Item 1 above for more information on our solvency requirements.

The unregulated parent company of Aspen U.K. may be affected by new powers of the FCA, the PRA and the Bank of England.

The Financial Services Act 2012 came into effect in April 2013 and has created additional powers for the FCA, the PRA and the Bank of England to impose requirements on U.K. parent companies of certain regulated firms, as referenced in “Business — Regulatory Matters” in Item 1 above. The powers allow the regulators to: (i) direct qualifying parent undertakings to comply with specific requirements; (ii) take enforcement action against qualifying parent undertakings if those directions are breached; and (iii) gather information from qualifying parent undertakings. For example, if an authorized firm is in crisis, the new powers may allow a regulator to direct a parent company to provide that firm with capital or liquidity necessary to improve the position of the firm. The definition of “qualifying parent undertakings” could allow the regulators to exercise these powers against an intermediate U.K. parent company of an insurer that is not at the head of the ownership chain. Aspen European, as intermediate parent company of Aspen U.K., could potentially be subject to these new powers. There can be no assurance as to the impact of the powers created under the Financial Services Act 2012 on our results of operations and/or financial condition.

The E.U. Directive on Solvency II may affect the way in which Aspen U.K. and AMAL manage their businesses and may, among other things, lead to Aspen Bermuda posting collateral in respect of its EEA cedants.

An E.U. directive covering the capital adequacy, risk management and regulatory reporting for insurers, known as Solvency II, was adopted by the European Parliament in April 2009 and became effective on January 1, 2016. We have undertaken a significant amount of work to ensure we meet the new requirements and the continuing implementation may divert finite resources from other business-related activities. The implementation of Solvency II presents a number of risks to regulatory compliance, in particular for Aspen U.K. and AMAL. The changes also require an accelerated quarterly close process across the Group to allow those U.K. entities to meet the regulatory disclosure timetable under Solvency II.

Our implementation approach is based on our current understanding of the Solvency II requirements and any material changes thereto could have a material adverse effect on our business. Aspen U.K. received approval from the PRA to use an agreed Internal Model to calculate its Solvency Capital Requirement (“SCR”) for Aspen U.K. and our European sub-group headed by Aspen European as from January 1, 2016. Aspen U.K. is required to ensure that the Internal Model operates properly on a continuous basis and that it continues to comply with the “Solvency Capital Requirements - Internal Models” provisions as set out in the PRA rulebook and Solvency II Delegated Acts. If Aspen U.K. fails to comply with these requirements, the PRA may revoke Aspen U.K.’s use of its Internal Model which, in turn, would require Aspen U.K. to calculate its regulatory capital in accordance with the PRA’s standard formula approach. Implementing the PRA’s standard formula approach would likely increase Aspen U.K.’s capital requirement and may adversely impact our operating results and financial conditions.

On March 25, 2016, confirmation was published in the official E.U. journal that the regulatory regime in Bermuda is “equivalent” to Solvency II with effect from January 1, 2016. With effect from October 12, 2016, Aspen European and Aspen U.K. have been granted a five year waiver from group supervision requirements being applied to the European sub-group due to Aspen Bermuda being subject to equivalent Group supervision.

The activities of any of our insurance subsidiaries may be subject to review by insurance regulators of differing jurisdictions which may impose greater burdens than anticipated.

The activities of our Operating Subsidiaries may be subject to review by regulators where different supervisory expectations may exist. For example, Aspen U.K. is authorized to do business in the United Kingdom and has permission to conduct business in Canada, Switzerland, Australia, Singapore, France, Ireland, Germany, all other EEA states and certain Latin American countries. In addition, Aspen U.K. is eligible to write surplus lines business in 50 U.S. States, the District of Columbia, Puerto Rico and the U.S. Virgin Islands. We can give no assurance, however, that insurance regulators in the United States, Bermuda or elsewhere will not review the activities of Aspen U.K. and assess that Aspen U.K. is subject to such jurisdiction’s licensing or other requirements. Both Aspen U.K. and AMAL issue insurance policies in the U.S. as an alien surplus lines insurer and a Lloyd’s managing agent, respectively. As a result, both are subject to a mandatory 2017 data call under the 2015 TRIA Reauthorization propounded by the U.S. Federal Insurance Office as well as future data calls that the National Association of Insurance Commissioners (“NAIC”) has considered issuing in 2017 relating to the 2015 TRIA Reauthorization and cybersecurity.

Aspen Bermuda does not maintain a principal office and its personnel do not solicit, advertise, settle claims or conduct other activities that may constitute the transaction of the business of insurance or reinsurance in any jurisdiction in which it is not licensed or otherwise not authorized to engage in such activities. Although Aspen Bermuda does not believe it is or will be in violation of insurance laws or regulations of any jurisdiction outside Bermuda, inquiries or challenges to Aspen Bermuda’s insurance or reinsurance activities may be raised in the future. The offshore insurance and reinsurance regulatory environment has become subject to increased scrutiny in many jurisdictions, including the U.S. at both Federal and state levels. Compliance with any new laws, regulations or settlements impacting offshore insurers or reinsurers, such as Aspen Bermuda, could have a material adverse effect on our business.

In addition, Aspen U.K. and Aspen Bermuda are currently affected by U.S. “credit for reinsurance” requirements in connection with their reinsurance of risks of U.S. cedants. In general, alien, non-admitted reinsurers, such as Aspen U.K. and Aspen Bermuda, must currently provide collateral for the benefit of U.S. cedants to secure their reinsurance obligations to such U.S. cedants in order for those cedants to receive financial statement credit for such reinsurance. Aspen U.K. and Aspen Bermuda have each established a multi-beneficiary U.S. trust fund for the benefit of their U.S. cedants so that such cedants satisfy U.S. credit for reinsurance requirements and, unless otherwise subject to reduction, the amount of collateral must equal 100% of the reinsurer’s reinsurance obligations. The NAIC adopted an amendment to its credit for insurance model law to provide for reduced collateral in certain circumstances. Many states, including North Dakota, New York, Florida and California, have adopted these changes. Under these amended laws, if an alien, non-admitted reinsurer satisfies certain requirements, including rating and financial requirements, the approved reinsurer may post collateral in an amount lower than 100% of the reinsurer’s obligations and the domestic cedant may take 100% reinsurance credit. Many non-U.S. reinsurers have applied for and received approval for reduced collateral in applicable states. Aspen Bermuda has received approval for reduced collateral in North Dakota, Florida and New York. As a result, Aspen Bermuda could be subject to increased regulatory review by the regulators in such states. On January 13,

2017, the U.S. federal authorities and their E.U. counterparts announced the successful completion of their negotiations of a covered agreement between the U.S. and the E.U., and the U.S. federal authorities gave notice to the U.S. Congress, as required under the Dodd-Frank Act, that such negotiations had been completed. The covered agreement, if it comes into force, would eliminate reinsurance collateral requirements in the U.S. for an alien, non-admitted reinsurer domiciled in the E.U. (such as Aspen U.K.), in connection with the assumption of insurance business by such reinsurer from U.S. cedants, and only in the event such reinsurer meets certain specified minimum criteria. As to whether the covered agreement comes into force, the U.S. Congress does have a variety of general authorities under which it could make implementation of the covered agreement by federal agencies difficult or impossible, including the authority to prohibit the expenditure of federal funds for such implementation. The covered agreement would also prevent U.S. states from maintaining or adopting any new requirements with substantially the same impact on an E.U. reinsurer as the collateral requirements eliminated under the covered agreement. These reduced collateral provisions in the covered agreement would apply on the later of: (i) the date on which the reduced collateral measure under the covered agreement becomes effective, and (ii) the effective date of a new reinsurance agreement or an amendment or renewal of an existing reinsurance agreement, as applicable. For more detail on this covered agreement, see “Business — Regulatory Matters” in Item 1 above. There is no guarantee, however, that the covered agreement will come into force. There is also no guarantee that cedants will be willing to accept reduced collateral requirements. In addition, to the extent we require liquid assets to meet certain cash obligations, the collateral requirements of Aspen U.K. and Aspen Bermuda’s multi-beneficiary U.S. trust fund could adversely impact our liquidity position.

Changes to the Bermuda regulatory system, including changes to its Group Supervisory regime, could have a material adverse effect on our business.

A number of Bermuda registered (re)insurers operate within a group structure. This means that an insurer’s financial position, risk profile and its overall prudential position may be impacted by being part of a group. The BMA has therefore established a group supervision framework for insurance groups to (i) ensure solvency at group level, (ii) monitor inter-group transactions and (iii) assess corporate governance, risk management and actuarial and internal audit functions.

The BMA is our group supervisor and has designated Aspen Bermuda as the designated insurer. As group supervisor, the BMA will (i) assess the Aspen group’s compliance with the BMA’s solvency rules, (ii) perform ongoing supervisory review and assessment of the Aspen group’s financial position and governance systems, (iii) coordinate the gathering and dissemination of relevant or essential information, (iv) convene and conduct supervisory colleges with other supervisory authorities that have regulatory oversight of entities within a group and (v) coordinate any enforcement action that may be taken against any of the members of the Aspen group.

We are unable to predict with certainty how these laws, frameworks and/or regulations will be enforced or amended, the form in which any pending or future laws, frameworks and/or regulations could be adopted, the effectiveness of the coordination and cooperation of information sharing among supervisory bodies and regulators, such as the PRA, with the BMA as group supervisor or the effect, if any, any of these developments would have on our operations and financial condition.

The Council of Lloyd’s and the Lloyd’s Franchise Board have wide discretionary powers to supervise members of Lloyd’s.

Among other things, the Council of Lloyd’s may vary the method by which the capital requirement is determined, or the investment criteria applicable to Funds at Lloyd’s. Variance to the capital requirement determination method might affect the maximum amount of the overall premium income that we are able to underwrite. Variation in both might affect our return on investments. The Lloyd’s Franchise Board also has wide discretionary powers in relation to the business of Lloyd’s managing agents, such as AMAL, including the requirement for compliance with the franchise performance and underwriting guidelines. The Lloyd’s Franchise Board imposes certain restrictions on underwriting or on reinsurance arrangements for any Lloyd’s syndicate and changes in these requirements imposed on us may have an adverse impact on our ability to underwrite which in turn will have an adverse effect on our financial performance.

Changes in Lloyd’s regulation or the Lloyd’s market could make Syndicate 4711 less attractive.

Changes in Lloyd’s regulation or other developments in the Lloyd’s market could make operating Syndicate 4711 less attractive. For example, Lloyd’s imposes a number of charges on businesses operating in the Lloyd’s market, including, for example, annual subscriptions and Central Fund levies for members and policy signing charges. Despite the principle that each member of Lloyd’s is only responsible for the proportion of risk written on his or her behalf, a Central Fund acts as a policyholder’s protection fund to make payments where other members have failed to pay valid claims. The Council of Lloyd’s may resolve to make payments from the Central Fund for the advancement and protection of members, which could lead to additional or special levies being payable by Syndicate 4711. The bases and amounts of these charges may be varied by Lloyd’s and could adversely affect our financial and operating results.

Syndicate 4711 may also be affected by a number of other changes in Lloyd's regulation such as, among other things, changes to the process for the release of profits and new member compliance requirements. The ability of Lloyd's syndicates to trade in certain classes of business at current levels may be dependent on the maintenance by Lloyd's of a satisfactory credit rating issued by an accredited rating agency. At present, the financial security of the Lloyd's market is regularly assessed by three independent rating agencies, A.M. Best, S&P and Fitch Ratings. See "Our Operating Subsidiaries are rated, and our Lloyd's business benefits from a rating by one or more of A.M. Best, S&P and Moody's, and a decline in any of these ratings could adversely affect our standing among brokers and customers and cause our premiums and earnings to decrease" above.

The syndicate capital setting process within AMAL is subject to the PRA rules but is conducted by Lloyd's under its detailed procedures. Lloyd's could request an increase in capital under the PRA rules in similar circumstances as set out in "Business — Regulatory Matters" in Item 1 above. Lloyd's as whole, including Syndicate 4711, is also subject to the provisions of Solvency II as noted above.

Potential changes to the U.S. regulatory system could have an adverse effect on the business of our U.S. operating companies.

Aspen Specialty is an insurance company organized and licensed to write certain kinds of property and casualty insurance in North Dakota and is surplus lines eligible in all 50 states and the District of Columbia. As a result, Aspen Specialty is subject to North Dakota law and regulation governing domestic insurers and also must satisfy any surplus lines eligibility requirements in the other 50 jurisdictions. AAIC is organized in Texas and has licenses to write property and casualty insurance business on an admitted basis in all 50 states, the District of Columbia, the U.S. Virgin Islands and Puerto Rico, subject to compliance with laws and regulations in each of these jurisdictions.

The purpose of the state insurance regulatory statutes is to protect U.S. policyholders, not our shareholders or noteholders. The system of regulation generally administered in the United States by the state insurance departments relates to, among other things, solvency standards, restrictions on the nature, quality and concentration of investments, statutory accounting standards, and the regulation of insurance policies, market conduct and premium rates.

The extent of regulation varies but generally has its source in statutes that delegate regulatory, supervisory and administrative authority to a department of insurance in each state. Among other matters, these statutes require Aspen Specialty and AAIC to maintain minimum levels of capital, surplus and liquidity and to comply with applicable risk-based capital requirements. State insurance commissioners may also regulate insurer, agent and adjuster licensing, authorized investments, premium rates, the size of risks that may be insured under a single policy, and deposits of securities for the benefit of policyholders, permissible policy forms and other market conduct regulation. State insurance departments are also authorized to conduct periodic examinations of authorized insurance companies and require the filing of annual and other reports on the companies' financial condition, among other matters.

State insurance holding company laws and regulations generally require licensed insurers to provide regular reports regarding control by another person, capital structure, ownership, financial condition and general business operations. Insurance holding company laws and regulations also impose restrictions on the insurer's ability to pay dividends and distributions to its shareholders. Taken together, state regulation of insurer investments, premium rates, capital adequacy and dividend restrictions could potentially restrict the ability of Aspen entities in the U.S. to write new business or distribute assets to Aspen Holdings.

State insurance holding company laws also require prior notice and state insurance department approval of certain transactions between an insurer and any affiliate as well as changes in control of an insurer or its holding company. Any purchaser of 10% or more of the outstanding voting securities of an insurance company or its holding company is presumed to have acquired control, unless this presumption is rebutted. Therefore, an investor who intends to acquire 10% or more of our outstanding voting securities may need to comply with these laws and would be required to file applications with the North Dakota and Texas insurance departments for regulatory approvals for such acquisition and obtain prior approvals from such departments.

The NAIC has adopted revisions to its insurance holding company model law and regulation. A number of states amended or are considering amendments to their insurance holding company laws based on the NAIC models. The amendments address a number of standards that affect insurance holding company systems, including corporate governance, group-wide supervision, accounting for group-wide risks in risk-based capital calculations and imposition of additional disclosure obligations. The changes to the NAIC model holding company law and regulation are part of the NAIC's broader solvency modernization initiative, which includes the development of own risk and solvency assessment and corporate governance model laws as well as credit for reinsurance standards. The NAIC has also adopted a risk management and own risk and solvency assessment model law which requires submission of an annual high-level summary of an insurer's confidential internal assessment of the material and relevant risks associated with the insurer's business plan, as well as the sufficiency of capital resources to support these risks. A majority of states, including Texas and North Dakota, have adopted substantially similar versions of this model law. New U.S. laws and regulations or changes to existing laws and regulations or the interpretation of these laws and regulations could have a material adverse effect on our business or operating results.

In recent years, the U.S. insurance regulatory framework has also come under increased federal scrutiny, and some state legislators have considered or enacted laws that may alter or increase state regulation of insurance and reinsurance companies and holding companies. In addition, the U.S. Congress has enacted legislation providing a greater role for the federal government in the regulation of insurance. For example, the Dodd-Frank Act established a Federal Insurance Office (“FIO”) within the U.S. Department of Treasury Department to collect data on the insurance industry, recommend changes to the state system of insurance regulation and pre-empt certain state insurance laws. In its 2013 report, the FIO recommended direct federal involvement in insurance regulation. One permitted area of federal involvement is the negotiation of “covered agreements” with foreign jurisdictions, which would have the effect of pre-empting state law. On January 13, 2017, the U.S. federal authorities and their E.U. counterparts announced the successful completion of their negotiations of a covered agreement between the U.S. and the E.U., and the U.S. federal authorities gave notice to the U.S. Congress, as required under the Dodd-Frank Act, that such negotiations have been completed. The covered agreement, if it comes into force, would eliminate reinsurance collateral requirements for an alien, non-admitted reinsurer domiciled in the E.U. (such as Aspen U.K.), in connection with the assumption of insurance business by such reinsurer from U.S. cedants, and only in the event such reinsurer meets certain specified minimum criteria. For more detail on this covered agreement, see “Business - Regulatory Matters” in Item 1 above.

The Dodd-Frank Act also authorized the creation of the Financial Stability Oversight Council (“FSOC”), a financial regulatory organization chaired by the U.S. Secretary of the Treasury. FSOC has determined that certain insurance groups are systemically significant and therefore subject to prudential supervision by the Board of Governors of the Federal Reserve. While we have received no notice from FSOC regarding a proposed determination of systemic importance and we do not believe that we are systemically important, as defined in the Dodd-Frank Act, additional laws and regulation adopted in the future or changes in existing laws and regulations could impose significant burdens on us, impact the ways in which we conduct our business, increase compliance costs, duplicate state regulation and/or could result in a competitive disadvantage.

President Trump, who will be able to work together with a Republican majority in both houses of Congress to propose legislation, has expressed the goal of dismantling or rolling back the Dodd-Frank Act, which may present regulatory risks to our businesses. In 2016, the U.S. House of Representatives passed H.R. 5983: the Financial CHOICE Act of 2016, which proposed the roll back of many provisions of the Dodd-Frank Act. For example the Financial CHOICE Act of 2016 provided that the FIO would be terminated and replaced by the Office of the Independent Insurance Advocate. The Financial CHOICE Act of 2016, as adopted by the House of Representatives, would have retained the authority of the U.S. Treasury Secretary and U.S. Trade Representative to negotiate covered agreements with other jurisdictions. While the Financial CHOICE Act of 2016 was not successfully passed by the Senate before the deadline of January 1, 2017, it is possible that the Financial CHOICE Act of 2016 or another Dodd-Frank “roll-back” bill will be introduced in U.S. Congress in 2017. We are not able to predict whether any such proposal to roll back the Dodd-Frank Act would have a material effect on our business operations in the U.S. or otherwise and cannot currently identify what, if any, risks may be posed to our businesses as a result of changes to or legislative replacements for the Dodd-Frank Act. We will closely monitor congressional actions in this regard.

Changes in U.S. state insurance legislation and insurance department regulation may impact liabilities assumed by our business.

Aspen Specialty, AAIC, Aspen U.K. and various affiliates are subject to periodic changes in U.S. state insurance legislation and insurance department regulation which may materially affect the liabilities assumed by the companies in such states. For example, as a result of natural disasters or emergency orders, related regulations may be periodically issued or enacted by individual states. This may impact the cancellation or non-renewal of property policies issued in those states for an extended period of time, increasing the potential liability to us on such extended policies. Failure to adhere to these regulations could result in the imposition of fines, fees, penalties and loss of approval to write business in such states. Further, certain states with catastrophe exposures (e.g., California earthquakes, Florida hurricanes) have opted to establish state-run, state-owned reinsurers that compete with us and our peers. These entities tend to reduce the amount of business available to us.

From time to time, government authorities seek to more closely monitor and regulate the insurance industry which may adversely affect our business.

The Attorneys General for multiple U.S. states and other insurance regulatory authorities have previously investigated a number of issues and practices within the insurance industry, and in particular insurance brokerage compensation practices. To the extent that state regulation of brokers and intermediaries becomes more onerous, costs of regulatory compliance for Aspen Management, ASIS and Aspen Re America will increase. To the extent that any of the brokers with whom we do business suffer financial difficulties as a result of the investigations or proceedings, we could suffer increased credit risk. See “We depend on a few brokers for a large portion of our insurance and reinsurance revenues, and the loss of business provided by any one of these brokers could adversely affect us” above for more information on risks relating to our brokers.

These investigations of the insurance industry in general, whether involving us specifically or not, together with any legal or regulatory proceedings, related settlements and industry reform or other changes arising therefrom, may materially adversely affect our business and future financial results or operating results.

The vote by the U.K. electorate in favor of a U.K. exit from the E.U. in the recent referendum could adversely impact our business, results of operations and financial condition.

The referendum on the United Kingdom's membership in the E.U. was held on June 23, 2016 and resulted in a vote in favor of the withdrawal of the United Kingdom from the E.U. ("Brexit"). Brexit can, however, only be formally implemented by a notification to the E.U. under Article 50 of the Treaty on European Union ("Article 50"). The United Kingdom will remain a member state of the E.U. until it negotiates and reaches an agreement in relation to the withdrawal from the E.U. or, if earlier, upon the expiration of a two year period following the Article 50 notification. In late January 2017, the Supreme Court of the United Kingdom ruled that Parliament must pass an act of Parliament in order for the U.K. to give an Article 50 notice and that such notice could not be given by the U.K. Government using prerogative powers. The Prime Minister of the United Kingdom initiated this process by presenting the "EU (Notification of Withdrawal) Bill" to the U.K. House of Commons which passed the bill in early February 2017. This bill will also need to be approved by the U.K. House of Lords, who will begin debating when they return from recess in late February. If the House of Lords require changes to be made to the bill, these will need to be reviewed again by the House of Commons before the bill becomes law. It is therefore currently unclear when Article 50 will be submitted to the European Council and what type of agreements will be concluded between the United Kingdom and the E.U. and if the United Kingdom will continue to have access to the single market of the E.U. In any case, the U.K. Prime Minister has promised that the U.K. Parliament will have a final vote to ratify the withdrawal agreement that is negotiated with the E.U. It is possible that the withdrawal process may last significantly longer than the two year period envisaged by the Treaty of the European Union.

The uncertainty surrounding the implementation and effect of Brexit, including the commencement of the exit negotiation period, the terms and conditions of such exit, the uncertainty in relation to the legal and regulatory framework that would apply to the United Kingdom and its relationship with the remaining members of the E.U. (including in relation to trade and services) during a withdrawal process and after any Brexit is effected, has caused and is likely to cause increased economic volatility and market uncertainty globally, in particular volatility of currency exchange rates, interest rates and credit spreads. It has already led, and may continue to lead, to disruptions for the European and global financial markets, such as the decrease in the value of the British Pound and of market values of listed E.U. companies, in particular from the financial services and insurance sector, and the recent downgrade of the credit ratings for the U.K. by Standard & Poor's, Moody's and Fitch (all with negative outlook). For more information on the effect of a credit rating downgrade, please see "A downgrade of U.S. or non-U.S. government securities by credit rating agencies could adversely impact the value of such securities in our investment portfolio and create uncertainty in the market generally" above.

The long-term effect of Brexit on the value of our investment portfolio at this time is uncertain and such volatility and uncertainty will likely continue as negotiations progress to determine the future terms of the United Kingdom's relationship with the E.U.

Brexit could lead to potentially divergent national laws and regulations as the United Kingdom determines which European Union laws to replace or replicate. We may have to review our underwriting platforms and incur additional regulatory costs as a result. For example, depending on the outcome of the negotiations referred to above, our U.K. operations could lose their E.U. financial services passport which provides them the license to operate across borders within the single E.U. market without obtaining local regulatory approval where insurers and cedants are located. Our Lloyd's operations would be subject to the decisions to be taken by the Council of Lloyd's in relation to an E.U. location through which Lloyd's businesses may seek access the single market following Brexit. Such decision and any operational and capital requirements relating thereto might result in increased costs or Funds at Lloyd's and might not provide the same access to markets that AMAL and AUL currently require to conduct business in the E.U. In addition, depending on the terms of Brexit, the U.K.'s regulatory regime in terms of Solvency II regulation and governance could also diverge and no longer be equivalent. See "The E.U. Directive on Solvency II may affect the way in which Aspen U.K. and AMAL manage their businesses and may, among other things, lead to Aspen Bermuda posting collateral in respect of its EEA cedants" for more information.

Depending on the terms of Brexit, the U.K. could also lose access to the single E.U. market and to the global trade deals negotiated by the E.U. on behalf of its members. Such a decline in trade could affect the attractiveness of the U.K. as a global investment center and, as a result, could have a detrimental impact on U.K. growth. Although we have an international customer base, we could be adversely affected by reduced growth and greater volatility in the U.K. economy.

Changes to U.K. immigration policy could likewise occur as a result of Brexit, including by restricting the free travel of employees from and to the United Kingdom. Although the U.K. will likely seek to retain its diverse pool of talent, London's role as a global center for specialty (re)insurance business may decline, particularly if financial services entities shift their headquarters to the E.U. and the E.U. financial services passport is not maintained.

Finally, there is also some concern that the result of the Brexit referendum could encourage other countries to conduct their own referenda on their continuing relationship with and participation in the E.U. This could possibly lead to exits by other E.U. members, which could draw out the current levels volatility and uncertainty being felt within the E.U. market. Any of the above effects of Brexit, and others which cannot be anticipated, could adversely affect our business, results of operations, financial condition.

Changes in current accounting practices and future pronouncements may materially impact our reported financial results.

Unanticipated developments in accounting practices may require us to incur considerable additional expenses to comply with such developments, particularly if we are required to prepare information relating to prior periods for comparative purposes or to apply the new requirements retroactively. Such developments may also significantly impact the presentation of such financial statements and may require restatements. The impact of changes in current accounting practices and future pronouncements cannot be predicted but they may affect the calculation of net income, net equity and other relevant financial statement line items.

Other Operational Risks

We could be adversely affected by the loss of one or more of our senior underwriters or key employees or by an inability to attract and retain senior staff.

Our success has depended and will continue to depend, in substantial part, on our ability to attract and retain our teams of underwriters in various business lines and other key employees. The loss of one or more of our senior underwriters could adversely impact our business by, for example, making it more difficult to retain clients or other business contacts whose relationship depends in part on the service of the departing personnel. In addition, the loss of services of underwriters could strain our ability to execute our new business lines, as described elsewhere in this report. In general, the loss of key services of any members of our current underwriting teams may adversely affect our business and operating results.

We also rely substantially upon the services of our senior management team. Although we have employment agreements with all members of our senior management team, if we were to unexpectedly lose the services of one or more of our senior management team or other key personnel, our business could be adversely affected. For example, a change in our senior management team could cause a risk of disruption to our business including, but not limited to, our underwriting, claims handling, reserving and financial reporting functions. We do not currently maintain key-man life insurance policies with respect to any of our employees.

Changes in employment laws, taxation and acceptable compensation practice may limit our ability to attract senior employees to our current operating platforms.

Our (re)insurance operations are, by their nature, international and we compete for senior employees on a global basis. Changes in local employment legislation, taxation and the approach of regulatory bodies to compensation practice within our operating jurisdictions may impact our ability to recruit or retain senior employees or the cost to us of doing so. For example, the introduction in the United Kingdom of the Senior Insurance Managers Regime has extended the scope of regulatory pre-approval requirements for senior managers to more functions covered and to non-U.K. senior managers with the ability to influence U.K. companies. As well as the regulatory pre-approval for those senior insurance managers, there are evolving individual regulatory accountability requirements and sanctions and requirements in relation to their remuneration. Any failure to retain senior employees may adversely affect the strategic growth of our business and our operating results.

Our business is subject to risks related to litigation.

We may from time to time be subject to a variety of legal actions relating to our current and past business operations including, but not limited to, disputes over coverage or claims adjudication, including claims alleging that we have acted in bad faith in the administration of claims by our policyholders, disputes with our agents, producers or network providers over compensation and termination of contracts and related claims, disputes relating to certain business acquired or disposed of by us and disputes with former employees. We also cannot determine with any certainty what new theories of recovery may evolve or what their impact may be on our business.

Multi-party or class action claims may present additional exposure to substantial economic, non-economic or punitive damage awards. The loss of even one of these claims, if it results in a significant damage award or a judicial ruling that was otherwise detrimental, could create a precedent in the industry that could have a material adverse effect on our operating results and financial condition.

We rely on the execution of complex internal processes to maintain our operations and the operational risks that are inherent to our business, including those resulting from fraud or employee errors or omissions, may result in financial losses.

We rely on the accurate execution of complex internal processes to maintain our operations, which include, but are not limited to, reserving, pricing, capital management, underwriting and finance. We seek to monitor and control our exposure to risks arising from these activities through a risk control framework encompassing a variety of reporting systems, internal controls, management review processes and other mechanisms. We cannot provide absolute assurance that these processes and procedures will effectively control all known risks or effectively identify unforeseen risks, or that our employees and third party agents will effectively implement them. Loss may result from, among other things, fraud, errors, failure to document transactions properly, failure to obtain proper internal authorization, failure to comply with underwriting or other internal guidelines or failure to comply with regulatory requirements. Loss from these risks may occur from time to time and could adversely affect our business, results of operations and financial condition. In addition, insurance policies that we have in place with third parties may not protect us in the event that we experience a significant loss from these risks.

A failure in our operational systems or infrastructure or those of third parties, including those caused by security breaches or cyber-attacks, could disrupt our business, damage our reputation and causes losses.

Our operations rely on the secure processing, storage, and transmission of confidential and other information and assets, including in our computer systems and networks. Our business, including our ability to adequately price products and services, establish reserves, provide an effective and secure service to our customers, value our investments and report our financial results in a timely and accurate manner, depends significantly on the integrity, availability and timeliness of the data we maintain, as well as the data and assets held through third party outsourcers, service providers and systems.

In an effort to ensure the integrity of such data, we implement new security measures and systems and improve or upgrade our existing security measures and systems on a continuing basis. Although we have implemented administrative and technical controls and take protective actions to reduce the risk of cyber incidents and to protect our information technology and assets, and we endeavor to modify such procedures as circumstances warrant and negotiate agreements with third party providers to protect our assets, such measures may be insufficient to prevent, among other things, unauthorized access, computer viruses, malware or other malicious code or cyber-attack, catastrophic events, system failures and disruptions (including in relation to new security measures and systems), employee errors or malfeasance, third party (including outsourced service providers) errors or malfeasance, loss of assets and other security events (each, a “Security Event”). Like other global companies, we have from time to time experienced, and are likely to continue to be subject to, Security Events, none of which to date have had a material adverse impact on our business, results of operations or financial condition. As the breadth and complexity of our security infrastructure continues to grow, the potential risk of a Security Event increases. If additional Security Events occur, these events may jeopardize our or our clients’ or counterparties’ confidential and other information processed and stored with us, and transmitted through our computer systems and networks, or otherwise cause interruptions, delays, or malfunctions in our, our clients’, counterparties’ or third parties’ operations, or result in data loss or loss of assets which could result in significant losses and/or fines, reputational damage or a material adverse effect on our business, financial condition or operating results. We may be required to expend significant additional resources to modify our protective measures or to investigate and remediate vulnerabilities or other exposures and to pursue recovery of lost data or assets and we may be subject to litigation and financial losses. We currently maintain cyber liability insurance that provides third party or first party liability coverages to protect us, subject to policy limits and coverages, against certain events that could be a Security Event. However, a Security Event could nonetheless have a material adverse effect on our operating results or financial condition.

We outsource certain technology and business process functions to third parties and may increasingly do so in the future. If we do not effectively develop, implement and monitor our outsourcing strategy, third party providers do not perform as anticipated or we experience technological or other problems with a transition, we may not realize productivity improvements or cost efficiencies and may experience operational difficulties, increased costs and loss of business. Our outsourcing of certain technology and business processes functions to third parties may expose us to enhanced risks related to data security, which could result in monetary and reputational damages. In addition, our ability to receive services from third party providers may be impacted by cultural differences, political instability, unanticipated regulatory requirements or policies. As a result, our ability to conduct our business may be adversely affected.

The regulatory environment surrounding information security and privacy is increasingly demanding. We are subject to numerous U.S. federal and state laws and non-U.S. regulations governing the protection of personal and confidential information of our clients or employees, including in relation to medical records, credit card data and financial information. On May 25, 2016, the European General Data Protection Regulation (“GDPR”) also entered into force following four years of negotiation. We will be subject to the GDPR when offering goods and services to E.U. based data subjects (regardless of whether we have an E.U. based subsidiary or operations) from May 25, 2018. These laws and regulations are increasing in complexity and number, change frequently and sometimes conflict. In particular, as the E.U. states reframe their national legislation to prepare for and harmonize

with the GDPR, we will need to monitor compliance with all relevant E.U. member states' laws and regulations. If any person, including any of our employees or those with whom we share such information, negligently disregards or intentionally breaches our established controls with respect to our client or employee data, or otherwise mismanages or misappropriates that data, we could be subject to significant monetary damages, regulatory enforcement actions, fines and/or criminal prosecution in one or more jurisdictions.

On March 1, 2017, new cybersecurity rules will take effect for financial institutions, insurers and certain other companies supervised by the New York Department of Financial Services. The rules impose significant new regulatory burdens intended to protect the confidentiality, integrity and availability of information systems.

In addition, the NAIC is developing an Insurance Data Security Model Law, which would require insurers, insurance producers and other entities required to be licensed under state insurance laws to comply with certain requirements under state insurance laws, such as developing and maintaining a written information security program, conducting risk and overseeing the data security practices of third-party vendors. We cannot predict whether any such proposed laws or regulatory changes will be adopted, or what impact they will have on our business, financial condition or results of operations.

Despite the contingency plans and facilities we have in place and our efforts to observe the regulatory requirements surrounding information security, our ability to conduct business may be adversely affected by a disruption of the infrastructure that supports our business in the communities in which we are located, or of outsourced services or functions, including a disruption involving electrical, communications, transportation, or other services we use. If a disruption occurs in one location and our employees in that location are unable to occupy our offices and conduct business or communicate with or travel to other locations, our ability to service and interact with clients may suffer and we may not be able to successfully implement contingency plans that depend on communication or travel. If sustained or repeated, such business interruption, system failure, service denial or data loss and/or damage could result in a deterioration of our ability to write and process business, provide customer service, pay claims in a timely fashion or perform other necessary business functions.

Our internal controls over financial reporting may have gaps or other deficiencies.

Our internal control system was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. However, our internal controls over financial reporting may have gaps or other deficiencies and there is no guarantee that significant deficiencies or material weaknesses in internal controls may not occur in the future. Any such gaps or deficiencies may require significant resources to remediate and may also expose us to litigation, regulatory fines or penalties, or other losses. Inadequate process design or a failure in operating effectiveness could result in a material misstatement of our financial statements due to, but not limited to, poorly designed systems, changes in end-user computing, failure to perform relevant management reviews, accounting errors or duplicate payments, any of which could result in a restatement of financial accounts.

We may be adversely affected if our capital models provide materially different indications than actual results.

We have made substantial investments to develop proprietary analytic and modeling capabilities to facilitate our underwriting, risk management, capital modeling and allocation, and risk assessments relating to the risks we assume. These models and other tools help us to manage our risks, understand our capital utilization and risk aggregation, inform management and other stakeholders of capital requirements and seek to improve the risk/return profile or optimize the efficiency of the amount of capital we apply to cover the risks in the individual contracts we sell and in our portfolio as a whole. However, given the inherent uncertainty of modeling techniques and the application of such techniques, the possibility of human or systems error, the challenges inherent in consistent application of complex methodologies in a fluid business environment and other factors, our models, tools and databases may not accurately address the risks we currently cover or the emergence of new matters which might be deemed to impact certain of our coverages. Accordingly, our models may understate the exposures we are assuming and our results of operations and financial condition may be materially adversely impacted. Conversely, our models may prove too conservative and contribute to factors which may impede our ability to grow in respect of new markets or perils or in connection with our current portfolio of coverages or the loss environment otherwise may prove more benign than our capital loading for catastrophes or other modeled losses. In such case of excess capital, we would make a judgment about redeploying the capital in lines of businesses or pursuing other capital management activities such as dividends or share repurchases, including up to authorized levels, which judgment will also be dependent on modeling techniques and results.

The failure of our underwriting processes could have an adverse effect on our results of operations or financial condition.

We seek to manage our loss exposure by maintaining a disciplined underwriting process throughout our (re)insurance operations. Underwriting is a matter of judgment, involving important assumptions about matters that are inherently unpredictable and beyond our control, and for which historical experience and probability analysis may not provide sufficient guidance. The failure of any of the underwriting risk management strategies that we employ could have a material adverse effect on our financial condition, results of operations or cash flows.

We rely on internal controls to limit our risk exposure within prescribed parameters. However, our controls and monitoring efforts may be ineffective, permitting one or more underwriters to exceed underwriting authority and cause us to (re)insure risks outside the agreed upon guidelines. To the extent that our underwriters exceed their authorities, agree to inappropriate contract terms and conditions or are influenced by broker incentives, or if there is ineffective channel management or inaccurate underwriting data capture and reporting leading to licensing and sanction breaches, our financial condition or results of operations could be materially adversely affected.

Risks Related to Our Ordinary Shares

Our ability to pay dividends or to meet ongoing cash requirements may be constrained by our holding company structure.

We are a holding company and, as such, we do not expect to have any significant operations or assets other than our ownership of the shares of our subsidiaries, including our Operating Subsidiaries. Dividends and other permitted distributions and loans from our Operating Subsidiaries are expected to be our sole source of funds to meet ongoing cash requirements, including our debt service payments and other expenses, and dividend payments, to our preference and ordinary shareholders, as appropriate. Our Operating Subsidiaries are subject to capital, regulatory and other requirements that inform their ability to declare and pay dividends and make loans to other Group companies. In line with common market practice for regulated institutions, the PRA, the regulatory agency which oversees the prudential regulation of insurance companies in the U.K. such as Aspen U.K., requested that it be afforded the opportunity to provide a “non-objection” prior to all future dividend payments made by Aspen U.K. These and other requirements may mean that our Operating Subsidiaries are unable to pay sufficient dividends to enable us to meet our ongoing cash requirements. See “Business — Regulatory Matters — Bermuda Regulation — Restrictions on Dividends, Distributions and Reduction of Capital,” “Business — Regulatory Matters — U.K. and E.U. Regulation — Restrictions on Dividend Payments,” and “Business — Regulatory Matters — U.S. Regulation — State Dividend Limitations” in Item 1, above and “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Liquidity” in Part II, Item 7 below for more information on our ability to pay dividends.

Certain regulatory and other constraints may limit our ability to pay dividends.

We are subject to Bermuda regulatory constraints that affect our ability to pay dividends on our ordinary shares and make other distributions. Under the Companies Act, we may declare or pay a dividend or distribution out of contributed surplus only if we have reasonable grounds to believe that we are, and would after the payment be, able to meet our liabilities as they become due or if the realizable value of our assets would thereby not be less than our liabilities. See “Business — Regulatory Matters” in Item 1, “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Liquidity” in Part II, Item 7 and Note 15 of our consolidated financial statements, “Statutory Requirements and Dividends Restrictions” for more information on our ability to pay dividends.

There are provisions in our charter documents which may reduce or increase the voting rights of our ordinary shares.

In general, and except as provided below, shareholders have one vote for each ordinary share held by them and are entitled to vote at all meetings of shareholders. However, if, and so long as, the ordinary shares of a shareholder are treated as “controlled shares” (as determined under section 958 of the Internal Revenue Code of 1986, as amended (the “Code”)) of any U.S. Person (as defined below) and such controlled shares constitute 9.5% or more of the votes conferred by our issued shares, the voting rights with respect to the controlled shares of such U.S. Person (a “9.5% U.S. Shareholder”) shall be limited, in the aggregate, to a voting power of less than 9.5%, under a formula specified in our bye-laws. The formula is applied repeatedly until the voting power of all 9.5% U.S. Shareholders has been reduced to less than 9.5%.

In addition, the Board may limit a shareholder’s voting rights (including appointment rights, if any, granted to holders of our 7.250% Perpetual Non-Cumulative Preference Shares, 5.95% Fixed-to-Floating Rate Perpetual Non-Cumulative Preference Shares and 5.625% Perpetual Non-Cumulative Preference Shares, each with a liquidation preference of \$25 per share (collectively, the “Preference Shares”)) where it deems it appropriate to do so to (i) avoid the existence of any 9.5% U.S. Shareholder, and (ii) avoid certain material adverse tax, legal or regulatory consequences to us or any holder of our shares or its affiliates. “Controlled shares” includes, among other things, all shares of the Company that such U.S. Person is deemed to own directly, indirectly or constructively

(within the meaning of section 958 of the Code). As of December 31, 2016, there were 59,774,464 ordinary shares outstanding of which 5,678,575 ordinary shares would constitute 9.5% of the votes conferred by our issued and outstanding shares.

For purposes of this discussion, the term “U.S. Person” means: (i) a citizen or resident of the United States, (ii) a partnership or corporation, or entity treated as a corporation, created or organized in or under the laws of the United States, or any political subdivision thereof, (iii) an estate the income of which is subject to U.S. federal income taxation regardless of its source, or (iv) a trust if either (x) a court within the United States is able to exercise primary supervision over the administration of such trust and one or more U.S. Persons have the authority to control all substantial decisions of such trust or (y) the trust has a valid election in effect to be treated as a U.S. Person for U.S. federal income tax purposes or (z) any other person or entity that is treated for U.S. federal income tax purposes as if it were one of the foregoing.

Under these provisions, certain shareholders may have their voting rights limited to less than one vote per share, while other shareholders may have voting rights in excess of one vote per share. See Part II, Item 5, “Market for the Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchaser of Equity Securities — Bye-Laws.” Moreover, these provisions could have the effect of reducing the votes of certain shareholders who would not otherwise be subject to the 9.5% limitation by virtue of their direct share ownership. Our bye-laws provide that shareholders will be notified of their voting interests prior to any vote to be taken by them.

As a result of any reallocation of votes, voting rights of some of our shareholders might increase above 5% of the aggregate voting power of the outstanding ordinary shares, thereby possibly resulting in such shareholders becoming a reporting person subject to Schedule 13D or 13G filing requirements under the Exchange Act. In addition, the reallocation of the votes of our shareholders could result in some of the shareholders becoming subject to filing requirements under Section 16 of the Exchange Act.

We also have the authority under our bye-laws to request information from any shareholder for the purpose of determining whether a shareholder’s voting rights are to be reallocated under the bye-laws. If a shareholder fails to respond to our request for information or submits incomplete or inaccurate information in response to a request by us, we may, in our sole discretion, eliminate such shareholder’s voting rights.

There are provisions in our bye-laws which may restrict the ability to transfer ordinary shares and which may require shareholders to sell their ordinary shares.

The Board may decline to register a transfer of any ordinary shares if it appears to the Board, in its sole and reasonable discretion, after taking into account the limitations on voting rights contained in our bye-laws, that any non-de minimis adverse tax, regulatory or legal consequences to us, any of our subsidiaries or any of our shareholders or their affiliates may occur as a result of such transfer.

Our bye-laws also provide that if the Board determines that share ownership by a person may result in material adverse tax consequences to us, any of our subsidiaries or any shareholder or its affiliates, then we have the option, but not the obligation, to require that shareholder to sell to us or to third parties to whom we assign the repurchase right for fair market value the minimum number of ordinary shares held by such person which is necessary to eliminate the material adverse tax consequences.

Some of the provisions in our bye-laws and in the laws and regulations of the jurisdictions where we conduct business could delay or deter a takeover attempt that shareholders might consider desirable and may make it more difficult to replace members of our Board.

Our bye-laws contain provisions that may entrench directors and make it more difficult for shareholders to replace directors even if shareholders consider it beneficial to do so. These provisions could delay or prevent a change of control that shareholders might consider favorable. For example, these provisions may prevent a shareholder from receiving the benefit from any premium over the market price of our ordinary shares offered by a bidder in a potential takeover. Even in the absence of an attempt to effect a change in management or a takeover attempt, these provisions may adversely affect the prevailing market price of our ordinary shares if they are viewed as discouraging changes in management and takeover attempts in the future.

For example, our bye-laws contain the following provisions that could have such an effect:

- election of directors is staggered, meaning that members of only one of three classes of directors are elected each year;
- directors serve for a term of three years (unless aged 70 years or older);
- directors may decline to approve or register any transfer of shares to the extent they determine, in their sole discretion, that any non-de minimis adverse tax, regulatory or legal consequences to Aspen Holdings, any of its subsidiaries, shareholders or affiliates would result from such transfer;

- if directors determine that share ownership by any person may result in material adverse tax consequences to Aspen Holdings, any of its subsidiaries, shareholders or affiliates, we have the option, but not the obligation, to purchase or assign to a third party the right to purchase the minimum number of shares held by such person solely to the extent that it is necessary to eliminate such material risk;
- shareholders have limited ability to remove directors; and
- if the ordinary shares of any U.S. Person constitute 9.5% or more of the votes conferred by the issued shares of Aspen Holdings, the voting rights with respect to the controlled shares of such U.S. Person shall be limited, in the aggregate, to a voting power of less than 9.5%, see “Risk Factors — Risks Related to Ordinary Shares — There are provisions in our charter documents which may reduce or increase the voting rights of our ordinary shares” in Part 1, Item 1A, above.

Further, as described under Part I, Item 1, “Business — Regulatory Matters,” prospective shareholders are required to notify our regulators on becoming “controllers” of any of our Operating Subsidiaries through ownership of ordinary shares above certain thresholds, typically 10% of outstanding ordinary shares. Some regulators, such as the PRA, require their approval prior to such shareholder becoming a “controller.” Other regulators may serve a notice of objection or are entitled to injunctive relief. There can be no assurance that the applicable regulatory body would agree that a shareholder who owned greater than 10% of our ordinary shares did not, because of the limitation on the voting power of such shares, control the applicable Operating Subsidiary.

These laws may discourage potential acquisition proposals and may delay, deter or prevent a change of control of the Company, including through transactions, and in particular unsolicited transactions, that some or all of our shareholders might consider to be desirable. If these restrictions delay, deter or prevent a change of control, such restrictions may make it more difficult to replace members of our Board and may have the effect of entrenching management regardless of their performance.

We cannot pay a dividend on our ordinary shares unless the full dividends for the most recently ended dividend period on all outstanding Preference Shares have been declared and paid.

Our Preference Shares rank senior to our ordinary shares with respect to the payment of dividends. As a result, unless the full dividends for the most recently ended dividend period on all outstanding Preference Shares have been declared and paid (or declared and a sum sufficient for the payment thereof has been set aside), we cannot declare or pay a dividend on our ordinary shares. Under the terms of our Preference Shares, these restrictions will continue until full dividends on all outstanding Preference Shares for four consecutive dividend periods have been declared and paid (or declared and a sum sufficient for the payment thereof has been set aside for payment). See Part II, Item 5 “Market for the Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities — Description of our Preference Shares” below for more information on our Preference Shares.

Our ordinary shares rank junior to our Preference Shares in the event of a liquidation, winding up or dissolution of the Company.

In the event of a liquidation, winding up or dissolution of the Company, our ordinary shares rank junior to our Preference Shares. In such an event, there may not be sufficient assets remaining after payments to holders of our Preference Shares to ensure payments to holders of ordinary shares. See Part II, Item 5 “Market for the Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities — Description of our Preference Shares” below for more information on our Preference Shares.

U.S. persons who own our ordinary shares may have more difficulty in protecting their interests than U.S. persons who are shareholders of a U.S. corporation.

The Companies Act, which applies to us, differs in some material respects from laws generally applicable to U.S. corporations and their shareholders. These differences include, but are not limited to, the manner in which directors must disclose transactions in which they have an interest, the rights of shareholders to bring class action and derivative lawsuits, the scope of indemnification available to directors and officers and provisions relating to the amalgamations, mergers and acquisitions and takeovers. Holders of our ordinary shares and Preference Shares may therefore have more difficulty protecting their interests than would shareholders of a corporation incorporated in a jurisdiction within the U.S.

Generally, the duties of directors and officers of a Bermuda company are owed to the company only. Shareholders of Bermuda companies typically do not have rights to take action against directors or officers of the company and may only do so in limited circumstances. Class actions and derivative actions are typically not available to shareholders under Bermuda law. The Bermuda courts, however, would ordinarily be expected to permit a shareholder to commence an action in the name of a company to remedy a wrong to the company where the act complained of is alleged to be beyond the corporate power of the company or illegal, or would result in the violation of the company’s memorandum of association or bye-laws. Furthermore, consideration would be

given by a Bermuda court to acts that are alleged to constitute a fraud against the minority shareholders or, for instance, where an act requires the approval of a greater percentage of the company's shareholders than that which actually approved it. When the affairs of a company are being conducted in a manner that is oppressive or prejudicial to the interests of some shareholders, one or more shareholders may apply to the Supreme Court of Bermuda, which may make such order as it sees fit, including an order regulating the conduct of the company's affairs in the future or ordering the purchase of the shares of any shareholders by other shareholders or by the company. Additionally, under our bye-laws and as permitted by Bermuda law, each shareholder has waived any claim or right of action against our directors or officers for any action taken by directors or officers in the performance of their duties, except for actions involving fraud or dishonesty. In addition, the rights of holders of our ordinary shares and Preference Shares and the fiduciary responsibilities of our directors under Bermuda law are not as clearly established as under statutes or judicial precedent in U.S. jurisdictions, particularly the State of Delaware.

We are a Bermuda company and it may be difficult to effect service of process on us or enforce judgments against us or our directors and executive officers in the United States.

We are incorporated under the laws of Bermuda and our business is based in Bermuda. In addition, certain of our directors and officers reside outside the United States, and a substantial portion of our assets and the assets of such persons are located in jurisdictions outside the United States. As such, it may be difficult or impossible to effect service of process upon us or those persons in the United States or to recover against us or them on judgments of U.S. courts, including judgments predicated upon civil liability provisions of the U.S. federal securities laws.

We have been advised by Bermuda counsel that there is no treaty in force between the U.S. and Bermuda providing for the reciprocal recognition and enforcement of judgments in civil and commercial matters. As a result, whether a U.S. judgment would be enforceable in Bermuda against us or our directors and officers depends on whether the U.S. court that entered the judgment is recognized by the Bermuda court as having jurisdiction over us or our directors and officers, as determined by reference to Bermuda conflict of law rules. A judgment debt from a U.S. court that is final and for a sum certain based on U.S. federal securities laws will not be enforceable in Bermuda unless the judgment debtor had submitted to the jurisdiction of the U.S. court, and the issue of submission and jurisdiction is a matter of Bermuda (not U.S.) law.

In addition to and irrespective of jurisdictional issues, the Bermuda courts will not enforce a U.S. federal securities law that is either penal or contrary to public policy in Bermuda. It is the advice of our Bermuda counsel that an action brought pursuant to a public or penal law, the purpose of which is the enforcement of a sanction, power or right at the instance of the state in its sovereign capacity, will not be entertained by a Bermuda court. Certain remedies available under the laws of U.S. jurisdictions, including certain remedies under U.S. federal securities laws, would not be available under Bermuda law or enforceable in a Bermuda court, as they would be contrary to Bermuda public policy. Further, no claim may be brought in Bermuda against us or our directors and officers in the first instance for violation of U.S. federal securities laws because these laws have no extraterritorial jurisdiction under Bermuda law and do not have force of law in Bermuda. A Bermuda court may, however, impose civil liability on us or our directors and officers if the facts alleged in a complaint constitute or give rise to a cause of action under Bermuda law.

The New York Stock Exchange may suspend trading generally as a result of technical issues which could cause an interruption in the trading market for our securities.

Our ordinary shares trade on the NYSE under the symbol "AHL" and our Preference Shares also trade on the NYSE. Trading in our securities that are listed on the NYSE may be halted due to a market disruption event, systems failure, cyber security attack or for other technical reasons. If the NYSE is unable to maintain the availability of its electronic trading systems or otherwise safeguard the security of trading within those platforms due to the occurrence of a technical failure, cyber attack or other information security incident, an investor's ability to trade in our securities may be compromised. On a few occasions in the past the NYSE has suspended trading in all securities listed on the NYSE due to unusual but major technical issues. During such a halt in trading, there may be no trading market for our ordinary shares or Preference Shares making it difficult for an investor to sell our securities in the volume, or at a price and time, which is attractive to such investor.

Risks Related to Taxation

Our non-U.S. companies (other than AUL) may be subject to U.S. income tax and that may have a material adverse effect on our operating results and your investment.

If Aspen Holdings or any of its non-U.S. subsidiaries (other than AUL) were considered to be engaged in a trade or business in the United States, it could be subject to U.S. corporate income and additional branch profits taxes on the portion of its earnings effectively connected to such U.S. business, in which case its operating results could be materially adversely affected. However, the operating results of Aspen U.K. should not be materially adversely affected if it is considered to be engaged in a U.S. trade or business solely as a result of the binding authorities granted to certain subsidiaries incorporated in the United States.

We intend to manage the business of Aspen Holdings and its non-U.S. subsidiaries so that none of these companies (other than AUL) should be subject to U.S. tax because none of these companies should be treated as engaged in a trade or business within the United States (other than Aspen U.K. and APJ Jersey with respect to the business produced pursuant to the binding authorities granted to certain subsidiaries incorporated in the United States). However, U.S. excise tax on premium income attributable to U.S. risks, U.S. withholding tax on certain U.S. source investment income, U.S. corporate income and additional branch profits tax on the profits attributable to the business of Aspen U.K. produced pursuant to the above described binding authority agreements, and profits attributable to APJ Jersey reflecting the recent expansion of its business into the Latin American market may apply. However, because there is considerable uncertainty as to the activities which constitute being engaged in a trade or business within the United States, we cannot be certain that the U.S. Internal Revenue Service (“IRS”) will not contend successfully that some or all of Aspen Holdings or its non-U.S. subsidiaries (other than AUL) is/are engaged in a trade or business in the United States based on activities in addition to the binding authorities discussed above.

AUL is a member of Lloyd’s and subject to a closing agreement between Lloyd’s and the IRS (the “Closing Agreement”). Pursuant to the terms of the Closing Agreement, all members of Lloyd’s, including AUL, are subject to U.S. federal income taxation. Those members that are entitled to the benefits of a U.S. income tax treaty are deemed to be engaged in a U.S. trade or business through a U.S. permanent establishment. Those members not entitled to the benefits of such a treaty are merely deemed to be engaged in a U.S. trade or business. The Closing Agreement provides rules for determining the income considered to be attributable to the permanent establishment or U.S. trade or business. We believe that AUL may be entitled to the benefits of the U.S. income tax treaty with the U.K., although the position is not certain.

Our non-U.K. companies may be subject to U.K. tax that may have a material adverse effect on our operating results.

None of us, other than our subsidiaries that are incorporated in the U.K. (“the U.K. Subsidiaries”), should be treated as being resident in the United Kingdom for corporation tax purposes except for APJ Jersey which, although not incorporated in the United Kingdom, is treated as resident in the United Kingdom as a result of its central management and control being exercised from the United Kingdom. Each of us, other than the U.K. Subsidiaries and APJ Jersey, currently intends to manage our affairs so that none of us, other than the U.K. Subsidiaries and APJ Jersey, is resident in the United Kingdom for tax purposes.

A company that is not resident in the United Kingdom for corporation tax purposes can nevertheless be subject to U.K. corporation tax if it carries on a trade through a permanent establishment in the United Kingdom but, in that case, the charge to U.K. corporation tax is limited to profits (both revenue profits and capital gains) attributable directly or indirectly to such permanent establishment.

Each of us, other than the U.K. Subsidiaries and APJ Jersey, currently intends that we will operate in such a manner so that none of us (other than the U.K. Subsidiaries and APJ Jersey) carries on a trade through a permanent establishment in the United Kingdom. Nevertheless, because neither case law nor U.K. statute completely defines the activities that constitute trading in the United Kingdom through a permanent establishment, Her Majesty’s Revenue and Customs (“HMRC”) might contend successfully that any of us (other than the U.K. Subsidiaries and APJ Jersey) are trading in the United Kingdom through a permanent establishment.

The United Kingdom has no income tax treaty with Bermuda. There are circumstances in which companies that are neither resident in the United Kingdom nor entitled to the protection afforded by a double tax treaty between the United Kingdom and the jurisdiction in which they are resident may be exposed to income tax in the United Kingdom (other than by deduction or withholding) on the profits of a trade carried on there, even if that trade is not carried on through a permanent establishment. However, each of us intends that we will operate in such a manner that none of us will fall within the charge to income tax in the United Kingdom (other than by deduction or withholding).

If any of us, other than the U.K. Subsidiaries and APJ Jersey, were treated as being resident in the United Kingdom for U.K. corporation tax purposes, or as carrying on a trade in the United Kingdom, whether or not through a permanent establishment, our operating results could be materially adversely affected.

Our U.K. operations may be affected by future changes in U.K. tax law.

The U.K. Subsidiaries and APJ Jersey should be treated as resident in the United Kingdom and accordingly be subject to U.K. tax in respect of their worldwide income and gains. Any change in the basis or rate of U.K. corporation tax could materially adversely affect the operations of the U.K. resident companies. The U.K. corporation tax rate reduced to 20% with effect from April 1, 2015. It will be further reduced to 19% with effect from April 1, 2017 and to 17% with effect from April 1, 2020.

The Organization for Economic Co-operation and Development (“OECD”) published its final reports on Base Erosion and Profit Shifting (“BEPS Reports”), containing recommendations on measures to coordinate multilateral action on international tax rules, in October 2015. The recommended actions include amendments to the definition of a “permanent establishment” to be followed by an examination of the rules for attributing profit to a permanent establishment. Other recommended actions relate to

the goal of ensuring that transfer pricing outcomes are in line with value creation, noting that the current rules may facilitate the transfer of risks or capital away from countries where the economic activity takes place, the tax treatment of hybrid financial instruments and the deductibility of intra-group interest payments for tax purposes.

In response to the BEPS recommendations, revised transfer pricing guidelines have been adopted and legislation has been introduced in relation to hybrid mismatches (the latter coming into effect on January 1, 2017). The U.K. Government confirmed that it will bring forward legislation to restrict tax deductions for interest expenses of large groups, in line with the OECD's recommendations, with effect from April 1, 2017. These changes to U.K. tax law in response to the BEPS Reports could adversely affect our tax liability.

The U.K. Government has announced that it will introduce legislation restricting the amount of U.K. profit in any particular accounting period that can be offset by historical tax losses. These restrictions will take effect from April 1, 2017.

The U.K. tax authority continues its review of the corporate debt provisions, which has already resulted in amendments to the late paid interest rules and the introduction of certain anti-avoidance measures for loan-related tax advantages. It is possible that future changes will be made to the U.K. tax treatment of interest, which may have an adverse effect on our intra-group financing arrangements.

The U.K. diverted profits tax ("DPT"), which came into effect on April 1, 2015, is separate from existing U.K. corporation tax and is charged at a higher rate of 25%. It is an anti-avoidance measure aimed at protecting the U.K. tax base against profits being earned by activities carried out in the United Kingdom but which are not taxed in the United Kingdom, in particular as a result of arrangements amongst companies in the same multinational group. The United Kingdom's network of Double Tax Treaties does not offer protection in the event that DPT is deemed to apply. In the event that the rules apply to certain arrangements, then upfront payment of HMRC's estimate of the deemed tax liability may be required. If any of our U.K. or non-U.K. companies is liable for DPT as a result of intra-group arrangements, this could have a material adverse effect on our results.

The Criminal Finances Bill, currently before the U.K. Parliament, creates a new criminal offense targeting tax evasion. A company (wherever incorporated) will be guilty if a person performing services for or on behalf of that company (whether as an employee, agent or in any other capacity), facilitates the commission by another person of a U.K. tax evasion offense, or, in certain circumstances, a tax evasion offense under any non-U.K. law, unless the company can prove that it had reasonable prevention procedures in place. If any Group entities were liable under these proposals, this may have a material impact on our results.

The Australian Government announced a new diverted profits tax in May 2016, which will take effect from July 1, 2017. This will be set at the rate of 40% and is modeled on the U.K.'s DPT. If Aspen U.K.'s Australian branch is deemed liable for Australian DPT as a result of intra-group arrangements, this could have a material adverse effect on our results.

Our U.K. and U.S. operations may be adversely affected by a transfer pricing adjustment in computing U.K. or U.S. taxable profits.

Any arrangements between U.K.-resident entities of the Aspen group and other members of the Aspen group are subject to the U.K. transfer pricing regime. Consequently, if any agreement (including any reinsurance agreements) between a U.K.-resident entity of the Aspen group and any other Aspen group entity (whether that entity is resident in or outside the United Kingdom) is found not to be on arm's length terms and as a result a U.K. tax advantage is being obtained, an adjustment will be required to compute U.K. taxable profits as if such an agreement were on arm's length terms. Similar rules apply in the U.S. and would have a similar impact on our U.S. resident entities if transfer pricing adjustments were required. Any transfer pricing adjustment could adversely impact the tax charge suffered by the relevant U.K. or U.S. resident entities of the Aspen group.

The BEPS Reports included a recommendation that groups should be required in the future to report details of their operations and intra-group transactions in each jurisdiction, known as country by country reporting ("CBCR"). The United Kingdom has implemented these recommendations with effect from January 1, 2016. Many non-OECD countries are still considering the implications of the proposals. It is possible that our approach to transfer pricing may become subject to greater scrutiny from the tax authorities in the jurisdictions in which we operate, which may lead to transfer pricing audits in the future. Any transfer pricing adjustment could adversely impact the tax charge suffered by the relevant U.K. or U.S. resident entities of the Aspen group.

In April 2016, the E.U. issued proposals to require all E.U. entities (including branches) to publish their CBCR reports. The proposals, if implemented, are likely to cause increased audit activity from E.U. tax authorities. Legislation has been enacted giving power to introduce regulations requiring public disclosure of U.K. CBCR reports, although this power has not yet been exercised.

Our operations may be affected by the introduction of an E.U. financial transaction tax (“FTT”).

On February 14, 2013, the E.U. Commission published a proposal for a Directive for a common FTT in those E.U. Member States which choose to participate (the “FTT Zone”). The FTT proposal remains subject to negotiation between the participating Member States and consensus has not yet been reached as to the scope of the tax and how it should be levied. The introduction of FTT in the proposed or similar form could have an adverse effect on our business and operating results.

Our operations may be affected by the introduction of the Common Reporting Standard (“CRS”).

The CRS has been introduced as an initiative by the OECD and is imposed on members of the E.U. by the European Directive on Administrative Co-operation. Similar to the Foreign Account Tax Compliance Act introduced by the United States, the CRS requires financial institutions which are subject to the rules to report certain information in respect of account holders. Information must be reported by U.K. financial institutions in 2017 based on information for the year ended December 31, 2016. We intend to operate in compliance with the CRS. Any inadvertent failure to do so may have an adverse effect on our business and operating results.

Holders of 10% or more of Aspen Holdings’ shares may be subject to U.S. income taxation under the controlled foreign corporation (“CFC”) rules.

A “10% U.S. Shareholder” (defined as a U.S. Person (as defined below) who owns (directly, indirectly through non-U.S. entities or “constructively” (as defined below)) at least 10% of the total combined voting power of all classes of stock entitled to vote of a non-U.S. corporation, that is a CFC for an uninterrupted period of 30 days or more during a taxable year), which owns shares in the non-U.S. corporation directly or indirectly through non-U.S. entities on the last day of the non-U.S. corporation’s taxable year on which it is a CFC, must include in its gross income for U.S. federal income tax purposes its pro rata share of the CFC’s “subpart F income,” even if the subpart F income is not distributed. “Subpart F income” of a non-U.S. insurance corporation typically includes “foreign personal holding company income” (such as interest, dividends and other types of passive income), as well as insurance and reinsurance income (including underwriting and investment income). A non-U.S. corporation is considered a CFC if “10% U.S. Shareholders” own (directly, indirectly through non-U.S. entities or by attribution by application of the constructive ownership rules of section 958(b) of the Code (i.e., “constructively”)) more than 50% of the total combined voting power of all classes of voting stock of that non-U.S. corporation, or the total value of all stock of that non-U.S. corporation. For the purposes of taking into account insurance income, a CFC also includes a non-U.S. corporation earning insurance income in which more than 25% of the total combined voting power of all classes of stock (or more than 25% of the total value of the stock) is owned by 10% U.S. Shareholders on any day during the taxable year of such corporation, if the gross amount of premiums or other consideration for the reinsurance or the issuing of insurance or annuity contracts (other than certain insurance or reinsurance related to some country risks written by certain insurance companies, not applicable here) exceeds 75% of the gross amount of all premiums or other consideration in respect of all risks.

For purposes of this discussion, the term “U.S. Person” means: (i) a citizen or resident of the United States, (ii) a partnership or corporation created or organized in or under the laws of the United States, or organized under the laws of any political subdivision thereof, (iii) an estate the income of which is subject to U.S. federal income taxation regardless of its source, (iv) a trust if either (x) a court within the United States is able to exercise primary supervision over the administration of such trust and one or more U.S. Persons have the authority to control all substantial decisions of such trust or (y) the trust has a valid election in effect to be treated as a U.S. Person for U.S. federal income tax purposes and (v) any other person or entity that is treated for U.S. federal income tax purposes as if it were one of the foregoing.

We believe that because of the anticipated dispersion of our share ownership, provisions in our organizational documents that limit voting power (these provisions are described under “Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities — Bye-Laws” in Part II, Item 5 below) and other factors, no U.S. Person who owns shares of Aspen Holdings directly or indirectly through one or more non-U.S. entities should be treated as owning (directly, indirectly through non-U.S. entities, or constructively) 10% or more of the total voting power of all classes of shares of Aspen Holdings or any of its non-U.S. subsidiaries. It is possible, however, that the IRS could successfully challenge the effectiveness of these provisions.

U.S. Persons who hold our shares may be subject to U.S. income taxation at ordinary income rates on their proportionate share of our related party insurance income (“RPII”).

If the RPII (determined on a gross basis) of any of our non-U.S. Operating Subsidiaries, Silverton, Peregrine and APJ Jersey were to equal or exceed 20% of that company’s gross insurance income in any taxable year and direct or indirect insureds (and persons related to those insureds) own directly or indirectly through entities 20% or more of the voting power or value of Aspen

Holdings, then a U.S. Person who owns any shares of such non-U.S. Operating Subsidiary (directly or indirectly through non-U.S. entities) on the last day of the taxable year on which it is an RPII CFC would be required to include in its income for U.S. federal income tax purposes such person's pro rata share of such company's RPII for the entire taxable year, determined as if such RPII were distributed proportionately only to U.S. Persons on that date regardless of whether such income is distributed, in which case such person's investment could be materially adversely affected. In addition, any RPII that is includible in the income of a U.S. tax-exempt organization may be treated as unrelated business taxable income. The amount of RPII earned by a non-U.S. Operating Subsidiary (generally, premium and related investment income from the indirect or direct insurance or reinsurance of any direct or indirect U.S. holder of shares or any person related to such holder) will depend on a number of factors, including the identity of persons directly or indirectly insured or reinsured by the company. We believe that the direct or indirect insureds of each of our non-U.S. Operating Subsidiaries (and related persons) did not directly or indirectly own 20% or more of either the voting power or value of our shares in prior years of operation and we do not expect this to be the case in the foreseeable future. Additionally, we do not expect gross RPII of each of our non-U.S. Operating Subsidiaries to equal or exceed 20% of its gross insurance income in any taxable year for the foreseeable future, but we cannot be certain that this will be the case because some of the factors which determine the extent of RPII may be beyond our control.

U.S. Persons who dispose of our shares may be subject to U.S. federal income taxation at the rates applicable to dividends on a portion of such disposition.

Section 1248 of the Code, in conjunction with the RPII rules, provides that if a U.S. Person disposes of shares in a non-U.S. corporation that earns insurance income in which U.S. Persons own 25% or more of the shares (even if the amount of gross RPII is less than 20% of the corporation's gross insurance income and the ownership of its shares by direct or indirect insureds and related persons is less than the 20% threshold), any gain from the disposition will generally be treated as a dividend to the extent of the holder's share of the corporation's undistributed earnings and profits that were accumulated during the period that the holder owned the shares (whether or not such earnings and profits are attributable to RPII). In addition, such a holder will be required to comply with certain reporting requirements, regardless of the amount of shares owned by the holder. These RPII rules should not apply to dispositions of our shares because Aspen Holdings will not itself be directly engaged in the insurance business. The RPII provisions, however, have never been interpreted by the courts or the Treasury Department in final regulations, and regulations interpreting the RPII provisions of the Code exist only in proposed form. It is not certain whether these regulations will be adopted in their proposed form or what changes or clarifications might ultimately be made thereto or whether any such changes, as well as any interpretation or application of the RPII rules by the IRS, the courts, or otherwise, might have retroactive effect. The Treasury Department has authority to impose, among other things, additional reporting requirements with respect to RPII. Accordingly, the meaning of the RPII provisions and the application thereof to us is uncertain.

U.S. Persons who hold our shares will be subject to adverse tax consequences if we are considered to be a passive foreign investment company ("PFIC") for U.S. federal income tax purposes.

If we are considered a PFIC for U.S. federal income tax purposes, a U.S. Person who owns any of our shares will be subject to adverse tax consequences, including subjecting the investor to a greater tax liability than might otherwise apply and subjecting the investor to tax on amounts in advance of the date on which tax would otherwise be imposed, in which case such U.S. Person's investment could be materially adversely affected. In addition, if we were considered a PFIC, upon the death of any U.S. individual owning shares, such individual's heirs or estate would not be entitled to a "step-up" in the basis of the shares that might otherwise be available under U.S. federal income tax laws. The IRS issued proposed regulations intended to clarify the application of the PFIC rules to foreign insurance companies. These proposed regulations will not be effective until adopted in final form. We believe that we are not, have not been, and currently do not expect to become, a PFIC for U.S. federal income tax purposes. We cannot assure you, however, that we will not be deemed a PFIC by the IRS because of the legal uncertainties related to the interpretation of the proposed regulation and the form in which such regulations may be finalized, among other things. If we were considered a PFIC, it could have material adverse tax consequences for an investor that is subject to U.S. federal income taxation.

U.S. tax-exempt organizations who own our shares may recognize unrelated business taxable income.

A U.S. tax-exempt organization may recognize unrelated business taxable income if a portion of the insurance income of any of our non-U.S. Operating Subsidiaries is allocated to the organization, which generally would be the case if any of our non-U.S. Operating Subsidiaries is a CFC and the tax-exempt shareholder is a U.S. 10% Shareholder or there is RPII, certain exceptions do not apply and the tax-exempt organization owns any of our shares. Although we do not believe that any U.S. Persons should be allocated such insurance income, we cannot be certain that this will be the case. U.S. tax-exempt investors are advised to consult their own tax advisors.

Changes in U.S. federal income tax law or the manner in which it is interpreted could materially adversely affect us.

Legislation has been introduced in the U.S. Congress intended to eliminate certain perceived tax advantages of companies (including insurance companies) that have legal domiciles outside the United States but have certain U.S. connections. It is possible that legislation could be introduced in and enacted by the current Congress or future Congresses that could have an adverse impact on us. For example, legislation based on the Tax Reform Task Force Blueprint dated June 24, 2016, which recommends moving to a consumption or destination-based tax system and provides for border adjustments taxing imports to raise revenue to offset lost revenue from a reduction in the U.S. corporate income tax rate to 20 percent, may be introduced and enacted. The application of a destination-based tax with border adjustments to the cross-border insurance and reinsurance markets would be complex, and the manner in which it would be implemented and enforced is uncertain. If a destination-based tax with border adjustments is enacted and made applicable to cross-border insurance and reinsurance, its impact on the insurance industry may adversely impact the results of our operations. In addition, existing interpretations of U.S. federal income tax laws could change, also resulting in an adverse impact on us.

Scope of application of recently enacted legislation is uncertain.

The Foreign Account Tax Compliance Act (“FATCA”) provisions of the Code require withholding agents to withhold 30% of a U.S. dividend interest or other fixed payment made to a Foreign Financial Institution (“FFI”) and will, beginning January 1, 2019, require withholding on gross proceeds from the sale of securities which produce U.S. source interest or dividends, unless the FFI has entered into an agreement with the IRS to report account information for any of the FFI’s U.S. accountholders. Certain entities in the Aspen Group were identified as FFIs and were registered with the IRS ahead of the commencement date. The U.S. Treasury released models for Intergovernmental FATCA Agreements (“IGAs”) with other jurisdictions that will allow FFIs in those jurisdictions to report U.S. accountholder information only to local revenue authorities rather than the IRS. The U.K. / U.S. IGA was signed in September 2012. Non-Publicly Traded Securities Holders may be required to provide any information that we determine necessary to avoid the imposition of such withholding tax in order to allow us to satisfy such obligations. In the event that this withholding tax is imposed, our operating results could be materially adversely affected.

U.S. Persons may be subject to FBAR and “Specified Foreign Financial Asset” reporting requirements.

U.S. Persons holding our shares should consider their possible obligation to file FINCEN Form 114, *Foreign Bank and Financial Accounts Report*, with respect to their shares. Additionally, such U.S. and non-U.S. persons should consider their possible obligations to annually report certain information with respect to us with their U.S. federal income tax returns. Shareholders should consult their tax advisors with respect to these or any other reporting requirement which may apply with respect to their ownership of our shares.

The impact of Bermuda’s letter of commitment to the OECD to eliminate harmful tax practices is uncertain and could adversely affect our tax status in Bermuda.

The OECD has published reports and launched a global dialogue among member and non-member countries on measures to limit harmful tax competition. These measures are largely directed at counteracting the effects of tax havens and preferential tax regimes in countries around the world. In the OECD’s progress report dated April 2, 2009, Bermuda was designated as an OECD “White List” jurisdiction that has substantially implemented the internationally agreed tax standards. The standards for the OECD compliance are to have at least 12 signed Tax Information Exchange Agreements (“TIEAs”) with other OECD members or non-OECD members. Bermuda has signed approximately 41 TIEAs which exceeds the requisite amount and demonstrates Bermuda’s commitment to preserve the standards. In April 2016, Bermuda agreed to participate in the Tax Sharing requirements for CBCR. We are not able to predict what changes will arise from the commitment or whether such changes will subject us to additional taxes.

Changes to Bermuda tax policies may impact our financial position.

Under current Bermuda law, we are not subject to tax on income, profits, withholding, capital gains or capital transfers. Furthermore, we obtained from the Minister of Finance of Bermuda under the Exempted Undertakings Tax Protection Act 1966 (as amended) an assurance that, in the event Bermuda enacts legislation imposing tax computed on profits, income, any capital asset, gain or appreciation, or any tax in the nature of estate duty or inheritance tax, then the imposition of the tax will not be applicable to us or our operations until March 31, 2035. Tax policy and legislation in Bermuda could change in the future (as is the case in other jurisdictions) and as such no guarantee can be given as to whether the current tax treatment afforded to us will continue after March 31, 2035.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

We lease office space in Hamilton, Bermuda where we are headquartered. In addition, the Company and its subsidiaries lease office space in the United States, the United Kingdom, Australia, France, Germany, Ireland, Singapore, Switzerland and the United Arab Emirates. We renew and enter into leases in the ordinary course of business as required. While we believe our current facilities and the leaseholds with respect thereto are sufficient for us to conduct our operations for the foreseeable future, we may need to expand into additional facilities to accommodate future growth. For more information on our leasing arrangements, please refer to Note 19(b) of our consolidated financial statements, “Commitments and Contingent Liabilities — Operating leases.”

Item 3. Legal Proceedings

Similar to the rest of the insurance and reinsurance industry, we are subject to litigation and arbitration in the ordinary course of our business. Our subsidiaries are regularly engaged in the investigation, conduct and defense of disputes, or potential disputes, resulting from questions of insurance and reinsurance coverage or claims activities. Pursuant to our insurance and reinsurance arrangements, many of these disputes are resolved by arbitration or other forms of alternative dispute resolution. In some jurisdictions, noticeably the U.S., a failure to deal with such disputes or potential disputes in an appropriate manner could result in an award of “bad faith” punitive damages against our Operating Subsidiaries. In addition, we may be subject to lawsuits and regulatory actions in the normal course of business that do not arise from, or directly relate to, insurance and reinsurance coverage or claims. This category of litigation typically involves, among other things, allegations of underwriting errors or omissions, employment claims or regulatory activity.

While any legal or arbitration proceedings contain an element of uncertainty, we do not believe that the eventual outcome of any specific litigation, arbitration or alternative dispute resolution proceedings to which we are currently a party will have a material adverse effect on the financial condition of our business as a whole.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for the Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our ordinary shares began publicly trading on December 4, 2003. The New York Stock Exchange (“NYSE”) symbol for our ordinary shares is AHL. Prior to that time, there was no trading market for our ordinary shares. The following table sets forth, for the periods indicated, the high and low sales prices per share of our ordinary shares as reported in composite NYSE trading and the dividends paid per ordinary share:

<u>Period</u>	<u>Price Range of Ordinary Shares</u>		<u>Dividends Paid Per Ordinary Share</u>
	<u>High</u>	<u>Low</u>	
2016			
First Quarter	\$48.32	\$40.34	\$0.21
Second Quarter	\$48.35	\$43.27	\$0.22
Third Quarter	\$47.47	\$44.05	\$0.22
Fourth Quarter	\$55.80	\$46.07	\$0.22
2015			
First Quarter	\$47.74	\$41.96	\$0.20
Second Quarter	\$49.00	\$46.00	\$0.21
Third Quarter	\$49.84	\$44.88	\$0.21
Fourth Quarter	\$51.01	\$45.38	\$0.21

Number of Holders of Ordinary Shares

As of February 15, 2017, there were 135 holders of record of our ordinary shares, not including beneficial owners of ordinary shares registered in nominee or street name, and there was one holder of record of each of our Preference Shares.

Dividends

Any determination to pay cash dividends will be at the discretion of the Board and will be dependent upon our operating results and cash flows, our financial position and capital requirements, general business conditions, legal, tax, regulatory and any contractual restrictions on the payment of dividends and any other factors the Board deems relevant at the time. For information on the dividends paid per ordinary share in 2015 and 2016, see “— Market Information” above.

We are a holding company and have no direct operations. Our ability to pay dividends depends on the ability of our Operating Subsidiaries and other subsidiaries to pay us dividends. The Operating Subsidiaries are subject to significant regulatory restrictions limiting their ability to declare and pay dividends. For a summary of these restrictions, see Part I, Item 1, “Business — Regulatory Matters,” Item 1A, “Risk Factors — Risks Related to Our Ordinary Shares — Our ability to pay dividends or to meet ongoing cash requirements may be constrained by our holding company structure” and Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Liquidity.”

Additionally, we are subject to Bermuda regulatory constraints that will affect our ability to pay dividends on our ordinary shares and make other payments. Under the Companies Act, we may declare or pay a dividend or make a distribution out of distributable reserves only if we have reasonable grounds for believing that we are, and would after the payment be, able to pay our liabilities as they become due and if the realizable value of our assets would thereby not be less than our liabilities.

Generally, unless the full dividends for the most recently ended dividend period on all outstanding Preference Shares have been declared and paid, we cannot declare or pay a dividend on our ordinary shares. Our credit facilities also restrict our ability to pay dividends. See Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Liquidity.”

Purchases of Equity Securities by Issuer and Affiliated Purchasers

The following table provides information about purchases by the Company of the Company's equity securities during the three months ended December 31, 2016:

<u>Period</u>	<u>Total Number of Shares (or Units) Purchased</u>	<u>Average Price Paid per Share (or Unit) (\$)</u>	<u>Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs</u>	<u>Maximum Number (or Approximate Dollar Value) of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs (\$millions)</u>
October 1, 2016 to October 31, 2016	—	—	—	\$0.0
November 1, 2016 to November 30, 2016	—	—	—	\$0.0
December 1, 2016 to December 31, 2016.	472,748	52.88	472,748	\$341.3
Total.	472,748	52.88	472,748	\$341.3

On February 8, 2017, the Company's Board of Directors approved a new share repurchase authorization program of up to \$250.0 million. The new share repurchase authorization program, which was effective immediately and expires on February 8, 2019, permits the Company to effect the repurchases of its ordinary shares from time to time through a combination of transactions, including open market purchases, privately negotiated transactions and accelerated share repurchase transactions. The new share repurchase authorization program replaces the Company's prior share repurchase authorization program of \$500.0 million which was approved on February 5, 2015 and expired on February 6, 2017.

Recent Sales of Unregistered Securities

None.

Securities Authorized For Issuance Under Equity Compensation Plans

See "Equity Compensation Plan Information" contained in Part III, Item 12 below.

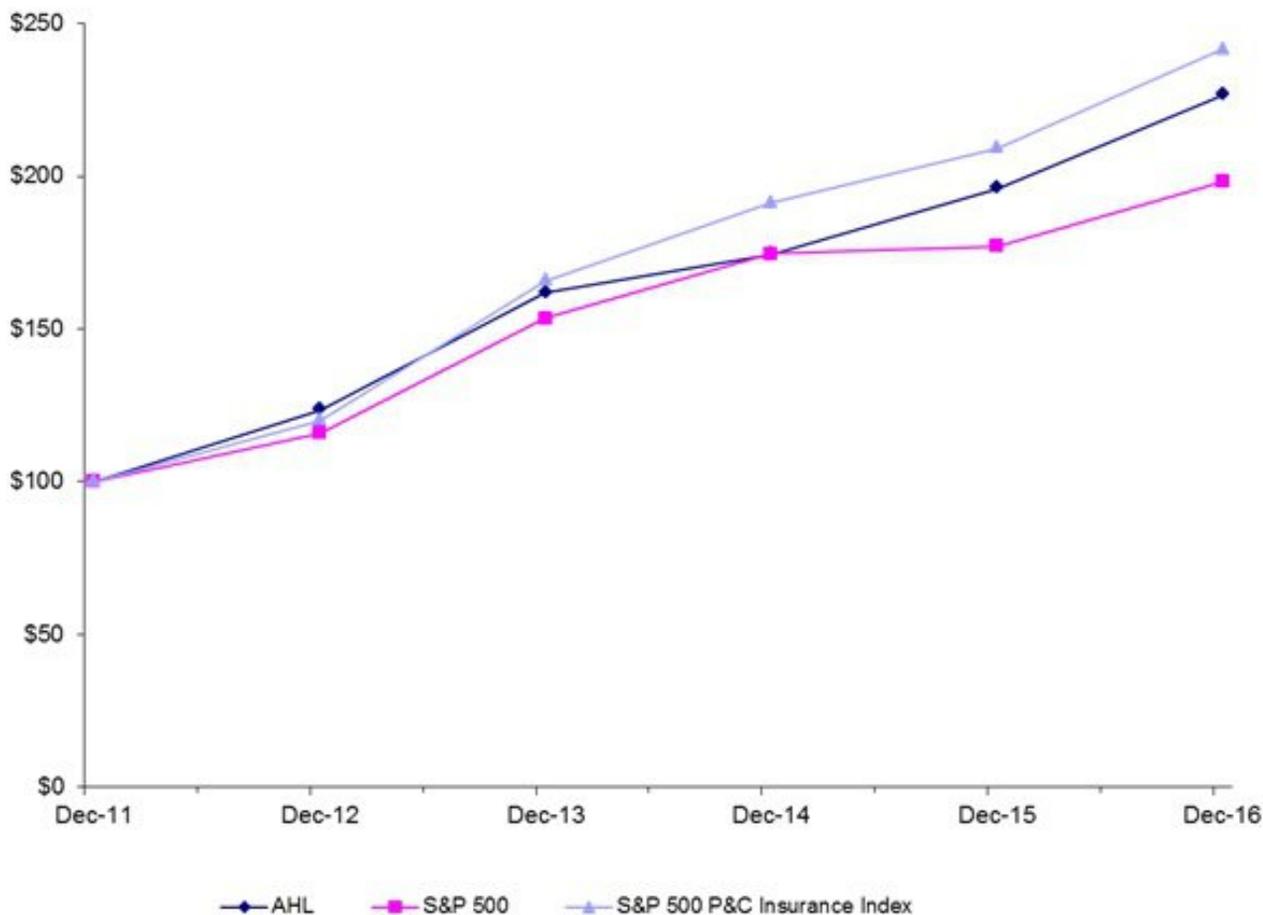
Performance Graph

The following performance graph and related information shall not be deemed to be "soliciting material" or to be "filed" with the SEC or subject to the liabilities of Section 18 of the Exchange Act, and the report shall not be deemed to be incorporated by reference into any prior or subsequent filing by the Company under the Securities Act or the Exchange Act.

The following graph illustrates the cumulative 5-year shareholder return, including reinvestment of dividends, of our ordinary shares compared with such return for the (i) S&P 500 Composite Stock Price Index and (ii) S&P Property & Casualty Industry Group Stock Price Index, in each case measured during the period from December 31, 2011 to December 31, 2016, assuming \$100 was invested on December 31, 2011. As depicted in the graph below, the cumulative total return during this period was (i) 126.6% on our ordinary shares, (ii) 98.2% for the S&P 500 Composite Stock Price Index and (iii) 141.6% for the S&P Property & Casualty Industry Group Stock Price Index.

Comparison of 5 Year Cumulative Total Return*

Among Aspen Insurance Holdings Limited, the S&P 500 Composite Stock Price Index and the S&P 500 Property & Casualty Industry Group Stock Price Index



*\$100 invested on December 31, 2011 in stock or index, including reinvestment of dividends (fiscal year ending December 31)

	12/11	12/12	12/13	12/14	12/15	12/16
Aspen Insurance Holdings Limited	100.00	123.55	161.83	174.52	195.89	226.59
S&P 500	100.00	116.00	153.57	174.60	177.01	198.18
S&P 500 Property & Casualty Insurance	100.00	12.00	165.76	191.30	209.15	241.56

The stock price performance included in the graph above is not necessarily indicative of future stock performance.

Bye-Laws

The Board approved amendments to our bye-laws on March 3, 2005, February 16, 2006, February 6, 2008 and February 3, 2009, which were subsequently approved by our shareholders at our annual general meetings on May 26, 2005, May 25, 2006, April 30, 2008 and April 29, 2009, respectively. Below is a description of our bye-laws as amended.

The Board and Corporate Action. Our bye-laws provide that the Board shall consist of not less than six and not more than 15 directors. Subject to our bye-laws and Bermuda law, the directors shall be elected or appointed by holders of ordinary shares. The Board is divided into three classes, designated Class I, Class II and Class III. Our Class I directors are elected to serve until the 2017 annual general meeting, our Class II directors are elected to serve until the 2018 annual general meeting and our Class III directors are elected to serve until our 2019 annual general meeting. Notwithstanding the foregoing, directors who are seventy years or older shall be elected every year and shall not be subject to a three-year term. In addition, notwithstanding the foregoing, each director shall hold office until such director's successor shall have been duly elected or until such director is removed from office or such office is otherwise vacated. In the event of any change in the number of directors, the Board shall apportion any

newly created directorships among, or reduce the number of directorships in, such class or classes as shall equalize, as nearly as possible, the number of directors in each class. In no event will a decrease in the number of directors shorten the term of any incumbent director.

Generally, the affirmative vote of a majority of the directors present at any meeting at which a quorum is present shall be required to authorize corporate action. Corporate action may also be taken by a unanimous written resolution of the Board without a meeting and with no need to give notice. The quorum necessary for the transaction of business of the Board may be fixed by the Board and, unless so fixed at any other number, shall be a majority of directors in office from time to time and in no event less than two directors.

Voting Cutbacks. In general, and except as provided below, on a poll shareholders have one vote for each ordinary share held by them and are entitled to vote at all meetings of shareholders. However, if, and so long as, the shares of a shareholder in the Company are treated as “controlled shares” (as determined pursuant to section 958 of the Code) of any U.S. Person and such controlled shares constitute 9.5% or more of the votes conferred by the issued shares of Aspen Holdings, the voting rights with respect to the controlled shares owned by such U.S. Person shall be limited, in the aggregate, to a voting power of less than 9.5%, under a formula specified in our bye-laws. The formula is applied repeatedly until the voting power of all 9.5% U.S. Shareholders has been reduced to less than 9.5%. In addition, our Board may limit a shareholder’s voting rights when it deems it appropriate to do so to (i) avoid the existence of any 9.5% U.S. Shareholder; and (ii) avoid certain material adverse tax, legal or regulatory consequences to the Company or any of its subsidiaries or any shareholder or its affiliates. “Controlled shares” includes, among other things, all shares of the Company that such U.S. Person is deemed to own directly, indirectly or constructively (within the meaning of section 958 of the Code). The amount of any reduction of votes that occurs by operation of the above limitations will generally be reallocated proportionately among all other shareholders of Aspen Holdings whose shares were not “controlled shares” of the 9.5% U.S. Shareholder so long as such: (i) reallocation does not cause any person to become a 9.5% U.S. Shareholder and (ii) no portion of such reallocation shall apply to the shares held by Wellington Underwriting plc (“Wellington”) or the Names’ Trustee, except where the failure to apply such increase would result in any person becoming a 9.5% shareholder.

These voting cut-back provisions have been incorporated into the Company’s bye-laws to seek to mitigate the risk of any U.S. person that owns our ordinary shares directly or indirectly through non-U.S. entities being characterized as a 10% U.S. shareholder for purposes of the U.S. controlled foreign corporation rules. If such a direct or indirect U.S. shareholder of the Company were characterized as 10% U.S. shareholder of the Company and the Company or one of its subsidiaries were characterized as a CFC, such shareholder might have to include its pro rata share of the Company income (subject to certain exceptions) in its U.S. federal gross income, even if there have been no distributions to the U.S. shareholders by the Company.

Under these provisions, certain shareholders may have their voting rights limited to less than one vote per share, while other shareholders may have voting rights in excess of one vote per share. Moreover, these provisions could have the effect of reducing the votes of certain shareholders who would not otherwise be subject to the 9.5% limitation by virtue of their direct share ownership. Our bye-laws provide that shareholders will be notified of their voting interests prior to any vote to be taken by them.

We are authorized to require any shareholder to provide information as to that shareholder’s beneficial share ownership, the names of persons having beneficial ownership of the shareholder’s shares, relationships with other shareholders or any other facts the directors may deem relevant to a determination of the number of ordinary shares attributable to any person. If any holder fails to respond to this request or submits incomplete or inaccurate information, we may, in our sole discretion, eliminate the shareholder’s voting rights. All information provided by the shareholder shall be treated by the Company as confidential information and shall be used by the Company solely for the purpose of establishing whether any 9.5% U.S. Shareholder exists (except as otherwise required by applicable law or regulation).

Shareholder Action. Except as otherwise required by the Companies Act and our bye-laws, any question proposed for the consideration of the shareholders at any general meeting shall be decided by the affirmative vote of a majority of the voting power of votes cast at such meeting (in each case, after taking into account voting power adjustments under our bye-laws). Our bye-laws require that annual general meetings be called by at least twenty-one (21) days’ written notice.

The following actions shall be approved by the affirmative vote of at least 75% of the voting power of shares entitled to vote at a meeting of shareholders (in each case, after taking into account voting power adjustments under our bye-laws): any amendment to Bye-Laws 13 (first sentence - Modification of Rights); 24 (Transfer of Shares); 49 (Voting); 63, 64, 65 and 66 (Adjustment of Voting Power); 67 (Other Adjustments of Voting Power); 76 (Purchase of Shares); 84 or 85 (Certain Subsidiaries); provided, however, that in the case of any amendments to Bye-Laws 24, 63, 64, 65, 66, 67 or 76, such amendment shall only be subject to this voting requirement if the Board determines in its sole discretion that such amendment could adversely affect any shareholder in any non-de minimis respect. The following actions shall be approved by the affirmative vote of at least 66% of the voting power of shares entitled to vote at a meeting of shareholders (in each case, after taking into account voting power adjustments under our bye-laws): (i) a merger or amalgamation with, or a sale, lease or transfer of all or substantially all of the assets of the Company to a third party, where any shareholder does not have the same right to receive the same consideration as all other shareholders in

such transaction; or (ii) discontinuance of the Company out of Bermuda to another jurisdiction. In addition, any amendment to Bye-Law 50 (Voting) shall be approved by the affirmative vote of at least 66% of the voting power of shares entitled to vote at a meeting of shareholders (after taking into account voting power adjustments under our bye-laws).

Shareholder action may be taken by resolution in writing signed by the shareholders (or the holders of such class of shares) who at the date of the notice of the resolution in writing represent the majority of votes that would be required if the resolution had been voted on at a meeting of the shareholders.

Amendment. Our bye-laws may be revoked or amended by a majority of the Board, but no revocation or amendment shall be operative unless and until it is approved at a subsequent general meeting of the Company by the shareholders by resolution passed by a majority of the voting power of votes cast at such meeting (in each case, after taking into account voting power adjustments under the bye-laws) or such greater majority as required by our bye-laws.

Voting of Non-U.S. Subsidiary Shares. If the voting rights of any shares of the Company are adjusted pursuant to our bye-laws and we are required or entitled to vote at a general meeting of any of Aspen U.K., Aspen Bermuda, Aspen U.K. Holdings, Aspen U.K. Services, AIUK Trustees, AMAL, AUL, Acorn or any other non-U.S. subsidiary of ours (together, the “Non-U.S. Subsidiaries”), our directors shall refer the subject matter of the vote to our shareholders and seek direction from such shareholders as to how they should vote on the resolution proposed by the Non-U.S. Subsidiary.

In the event that a voting cutback is required, substantially similar provisions are or will be contained in the bye-laws (or equivalent governing documents) of the Non-U.S. Subsidiaries. This provision was amended at the 2009 annual general meeting to require the application of this bye-law only in the event that a voting cutback is required, as described above.

Capital Reduction. At the 2009 annual general meeting, our bye-laws were amended to permit a capital reduction of part of a class or series of shares.

Treasury Shares. Our bye-laws permit the Board, at its discretion and without the sanction of a shareholder resolution, to authorize the acquisition of our own shares, or any class, at any price (whether at par or above or below) to be held as treasury shares upon such terms as the Board may determine, provided that such acquisition is effected in accordance with the provisions of the Companies Act. Subject to the provisions of our bye-laws, any of our shares held as treasury shares shall be at the disposal of the Board, which may hold all or any of the shares, dispose of or transfer all or any of the shares for cash or other consideration, or cancel all or any of the shares.

Corporate Purpose. Our certificate of incorporation, memorandum of association and our bye-laws do not restrict our corporate purpose and objects.

Description of our Preference Shares

7.401% Perpetual Non-Cumulative Preference Shares. In November 2006, the Board authorized the issuance and sale of up to an aggregate amount of 8,000,000 of our 7.401% Perpetual Non-Cumulative Preference Shares, with a liquidation preference of \$25 per security (the “7.401% Preference Shares”). On January 1, 2017, we elected to mandatorily redeem all of the outstanding 7.401% Preference Shares. Each holder of a 7.401% Preference Share received \$25 per 7.401% Preference Share, plus any declared and unpaid dividends.

7.250% Perpetual Non-Cumulative Preference Shares. On April 3, 2012, the Pricing and Repurchase Committee of the Board authorized the issuance and sale of up to \$230.0 million of our 7.250% Perpetual Non-Cumulative Preference Shares, with a liquidation preference of \$25 per security (the “7.250% Preference Shares”). On April 11, 2012, we issued 6,400,000 7.250% Preference Shares for an aggregate amount of \$160.0 million. In the event of our liquidation, winding up or dissolution, our ordinary shares will rank junior to the 7.250% Preference Shares.

Dividends on our 7.250% Preference Shares are payable on a non-cumulative basis only when, as and if declared by the Board at the annual rate of 7.250% of the \$25 liquidation preference of each 7.250% Preference Share, payable quarterly in cash on January 1, April 1, July 1 and October 1 of each year.

Whenever dividends on any 7.250% Preference Shares shall have not been declared and paid for the equivalent of any six dividend periods, whether or not consecutive (a “nonpayment”), subject to certain conditions, the holders of our 7.250% Preference Shares, acting together as a single class with holders of any and all other series of preference shares having similar appointing rights then outstanding (including the 5.95% Preference Shares (defined below) and the 5.625% Preference Shares (defined below)), will be entitled to the appointment of a total of two directors and the number of directors that comprise our Board will be increased by the number of directors so appointed. These appointing rights and the terms of the directors so appointed will continue until dividends on our 7.250% Preference Shares and any such series of voting preference shares following the nonpayment shall have been fully paid for at least four consecutive dividend periods.

In addition, the affirmative vote or consent of the holders of at least 66²/₃% of the aggregate liquidation preference of outstanding 7.250% Preference Shares and any series of appointing preference shares (including the 5.95% Preference Shares and the 5.625% Preference Shares), voting together as a single class, will be required for the authorization or issuance of any class or series of senior shares (or any security convertible into or exchangeable for senior shares) ranking senior to the 7.250% Preference Shares as to dividend rights or rights upon our liquidation and for amendments to our memorandum of association or bye-laws that would materially adversely affect the rights of holders of the 7.250% Preference Shares.

We may redeem the 7.250% Preference Shares at our option, in whole or in part, at a redemption price equal to \$25 per 7.250% Preference Share, plus any declared and unpaid dividends, if any, (i) at any time following the occurrence of a tax event and (ii) on July 1, 2017 and any dividend payment date thereafter.

Our 7.250% Preference Shares are listed on the NYSE under the symbol “AHLPRB.”

5.95% Fixed-to-Floating Rate Perpetual Non-Cumulative Preference Shares. On April 25, 2013, the Board authorized the issuance and sale of up to \$300.0 million of our 5.95% Fixed-to-Floating Rate Perpetual Non-Cumulative Preference Shares, with a liquidation preference of \$25 per security (the “5.95% Preference Shares”). On May 2, 2013, we issued 11,000,000 5.95% Preference Shares for an aggregate amount of \$275.0 million. In the event of our liquidation, winding up or dissolution, our ordinary shares will rank junior to the 5.95% Preference Shares.

Dividends on our 5.95% Preference Shares are payable on a non-cumulative basis only when, as and if declared by the Board at the annual rate of 5.95% of the \$25 liquidation preference of each 5.95% Preference Share, payable quarterly in cash on January 1, April 1, July 1 and October 1 of each year. Commencing on July 1, 2023, dividends on the 5.95% Preference Shares will be payable, on a non-cumulative basis, when, as and if declared by the Board, at a floating annual rate equal to 3-month LIBOR plus 4.06%. This floating dividend will be reset quarterly. Generally, unless the full dividends for the most recently ended dividend period on all outstanding 5.95% Preference Shares have been declared and paid, we cannot declare or pay a dividend on our ordinary shares.

Whenever dividends on any 5.95% Preference Shares shall have not been declared and paid for the equivalent of any six dividend periods, whether or not consecutive (a “nonpayment”), subject to certain conditions, the holders of the 5.95% Preference Shares, acting together as a single class with holders of any and all other series of preference shares having similar appointing rights then outstanding (including the 7.250% Preference Shares and the 5.625% Preference Shares), will be entitled, at a special meeting called at the request of record holders of at least 20% of the aggregate liquidation preference of the 5.95% Preference Shares or of any other series of appointing preference shares then outstanding (including the 7.250% Preference Shares and the 5.625% Preference Shares) to the appointment of a total of two directors and the number of directors that comprise our Board will be increased by the number of directors so appointed. These appointing rights and the terms of the directors so appointed will continue until dividends on the 5.95% Preference Shares and any such series of voting preference shares following the nonpayment shall have been fully paid for at least four consecutive dividend periods.

In addition, the affirmative vote or consent of the holders of at least 66²/₃% of the aggregate liquidation preference of outstanding 5.95% Preference Shares and any series of appointing preference share (including the 7.250% Preference Shares and the 5.625% Preference Shares), acting together as a single class, will be required for the authorization or issuance of any class or series of senior shares (or any security convertible into or exchangeable for senior notes) ranking senior to the 5.95% Preference Shares as to dividend rights or rights upon liquidation, winding up or dissolution and for amendments to our memorandum of association or bye-laws that would materially adversely affect the existing terms of the 5.95% Preference Shares.

We may redeem the 5.95% reference Shares at our option, in whole or in part, at a redemption price equal to \$25 per 5.95% Preference Share, plus any declared and unpaid dividends, if any (i) on July 1, 2023 and on any dividend payment date thereafter and (ii) on any dividend payment date following the occurrence of a tax event or on the dividend payment date following the occurrence of a capital disqualification redemption event.

Our 5.95% Preference Shares are listed on the NYSE under symbol “AHLPRC.”

5.625% Perpetual Non-Cumulative Preference Shares. On July 27, 2016, the Board authorized the issuance and sale of up to \$300.0 million of our 5.625% Perpetual Non-Cumulative Preference Shares, with a liquidation preference of \$25 per security (the “5.625% Preference Shares”). On September 13, 2016, we issued 10,000,000 5.625% Preference Shares for an aggregate amount of \$250.0 million. In the event of our liquidation, winding up or dissolution, our ordinary shares will rank junior to the 5.625% Preference Shares.

Dividends on our 5.625% Preference Shares are payable on a non-cumulative basis only when, as and if declared by the Board at the annual rate of 5.625% of the \$25 liquidation preference of each 5.625% Preference Share, payable quarterly in cash on January 1, April 1, July 1 and October 1 of each year.

Whenever dividends on any 5.625% Preference Shares shall have not been declared and paid for the equivalent of any six dividend periods, whether or not consecutive (a “nonpayment”), subject to certain conditions, the holders of our 5.625% reference Shares, acting together as a single class with holders of any and all other series of preference shares having similar appointing rights then outstanding (including the 7.250% Preference Shares and the 5.95% Preference Shares), will be entitled to the appointment of a total of two directors and the number of directors that comprise our Board will be increased by the number of directors so appointed. These appointing rights and the terms of the directors so appointed will continue until dividends on the 5.625% Preference Shares and any such series of voting preference shares following the nonpayment shall have been fully paid for at least four consecutive dividend periods.

In addition, the affirmative vote or consent of the holders of at least 66²/₃% of the aggregate liquidation preference of outstanding 5.625% Preference Shares and any series of appointing preference shares (including the 7.250% Preference Shares and the 5.95% Preference Shares), voting together as a single class, will be required for the authorization or issuance of any class or series of senior shares (or any security convertible into or exchangeable for senior shares) ranking senior to the 5.625% Preference Shares as to dividend rights or rights upon our liquidation and for amendments to our memorandum of association or bye-laws that would materially adversely affect the rights of holders of the 5.625% Preference Shares.

We may redeem the 5.625% Preference Shares at our option, in whole or in part, at a redemption price equal to \$25 per 5.625% Preference Share, plus any declared and unpaid dividends, if any, (i) at any time following the occurrence of a tax event and (ii) on January 1, 2027 and any dividend payment date thereafter.

Our 5.625% Preference Shares are listed on the NYSE under the symbol “AHLPRD.”

Item 6. Selected Financial Data

The following table sets forth our selected historical financial information for the periods ended and as of the dates indicated. The summary income statement data for the twelve months ended December 31, 2016, 2015, 2014, 2013 and 2012 and the balance sheet data as of December 31, 2016, 2015, 2014, 2013 and 2012 are derived from our audited consolidated financial statements. The consolidated financial statements as of December 31, 2016, and for each of the twelve months ended December 31, 2016, 2015 and 2014, and the reports thereon of KPMG LLP (in respect of 2016 and 2015) and KPMG Audit Plc (in respect of 2014), both independent registered public accounting firms, are included elsewhere in this report. These historical results, including the ratios presented below, are not necessarily indicative of results to be expected from any future period. You should read the following selected consolidated financial information along with the information contained in this report, including Item 8, “Financial Statements and Supplementary Data” and Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the audited consolidated financial statements and related notes included elsewhere in this report.

Twelve Months Ended December 31,

	2016	2015	2014	2013	2012
(\$ in millions, except per share amounts and percentages)					
Summary Income Statement Data					
Gross written premiums	\$ 3,147.0	\$ 2,997.3	\$ 2,902.7	\$ 2,646.7	\$ 2,583.3
Net premiums written	2,593.7	2,646.2	2,515.2	2,299.7	2,246.9
Net premiums earned	2,637.3	2,473.3	2,405.3	2,171.8	2,083.5
Loss and loss adjustment expenses	(1,576.1)	(1,366.2)	(1,307.5)	(1,223.7)	(1,238.5)
Amortization of deferred policy acquisition costs, general, administrative and corporate expenses	(1,019.0)	(907.6)	(896.9)	(790.1)	(726.3)
Net investment income	187.1	185.5	190.3	186.4	204.9
Net income/(loss)	203.4	323.1	355.8	329.3	280.4
Basic earnings/(loss) per share	2.67	4.64	4.92	4.29	3.51
Fully diluted earnings/(loss) per share	2.61	4.54	4.82	4.14	3.39
Basic weighted average shares outstanding (millions)	60.5	61.3	64.5	66.9	71.1
Diluted weighted average shares outstanding (millions)	61.9	62.7	65.9	69.4	73.7
Selected Ratios (based on U.S. GAAP income statement data):					
Loss ratio (on net premiums earned) ⁽¹⁾	59.8%	55.2%	54.4%	56.3%	59.4%
Expense ratio (on net premiums earned) ⁽²⁾	38.7%	36.7%	37.3%	36.3%	34.9%
Combined ratio ⁽³⁾	98.5%	91.9%	91.7%	92.6%	94.3%
Summary Balance Sheet Data					
Total cash and investments ^(4,8)	\$ 9,174.1	\$ 8,811.7	\$ 8,607.4	\$ 8,253.4	\$ 8,203.9
Premiums receivable ⁽⁵⁾	1,472.5	1,151.6	1,058.6	1,045.5	1,141.8
Total assets	12,090.1	11,048.8	10,716.3	10,230.5	10,310.6
Loss and loss adjustment expense reserves	5,319.9	4,938.2	4,750.8	4,678.9	4,779.7
Reserves for unearned premiums	1,618.6	1,587.2	1,441.8	1,280.6	1,120.8
Loan notes issued by variable interest entities, at fair value ⁽⁹⁾	223.4	190.6	138.6	50.0	—
Long-term debt	549.3	549.2	549.1	549.0	499.1
Total shareholders' equity	3,648.3	3,419.9	3,419.3	3,299.6	3,488.4
Per Share Data (Based on U.S. GAAP balance sheet data):					
Book value per ordinary share ⁽⁶⁾	\$47.68	\$46.99	\$46.16	\$41.87	\$42.12
Diluted book value per share (treasury stock method) ⁽⁷⁾	\$46.72	\$46.00	\$45.13	\$40.90	\$40.65
Cash dividend declared per ordinary share	\$0.86	\$0.83	\$0.78	\$0.71	\$0.66

- (1) The loss ratio is calculated by dividing losses and loss adjustment expenses by net premiums earned.
- (2) The expense ratio is calculated by dividing amortization of deferred policy acquisition costs and general, administrative and corporate expenses by net premiums earned.
- (3) The combined ratio is the sum of the loss ratio and the expense ratio.
- (4) Total cash and investments include cash, cash equivalents, fixed income securities, equities, bank loans, other investments, short-term investments and catastrophe bonds.
- (5) Premiums receivable including funds withheld.
- (6) Book value per ordinary share is based on total shareholders' equity excluding the aggregate value of the liquidation preferences of our preference shares, divided by the number of shares outstanding of 70,753,723, 65,546,976, 62,017,368, 60,918,373 and 59,774,464 as at December 31, 2012, 2013, 2014, 2015 and 2016, respectively.
- (7) Diluted book value per share is calculated based on total shareholders' equity excluding the aggregate value of the liquidation preferences of our preference shares, as at December 31, 2012, 2013, 2014, 2015 and 2016, divided by the number of dilutive equivalent shares outstanding of 73,312,340, 67,089,572, 63,444,356, 62,240,466 and 61,001,071 as at December 31, 2012, 2013, 2014, 2015 and 2016, respectively. As at December 31, 2012, 2013, 2014, 2015 and 2016, there were 2,558,617, 1,542,596, 1,426,988, 1,322,093 and 1,226,607 of dilutive equivalent shares, respectively. Potentially dilutive shares outstanding are calculated using the treasury method and all relate to employee, director and investor options.

- (8) Including cash within consolidated variable interest entities of \$291.3 million as at December 31, 2016 and \$243.3 million as at December 31, 2015.
- (9) Of the total loan notes issued by our consolidated variable interest entities, at fair value, of \$223.4 million as at December 31, 2016, \$115.0 million were classified as long term liabilities and \$108.4 million were classified as current liabilities due and payable in less than one year. For more information, refer to Note 7, “Variable Interest Entities” of our consolidated financial statements.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following is a discussion and analysis of our financial condition and results of operations for the twelve months ended December 31, 2016, 2015 and 2014. This discussion and analysis should be read in conjunction with our audited consolidated financial statements and related Notes contained in this report. This discussion contains forward-looking statements that involve risks and uncertainties and that are not historical facts, including statements about our beliefs and expectations. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those discussed below and particularly under the headings "Risk Factors," "Business" and "Forward-Looking Statements" contained in Item 1A, Item 1, and Part I of this report, respectively.

Aspen's Year in Review

The insurance industry continued to be challenged in 2016 as a result of the impact of rate reductions across many lines of business in both insurance and reinsurance, the continuing low interest rate environment and significant political changes in the United Kingdom and the United States. We delivered net income return on equity of 5.4% for 2016 compared to 10.0% for 2015 and a 1.6% growth in diluted book value per share. We achieved this despite an increase in catastrophe losses and mark to market losses from our investment portfolio in 2016.

Business Portfolio Optimization. We made continued progress on our business optimization initiatives in 2016 and further diversified our business by product and geography.

In our insurance segment, we continued the roll out of our global insurance product lines. In addition, our new insurance leadership team completed a thorough review of our insurance portfolio and identified the best opportunities for long-term profitable growth. Gross written premium for the insurance segment in 2016 decreased by 0.8% compared to 2015. Our combined ratio in insurance was 99.6% in 2016 compared to 96.1% in 2015. We expect to see continuing good performance and increased growth in areas such as Professional Lines, U.K. Property and Casualty, Crisis Management, Credit and Political Risk and Surety.

In our reinsurance segment, we have also diversified by product line through the acquisition of AgriLogic, significantly increasing our exposure to U.S. agriculture business. Our Aspen Capital Markets team continued to effectively leverage Aspen Re's underwriting expertise to continue to provide investors with access to diversified catastrophe risk backed by Aspen Re's existing underwriting franchise. Silverton, our sidecar, likewise continued to provide quota share support to Aspen Re's global property catastrophe excess of loss reinsurance business and increased the amount of capital raised from \$65.0 million at its inception in 2013 to \$130.0 million (of which \$105.0 million was raised by third parties) in 2017. Gross written premium for the reinsurance segment for 2016 was \$1.41 billion, an increase of 13.2% from 2015, with growth primarily in specialty and casualty lines. The combined ratio was 90.0% in 2016 compared to 80.4% in 2015.

Capital Management. We continue to focus on capital management and maintain our capital at an appropriate level. In 2016, we continued our strategy to return excess capital to shareholders with the repurchase of 1,595,076 ordinary shares for a total consideration of \$75.0 million. In addition, in the second quarter of 2016, we increased our quarterly dividend on our ordinary shares from \$0.21 to \$0.22 per ordinary share. On February 8, 2017, our Board of Directors also authorized a new share repurchase program of \$250.0 million. The share repurchase authorization, which is effective through February 8, 2019, permits us to effect repurchases from time to time through a combination of transactions, including open market repurchases, privately negotiated transactions and accelerated share repurchase transactions.

Investment Management. We follow an investment strategy designed to emphasize the preservation of capital and provide sufficient liquidity for the prompt payment of claims. As of December 31, 2016, our investments consisted of a diversified portfolio of fixed income securities including U.S. Dollar BBB Emerging Market Debt, global equities and money market funds. Our overall portfolio strategy remains focused on high quality fixed income investments. As at December 31, 2016, approximately 10.8% of our total cash and investments, excluding catastrophe bonds and funds held by variable interest entities (the "Managed Portfolio"), was invested in equities and U.S. Dollar BBB Emerging Market Debt (2015 — 12.6%). In November 2016 we reduced our holdings in our global equity strategy and received net proceeds of \$200.0 million. Proceeds from the sales were reinvested into a core fixed income strategy. As at December 31, 2016, we had a 6.8% (2015 — 8.7%) position in equities, a 3.8% (2015 — 3.5%) position in U.S. Dollar BBB Emerging Market Debt and 0.2% (2015 — 0.4%) in risk asset portfolio cash.

Financial Overview

The following overview of our 2016, 2015 and 2014 operating results and financial condition is intended to identify important themes and should be read in conjunction with the more detailed discussion further below.

Operating highlights

- Gross written premiums of \$3,147 million in 2016, an increase of 5.0% from 2015.
- Annualized net income return on average equity of 5.4% for 2016 compared with 10.0% in 2015 and 11.1% in 2014.
- Combined ratio of 98.5% for 2016, including \$164.4 million, or 6.3 percentage points of pre-tax catastrophe losses, net of reinsurance and reinstatements, compared with 91.9% for 2015, which included \$90.5 million or 3.7 percentage points of pre-tax catastrophe losses, net of reinsurance and reinstatements, and 91.7% for 2014, which included \$65.5 million or 2.7 percentage points of pre-tax catastrophe losses, net of reinsurance and reinstatements.
- Net favorable development on prior year loss reserves of \$129.3 million, or 4.9 combined ratio points, for 2016 compared with \$156.5 million, or 6.3 combined ratio points, for 2015, and \$104.1 million, or 4.3 combined ratio points, for 2014.

Gross written premiums. Gross written premiums increased by 5.0% in 2016 when compared to 2015 predominantly due to our reinsurance lines. The changes in our segments' gross written premiums for the twelve months ended December 31, 2016, 2015 and 2014 were as follows:

<u>Business Segment</u>	<u>Gross Written Premiums for the Twelve Months Ended December 31,</u>					
	<u>2016</u>		<u>2015</u>		<u>2014</u>	
	<u>(\$ in millions)</u>	<u>% change</u>	<u>(\$ in millions)</u>	<u>% change</u>	<u>(in millions)</u>	
Reinsurance	\$ 1,413.2	13.2 %	\$ 1,248.9	6.5%	\$ 1,172.8	
Insurance	1,733.8	(0.8)%	1,748.4	1.1%	1,729.9	
Total	<u>\$ 3,147.0</u>	<u>5.0 %</u>	<u>\$ 2,997.3</u>	<u>3.3%</u>	<u>\$ 2,902.7</u>	

In 2016, gross written premiums written in our reinsurance segment increased by 13.2% compared to 2015 due to growth in specialty reinsurance and casualty reinsurance business lines. The increase in our specialty reinsurance business is largely due to growth in agriculture business written following our acquisition of AgriLogic in January 2016 and growth in specialty marine business. The increase in our casualty reinsurance lines of business is largely due to growth in our U.S. casualty treaty and international casualty business lines.

The 0.8% reduction in gross written premiums in 2016 in our insurance segment was due to reductions in our property and casualty insurance lines, and marine, aviation and energy insurance lines being offset by a growth in our financial and professional lines. The increase in gross written premiums in financial and professional lines was largely attributable to growth in our accident and health, credit and political risks, management liability and financial institutions business lines. The decrease in gross written premiums in property and casualty insurance was largely attributable to reductions in our global casualty, U.S. casualty and U.S. environmental business lines offset by growth in our U.S. excess casualty and railroad insurance business lines. The decrease in gross written premiums in marine, aviation and energy insurance was largely due to challenging market conditions in our marine and energy liability, U.S. inland marine, offshore energy, and energy and construction insurance business lines offset by growth in our ocean cargo and aviation insurance business lines.

Overall gross written premiums in 2015 increased by 3.3% in compared to 2014 due primarily to our reinsurance lines, with growth from our other property and specialty reinsurance business lines offsetting planned reductions in property catastrophe lines. Premiums from our insurance segment in 2015 increased due to growth principally in our property and casualty business lines and financial and professional lines offset by reductions in our marine, aviation and energy lines.

Combined ratio. We monitor the ratio of losses and expenses to net earned premium (the “combined ratio”) as a measure of relative performance where a lower ratio represents a better result than a higher ratio. The combined ratios for our two business segments for the twelve months ended December 31, 2016, 2015 and 2014 were as follows:

<u>Business Segment</u>	Combined Ratios for the Twelve Months Ended December 31,		
	2016	2015	2014
Reinsurance	90.0%	80.4%	77.6%
Insurance	99.6%	96.1%	96.2%
Total	98.5%	91.9%	91.7%

The combined ratio for 2016 increased by 6.6 percentage points compared to 2015 due to a 4.6 percentage point increase in the loss ratio and a 2.0% percentage point increase in the expense ratio. The loss ratio increase was due primarily to a \$75.9 million increase in catastrophe losses and a \$27.2 million reduction in the level of prior year reserve releases. The increase in expense ratio is due to higher acquisition and general administrative and corporate expenses. The increase in acquisition expenses is due to higher profit commission accruals and lower ceding commissions in the insurance segment and changes in business mix in the reinsurance segment. The increase in general, administrative and corporate expenses was due to costs associated with AgriLogic which we acquired in January 2016 and growth in our insurance and reinsurance business and reorganization costs.

The combined ratio for 2015 increased by 0.2% percentage points compared to 2014 due to a 0.8 percentage point increase in the loss ratio, partially offset by a 0.6 percentage point reduction in the expense ratio. The loss ratio increase was due to the insurance segment which experienced an increased frequency of mid-sized losses and higher catastrophe losses. The reduction in the expense ratio was due primarily to a lower operating expense ratio in the insurance segment as we reach scale in our U.S. operations partially offset by higher acquisition costs in the reinsurance segment due to a change in business mix towards pro rata business which attracts higher commission rates.

In each of the years ended December 31, 2016, 2015 and 2014, we recorded a reduction in the level of reserves for prior years. In 2016, we reported net favorable development on prior year loss reserves of \$129.3 million, or 4.9 combined ratio points, compared with \$156.5 million, or 6.3 combined ratio points, for 2015, and \$104.1 million, or 4.3 combined ratio points, for 2014.

Overall reserve releases in 2016 reduced by \$27.2 million compared to 2015 mainly due to a \$23.4 million decrease in net reserve releases in our insurance segment from \$65.7 million in 2015 to \$42.3 million in 2016. Overall reserve releases in 2015 increased by \$52.4 million compared to 2014 due mainly to a \$60.6 million increase in net reserve releases in our insurance segment from \$5.1 million in 2014 to \$65.7 million in 2015. Reserve releases in our reinsurance segment in 2015 decreased from \$99.0 million in 2014 to \$90.8 million in 2015. Further information relating to the release of reserves can be found below under “— Reserves for Losses and Loss Adjustment Expenses — Prior Year Loss Reserves.”

Amortization of deferred policy acquisition costs increased in 2016 compared to 2015, and in 2015 compared to 2014, in line with premium growth and higher profit commission accruals and lower ceding commissions in the insurance segment offsetting the receipt of FET refunds and changes in business mix in the reinsurance segment. In 2014, the deferred policy acquisition costs were also impacted by adjustments in profit-related commission accruals.

General, administrative and corporate expenses increased to \$490.1 million in 2016 from \$424.0 million in 2015 and \$445.7 million in 2014. The increase in 2016 compared to 2015 is largely due to costs associated with AgriLogic which we acquired in January 2016, costs associated with growth in our insurance and reinsurance business and reorganization costs. The reduction in 2015 compared to 2014 is largely due to expenses attributable to defending the unsolicited approach and an inadequate offer by Endurance at a cost of \$28.5 million in 2014.

Net investment income. We generated net investment income of \$187.1 million in 2016, an increase of 0.9% on the prior year (2015 — \$185.5 million; 2014 — \$190.3 million). The increase was primarily due to a higher investment balance, \$20.4 million of dividend income from our global equity securities portfolio in 2016 compared with \$20.1 million in 2015 and \$17.1 million in 2014. The decrease in investment income in 2015 compared to 2014 was due primarily to lower reinvestment rates and declining book yields from fixed income securities.

Taxes. We recognized a tax expense in 2016 of \$6.1 million (2015 — \$14.4 million expense; 2014 — \$12.1 million expense), equivalent to a consolidated rate on income before tax of 2.9% in 2016 compared to 4.3% in 2015 and 3.3% in 2014. The decrease in the effective tax rate in 2016 was due to a smaller proportion of group profits being generated by U.K.-based operations and the reduction in the U.K. corporate tax rate from 21% to 20% in April 2015. The increase in the effective tax rate in 2015 compared to 2014 was largely associated with a greater proportion of group profits being generated in the U.K. The tax in each of the years is representative of the geographic spread of our business between taxable and non-taxable jurisdictions in such years.

Net income. We reported income after taxes of \$203.4 million in 2016 compared to \$323.1 million in 2015 and \$355.8 million in 2014. The decrease in net income in 2016 compared to 2015 was primarily due to the \$137.7 million decrease in underwriting income resulting from higher catastrophe losses, lower reserve releases and increased expenses offset by growth in premiums earned. The decrease in income after tax in 2015 compared to 2014 was due primarily to the \$31.3 million decrease in underwriting income resulting from higher catastrophe losses offset by growth in premiums earned.

Other comprehensive income. Total other comprehensive income decreased by \$64.7 million (2015 — \$174.7 million increase), net of taxes, for the twelve months ended December 31, 2016. This consists of a decrease in net unrealized gains of \$28.8 million in the available for sale investment portfolio (2015 — \$68.5 million unrealized gain) largely attributable to the impact of rising interest rates on our bond portfolios, an \$8.9 million reclassification of net realized gains to net income (2015 — \$36.7 million reclassified realized gains), a \$0.7 million unrealized gain (2015 — \$2.6 million unrealized loss) on the hedged derivative contracts and an unrealized loss in foreign currency translation of \$27.7 million (2015 — \$72.1 million unrealized loss) largely attributable to the impact from the continued strengthening of the U.S. dollar.

Dividends. In April 2016, the Board approved an increase in the quarterly dividend on our ordinary shares from \$0.21 per ordinary share to \$0.22 per ordinary share (2015 — \$0.21 quarterly dividend; 2014 — \$0.20 quarterly dividend). This resulted in total ordinary dividends for 2016 of \$52.7 million (2015 — \$50.9 million; 2014 — \$50.3 million). Dividends paid on the preference shares in 2016 were \$41.8 million (2015 — \$37.8 million; 2014 — \$37.8 million).

Shareholders' equity and financial leverage. Total shareholders' equity increased by \$228.4 million from \$3,419.9 million as at December 31, 2015 to \$3,648.3 million as at December 31, 2016. The most significant movements were:

- an increase of \$108.7 million in retained earnings for the period;
- a reduction of \$64.7 million in other comprehensive income;
- net proceeds of \$241.3 million from the issuance of the 5.625% Preference Shares in September 2016; and
- the repurchase of 1,595,076 ordinary shares for \$75.0 million through open market and other repurchases.

As at December 31, 2016, our total shareholders' equity included preference shares with a total value as measured by their respective liquidation preferences of \$818.2 million (2015 — \$568.2 million) less issue costs of \$21.1 million (2015 — \$12.4 million).

Our senior notes were the only material debt issued by Aspen Holdings as at December 31, 2016 and 2015 totaling \$549.3 million and \$549.2 million, respectively. In addition to the senior notes issued by Aspen Holdings, we have also reported \$223.4 million of debt issued by Silverton. For further information relating to Silverton, refer to Note 7 of our consolidated financial statements, "Variable Interest Entities."

Management monitors the ratio of debt to total capital, with total capital being defined as shareholders' equity plus outstanding debt. As at December 31, 2016, this ratio was 17.5% (2015 — 17.8%). Our preference shares are classified in our balance sheet as equity but may receive a different treatment in some cases under the capital adequacy assessments made by certain rating agencies. We also monitor the ratio of the total debt and the liquidation preference of our preference shares to total capital which was 35.5% as at December 31, 2016 (2015 — 31.1%).

Diluted book value per ordinary share as at December 31, 2016 was \$46.72, an increase of 1.6% compared to \$46.00 as at December 31, 2015. Book value per ordinary share is based on total shareholders' equity, less preference shares (liquidation preference less issue expenses) and non-controlling interests, divided by the number of ordinary shares in issue at the end of the period.

Balances as at December 31, 2016 and 2015 were as follows:

	<u>As at December 31, 2016</u>	<u>At December 31, 2015</u>
	(\$ in millions, except for share amounts)	
Total shareholders' equity	\$ 3,648.3	\$ 3,419.9
Preference shares less issue expenses	(797.1)	(555.8)
Non-controlling interests	(1.4)	(1.3)
Net assets attributable to ordinary shareholders	<u>\$ 2,849.8</u>	<u>\$ 2,862.8</u>
Issued ordinary shares	59,774,464	60,918,373
Issued and potentially dilutive ordinary shares	61,001,071	62,240,466

Market Conditions, Rate Trends and Developments in 2016 and Early 2017

Overall. The rate environment continues to pose challenges in both our reinsurance and insurance segments.

The reinsurance market continued to face pricing challenges during the January 1, 2017 renewals, with an average rate decrease of 2%. Although there was pricing pressure on most reinsurance lines, with variations depending on geographical location and line of business, the January renewals were in line with our expectations. Terms and conditions, along with overall commissions paid on pro-rata deals, did not change significantly. We achieved a modest rate increase in casualty reinsurance where we also obtained new business opportunities with select clients. Rates in property catastrophe decreased by approximately 3% in the United States whereas elsewhere property catastrophe rates decreased by approximately 5%. As a result, we continued to manage our net exposures and continued to leverage third party capital through Aspen Capital Markets. We increased gross written premiums during the January 1, 2017 renewals compared to our 2016 renewal season and we expect our regional strategy to continue to enable us to achieve profitable growth through the expansion of our presence in the Middle East and Africa through the opening of a hub in Dubai, and further penetration in Asia-Pacific with our office in Australia and in China through Lloyd's.

We completed a comprehensive review of our insurance business in the fourth quarter of 2016 to identify the best opportunities for long-term profitable growth. As a result of this review, we decided to cease underwriting a large portion of primary casualty business whether acquired through programs or assessed on an individual risk basis. In total, we chose to not renew approximately \$150.0 million of insurance business, or approximately 5% of our total portfolio, during 2016. We believe the actions taken as a result of this review will ultimately improve the results of our insurance business.

We likewise purchased significantly more ceded reinsurance during 2016 covering our Casualty and Financial and Professional lines business, and our Marine, Energy and Aviation lines. We believe this will ultimately lead to lower earnings volatility, a lower expense ratio and greater flexibility in deciding where to deploy our capital.

See "Forward-Looking Statements" included in Part I of this report.

Recent Developments

On January 3, 2017, we elected to mandatorily redeem all of the outstanding 7.401% Preference Shares. Each holder of a 7.401% Preference Share received \$25 per 7.401% Preference Share, plus any declared and unpaid dividends.

Critical Accounting Policies

Our consolidated financial statements contain certain amounts that are inherently subjective in nature and require management to make assumptions and best estimates to determine the reported values. We believe that the following critical accounting policies affect the more significant estimates used in the preparation of our consolidated financial statements. A statement of all the significant accounting policies we use to prepare our financial statements is included in the Notes to the consolidated financial statements. If factors such as those described in Part I, Item 1A, "Risk Factors" cause actual events to differ from the assumptions used in applying the accounting policy and calculating financial results, there could be a material adverse effect on our operating results, financial condition and liquidity.

Written Premiums

Written premiums comprise the estimated premiums on contracts of insurance and reinsurance entered into in the reporting period, except in the case of proportional reinsurance contracts, where written premiums relate only to our estimated proportional share of premiums due on contracts entered into by the ceding company prior to the end of the reporting period.

All premium estimates are reviewed regularly, comparing actual reported premiums to expected ultimate premiums along with a review of the collectability of premiums receivable. Based on management's review, the appropriateness of the premium estimates is evaluated, and any adjustments to these estimates are recorded in the periods in which they become known. Adjustments to original premium estimates could be material and these adjustments may directly and significantly impact earnings in the period they are determined because the subject premium may be fully or substantially earned.

We refer to premiums receivable which are not fixed at the inception of the contract as adjustment premiums. The proportion of adjustment premiums included in the premium estimates varies between business lines with the largest adjustment premiums associated with property and casualty reinsurance business and the smallest with property and liability insurance lines.

Adjustment premiums are most significant in relation to reinsurance contracts. Different considerations apply to non-proportional and proportional treaties as follows:

Non-proportional treaties. A large number of the reinsurance contracts we write are written on a non-proportional or excess of loss treaty basis. As the ultimate level of business written by each cedant can only be estimated at the time the reinsurance is placed, the reinsurance contracts generally stipulate a minimum and deposit premium payable under the contract with an adjustable premium determined by variables such as the number of contracts covered by the reinsurance, the total premium received by the cedant and the nature of the exposures assumed. Minimum and deposit premiums generally cover the majority of premiums due under such treaty reinsurance contracts and the adjustable portion of the premium is usually a small portion of the total premium receivable. For excess of loss contracts, the minimum and deposit premium, as defined in the contract, is generally considered to be the best estimate of the contract's written premium at inception. Accordingly, this is the amount we generally record as written premium in the period the underlying risks incept.

During the life of a contract, notifications from cedants and brokers may affect the estimate of ultimate premium and result in either increases or reductions in reported revenue. Changes in estimated adjustable premiums do not generally have a significant impact on short-term liquidity as the payment of adjustment premiums generally occurs after the expiration of a contract.

Many non-proportional treaties also include a provision for the payment to us by the cedant of reinstatement premiums based on loss experience under such contracts. Reinstatement premiums are the premiums charged for the restoration of the reinsurance limit of an excess of loss contract to its full amount after payment by the reinsurer of losses as a result of an occurrence. These premiums relate to the future coverage obtained during the remainder of the initial policy term and are included in revenue in the same period as the corresponding losses.

Proportional treaties ("treaty pro rata"). Estimates of premiums assumed under treaty pro rata reinsurance contracts are recorded in the period in which the underlying risks are expected to incept and are based on information provided by brokers and ceding companies and estimates of the underlying economic conditions at the time the risk is underwritten. We estimate premiums receivable initially and update our premium estimates regularly throughout the contract term based on treaty statements received from the ceding company.

The reported gross written premiums for treaty pro rata business include estimates of premiums due to us but not yet reported by the cedant because of time delays between contracts being written by our cedants and their submission of treaty statements to us. This additional premium is normally described as pipeline premium. Treaty statements disclose information on the underlying contracts of insurance written by our cedants and are generally submitted on a monthly or quarterly basis, from 30 to 90 days in arrears. In order to report all risks incepting prior to a period end, we estimate the premiums written between the last submitted treaty statement and the period end. Treaty pro rata premiums are written predominantly in our other property, specialty and casualty reinsurance line of business.

Property treaty pro rata made a significant contribution to our reinsurance segment where we wrote \$226.7 million in gross written premium in 2016 (2015 — \$240.0 million), or 16.0% of the gross written premium in our reinsurance segment, of which \$53.1 million was estimated (2015 — \$15.1 million) and \$173.6 million was reported by the cedants (2015 — \$224.9 million). Excluding the impact of fixed costs, such as reinsurance premiums and operating expenses, we estimate that the impact of a \$1.0 million increase / decrease in our estimated gross written premiums in our property treaty pro rata business would increase / decrease net income before tax by less than \$0.1 million for the year ended December 31, 2016 (2015 — \$0.1 million increase / decrease).

The most likely drivers of change in our premium estimates in decreasing order of magnitude are:

- changes in the renewal rate or rate of new business acceptances by the cedant insurance companies leading to lower or greater volumes of ceded premiums than our estimate, which could result from changes in the relevant primary market that could affect more than one of our cedants or could be a consequence of changes in marketing strategy or risk appetite by a particular cedant;
- changes in the rates being charged by cedants; and
- differences between the pattern of inception dates assumed in our estimate and the actual pattern of inception dates.

We anticipate that ultimate premiums might reasonably be expected to vary by up to 5% as a result of variations in one or more of the assumptions described above, although larger variations are possible. Based on gross written premiums of \$226.7 million (2015 — \$240.0 million) in our property reinsurance treaty pro rata account as at December 31, 2016, a variation of 5% could increase or reduce net income before tax by approximately \$0.5 million (2015 — \$0.2 million).

Earned premiums. Premiums are recognized as earned over the policy exposure periods. The premium related to the unexpired portion of each policy at the end of the reporting period is included in the balance sheet as unearned premiums.

Reserving Approach

We are required by U.S. GAAP to establish loss reserves for the estimated unpaid portion of the ultimate liability for losses and loss expenses (“ultimate losses”) under the terms of our policies and agreements with our insured and reinsured customers. Our loss reserves comprise the following components:

- the cost of claims reported to us but not yet paid known as case reserves (“case reserves”);
- IBNR reserves to cover the anticipated cost of claims incurred but not reported and potential development of reported claims; and
- the expenses associated with settling claims, including legal and other fees and the general expenses of administering the claims adjustment process, known as the loss adjustment expenses (“LAE”).

Prior to the selection of the reserves to be included in our financial statements, our actuarial team employs a number of techniques to establish a range of estimates from which they consider it reasonable for management to select a ‘best estimate’ (the “actuarial range”).

Case Reserves. For reported claims, reserves are established on a case-by-case basis within the parameters of coverage provided in the insurance policy or reinsurance agreement. The method of establishing case reserves for reported claims differs among our operations. With respect to our insurance operations, we are advised of potential insured losses and our claims handlers record reserves for the estimated amount of the expected indemnity settlement, loss adjustment expenses and cost of defense where appropriate. The reserve estimate reflects the judgment of the claims personnel and is based on claim information obtained to date, general reserving practices, the experience and knowledge of the claims personnel regarding the nature of the specific claim and where appropriate and available, advice from legal counsel, loss adjusters and other claims experts.

With respect to our reinsurance claims operations, claims handlers set case reserves for reported claims generally based on the claims reports received from our ceding companies and take into consideration our cedants’ own reserve recommendations and our prior loss experience with the cedant. Additional case reserves (“ACR”), in addition to the cedants’ own recommended reserves, may be established by us to reflect our estimated ultimate cost of a loss. ACRs are generally the result of either a claims handler’s own experience and knowledge of handling similar claims, general reserving practices or the result of reserve recommendations following an audit of cedants’ reserves.

Case reserves are based on a subjective judgment of facts and circumstances and are established for the purposes of internal reserving only. Accordingly, they do not represent a commitment to any course of conduct or admission of liability on our behalf in relation to any specific claim.

IBNR Reserves. The need for IBNR reserves arises from time lags between when a loss occurs and when it is actually reported and settled. By definition, we do not have specific information on IBNR claims so they need to be estimated by actuarial methodologies. IBNR reserves are therefore generally calculated at an aggregate level and cannot generally be identified as reserves for a particular loss or contract. We calculate IBNR reserves by class of business within each line of business. Where appropriate, analyses may be conducted on sub-sets of a class of business. IBNR reserves are calculated by projecting our ultimate losses on each class of business and subtracting paid losses and case reserves. IBNR reserves also cover any potential development of reported claims. Over recent years, we have begun to place greater reliance on our actual actuarial experience for our long-tail lines of business that we have written since our inception in 2002. We believe that our earliest accident years are now capable of providing us with meaningful actuarial indications. Estimates and judgments for new insurance and reinsurance lines of business are more difficult to make than those made for more mature lines of business because we have more limited historical information through December 31, 2016.

Sources of Information. Claims information received typically includes the loss date, details of the claim, the recommended reserve and reports from the loss adjusters dealing with the claim. In respect of pro rata treaties and any business written through managing general agents, we receive regular statements (bordereaux) which provide paid and outstanding claims information, often with large losses separately identified. Following widely reported loss events, such as catastrophes and airplane crashes, we adopt a proactive approach to establish our likely exposure to claims by reviewing policy listings and contacting brokers and policyholders as appropriate.

Actuarial Methodologies. The main projection methodologies that are used by our actuaries are as follows:

- *Initial expected loss ratio (“IELR”) method:* This method calculates an estimate of ultimate losses by applying an estimated loss ratio to an estimate of ultimate earned premium for each accident year. The estimated loss ratio may be based on pricing information and/or industry data and/or historical claims experience revalued to the year under review.

- *Bornhuetter-Ferguson (“BF”) method:* The BF method uses as a starting point an assumed IELR and blends in the loss ratio, which is implied by the claims experience to date using benchmark loss development patterns on paid claims data (“Paid BF”) or reported claims data (“Reported BF”). Although the method tends to provide less volatile indications at early stages of development and reflects changes in the external environment, it can be slow to react to emerging loss development and can, if the IELR proves to be inaccurate, produce loss estimates which take longer to converge with the final settlement value of loss.
- *Loss development (“Chain Ladder”) method:* This method uses actual loss data and the historical development profiles on older accident years to project more recent, less developed years to their ultimate position.
- *Exposure-based method:* This method is typically used for specific large catastrophic events such as a major hurricane. All exposure is identified and we work with known market information and information from our cedants to determine a percentage of the exposure to be taken as the ultimate loss.

In addition to these methodologies, our actuaries may use other approaches depending upon the characteristics of the class of business and available data.

In general terms, the IELR method is most appropriate for classes of business and/or accident years where the actual paid or reported loss experience is not yet mature enough to modify our initial expectations of the ultimate loss ratios. Typical examples would be recent accident years for classes of business in casualty reinsurance. The BF method is generally appropriate where there are few reported claims and a relatively less stable pattern of reported losses. Typical examples would be our treaty risk excess class of business in our reinsurance segment and marine hull class of business in our insurance segment. The Chain Ladder method is appropriate when there are relatively stable patterns of loss emergence and a relatively large number of reported claims. Typical examples are the U.K. commercial property and U.K. commercial liability classes of business in our international insurance business.

Reserving Procedures and Process. Our actuaries calculate the IELR, BF and Chain Ladder and, if appropriate, other methods for each class of business and each accident year. They then calculate a single point actuarial mean best estimate (“ultimate”) for each class of business and provide a stochastic distribution around the mean for each line of business. The actuarial methodologies involve significant subjective judgments reflecting many factors, including but not limited to, changes in legislative conditions, changes in judicial interpretation of legal liability policy coverages and inflation. Our actuaries collaborate with our underwriting, claims, legal and finance teams in identifying factors which are incorporated in their range of ultimates in which management’s best estimate is most likely to fall. The actuarial stochastic distribution is designed to provide management with a range from which it is reasonable to select a single management best estimate for inclusion in our financial statements.

There are no differences between our year-end and our quarterly internal reserving procedures and processes because our actuaries perform the basic projections and analyses described above for each class of business quarterly.

Selection of Reported Gross Reserves. Management, through its Reserve Committees, reviews the actuarial stochastic distribution and any other evidence before selecting its management best estimate of reserves for each line of business. Management selects the “management best estimate” by considering all the information provided to them and by considering the risks and uncertainties within the actuarial mean best estimate. Management has to date selected its best estimate above that of the actuarial mean best estimate and within the range of the actuarial stochastic distribution. This provides the basis for the recommendation to the Audit Committee and the Board made by management regarding the reserve amounts and related disclosures to be recorded in our financial statements.

There are three Reserve Committees, one for each of the insurance and reinsurance segments and a “core” committee that makes final reserving recommendations. The “core” Reserve Committee currently consists of the Group Chief Operations Officer and Head of Strategy (the chair), the Chief Executive Officer of Aspen Insurance, the Group Head of Risk and the Group Chief Actuary, the Group Chief Financial Officer, the Group Head of Capital Management, the Insurance Chief Financial Officer and the President and Chief Underwriting Officer of Aspen Re. Senior members of the insurance and reinsurance segment underwriting and claims staff comprise the remaining members of each of the insurance and reinsurance reserve committees, respectively.

Each class of business within each line of business is reviewed in detail by management through its Reserve Committee at least once a year. The timing of such reviews varies throughout the year. Additionally, we review the emergence of actual losses relative to expectations every fiscal quarter for all classes of business. If warranted from this analysis, we may accelerate the timing of our detailed actuarial reviews.

Uncertainties. While the management selected reserves make a reasonable provision for unpaid loss and loss adjustment expense obligations, we note that the process of estimating required reserves, by its very nature, involves uncertainty and therefore the ultimate claims may fall outside the actuarial range. The level of uncertainty can be influenced by such factors as the existence

of coverage with long duration reporting patterns and changes in claims handling practices, as well as the other factors described above.

Because many of the coverages underwritten involve claims that may not be ultimately settled for many years after they are incurred, subjective judgments as to the ultimate exposure to losses are an integral and necessary component of the loss reserving process. We review our reserves regularly, using a variety of statistical and actuarial techniques to analyze current claims costs, frequency and severity data, and prevailing economic, social and legal factors. Reserves established in prior periods are adjusted as claims experience develops and new information becomes available.

Estimates of IBNR are generally subject to a greater degree of uncertainty than estimates of the cost of settling claims already notified to us, where more information about the claim event is generally available. IBNR claims often may not be apparent to the insured until many years after the event giving rise to the claims has happened. Classes of business where the IBNR proportion of the total reserve is high, such as casualty insurance, will typically display greater variations between initial estimates and final outcomes because of the greater degree of difficulty of estimating these reserves.

Classes of business where claims are typically reported relatively quickly after the claim event tend to display lower levels of volatility between initial estimates and final outcomes. Reinsurance claims are subject to a longer time lag both in their reporting and in their time to final settlement. The time lag is a factor which is included in the projections to ultimate claims within the actuarial analyses and helps to explain why in general a higher proportion of the initial reinsurance reserves are represented by IBNR than for insurance reserves for business in the same class. Delays in receiving information from cedants are an expected part of normal business operations and are included within the statistical estimate of IBNR to the extent that current levels of backlog are consistent with historical data. Currently, there are no processing backlogs which would materially affect our financial statements.

Allowance is made, however, for changes or uncertainties which may create distortions in the underlying statistics or which might cause the cost of unsettled claims to increase or reduce when compared with the cost of previously settled claims, including:

- changes in our processes which might accelerate or slow down the development and/or recording of paid or incurred claims;
- changes in the legal environment (including challenges to tort reform);
- the effects of inflation;
- changes in the mix of business;
- the impact of large losses; and
- changes in our cedants' reserving methodologies.

These factors are incorporated in the recommended reserve range from which management selects its best point estimate. We take all reasonable steps to ensure that we utilize all appropriate information and actuarial techniques in establishing our IBNR reserves. However, given the uncertainty in establishing claims liabilities, it is likely that the final outcome will prove to be different from the original provision established at the balance sheet date. Changes to our previous estimates of prior period loss reserves impact the reported calendar year underwriting results by worsening our reported results if the prior year reserves prove to be deficient or improving our reported results if the prior year reserves prove to be redundant. As at December 31, 2016, a 5% change in the gross reserve for IBNR losses would have equated to a change of approximately \$152.2 million in loss reserves which would represent 72.6% of income before income tax for the twelve months ended December 31, 2016. As at December 31, 2015, a 5% change in the gross reserve for IBNR losses would have equated to a change of approximately \$142.1 million in loss reserves which would represent 42.1% of income before income tax for the twelve months ended December 31, 2015. A 5% change in our net loss reserves equates to \$238.0 million and represents 6.4% of shareholders' equity at December 31, 2016.

There are specific areas of our selected reserves which have additional uncertainty associated with them. See Part I, Item 1A, "Risk Factors — Insurance Risks — Our financial condition and operating results may be adversely affected if actual claims exceed our loss reserves" for a discussion of the specific areas of our selected reserves which have additional uncertainty. In each case, management believes they have selected an appropriate best estimate based on current information and current analyses.

Loss Reserving Sensitivity Analysis. The most significant key assumptions identified in the reserving process are that (i) the historic loss development and trend experience is assumed to be indicative of future loss development and trends, (ii) the information developed from internal and independent external sources can be used to develop meaningful estimates of the initial expected ultimate loss ratios, and (iii) no significant losses or types of losses will emerge that are not represented in either the initial expected loss ratios or the historical development patterns.

We believe that there is potentially significant risk in estimating loss reserves for long-tail lines of business and for immature accident years that may not be adequately captured through traditional actuarial projection methodologies. As discussed above, these methodologies usually rely heavily on projections of prior year trends into the future. In selecting our best estimate of future liabilities, we consider both the results of actuarial point estimates of loss reserves in addition to the stochastic distribution of reserves. In determining the appropriate best estimate, we review (i) the position of overall reserves within the actuarial distribution, (ii) the result of bottom up analysis by accident year reflecting the impact of parameter uncertainty in actuarial calculations, and (iii) specific qualitative information on events that may have an effect on future claims but which may not have been adequately reflected in actuarial best estimates, such as the potential for outstanding litigation or claims practices of cedants to have an adverse impact.

Effect if Actual Results Differ From Assumptions. Given the risks and uncertainties associated with the process for estimating reserves for losses and loss expenses, management has performed an evaluation of the potential variability in loss reserves and the impact this variability may have on reported results, financial condition and liquidity. Because of the inherent uncertainties discussed above, we have developed a reserving philosophy which attempts to incorporate prudent assumptions and estimates, and we have generally experienced favorable net development on prior year reserves in the last several years. However, there is no assurance that this will occur in future periods.

Management's best estimate of the net reserve for losses and loss expenses as at December 31, 2016 was \$4,759.2 million. The following tables show the effect on estimated net reserves for losses and loss expenses as at December 31, 2016 of a change in two of the most critical assumptions in establishing reserves: (i) loss emergence patterns, accelerated or decelerated by three and six months; and (ii) expected loss ratios varied by plus or minus five and ten percent. Management believes that these scenarios present a reasonable range of variability around the booked reserves using standard actuarial techniques. Loss reserves may vary beyond these scenarios in periods of heightened or reduced claim activity. The reserves resulting from the changes in the assumptions are not additive and should be considered separately. The following tables vary the assumptions employed therein independently. In addition, the tables below do not adjust any parameters other than the ones described above. Specifically, reinsurance collectability was not explicitly stressed as part of the calculations below.

Net reserve for losses and loss expenses as at December 31, 2016 — Sensitivity to loss emergence patterns

Change in assumption	Reserve for losses and loss expenses
	(\$ in millions)
Six month acceleration	\$ 4,631.5
Three month acceleration	\$ 4,690.0
No change (selected)	4,759.2
Three month deceleration	\$ 4,842.8
Six month deceleration	\$ 4,942.6

Net reserve for losses and loss expenses as at December 31, 2016 — Sensitivity to expected loss ratios

Change in assumption	Reserve for losses and loss expenses
	(\$ in millions)
10% favorable	\$ 4,452.3
5% favorable	\$ 4,609.2
No change (selected)	4,759.2
5% unfavorable	\$ 4,913.3
10% unfavorable	\$ 5,067.4

The most significant variance in the above scenarios (i.e., a 10% deterioration in expected loss ratio) would have the effect of increasing losses and loss expenses by \$308.2 million.

Management believes that the reserve for losses and loss expenses are sufficient to cover expected claims incurred before the reporting date on the basis of the methodologies and judgments used to support its estimates. However, there can be no assurance that actual payments will not vary significantly from total reserves. The reserve for losses and loss expenses and the methodology of estimating such reserve are regularly reviewed and updated as new information becomes known. Any resulting adjustments are reflected in income in the period in which they become known.

Investments

We currently classify \$5,809.9 million of our total cash and investments of \$9,174.1 million as “available for sale” and \$2,078.3 million as “trading,” both of which are carried at estimated fair value. We use quoted values and other data provided by internationally recognized independent pricing sources as inputs into our process for determining the fair value of our investments. Where multiple quotes or prices are obtained, a price source hierarchy is maintained in order to determine which price source provides the fair value (i.e., a price obtained from a pricing service with more seniority in the hierarchy will be used over a less senior one in all cases). The hierarchy prioritizes pricing services based on availability and reliability and assigns the highest priority to index providers.

The fair value for mortgage-backed and other asset-backed debt securities includes estimates regarding prepayment assumptions, which are based on current market conditions. Amortized cost in relation to these securities is calculated using a constant effective yield based on anticipated prepayments and estimated economic lives of the securities. When actual prepayments differ significantly from anticipated prepayments, the effective yield is recalculated to reflect actual payments to date. Changes in estimated yield are recorded on a retrospective basis, which result in future cash flows being used to determine current book value.

Other-than-temporary Impairment of Investments. A security is impaired when its fair value is below its cost or amortized cost. We review our available for sale investment portfolio on an individual security basis for potential other-than-temporary impairment (“OTTI”) each quarter based on criteria including issuer-specific circumstances, credit ratings actions and general macro-economic conditions. There were no OTTI charges for the twelve months ended December 31, 2016 (2015 —\$Nil). For further discussion see Note 2(c) of our consolidated financial statements, “Basis of Preparation and Significant Accounting Policies — Accounting for Investments, Cash and Cash Equivalents.”

Results of Operations

Our consolidated financial statements are prepared in accordance with U.S. GAAP. The discussions that follow include tables and discussions relating to our consolidated income statement and our segmental operating results for the twelve months ended December 31, 2016, 2015 and 2014.

Consolidated Income Statement

	Twelve Months Ended		
	December 31, 2016	December 31, 2015	December 31, 2014
(\$ in millions, except for percentages)			
Revenues			
Gross written premiums	\$ 3,147.0	\$ 2,997.3	\$ 2,902.7
Net premiums written	2,593.7	2,646.2	2,515.2
Gross premiums earned	3,086.3	2,856.8	2,736.6
Net premiums earned	2,637.3	2,473.3	2,405.3
Net investment income	187.1	185.5	190.3
Realized and unrealized investment gains	108.4	94.5	46.3
Other income	5.7	0.1	4.5
Total Revenues	<u>2,938.5</u>	<u>2,753.4</u>	<u>2,646.4</u>
Expenses			
Insurance losses and loss adjustment expenses	1,576.1	1,366.2	1,307.5
Amortization of deferred policy acquisition costs	528.9	483.6	451.2
General, administrative and corporate expenses	490.1	424.0	445.7
Interest on long-term debt	29.5	29.5	29.5
Change in fair value of derivatives	24.6	(6.8)	15.2
Change in fair value of loan notes issued by variable interest entities	17.1	19.8	18.6
Realized and unrealized investment losses	63.2	77.5	14.7
Net realized and unrealized exchange losses/(gains)	(1.8)	21.4	(5.6)
Other expense	1.3	0.7	1.7
Total Expenses	<u>2,729.0</u>	<u>2,415.9</u>	<u>2,278.5</u>
Income from operations before income tax	209.5	337.5	367.9
Income tax (expense)	(6.1)	(14.4)	(12.1)
Net Income	<u>\$ 203.4</u>	<u>\$ 323.1</u>	<u>\$ 355.8</u>
Ratios			
Loss ratio	59.8%	55.2%	54.4%
Expense ratio	38.7%	36.7%	37.3%
Combined ratio	98.5%	91.9%	91.7%

Gross written premiums. The following table analyzes the overall change in gross written premiums for our two business segments in the twelve months ended December 31, 2016, 2015 and 2014:

Business Segment	Gross Written Premiums for the Twelve Months Ended December 31,					
	2016		2015		2014	
	(\$ in millions)	% change	(\$ in millions)	% change	(in millions)	
Reinsurance	\$ 1,413.2	13.2 %	\$ 1,248.9	6.5%	\$ 1,172.8	
Insurance	1,733.8	(0.8)%	1,748.4	1.1%	1,729.9	
Total	<u>\$ 3,147.0</u>	5.0 %	<u>\$ 2,997.3</u>	3.3%	<u>\$ 2,902.7</u>	

Total gross written premiums increased by 5.0% in 2016 compared to 2015 predominantly due to our reinsurance lines. Premiums from our insurance segment reduced slightly due to reductions in our property and casualty and marine, aviation and energy business lines offset by growth in financial and professional lines.

In 2016, gross written premiums in our reinsurance segment increased by 13.2% compared to 2015 due to growth in our specialty reinsurance and casualty reinsurance business lines. The increase in our specialty reinsurance business is largely due to growth in agriculture business written following our acquisition of AgriLogic in January 2016 and growth in specialty marine business. The increase in our casualty reinsurance lines of business is largely due to growth in our U.S. casualty treaty and international casualty business lines.

The slight reduction in gross written premiums in 2016 in our insurance segment was due to reductions in our property and casualty insurance and marine, aviation and energy insurance lines offset by a growth in our financial and professional lines. The increase in gross written premiums in financial and professional lines was largely attributable to growth in our accident and health, credit and political risks, management liability and financial institutions business lines. The decrease in gross written premiums in property and casualty insurance was largely attributable to reductions in our global casualty, U.S. casualty and U.S. environmental business lines offset by growth in our U.S. excess casualty and railroad insurance business lines. The decrease in gross written premiums in marine, aviation and energy insurance was largely due to challenging market conditions in our marine and energy liability, U.S. inland marine, offshore energy, and energy and construction insurance business lines offset by growth in our ocean cargo and aviation insurance business lines.

Overall gross written premiums in 2015 increased by 3.3% compared to 2014 due primarily to our reinsurance lines, with growth from our other property and specialty reinsurance business lines offsetting planned reductions in property catastrophe lines. Premiums from our insurance segment in 2015 increased due to growth principally in our property and casualty business lines and financial and professional lines offset by reductions in our marine, aviation and energy lines.

Ceded written premiums. The following table analyzes the overall change in ceded written premiums for our two business segments in the twelve months ended December 31, 2016, 2015 and 2014:

<u>Business Segment</u>	<u>Ceded Written Premiums for the Twelve Months Ended December 31,</u>					
	<u>2016</u>		<u>2015</u>		<u>2014</u>	
	<u>(\$ in millions)</u>	<u>% change</u>	<u>(\$ in millions)</u>	<u>% change</u>	<u>(in millions)</u>	
Reinsurance	\$ 144.0	50.9%	\$ 95.4	95.5 %	\$ 48.8	
Insurance	409.3	60.1%	255.7	(24.5)%	338.7	
Total	<u>\$ 553.3</u>	<u>57.6%</u>	<u>\$ 351.1</u>	<u>(9.4)%</u>	<u>\$ 387.5</u>	

Total ceded written premiums in 2016 increased by \$202.2 million compared to 2015. Ceded reinsurance costs increased for our reinsurance segment due to increased ceded reinsurance for our property catastrophe business line for new business opportunities written in conjunction with an increase in retrocession costs and due to our agriculture business reported in our specialty reinsurance business line. Ceded reinsurance costs increased for our insurance segment because we restructured our ceded reinsurance arrangements as we aim to reduce earnings volatility and benefit the expense ratio. In addition, we purchased an adverse development cover in the fourth quarter of 2016 for certain casualty business which we have ceased to underwrite. Due to these changes, the retention ratio, which is defined as net written premium as a percentage of gross written premium, decreased from 88.3% in 2015 to 82.4% in 2016.

In 2015, total ceded written premiums decreased by \$36.4 million compared to 2014. The retention ratio increase from 86.7% in 2014 to 88.3% in 2015 mainly as a result of our strategy at the time to retain more risk which reduced the ceded reinsurance costs for our insurance segment. The impact from this strategy was partially offset through the growth of Aspen Capital Markets which has allowed us to increase our gross catastrophe reinsurance line sizes and cede more risk to third-party investors.

Net premiums earned. The following table analyzes the overall change in net premiums earned for our two business segments in the twelve months ended December 31, 2016, 2015 and 2014:

Net Premiums Earned for the Twelve Months Ended December 31,

Business Segment	2016		2015		2014
	(\$ in millions)	% change	(\$ in millions)	% change	(in millions)
Reinsurance	\$ 1,181.9 ⁽¹⁾	10.2%	\$ 1,072.6	(1.4)%	\$ 1,088.2
Insurance	1,455.4	3.9%	1,400.7	6.3 %	1,317.1
Total	<u>\$ 2,637.3</u>	6.6%	<u>\$ 2,473.3</u>	2.8 %	<u>\$ 2,405.3</u>

(1) Includes gross written premium of \$178.9 million related to the acquisition of AgriLogic in January 2016.

Net premiums earned increased by \$164.0 million, or 6.6%, in 2016 compared to 2015, due to growth in gross earned premium and the impact from the increases in ceded written premiums in 2016 not substantially flowing into earnings until 2017. Net premiums earned increased by \$68.0 million, or 2.8%, in 2015 compared to 2014. The rate of growth in net earned premium was lower than the 4.4% growth in gross earned premium as ceded written premium decreased in 2015 following our strategy at the time to selectively retain more risk.

Losses and loss adjustment expenses. The loss ratio for 2016 of 59.8% increased by 4.6 percentage points compared to 2015. Losses and loss adjustment expenses increased from \$1,366.2 million in 2015 to \$1,576.1 million in 2016 due to an increase in large and catastrophe losses, changes in business mix towards lines which have higher non-catastrophe loss ratios and a reduction in reserve releases. In 2016, net losses from major catastrophes increased by \$75.9 million to \$166.4 million compared with \$90.5 million in 2015. Large losses in 2016 included \$32.7 million of energy-related losses, \$11.7 million of fire-related losses and a \$4.2 million aviation loss. Reserve releases reduced from \$156.5 million in 2015 to \$129.3 million in 2016.

The loss ratio for 2015 of 55.2% increased by 0.8 percentage points compared to 2014. Losses and loss adjustment expenses increased from \$1,307.5 million in 2014 to \$1,366.2 million in 2015 due to increases in large and catastrophe losses partially offset by an increase in reserve releases. In 2015, net losses from major catastrophes increased by \$25.0 million to \$90.5 million compared with \$65.5 million in 2014. Large losses in 2015 included \$26.0 million due to the port explosion in Tianjin, China, \$37.6 million of energy losses, and \$17.0 million of losses associated with the collapse of the Samarco dam in Brazil. In 2014 the severity and frequency of large losses was significantly lower than in 2015. Reserve releases increased from \$104.1 million in 2014 to \$156.5 million in 2015.

In the reinsurance segment, the loss ratio for 2016 was 55.7% compared to 45.8% in 2015. The increase in the loss ratio was mainly due to a \$65.2 million increase in catastrophe losses, changes in business mix towards lines which have higher non-catastrophe loss ratios, such as Agrilogic, and a \$3.8 million decrease in prior year reserve releases. In 2016, our reinsurance segment experienced \$114.8 million of catastrophe losses largely consisting of \$35.4 million associated with wildfires in Canada, \$10.5 million from an earthquake in New Zealand, \$9.3 million from Hurricane Matthew, \$8.5 million from earthquakes in Japan, \$9.2 million from U.S. wildfires, \$5.0 million from a hailstorm in the Netherlands, \$2.3 million from an earthquake in Taiwan and \$31.2 million from weather-related events in the U.S. The loss ratio in 2015 was 45.8% a marginal increase compared to 45.7% in 2014 mainly due to an increase in catastrophe losses of \$6.7 million and an \$8.2 million decrease in prior year reserve releases, partially offset by lower attritional losses. In 2015, our reinsurance segment experienced \$49.6 million of catastrophe losses largely consisting \$7.0 million associated with U.K. floods, \$7.0 million from the Washington wildfires, and \$35.6 million of losses associated with the Chilean earthquake and weather-related events in Europe, the U.S. and Australasia. In addition, we experienced a loss in the amount of \$23.0 million due to a port explosion in Tianjin, China and \$7.0 million associated with a dam collapse in Brazil.

In the insurance segment, the loss ratio for 2016 was 63.1% compared to 62.4% in 2015. The increase in the loss ratio in 2016 was mainly due to a decrease of \$23.4 million in prior year reserve releases partially offset by a \$10.7 million increase in catastrophe losses and a greater frequency of catastrophes and large losses. In 2016, the insurance segment experienced \$51.6 million of catastrophe losses, consisting of \$39.9 million associated with U.S. weather related events and \$11.7 million associated with Hurricane Matthew. Large losses experienced during 2016 included \$32.7 million of energy-related losses, \$11.8 million of fire-related losses and a \$4.2 million aviation loss. The loss ratio for 2015 was 62.4% compared to 61.5% for 2014. The increase in the loss ratio in 2015 was due to an \$18.3 million increase in catastrophe losses and a greater frequency of large losses offset by a \$60.6 million increase in prior year reserve releases. In 2015, the insurance segment experienced \$40.9 million of catastrophe losses comprising \$25.7 million associated with the U.K. floods and \$15.2 million associated with the U.S. storms while in 2014, we recognized \$22.6 million of catastrophe losses associated with U.S. and U.K. storms. Large losses experienced during 2015 included \$37.6 million of energy losses, \$10.0 million associated with a dam collapse in Brazil and \$3.0 million associated with the port explosion in Tianjin, China.

Overall, prior year reserve releases reduced by \$27.2 million from \$156.5 million in 2015 to \$129.3 million in 2016. The reserve releases from reinsurance were across all business lines, totaling \$87.0 million. The insurance segment had reserve releases

of \$42.3 million compared to \$65.7 million of reserve releases in 2015. The reserve releases from insurance were from the marine, energy and aviation and financial and professional lines.

Overall, prior year reserve releases in 2015 increased by \$52.4 million from \$104.1 million in 2014 to \$156.5 million. The reserve releases from reinsurance were from across all business lines, totaling \$90.8 million. The insurance segment had reserve releases of \$65.7 million in 2015 compared to \$5.1 million in 2014. In 2014, we strengthened reserves in the marine, aviation and energy business lines. Further information relating to movements in prior year reserves can be found below under “Reserves for Losses and Loss Adjustment Expenses.”

We have presented loss ratios both including and excluding the impact from catastrophe losses to aid in the analysis of the underlying performance of our segments. We have defined major 2016 catastrophe losses as losses associated predominantly with wildfires in North America, Hurricane Matthew and other weather-related events in the U.S., several earthquakes, and a hailstorm in the Netherlands. We have defined major 2015 catastrophe losses as losses associated with winter storms in Europe, Australia and New Zealand, storms in the U.S., U.S. wildfires, the Chilean earthquake, U.K. floods and weather-related events in the Philippines. We have defined major 2014 catastrophe losses as losses associated with winter storms in the U.S. and Japan, flooding in the U.K., European, Asian and Australian storms.

The underlying changes in loss ratios by segment for the twelve months ended December 31, 2016, 2015 and 2014 are shown in the tables below. The total loss ratio represents the calendar year U.S. GAAP loss ratio. The current year adjustments represent catastrophe loss events which reflect net claims and reinstatement premium adjustments.

<u>For the Twelve Months Ended December 31, 2016</u>	<u>Total Loss Ratio</u>	<u>Current Year Adjustments</u>	<u>Loss Ratio Excluding Current Year Adjustments</u>
Reinsurance	55.7%	(9.7)%	46.0%
Insurance	63.1%	(3.5)%	59.6%
Total	59.8%	(6.3)%	53.5%

<u>For the Twelve Months Ended December 31, 2015</u>	<u>Total Loss Ratio</u>	<u>Current Year Adjustments</u>	<u>Loss Ratio Excluding Current Year Adjustments</u>
Reinsurance	45.8%	(4.6)%	41.2%
Insurance	62.4%	(2.9)%	59.5%
Total	55.2%	(3.7)%	51.5%

<u>For the Twelve Months Ended December 31, 2014</u>	<u>Total Loss Ratio</u>	<u>Current Year Adjustments</u>	<u>Loss Ratio Excluding Current Year Adjustments</u>
Reinsurance	45.7%	(3.9)%	41.8%
Insurance	61.5%	(1.7)%	59.8%
Total	54.4%	(2.7)%	51.7%

Expenses. We monitor the ratio of expenses to gross earned premium (the “gross expense ratio”) as a measure of the cost effectiveness of our amortization of deferred policy acquisition costs, general, administrative and corporate expenses. The tables below present the contribution of the amortization of deferred policy acquisition costs and general, administrative and corporate expenses to the gross expense ratios and the total net expense ratios for the twelve months ended December 31, 2016, 2015 and 2014. We also show the effect of reinsurance purchased which impacts the reported net expense ratio by expressing the expenses as a proportion of net earned premiums.

For the Twelve Months Ended December 31, 2016

Ratios Based on Gross Earned Premium

	Reinsurance	Insurance	Total
Policy acquisition expense ratio	17.2%	17.1%	17.1%
General and administrative expense ratio ⁽¹⁾	13.5	12.9	15.6
Gross expense ratio	30.7	30.0	32.7
Effect of reinsurance	3.6	6.5	6.0
Total net expense ratio	<u>34.3%</u>	<u>36.5%</u>	<u>38.7%</u>

For the Twelve Months Ended December 31, 2015

Ratios Based on Gross Earned Premium

	Reinsurance	Insurance	Total
Policy acquisition expense ratio	19.5%	15.2%	16.9%
General and administrative expense ratio ⁽¹⁾	12.7	12.5	14.8
Gross expense ratio	32.2	27.7	31.7
Effect of reinsurance	2.4	6.0	5.0
Total net expense ratio	<u>34.6%</u>	<u>33.7%</u>	<u>36.7%</u>

For the Twelve Months Ended December 31, 2014

Ratios Based on Gross Earned Premium

	Reinsurance	Insurance	Total
Policy acquisition expense ratio	17.6%	15.7%	16.5%
General and administrative expense ratio ⁽¹⁾	12.9	12.9	16.3
Gross expense ratio	30.5	28.6	32.8
Effect of reinsurance	1.4	6.1	4.5
Total net expense ratio	<u>31.9%</u>	<u>34.7%</u>	<u>37.3%</u>

(1) The total group general and administrative expense ratio includes corporate expenses. In 2014, corporate expenses included \$28.5 million of costs associated with the unsolicited approach and an inadequate offer by Endurance.

Policy acquisition expenses increased by \$45.3 million in 2016 compared to 2015 primarily due to growth in written premiums and higher profit commission accruals. Policy acquisition expenses increased by \$32.4 million in 2015 compared to 2014 due to growth in written premiums and changes in business mix.

The increase in the policy acquisition expense ratio, gross of the effect of reinsurance, to 17.1% in 2016 from 16.9% in 2015 is due to higher profit commission accruals and lower ceding commissions in the insurance segment partially offset by the receipt of FET refunds and changes in business mix toward agriculture and specialty marine business lines, which have lower average commission rates, in the reinsurance segment.

The increase in the policy acquisition expense ratio, gross of the effect of reinsurance, to 16.9% in 2015 from 16.5% in 2014 was mainly driven by changes in the mix of business written in our reinsurance segment towards a greater proportion of other property and specialty reinsurance, written on a pro rata basis which incur higher acquisition costs, and commutation adjustments in our specialty lines which reduced gross earned premiums without any equivalent reduction in commissions.

General, administrative and corporate expenses increased by \$56.4 million from \$424.0 million in 2015 to \$490.1 million in 2016 due to costs associated with AgriLogic which we acquired in January 2016, costs associated with growth in our insurance and reinsurance business and reorganization costs. General, administrative and corporate expenses decreased by \$21.7 million from \$445.7 million in 2014 to \$424.0 million in 2015. In 2014, we incurred \$28.5 million in non-recurring corporate expenses associated with the cost of defending the unsolicited approach and an inadequate offer by Endurance. In 2015, our operating expenses were impacted by growth in our U.S. business, reorganization and integration costs and higher salary costs due to increased headcount.

Investment gains. Total net realized and unrealized investment gains for the twelve months ended December 31, 2016 were \$45.2 million (2015 — gains of \$17.0 million; 2014 — gains of \$31.6 million) comprising the amounts set out in the table below:

	For the Twelve Months Ended		
	December 31, 2016	December 31, 2015	December 31, 2014
	(\$ in millions)		
Available for sale:			
Fixed income securities — gross realized gains	\$ 18.6	\$ 11.7	\$ 10.3
Fixed income securities — gross realized (losses)	(8.3)	(2.7)	(5.9)
Equity securities — gross realized gains	—	31.9	12.9
Equity securities — gross realized (losses)	—	(3.0)	(0.8)
Cash and cash equivalents - gross realized gains	0.2	—	—
Cash and cash equivalents — gross realized (losses)	(0.6)	—	—
Total other-than-temporary impairments	—	—	(2.4)
Trading:			
Fixed income securities — gross realized gains	12.6	4.9	7.3
Fixed income securities — gross realized (losses)	(7.3)	(6.1)	(2.5)
Cash and cash equivalents - gross realized gains	0.1	—	—
Cash and cash equivalents — gross realized (losses)	(0.3)	—	—
Equity securities — gross realized gains	54.1	46.0	7.8
Equity securities — gross realized (losses)	(46.3)	(31.7)	(3.1)
Catastrophe bonds — gross realized gains (losses)	—	(0.3)	0.4
Net change in gross unrealized (losses) gains	22.5	(33.1)	7.6
Gross realized and unrealized (losses) gains in other investments	(0.1)	(0.6)	—
Total net realized and unrealized investment gains recorded in the statement of operations	<u>\$ 45.2</u>	<u>\$ 17.0</u>	<u>\$ 31.6</u>

Net investment income. In 2016, we generated net investment income of \$187.1 million, an increase of 0.9% on the prior year (2015 — \$185.5 million, 2014 — \$190.3 million). The increase was primarily due to a higher investment balance in addition to a small increase in dividend income from our global equity securities portfolio from \$20.1 million in 2015 to \$20.4 million in 2016. The decrease in investment income in 2015 compared with 2014 was primarily due to lower reinvestment rates and declining book yields from fixed income securities partially offset by \$20.1 million of dividend income from our global equity securities portfolio compared with \$17.1 million in 2014.

Foreign exchange contracts. We use foreign exchange contracts to manage foreign currency risk. A foreign exchange contract involves an obligation to purchase or sell a specified currency at a future date at a price set at the time of the contract. Foreign exchange contracts will not eliminate fluctuations in the value of our assets and liabilities denominated in foreign currencies, but rather allow us to establish a rate of exchange for a future point in time.

As at December 31, 2016, we held foreign exchange contracts that were not designated as hedging under ASC 815 with a notional amount of \$665.6 million (2015 — \$379.9 million). The foreign exchange contracts are recorded as derivatives at fair value in the balance sheet with changes recorded as a change in fair value of derivatives in the statement of operations. For the twelve months ended December 31, 2016, the impact of foreign exchange contracts on net income was a loss of \$21.5 million (December 31, 2015 — gain of \$11.6 million).

As at December 31, 2016, we held foreign exchange contracts that were designated as hedging under ASC 815 with a notional amount of \$108.6 million (2015 — \$113.6 million). The foreign exchange contracts are recorded as derivatives at fair value in the balance sheet with the effective portion recorded in other comprehensive income and the ineffective portion recorded as a change in fair value of derivatives in the statement of operations. The contracts are considered to be effective and therefore, for the twelve months ended December 31, 2016, the movement in other comprehensive income representing the effective portion was a decrease of \$0.7 million (December 31, 2015 — increase of \$2.6 million).

As the foreign exchange contracts settle, the realized gain or loss is reclassified from other comprehensive income into general, administration and corporate expenses of the statement of operations and other comprehensive income. For the twelve

months ended December 31, 2016, the amount recognized within general, administration and corporate expenses for settled foreign exchange contracts was a realized loss of \$8.7 million (December 31, 2015 — loss of \$4.9 million recognized within general, administration and corporate expenses).

Interest rate swaps. We have used interest rate swaps in the ordinary course of our investment activities to partially mitigate the negative impact of rises in interest rates on the market value of our fixed income portfolio. In 2014, we decided to let our interest rate swap program roll off and not renew maturing positions. We took this decision after an extensive reassessment of the costs of maintaining an interest rate swap program in a steep yield curve environment. In addition, the continued uncertainty in the global economy and low inflation make it difficult to gauge the timing and speed of interest rate rises by the Federal Reserve. On May 9, 2016, we terminated all remaining outstanding interest rate swaps (notional value of \$256.3 million) under our International Swap Dealers Association agreement.

As at December 31, 2016, we no longer had outstanding interest rate swaps. As at December 31, 2015, the Company had a total notional of interest rate swaps of \$756.3 million. For the twelve months ended December 31, 2016, there was a loss of \$3.1 million (December 31, 2015 — loss of \$4.8 million).

Gross realized and unrealized gains in other investments. These represent the share of earnings from our investments in Bene Assicurazioni (“Bene”), a Micro-insurance incubator (“MVI”) and Chaspark Maritime Holdings Limited (“Chaspark”).

Other income/(expenses). These are primarily due to the inclusion of the amortization of Agrilogic intangibles, acquired in January 2016.

Interest on long-term debt. Interest on long-term debt is the interest due on our senior notes.

Income before tax. In the twelve months ended December 31, 2016, income before tax was \$209.5 million (2015 — \$337.5 million; 2014 — \$367.9 million), consisting of the amounts set out in the table below:

	For the Twelve Months Ended		
	December 31, 2016	December 31, 2015	December 31, 2014
	(\$ in millions)		
Underwriting income	\$ 125.7	\$ 263.4	\$ 294.7
Corporate expenses	(73.8)	(63.9)	(65.3)
Amortization and non-recurring corporate expenses	(9.7)	—	(28.5)
Other income	4.4	(0.6)	2.8
Net investment income	187.1	185.5	190.3
Change in fair value of derivatives	(24.6)	6.8	(15.2)
Change in fair value of loan notes issued by variable interest entities	(17.1)	(19.8)	(18.6)
Realized and unrealized investment gains	108.4	94.5	46.3
Realized and unrealized investment (losses)	(63.2)	(77.5)	(14.7)
Net realized and unrealized foreign exchange (losses) gains	1.8	(21.4)	5.6
Interest expense	(29.5)	(29.5)	(29.5)
Income before tax	<u>\$ 209.5</u>	<u>\$ 337.5</u>	<u>\$ 367.9</u>

The decrease in underwriting income in 2016 compared to 2015 was due to higher catastrophe losses, lower reserve releases and increased expenses offset by growth in premiums earned. The increase in 2015 compared to 2014 was due to premium growth and improved loss experience.

The increase in corporate expenses in 2016 compared to 2015 was due to higher salary costs due to increased headcount as a result of growth in our insurance and reinsurance business and reorganization costs. Corporate expenses in 2014 included \$28.5 million in non-recurring corporate expenses associated with the cost of defending the unsolicited approach and an inadequate offer by Endurance.

The change in fair value of derivatives in 2016 of \$24.6 million loss, compared to the equivalent periods in 2015 and 2014, is largely attributable to foreign exchange contracts that had a loss of \$21.5 million in 2016 compared to a gain of \$11.6 million in 2015 and a loss of \$7.7 million in 2014. Interest rate swaps had a realized loss of \$3.1 million in 2016 compared to a realized loss of \$4.8 million in 2015 and a realized loss of \$7.2 million in 2014.

The change in fair value of loan notes issued by variable interest entities represents the proportion of profit or loss generated by Silverton attributable to third-party investors.

Income tax expense. There was an income tax expense for the twelve months ended December 31, 2016 of \$6.1 million compared to \$14.4 million and \$12.1 million in the comparative periods of 2015 and 2014 respectively. The effective tax rate for the twelve months ended December 31, 2016 was 2.9% (2015 — 4.3%; 2014 — 3.3%) and is representative of the geographic spread of our business between taxable and non-taxable jurisdictions.

Net income after tax. In 2016, we had net income after tax of \$203.4 million, equivalent to \$2.67 basic earnings per ordinary share and fully diluted earnings per ordinary share of \$2.61 based on the weighted average number of ordinary shares in issue during the period. In 2015, we had net income after tax of \$323.1 million, equivalent to \$4.64 basic earnings per ordinary share and fully diluted earnings per ordinary share of \$4.54 based on the weighted average number of ordinary shares in issue during the period. In 2014, we had net income after tax of \$355.8 million, equivalent to fully diluted earnings per ordinary share of \$4.82 based on the weighted average number of ordinary shares in issue during the period. For a more detailed description of basic and diluted earnings per ordinary share, see Note 4 of our consolidated financial statements, “Earnings per Ordinary Share.”

Underwriting Results by Business Segment

We are organized into two business segments: reinsurance and insurance. In addition to the way we manage our business, we have considered similarities in economic characteristics, products, customers, distribution, the regulatory environment of our operating segments and quantitative thresholds in determining our reportable segments.

Management measures segment results on the basis of the combined ratio, which is obtained by dividing the sum of the losses and loss expenses, amortization of deferred policy acquisition costs and operating and administrative expenses by net premiums earned. Other than corporate expenses, indirect operating and administrative expenses are allocated to segments predominantly based on each segment’s proportional share of gross earned premiums.

Non-underwriting disclosures. We provided additional disclosures for corporate and other (non-underwriting) income and expenses. Corporate and other income and expenses include net investment income, net realized and unrealized investment gains or losses, expenses associated with managing the Group, certain strategic and non-recurring costs, changes in fair value of derivatives and changes in fair value of loan notes issued by variable interest entities, interest expense, net realized and unrealized foreign exchange gains or losses and income taxes, which are not allocated to the business segments. Corporate expenses are not allocated to our business segments as they typically do not fluctuate with the levels of premiums written and are not directly related to our segment operations.

We do not allocate our assets by segment as we evaluate underwriting results of each segment separately from the results of our investment portfolio. Segment profit or loss for each of our operating segments is measured by underwriting profit or loss. The following tables summarize gross and net premiums written and earned, underwriting results, and combined ratios and reserves for each of our business segments for the twelve months ended December 31, 2016, 2015 and 2014.

	Twelve Months Ended December 31, 2016		
	Reinsurance	Insurance	Total
	(\$ in millions)		
Underwriting revenues			
Gross written premiums	\$ 1,413.2	\$ 1,733.8	\$ 3,147.0
Net written premiums	1,269.2	1,324.5	2,593.7
Gross earned premiums	1,317.9	1,768.4	3,086.3
Net earned premiums	1,181.9	1,455.4	2,637.3
Underwriting Expenses			
Losses and loss expenses	657.9	918.2	1,576.1
Amortization of deferred policy acquisition costs	226.4	302.5	528.9
General and administrative expenses	178.2	228.4	406.6
Underwriting income	<u>\$ 119.4</u>	<u>\$ 6.3</u>	125.7
Corporate expenses			(73.8)
Amortization and non-recurring corporate expenses			(9.7)
Net investment income			187.1
Realized and unrealized investment gains			108.4
Realized and unrealized investment losses			(63.2)
Change in fair value of loan notes issued by variable interest entities			(17.1)
Change in fair value of derivatives			(24.6)
Interest on long-term debt			(29.5)
Net realized and unrealized foreign exchange (losses)			1.8
Other income			5.7
Other expenses			(1.3)
Income before income tax			<u>209.5</u>
Income tax expense			(6.1)
Net income			<u><u>\$ 203.4</u></u>
Net reserves for loss and loss adjustment expenses	<u>\$ 2,462.1</u>	<u>\$ 2,297.1</u>	<u>\$ 4,759.2</u>
Ratios			
Loss ratio	55.7%	63.1%	59.8%
Policy acquisition expense ratio	19.2	20.8	20.1
General and administrative expense ratio ⁽¹⁾	15.1	15.7	18.6
Expense ratio	34.3	36.5	38.7
Combined ratio	90.0%	99.6%	98.5%

(1) The total group general and administrative expense ratio includes the impact from corporate expenses, amortization and non-recurring corporate expenses.

Twelve Months Ended December 31, 2015

	<u>Reinsurance</u>	<u>Insurance</u>	<u>Total</u>
	(\$ in millions)		
Underwriting revenues			
Gross written premiums	\$ 1,248.9	\$ 1,748.4	\$ 2,997.3
Net written premiums	1,153.5	1,492.7	2,646.2
Gross earned premiums	1,153.5	1,703.3	2,856.8
Net earned premiums	1,072.6	1,400.7	2,473.3
Underwriting Expenses			
Losses and loss expenses	491.6	874.6	1,366.2
Amortization of deferred policy acquisition costs	224.7	258.9	483.6
General and administrative expenses	146.5	213.6	360.1
Underwriting income	<u>\$ 209.8</u>	<u>\$ 53.6</u>	263.4
Corporate expenses			(63.9)
Net investment income			185.5
Realized and unrealized investment gains			94.5
Realized and unrealized investment losses			(77.5)
Change in fair value of loan notes issued by variable interest entities			(19.8)
Change in fair value of derivatives			6.8
Interest on long-term debt			(29.5)
Net realized and unrealized foreign exchange gains			(21.4)
Other income			0.1
Other expenses			(0.7)
Income before income tax			337.5
Income tax expense			(14.4)
Net income			<u>\$ 323.1</u>
Net reserves for loss and loss adjustment expenses	<u>\$ 2,409.5</u>	<u>\$ 2,173.9</u>	<u>\$ 4,583.4</u>
Ratios			
Loss ratio	45.8%	62.4%	55.2%
Policy acquisition expense ratio	20.9	18.5	19.6
General and administrative expense ratio ⁽¹⁾	13.7	15.2	17.1
Expense ratio	34.6	33.7	36.7
Combined ratio	80.4%	96.1%	91.9%

(1) The total group general and administrative expense ratio includes the impact from corporate expenses, amortization and non-recurring corporate expenses.

Twelve Months Ended December 31, 2014

	<u>Reinsurance</u>	<u>Insurance</u>	<u>Total</u>
	(\$ in millions)		
Underwriting revenues			
Gross written premiums	\$ 1,172.8	\$ 1,729.9	\$ 2,902.7
Net written premiums	1,124.0	1,391.2	2,515.2
Gross earned premiums	1,137.6	1,599.0	2,736.6
Net earned premiums	1,088.2	1,317.1	2,405.3
Underwriting Expenses			
Losses and loss expenses	497.8	809.7	1,307.5
Amortization of deferred policy acquisition costs	200.0	251.2	451.2
General and administrative expenses	146.4	205.5	351.9
Underwriting income (loss)	<u>\$ 244.0</u>	<u>\$ 50.7</u>	294.7
Corporate expenses			(65.3)
Amortization and non-recurring corporate expenses			(28.5)
Net investment income			190.3
Realized and unrealized investment gains			46.3
Realized and unrealized investment losses			(14.7)
Change in fair value of loan notes issued by variable interest entities			(18.6)
Change in fair value of derivatives			(15.2)
Interest on long-term debt			(29.5)
Net realized and unrealized foreign exchange (losses)			5.6
Other income			4.5
Other expenses			(1.7)
Income before income tax			367.9
Income tax expense			(12.1)
Net income			<u>\$ 355.8</u>
Net reserves for loss and loss adjustment expenses	<u>\$ 2,493.3</u>	<u>\$ 1,907.5</u>	<u>\$ 4,400.8</u>
Ratios			
Loss ratio	45.7%	61.5%	54.4%
Policy acquisition expense ratio	18.4	19.1	18.8
General and administrative expense ratio ⁽¹⁾	13.5	15.6	18.5
Expense ratio	31.9	34.7	37.3
Combined ratio	77.6%	96.2%	91.7%

(1) The total group general and administrative expense ratio includes the impact from corporate expenses, amortization and non-recurring corporate expenses.

Reinsurance

Our reinsurance segment consists of property catastrophe, other property reinsurance, casualty and specialty reinsurance. For a more detailed description of this segment, see Part I, Item 1, “Business — Business Segments — Reinsurance” and Note 5 of our consolidated financial statements, “Segment Reporting.”

Gross written premiums. The table below shows our gross written premiums for each line of business for the twelve months ended December 31, 2016, 2015 and 2014, and the percentage change in gross written premiums for each line:

<u>Lines of Business</u>	For the Twelve Months Ended December 31,					
	2016		2015		2014	
	(\$ in millions)	% change	(\$ in millions)	% change	(\$ in millions)	
Property catastrophe reinsurance	\$ 273.0	(0.5)%	\$ 274.3	(9.0)%	\$ 301.5	
Other property reinsurance	328.2	(8.9)%	360.3	5.0 %	343.0	
Casualty reinsurance	320.6	11.5 %	287.5	2.0 %	281.9	
Specialty reinsurance	491.4	50.4 %	326.8	32.6 %	246.4	
Total	<u>\$ 1,413.2</u>	13.2 %	<u>\$ 1,248.9</u>	6.5 %	<u>\$ 1,172.8</u>	

The 13.2% increase in gross written premiums for the twelve months ended December 31, 2016 compared to the equivalent period in 2015 was mainly attributable to increased business written in our specialty reinsurance and casualty reinsurance business lines. The increase in our specialty reinsurance business in 2016 was mainly due to growth in agriculture business written following our acquisition of AgriLogic. The increase in our casualty reinsurance lines of business in 2016 was largely due to growth in our U.S. casualty treaty and international casualty business lines. The slight decrease in property catastrophe reinsurance was largely due to reductions in business written due to challenging market conditions, partially offset by new business opportunities which were written in conjunction with an increase in retrocession costs. The decrease in other property reinsurance was largely due to challenging market conditions and adjustments in prior year premium estimates on proportional contracts.

The 6.5% increase in gross written premiums for the twelve months ended December 31, 2015 compared to the equivalent period in 2014 was mainly attributable to increased business written in our other property reinsurance, in particular pro rata, and specialty reinsurance business lines, specifically our credit and surety and agriculture business lines offsetting planned reductions in our property catastrophe business lines. The increase in gross written premiums in casualty reinsurance was less significant due to reductions in prior year estimates and commutations.

Ceded written premiums. Total ceded written premiums in 2016 was \$144.0 million, an increase of \$48.6 million compared to 2015. The largest increases in reinsurance ceded in 2016 are in our specialty reinsurance business line which had an increase in retrocession costs for our new agriculture business and in our property catastrophe business line due to new business opportunities which were written in conjunction with an increase in retrocession costs. Total reinsurance ceded in 2015 was \$95.4 million, an increase of \$46.6 million compared to \$48.8 million in 2014. The largest increase in reinsurance ceded in 2015 was in our property catastrophe reinsurance business line primarily from the growth of our Aspen Capital Markets division which enabled us to cede more risk to third-party investors.

Net premiums earned. Net premiums earned increased by \$109.3 million, or 10.2%, in 2016 compared to 2015 largely due to increased business written in our specialty reinsurance and casualty reinsurance business lines partially offset by increased ceded costs in our specialty reinsurance and catastrophe business lines. Net premiums earned decreased by \$15.6 million, or 1.4%, in 2015 compared to 2014 largely due to changes in the business mix and increased ceded costs.

Losses and loss adjustment expenses. The loss ratio in 2016 of 55.7% increased by 9.9 percentage points compared to 45.8% in 2015. The increase in the loss ratio is mainly due to a \$65.2 million increase in catastrophe losses, changes in business mix towards lines which have higher non-catastrophe loss ratios and a \$3.8 million decrease in prior year reserve releases. In 2016, our reinsurance segment experienced \$114.8 million of catastrophe losses largely comprising of \$35.4 million associated with wildfires in Canada, \$10.5 million from an earthquake in New Zealand, \$9.3 million from Hurricane Matthew, \$8.5 million from earthquakes in Japan, \$9.2 million from U.S wildfires, \$5.0 million from a hailstorm in the Netherlands, \$2.3 million from an earthquake in Taiwan and \$31.2 million associated with other weather-related events in the U.S. The loss ratio in 2015 of 45.8% increased marginally compared to 45.7% in 2014 mainly due to an increase in catastrophe losses of \$6.7 million, an \$8.2 million decrease in prior year reserve releases, partially offset by lower attritional losses. In 2015, our reinsurance segment experienced \$49.6 million of catastrophe losses largely comprising \$7.0 million associated with U.K. floods, \$7.0 million from the Washington wildfires, and \$35.6 million of losses associated with the Chilean earthquake and weather-related events in Europe, the U.S. and Australasia. In addition, we experienced a loss in the amount of \$23.0 million due to a port explosion in Tianjin, China and \$7.0 million associated with a dam collapse in Brazil. In 2014, our reinsurance segment experienced \$42.9 million of catastrophe losses associated with North American weather-related events and Australian, European and Asian storms.

The \$3.8 million decrease in prior year reserve releases from \$90.8 million in the twelve months ended December 31, 2015 to \$87.0 million in the current period was due to a decrease in reserve releases from property lines. The \$8.2 million decrease in prior year reserve releases from \$99.0 million in the twelve months ended December 31, 2014 compared to \$90.8 million in 2015 was due predominantly to a reduction in reserve releases from specialty, casualty and other property lines. Prior year reserve releases are further discussed below under “Reserves for Losses and Loss Adjustment Expenses.”

Policy acquisition, general and administrative expenses. Amortization of deferred policy acquisition costs were \$226.4 million for the twelve months ended December 31, 2016 equivalent to 19.2% of net premiums earned (2015 — \$224.7 million or 20.9% of net premiums earned; 2014 — \$200.0 million or 18.4% of net premiums earned). The decrease in the acquisition ratio is due to the receipt of FET refunds and changes in business mix toward agriculture and specialty marine business lines, which have lower average commission rates, and away from other property, casualty and specialty business written on a pro rata basis which have higher average commission rates. The decrease in policy acquisition expense ratio in 2015 compared with 2014 was due to lower profit commission accruals and increased ceding commissions.

Our general and administrative expenses increased by \$31.7 million from \$146.5 million in 2015 to \$178.2 million in 2016. Our general and administrative expense ratio was 15.1% in 2016 compared to 13.7% in 2015 due predominantly to costs associated with AgriLogic which we acquired in January 2016. Our general and administrative expense ratio of 13.7% in 2015 increased from 13.5% in 2014 due to the impact from lower premium retention rates on net premiums earned.

Insurance

Our insurance segment consists of property and casualty insurance, marine, aviation and energy insurance, and financial and professional lines insurance. For a more detailed description of this segment, see Part I, Item 1, “Business — Business Segments — Insurance” and Note 5 of our consolidated financial statements, “Segment Reporting.”

Gross written premiums. The table below shows our gross written premiums for each line of business for the twelve months ended December 31, 2016, 2015 and 2014 and the percentage change in gross written premiums for each line:

<u>Lines of Business</u>	<u>For the Twelve Months Ended December 31,</u>					
	<u>2016</u>		<u>2015</u>		<u>2014</u>	
	<u>(\$ in millions)</u>	<u>% change</u>	<u>(\$ in millions)</u>	<u>% change</u>	<u>(\$ in millions)</u>	
Property and casualty insurance	\$ 858.2	(3.6)%	\$ 890.6	11.2 %	\$ 801.0	
Marine, aviation and energy insurance	396.3	(7.3)%	427.3	(17.7)%	519.3	
Financial and professional lines insurance	479.3	11.3 %	430.5	5.1 %	409.6	
Total	<u>\$ 1,733.8</u>	<u>(0.8)%</u>	<u>\$ 1,748.4</u>	<u>1.1 %</u>	<u>\$ 1,729.9</u>	

Gross written premiums decreased by 0.8% in 2016 compared to 2015 due to decreased business written in our property and casualty insurance and marine, aviation and energy insurance business lines. The decrease in gross written premium in 2016 in property and casualty insurance was largely attributable to reductions in our global casualty, U.S. casualty and U.S. environmental business lines offset by growth in our U.S. excess casualty and railroad insurance business lines. The decrease in gross written premiums in marine, aviation and energy insurance is largely due to challenging market conditions in our marine and energy liability, U.S. inland marine, offshore energy, and energy and construction insurance business lines offset by growth in our ocean cargo and aviation insurance business lines. The increase in gross written premiums in financial and professional insurance is largely attributable to growth in our accident and health, credit and political risks, management liability and financial institutions business lines.

The increase in gross written premium in 2015 compared to 2014 in property and casualty insurance was due to continued higher contribution from all our teams in this line of business. The decrease in gross written premium in marine, aviation and energy insurance lines was largely due to lower production in our marine, energy and construction liability and energy property damage accounts due to the repositioning of certain accounts and difficult market conditions, including increased competition combined with favorable prior-year premium adjustments in the comparative period. The increase in gross written premiums in financial and professional insurance in 2015 was largely attributable to growth in our U.S. lines with increases in some international classes.

Ceded written premiums. Total ceded written premiums for 2016 was \$409.3 million, an increase of \$153.6 million from \$255.7 million in 2015. Ceded reinsurance increased across all our business lines because we restructured our ceded reinsurance arrangements to reduce volatility and benefit the expense ratio. In addition, we purchased an adverse development cover in the fourth quarter of 2016 for certain casualty business which we ceased to underwrite.

Ceded reinsurance for 2015 was \$255.7 million, a decrease of \$83.0 million from 2014, as we undertook steps to retain more risk within the Group at the time but continued to seek to use reinsurance as an effective risk mitigation tool for our growing insurance lines, particularly in the U.S.

Net premiums earned. Net earned premiums increased by \$54.7 million, or 3.9%, in 2016 compared to 2015 due to the written premium growth in 2016 and the impact from the increases in ceded written premiums in 2016 not flowing into earnings until 2017. Net premiums earned increased by \$83.6 million, or 6.3%, in 2015 compared to 2014 which is consistent with the written premium growth in prior years earning in 2015.

Losses and loss adjustment expenses. The loss ratio in 2016 was 63.1% compared to 62.4% in 2015. The increase in the loss ratio in 2016 was primarily due to a \$23.4 million reduction in prior year reserve releases offset by a \$10.7 million reduction in catastrophe losses. The loss ratio in 2015 increased from 61.5% in 2014 due to an \$18.3 million increase in catastrophe losses and a greater frequency of large losses partially offset by a \$60.6 million increase in prior year reserve releases.

In 2016, the insurance segment experienced \$51.6 million of catastrophe losses, consisting of \$39.9 million associated with U.S. weather related events and \$11.7 million associated with Hurricane Matthew. Large losses experienced during 2016 included \$32.7 million of energy-related losses, \$11.8 million of fire-related losses and a \$4.2 million aviation loss.

In 2015, the insurance segment experienced \$40.9 million of catastrophe losses, consisting of \$25.7 million associated with U.K. floods and \$15.2 million associated with the U.S. storms. Large losses experienced during 2015 included \$37.6 million of energy losses, \$10.0 million associated with a dam collapse in Brazil and \$3.0 million associated with the port explosion in Tianjin, China.

In 2014, the insurance segment experienced \$22.6 million of catastrophe losses associated with U.S. and U.K. storms.

In 2016, there were reserve releases of \$42.3 million compared to \$65.7 million of reserve releases in 2015. The reserve releases in 2016 were predominantly from our marine, energy and aviation line of business while the reserve releases in 2015 were predominantly from our property and casualty line of business. Prior year reserve releases are further discussed under “Reserves for Losses and Loss Adjustment Expenses.”

Policy acquisition, general and administrative expenses. Amortization of deferred policy acquisition costs were \$302.5 million in 2016, equivalent to 20.8% of net premiums earned (2015 — \$258.9 million or 18.5% of net premiums earned; 2014 — \$251.2 million or 19.1% of net earned premium). The increase in the acquisition expense ratio in 2016 compared with 2015 was due to higher profit commission accruals and lower ceding commissions. The decrease in the acquisition expense ratio in 2015 compared with 2014 was due to lower profit commission accruals and increased ceding commissions.

Our general and administrative expenses increased by \$14.8 million to \$228.4 million in 2016 from \$213.6 million in 2015. Our general and administrative expense ratio was 15.7% in 2016 compared to 15.2% in 2015 due predominantly to costs associated with growth in the business. General and administrative expenses of \$213.6 million in 2015 increased from \$205.5 million in 2014 largely due to growth in our U.S. business and reorganization and integration costs.

Balance Sheet

Total cash and investments

As at December 31, 2016 and December 31, 2015, total cash and investments, including accrued interest receivable, were \$9.2 billion and \$8.8 billion, respectively. Our investment strategy is focused on delivering stable investment income and total return through all market cycles while maintaining appropriate portfolio liquidity and credit quality to meet the requirements of our customers, rating agencies and regulators.

As of December 31, 2016, our investments consisted of a diversified portfolio of fixed income securities including U.S. Dollar BBB Emerging Market Debt, global equities and money market funds. Our overall portfolio strategy remains focused on high quality fixed income investments. As at December 31, 2016, our investments in equities, U.S. Dollar BBB Emerging Market Debt and risk portfolio cash consisted of approximately 10.8% of our Managed Portfolio (2015 — 12.6%). In November 2016 we reduced our holdings in our global equity strategy and received net proceeds of \$200.0 million. Proceeds from the sales were reinvested into a core fixed income strategy. As at December 31, 2016, we had a 6.8% (2015 — 8.7%) position in equities, a 3.8% (2015 — 3.5%) position in U.S. Dollar BBB Emerging Market Debt and 0.2% (2015 — 0.4%) in risk asset portfolio cash.

Book yield as at December 31, 2016 on the fixed income portfolio was 2.49%, a decrease of 10 basis points from 2.59% as at December 31, 2015, as a result of the continuing low interest rate environment. Our fixed income portfolio duration as at December 31, 2016 was 3.89 years compared to 3.65 as at December 31, 2015 (December 31, 2015 - 3.57 including the impact of the interest rate swaps). As at December 31, 2016, the average credit quality of our fixed income portfolio was “AA-,” with 89.3% of the portfolio being rated “A” or higher. As at December 31, 2015, the average credit quality of our fixed income portfolio

was “AA-,” with 88.8% of the portfolio being rated “A” or higher. Where the credit ratings were split between the two main rating agencies, S&P and Moody’s, the lowest rating was used.

We have used interest rate swaps in the ordinary course of our investment activities to partially mitigate the negative impact of rises in interest rates on the market value of our fixed income portfolio. In 2014, we decided to let our interest rate swap program roll off and not renew maturing positions. We took this decision after an extensive reassessment of the costs of maintaining an interest rate swap program in a steep yield curve environment. In addition, the continued uncertainty in the global economy and low inflation make it difficult to gauge the timing and speed of interest rate rises by the Federal Reserve. On May 9, 2016, we terminated all remaining outstanding interest rate swaps (notional value of \$256.3 million) under our International Swap Dealers Association agreement. As at December 31, 2016, we no longer had outstanding interest rate swaps. As at December 31, 2015, we had a total notional of interest rate swaps of \$756.3 million. For further discussion on interest rate swaps, see Note 10 of our consolidated financial statements, “Derivative Contracts.”

Unrealized gains in the available for sale investment portfolio, net of taxes, including equity securities, at December 31, 2016 were \$22.5 million, a decrease of \$37.7 million from December 31, 2015.

As at December 31, 2016, we had investments in three entities classified as other investments: Bene, MVI and Chasparc. For further information regarding these investments, see Note 6 of our consolidated financial statements, “Investments.”

The composition of our cash and investments as at December 31, 2016 and 2015 is summarized below:

	As at December 31, 2016		As at December 31, 2015	
	Estimated Fair Value	Percentage of Total Cash and Investments	Estimated Fair Value	Percentage of Total Cash and Investments
	(\$ in millions except for percentages)			
Fixed Income Securities — Available for Sale				
U.S. government	\$ 1,206.1	13.1%	\$ 1,123.1	12.7%
U.S. agency	119.6	1.3	158.7	1.8
Municipal	24.4	0.3	26.6	0.3
Corporate	2,586.5	28.2	2,660.6	30.2
Non-U.S. government-backed corporate	89.8	1.0	82.1	0.9
Foreign government	488.7	5.3	644.2	7.3
Asset-backed	63.0	0.7	76.0	0.9
Non-agency commercial mortgage-backed	12.6	0.1	26.7	0.3
Agency mortgage-backed	1,073.9	11.7	1,153.1	13.1
Total Fixed Income Securities — Available for Sale	\$ 5,664.6	61.7%	\$ 5,951.1	67.5%
Fixed Income Securities — Trading				
U.S. government	82.4	0.9%	27.3	0.3%
Municipal	15.5	0.2	0.5	—
Corporate	820.6	8.9	558.2	6.3
Foreign government	202.8	2.2	179.5	2.0
Asset-backed	14.5	0.2	20.5	0.2
Bank loans	—	—	2.0	—
Agency mortgage-backed securities	129.9	1.4	—	—
Total Fixed Income Securities — Trading	\$ 1,265.7	13.8%	\$ 788.0	8.8%
Total other investments	12.1	0.1	8.9	0.1
Total catastrophe bonds — trading	42.5	0.5	55.4	0.6
Total equity securities — trading	584.7	6.4	736.4	8.4
Total short-term investments — available for sale	145.3	1.6	162.9	1.8
Total short-term investments — trading	185.4	2.0	9.5	0.1
Total cash and cash equivalents	1,273.8	13.9	1,099.5	12.5
Total Cash and Investments	\$ 9,174.1	100.0%	\$ 8,811.7	100.0%

Our mortgage-backed portfolio is supported by loans diversified across a number of geographic and economic sectors. The following table summarizes the fair value of our mortgage-backed securities by rating and class as at December 31, 2016:

	AAA	AA and Below	Total
	(\$ in millions)		
Agency	\$ —	\$ 1,203.8	\$ 1,203.8
Non-agency commercial	12.4	0.2	12.6
Total mortgage-backed securities	<u>\$ 12.4</u>	<u>\$ 1,204.0</u>	<u>\$ 1,216.4</u>

Sub-prime securities. We define sub-prime related investments as those supported by, or containing, sub-prime collateral based on creditworthiness. We do not invest directly in sub-prime related securities.

Equity securities. Equity securities are comprised of U.S. and foreign equity securities and are classified as available for sale or trading. We initiated an investment into a high quality global equity income strategy in March 2011 and increased the investment in 2013 and 2014. In 2014, we increased our investment in equities by a total of \$240.0 million of which \$80.0 million was in our global equity strategy and \$160.0 million was in a minimum volatility equity portfolio. In 2015 as a result of rebalancing equity investments across subsidiary company balance sheets, equities were sold that were classified as available for sale, with a commensurate purchase of equities designated as trading securities. As at December 31, 2015, all equity securities were classified as trading. In the fourth quarter of 2016 we took advantage of rising equity markets and sold \$200.0 million of our equity portfolio. The total investment return from the available for sale and trading equity portfolios for the twelve months ended December 31, 2016, 2015 and 2014 were as follows:

	For the Twelve Months Ended		
	December 31, 2016	December 31, 2015	December 31, 2014
	(\$ in millions)		
Available for Sale Equity Portfolio			
Dividend income	\$ —	\$ 0.1	\$ 4.1
Realized investment gains	—	31.5	10.9
Change in net unrealized gains, gross of tax	—	(31.5)	(6.0)
Realized foreign exchange (losses)	—	(5.5)	(0.5)
Net unrealized foreign exchange gains (losses)	—	4.2	(4.0)
Total investment return from the available for sale equity portfolio	<u>\$ —</u>	<u>\$ (1.2)</u>	<u>\$ 4.5</u>

	For the Twelve Months Ended		
	December 31, 2016	December 31, 2015	December 31, 2014
	(\$ in millions)		
Trading Equity Portfolio			
Dividend income	\$ 20.4	\$ 20.0	\$ 13.0
Realized investment gains	31.7	33.6	5.4
Change in net unrealized gains, gross of tax	9.6	(9.8)	28.1
Realized foreign exchange (losses)	(24.1)	(17.7)	(0.7)
Net unrealized foreign exchange (losses)/gains	7.8	(7.1)	(26.5)
Total investment return from the trading equity portfolio	<u>\$ 45.4</u>	<u>\$ 19.0</u>	<u>\$ 19.3</u>

We manage our European fixed income exposures by proactively adapting our investment guidelines to our views on the European debt market. We previously amended our investment guidelines to prohibit purchases of sovereign or guaranteed debt of Greece, Ireland, Italy, Portugal or Spain (“GIIPS”) and Belgium in addition to also prohibiting purchases of corporate bonds issued by companies domiciled in any of the GIIPS countries. We have investment guidelines to prohibit purchases of debt issued by certain European and U.K. corporate financial institutions including covered bonds. We do not actively hedge any of our European exposures.

As at December 31, 2016, we had \$869.6 million, or 9.5% of our aggregate investment portfolio, invested in European issuers, including the U.K. (2015 — \$1,004.0 million, or 11.4%). Our European exposures consisted of sovereigns, agencies, government guaranteed bonds, covered bonds, corporate bonds and equities. As at December 31, 2016, we had no exposure to the sovereign debt of GIIPS and had *de minimis* holdings of Irish equities.

The tables below summarize our European holdings by country (Eurozone and non-Eurozone), rating and sector as at December 31, 2016. Equity investments included in the table below are not rated (“NR”). Where the credit ratings were split between the two main rating agencies, S&P and Moody’s, the lowest rating was used.

As at December 31, 2016 by Ratings								
Country	AAA	AA	A	BBB	BB	NR	Market Value	Market Value %
(\$ in millions except percentages)								
Austria	\$ —	\$ 9.8	\$ —	\$ —	\$ —	\$ —	\$ 9.8	1.1%
Belgium	—	—	23.0	—	—	0.7	23.7	2.7
Czech Republic	—	—	—	—	—	0.2	0.2	—
Denmark	3.2	—	—	0.8	—	5.0	8.9	1.0
Finland	—	11.3	—	—	—	7.1	18.4	2.1
France	—	17.7	37.8	2.3	—	11.2	69.0	7.9
Germany	50.0	14.8	76.1	15.3	—	13.1	169.2	19.5
Ireland	—	—	—	—	—	0.6	0.6	0.1
Lithuania	—	—	1.6	—	—	—	1.6	0.2
Luxembourg	—	—	—	0.3	—	—	0.3	—
Netherlands	16.0	—	41.7	8.3	—	—	65.9	7.6
Norway	0.6	—	13.0	0.4	—	—	14.0	1.6
Poland	—	—	—	6.9	—	0.1	7.0	0.8
Romania	—	—	—	5.6	—	—	5.6	0.6
Sweden	—	13.2	—	1.0	—	5.6	19.8	2.3
Switzerland	5.9	26.5	29.5	1.9	—	50.0	113.7	13.1
United Kingdom	10.9	170.6	62.9	31.5	—	66.1	341.9	39.3
Total European Exposure	\$ 86.5	\$ 263.8	\$ 285.5	\$ 74.2	\$ —	\$ 159.6	\$ 869.6	100.0%

As at December 31, 2016 by Sectors

Country	Sovereign	ABS	Government Guaranteed Bonds	Agency	Local Government	Corporate Financial Issuers	Corporate Non- Financial Issuers	Covered Bonds	Equity	Bank Loans	Market Value	Unrealized Pre-tax Gain
(\$ in millions except percentages)												
Austria	\$ 2.9	\$ —	\$ 6.9	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 9.8	\$ 0.2
Belgium . . .	—	—	—	—	—	—	23.0	—	0.7	—	23.7	—
Czech Republic . . .	—	—	—	—	—	—	—	—	0.2	—	0.2	—
Denmark . . .	—	—	—	—	3.2	—	0.8	—	5.0	—	8.9	(0.9)
Finland	8.2	—	—	—	3.1	—	—	—	7.1	—	18.4	0.6
France	1.3	—	5.2	19.2	—	6.2	25.9	—	11.2	—	69.0	1.1
Germany . . .	6.7	—	37.8	5.7	13.3	—	92.7	—	13.1	—	169.2	3.1
Ireland	—	—	—	—	—	—	—	—	0.6	—	0.6	—
Lithuania . . .	1.6	—	—	—	—	—	—	—	—	—	1.6	(0.1)
Luxembourg	—	—	—	—	—	—	0.3	—	—	—	0.3	—
Netherlands .	—	—	—	16.9	—	15.4	33.7	—	—	—	65.9	1.0
Norway	—	—	—	13.6	—	—	0.4	—	—	—	14.0	0.5
Poland	6.9	—	—	—	—	—	—	—	0.1	—	7.0	(0.2)
Romania . . .	5.6	—	—	—	—	—	—	—	—	—	5.6	(0.1)
Sweden	—	—	—	6.7	—	7.5	—	—	5.6	—	19.8	1.1
Switzerland .	5.9	—	—	—	—	9.9	47.9	—	50.0	—	113.7	0.8
United Kingdom . . .	168.5	0.5	2.0	—	—	15.6	78.3	10.9	66.1	—	341.9	12.8
Total European Exposure . . .	\$ 207.7	\$ 0.5	\$ 51.9	\$ 62.1	\$ 19.5	\$ 54.5	\$ 302.9	\$ 10.9	\$ 159.6	\$ —	\$ 869.6	\$ 19.9

Valuation of Investments

Fair Value Measurements. Our estimates of fair value for financial assets and liabilities are based on the framework established in the fair value accounting guidance included in ASC Topic 820, *Fair Value Measurements and Disclosures*. For a description of the framework, see Note 8 of our consolidated financial statements, “Fair Value Measurements.”

Valuation of Other Investments. The value of our investments in Chaspart and MVI are based on our share of the capital position of the entities which includes income and expenses reported in quarterly management accounts. Each of Chaspart and MVI is subject to annual audit evaluating the financial statements of the entities. We periodically review the management accounts of Chaspart and MVI and evaluate the reasonableness of the valuation of our investment.

Other-than-temporary Impairment of Investments. We review all our available for sale fixed income and equity investments on an individual security basis for potential OTTI each quarter based on criteria including issuer-specific circumstances, credit ratings actions and general macro-economic conditions. There was no OTTI charge for the twelve months ended December 31, 2016 (2015 —\$Nil).

For further discussion, see Note 2(c) of our consolidated financial statements, “Basis of Preparation and Significant Accounting Policies — Accounting for Investments, Cash and Cash Equivalents.”

Reserves for Losses and Loss Adjustment Expenses

Provision is made at the end of each year for the estimated ultimate cost of claims incurred but not settled at the balance sheet date, including the cost of IBNR claims and development of existing reported claims. The estimated cost of claims includes expenses to be incurred in settling claims and a deduction for the expected value of salvage and other recoveries. Estimated amounts recoverable from reinsurers on unpaid losses and loss adjustment expenses are calculated to arrive at a net claims reserve.

Reserves by segment. As at December 31, 2016, we had total net loss and loss adjustment expense reserves of \$4,759.2 million (December 31, 2015 — \$4,583.4 million). This amount represented our best estimate of the ultimate liability for payment of losses and loss adjustment expenses. Of the total gross reserves for unpaid losses of \$5,319.9 million at the balance sheet date of

December 31, 2016, a total of \$3,044.9 million, or 57.2%, represented IBNR claims (December 31, 2015 — \$2,841.6 million and 57.5%, respectively). The following tables analyze gross and net loss and loss adjustment expense reserves by business segment as at December 31, 2016 and 2015, respectively:

<u>Business Segment</u>	As at December 31, 2016		
	Gross	Reinsurance Recoverable	Net
	(\$ in millions)		
Reinsurance	\$ 2,536.1	\$ (74.0)	\$ 2,462.1
Insurance	2,783.8	(486.7)	2,297.1
Total losses and loss expense reserves	<u>\$ 5,319.9</u>	<u>\$ (560.7)</u>	<u>\$ 4,759.2</u>

<u>Business Segment</u>	At December 31, 2015		
	Gross	Reinsurance Recoverable	Net
	(\$ in millions)		
Reinsurance	\$ 2,441.9	\$ (32.4)	\$ 2,409.5
Insurance	2,496.3	(322.4)	2,173.9
Total losses and loss expense reserves	<u>\$ 4,938.2</u>	<u>\$ (354.8)</u>	<u>\$ 4,583.4</u>

The increase in reinsurance recoverables in 2016 was due predominantly to additional reinsurance purchased to reduce earnings volatility in addition to the impact from a loss portfolio transfer described in Note 12 of our consolidated financial statements, “Reserves for Losses and Loss Adjustment Expenses.” The recoveries in the reinsurance segment are generally associated with catastrophes and recoveries fluctuate based on the level of this type of event.

The gross reserves may be further analyzed between outstanding claims and IBNR as at December 31, 2016 and 2015, as follows:

	As at December 31, 2016			
	Gross Outstandings	Gross IBNR	Gross Reserve	% IBNR
	(\$ in millions, except for percentages)			
Reinsurance	\$ 1,084.2	\$ 1,451.9	\$ 2,536.1	57.2%
Insurance	1,190.8	1,593.0	2,783.8	57.2%
Total losses and loss expense reserves	<u>\$ 2,275.0</u>	<u>\$ 3,044.9</u>	<u>\$ 5,319.9</u>	57.2%

	As at December 31, 2015			
	Gross Outstandings	Gross IBNR	Gross Reserve	% IBNR
	(\$ in millions, except for percentages)			
Reinsurance	\$ 1,048.2	\$ 1,395.0	\$ 2,443.2	57.1%
Insurance	1,048.4	1,446.6	2,495.0	58.0%
Total losses and loss expense reserves	<u>\$ 2,096.6</u>	<u>\$ 2,841.6</u>	<u>\$ 4,938.2</u>	57.5%

Prior year loss reserves. For the twelve months ended December 31, 2016, there was an overall reduction in our estimate of ultimate net claims to be paid in respect of prior accident years. An analysis of this reduction by business segment is as follows for each of the twelve months ended December 31, 2016, 2015 and 2014:

<u>Business Segment</u>	For the Twelve Months Ended		
	December 31, 2016	December 31, 2015	December 31, 2014
	(\$ in millions)		
Reinsurance	\$ 87.0	\$ 90.8	\$ 99.0
Insurance	42.3	65.7	5.1
Total losses and loss expense reserves reductions	<u>\$ 129.3</u>	<u>\$ 156.5</u>	<u>\$ 104.1</u>

For the twelve months ended December 31, 2016. The analysis of the development by each segment is as follows:

Reinsurance. Net reserve releases of \$87.0 million in 2016 were attributable to all lines of business. The largest releases in the period were \$39.7 million from other property reinsurance lines, \$18.9 million from specialty reinsurance lines and \$14.9 million from casualty reinsurance lines due to better than expected claims development.

Insurance. Net reserve releases of \$42.3 million in 2016 were attributable to net reserve releases of \$38.9 million from marine, aviation and energy lines and \$15.3 million from financial and professional lines due to better than expected development partially offset by an \$11.9 million net reserve strengthening in property and casualty lines.

For the twelve months ended December 31, 2015. The analysis of the development by each segment is as follows:

Reinsurance. Net reserve releases of \$90.8 million in 2015 were attributable to all lines of business. The largest releases in the period were \$32.6 million from specialty reinsurance lines due primarily to benign incurred experience and \$25.5 million from casualty reinsurance and \$24.8 million from other property reinsurance lines due to favorable development.

Insurance. Net reserve releases of \$65.7 million in 2015 were largely attributable to net reserve releases of \$53.7 million from property and casualty lines and \$8.8 million from financial and professional lines. The most significant factor affecting the level of release in 2015 was the release of a small number of case reserves where we saw favorable claims development.

For the twelve months ended December 31, 2014. The analysis of the development by each segment is as follows:

Reinsurance. Net reserve releases of \$99.0 million in 2014 were attributable to all lines of business. The most significant releases were \$48.6 million from our specialty lines due to a combination of a reduction in credit and surety estimates, a reduction in 2011 prior claim estimates, mainly from short-tail lines, and the final settlement of a large contract; \$18.9 million from other property lines, \$17.5 million from casualty lines due to better than expected development; and \$14.4 million from property catastrophe lines due primarily to a reduction in reserving margins held against 2012 and prior catastrophe events and better than planned experience.

Insurance. Net reserve releases of \$5.1 million in 2014 were mainly attributable to our property and casualty lines but were partially offset by a \$38.0 million net strengthening in the marine, aviation and energy lines, in particular in our construction liability account within marine and energy liability, although this strengthening has been partially mitigated by the receipt of additional adjustment premiums.

Other than the matters described under “—Critical Accounting Policies—Reserving Approach,” we did not make any significant changes in methodologies used in our reserving process. Nevertheless, because the period of time we have been in operation is still relatively short, for longer tail lines in particular, our loss experience is limited and reliable evidence of changes in trends of numbers of claims incurred, average settlement amounts, numbers of claims outstanding and average losses per claim will necessarily take years to develop.

Capital Management

The following table shows our capital structures at December 31, 2016 compared to December 31, 2015:

	<u>As at December 31, 2016</u>	<u>At December 31, 2015</u>
	(\$ in millions)	
Share capital, additional paid-in capital, retained income and accumulated other comprehensive income attributable to ordinary shareholders	\$ 2,851.2	\$ 2,864.1
Preference shares (liquidation preferences net of issue costs)	797.1	555.8
Long-term debt	549.3	549.2
Loan notes issued by variable interest entities, at fair value	223.4	190.6
Total capital	<u>\$ 4,421.0</u>	<u>\$ 4,159.7</u>

As at December 31, 2016, total shareholders’ equity was \$3,648.3 million compared to \$3,419.9 million as at December 31, 2015. Our total shareholders’ equity as at December 31, 2016 includes four classes of preference shares with a total value as measured by their respective liquidation preferences of \$797.1 million net of share issuance costs (December 31, 2015 — \$555.8 million).

On September 20, 2016, we issued 10,000,000 shares of 5.625% Perpetual Non-Cumulative Preference Shares with a liquidation preference of \$25 per share (the “5.625% Preference Shares”). Net proceeds were \$241.3 million, comprising \$250.0 million of

total liquidation preference less \$8.7 million of issue expenses. The 5.625% Preference Shares have no stated maturity but are callable at our option on or after the 10 year anniversary of the date of issuance.

Our preference shares are classified in our balance sheet as equity but may receive a different treatment in some cases under the capital adequacy assessments made by certain rating agencies. Such securities are often referred to as “hybrids” as they have certain attributes of both debt and equity. We also monitor the ratio of the total of debt and hybrids to total capital which was 35.5% as of December 31, 2016 (December 31, 2015 — 31.1%).

Our senior notes were the only material debt issued by Aspen Holdings as at December 31, 2016 and 2015 of \$549.3 million and \$549.2 million, respectively.

In addition to the senior notes issued by Aspen Holdings, we have also reported \$223.4 million of debt issued by Silverton. For further information relating to Silverton, refer to Note 7 of our consolidated financial statements, “Variable Interest Entities.”

Management monitors the ratio of debt to total capital, with total capital being defined as shareholders’ equity plus outstanding debt, which was 17.5% as at December 31, 2016 (December 31, 2015 — 17.8%).

The principal capital management transactions during 2015 and 2016 were as follows:

- On April 22, 2015, we announced a 5.0% increase in our quarterly dividend to our ordinary shareholders from \$0.20 per ordinary share to \$0.21 per ordinary share.
- For the twelve months ended December 31, 2015, we acquired and canceled a total of 1,790,333 ordinary shares in open market repurchases. We paid a total consideration of \$83.7 million and an average price of \$46.74 per ordinary share for the twelve months ended December 31, 2015. As at December 31, 2015, we had \$416.3 million remaining under our then existing share repurchase authorization of \$500.0 million which was approved on February 5, 2015 and expired on February 6, 2017.
- On April 21, 2016, we announced a 5.0% increase in our quarterly dividend to our ordinary shareholders from \$0.21 to \$0.22 per ordinary share.
- For the twelve months ended December 31, 2016, we repurchased of 1,595,076 ordinary shares in open market repurchases for a total consideration of \$75.0 million at an average price of \$47.02 per ordinary share. As at December 31, 2016, we had \$341.3 million remaining under our then existing \$500.0 million share repurchase authorization program.
- On February 8, 2017, our Board of Directors authorized a new share repurchase program of \$250.0 million. The total share repurchase authorization, which was effective immediately through February 8, 2019, permits us to effect the repurchases of our shares from time to time through a combination of transactions, including open market purchases, privately negotiated transactions and accelerated share repurchase transactions.

Access to capital. Our business operations are in part dependent on our financial strength and the market’s perception thereof, as measured by total shareholders’ equity, which was \$3,648.3 million as at December 31, 2016 (December 31, 2015 — \$3,419.9 million). We believe our financial strength provides us with the flexibility and capacity to obtain funds through debt or equity financing. Our continuing ability to access the capital markets is dependent on, among other things, our operating results, market conditions and our perceived financial strength. We regularly monitor our capital and financial position, as well as investment and securities market conditions, both in general and with respect to Aspen Holdings’ securities. Our ordinary shares and all our preference shares are listed on the NYSE.

Liquidity

Liquidity is a measure of a company’s ability to generate cash flows sufficient to meet short-term and long-term cash requirements of its business operations. Management monitors the liquidity of Aspen Holdings and of each of its Operating Subsidiaries and arranges credit facilities to enhance short-term liquidity resources on a stand-by basis. As a holding company, Aspen Holdings relies on dividends and other distributions from its Operating Subsidiaries to provide cash flow to meet ongoing cash requirements, including any future debt service payments and other expenses, and to pay dividends, if any, to our preference and ordinary shareholders.

During the year ended December 31, 2016, Aspen Holdings received dividends of \$234.5 million (2015 — \$223.0 million) from Aspen Bermuda, \$63.4 million (2015 — \$61.4 million) from Aspen European, \$33.4 million (2015 — \$Nil) from Aspen UK Holdings, \$15.0 million (2015 — \$Nil) from ACM and \$Nil (2015 — \$2.9 million) from AMAL. In addition, Aspen Holdings received \$21.6 million in respect of an intercompany loan from Aspen European (2015 — \$17.5 million). During 2015, Aspen Holdings received a \$4.7 million payment of intercompany interest in respect of an intercompany loan from Aspen U.K Holdings.

As at December 31, 2016, Aspen Holdings held \$327.1 million (December 31, 2015 — \$135.5 million) of cash, cash equivalents and investments with the increase largely due to the issuance of the 5.625% Perpetual Shares, comprising \$250.0 million of total liquidation preference less \$8.7 million of issuance expenses. This was offset by the \$61.0 million net payments for the acquisitions of AgriLogic and BlueWaters and the \$75.0 million cost for the repurchase of ordinary shares in 2016. Management considers the current cash and cash equivalents, together with dividends declared or expected to be declared by subsidiary companies and our credit facilities, sufficient to appropriately satisfy the liquidity requirements of Aspen Holdings. Aspen Holdings' liquidity depends on dividends, capital distributions and interest payments from our Operating Subsidiaries. Aspen Holdings has recourse to the credit facility described below.

The ability of our Operating Subsidiaries to pay us dividends or other distributions is subject to the laws and regulations applicable to each jurisdiction, as well as the Operating Subsidiaries' need to maintain capital requirements adequate to maintain their insurance and reinsurance operations and their financial strength ratings issued by independent rating agencies. On October 21, 2013, and in line with common market practice for regulated institutions, the PRA, the regulatory agency which oversees the prudential regulation of insurance companies in the U.K. such as Aspen U.K., requested that it be afforded the opportunity to provide a "non-objection" prior to all future dividend payments made by Aspen U.K. We do not expect to suffer tax on foreign earnings since our significant source of earnings outside of Bermuda is the U.K. and no taxes are imposed on profits repatriated from the U.K. to Bermuda. For a further discussion of the various restrictions on our ability and our Operating Subsidiaries' ability to pay dividends, see Part I, Item 1 "Business — Regulatory Matters." For a discussion of the volatility and liquidity of our other investments, see Part I, Item 1A, "Risk Factors — Market and Liquidity Risks," and for a discussion of the impact of insurance losses on our liquidity, see Part I, Item 1A, "Risk Factors — Insurance Risks" and Note 15 of our consolidated financial statements, "Statutory Requirements and Dividend Restrictions."

Operating Subsidiaries. As at December 31, 2016, the Operating Subsidiaries held \$1,409.3 million (December 31, 2015 — \$1,136.4 million) in cash and short-term investments that are readily realizable securities. Management monitors the value, currency and duration of cash and investments held by its Operating Subsidiaries to ensure they are able to meet their insurance and other liabilities as they become due and was satisfied that there was a comfortable margin of liquidity as at December 31, 2016 and for the foreseeable future.

On an ongoing basis, our Operating Subsidiaries' sources of funds primarily consist of premiums written, investment income and proceeds from sales and redemptions of investments. Cash is used primarily to pay reinsurance premiums, losses and loss adjustment expenses, brokerage commissions, general and administrative expenses, taxes, interest and dividends and to purchase new investments. The potential for individual large claims and for accumulations of claims from single events means that substantial and unpredictable payments may need to be made within relatively short periods of time.

For all material currencies in which our underwriting activities are written we ensure that sufficient cash and short-term investments are held in such currencies to enable us to meet potential claims without liquidating long-term investments and adversely affecting our investment return. This follows the matching principle which matches our assets and liabilities in currency to mitigate foreign currency risk whenever possible.

We manage these risks by making regular forecasts of the timing and amount of expected cash outflows and ensuring that we maintain sufficient balances in cash and short-term investments to meet these estimates. Notwithstanding this policy, if these cash flow forecasts are incorrect, we could be forced to liquidate investments prior to maturity, potentially at a significant loss. Historically, we have not had to liquidate investments at a significant loss to maintain sufficient levels of liquidity.

Where we incur losses in currencies which are not normally held we will convert funds into the appropriate currencies to mitigate our currency risk and also make funds available to settle claims in local currencies as and when they become due. Recent examples of this have been where we have converted funds to Thai Bhat, New Zealand Dollars and Brazilian Reals to cover flood, earthquake and other losses in these countries. For local regulatory reasons, we hold assets in trusts which limits our liquidity to some degree, however, the process of matching assets with liabilities in currency means that at any one time we will hold cash and short-term assets in all major currencies which are available to settle claims.

The liquidity of our Operating Subsidiaries is also affected by the terms of our contractual obligations to policyholders and by undertakings to certain regulatory authorities to facilitate the issue of letters of credit or maintain certain balances in trust funds for the benefit of policyholders. The following table shows the forms of collateral or other security provided in respect of these obligations and undertakings as at December 31, 2016 and December 31, 2015:

	As at December 31, 2016	At December 31, 2015
	(\$ in millions, except percentages)	
Regulatory trusts and deposits:		
Affiliated transactions	\$ 1,482.8	\$ 1,421.0
Third party	2,380.8	2,265.6
Letters of credit / guarantees	672.1	708.5
Total restricted assets	<u>\$ 4,535.7</u>	<u>\$ 4,395.1</u>
Total as percent of investable assets	<u>49.3%</u>	<u>49.6%</u>

See Note 19(a), “Commitments and Contingencies — Restricted Assets” of our consolidated financial statements for further detail on our trust fund balances which we are required to maintain in accordance with contractual obligations to policyholders and in compliance with regulatory requirements.

Consolidated cash flows for the twelve months ended December 31, 2016. Total net cash flow from operations for the twelve months ended December 31, 2016 was \$453.2 million, a decrease of \$121.0 million from the equivalent period in 2015. For the twelve months ended December 31, 2016, our cash flows from operations provided us with sufficient liquidity to meet our operating requirements. We paid net claims of \$1,222.8 million in 2016, and used \$350.9 million in investing and net purchases and sales of equipment during the period. We paid ordinary share and preference share dividends of \$94.5 million, and \$75.0 million was used to repurchase ordinary shares. At December 31, 2016, we had a balance of cash and cash equivalents of \$1,273.8 million.

Consolidated cash flows for the twelve months ended December 31, 2015. Total net cash flow from operations for the twelve months ended December 31, 2015 was \$574.2 million, a decrease of \$33.2 million from the equivalent period in 2014. For the twelve months ended December 31, 2015, our cash flows from operations provided us with sufficient liquidity to meet our operating requirements. We paid net claims of \$1,108.5 million in 2015, and used \$501.9 million in investing and net purchases and sales of equipment during the period. We paid ordinary and preference share dividends of \$88.7 million, and \$83.7 million was used to repurchase ordinary shares. At December 31, 2015, we had a balance of cash and cash equivalents of \$1,099.5 million.

Consolidated cash flows for the twelve months ended December 31, 2014. Total net cash flow from operations was \$607.4 million, an increase of \$41.0 million from 2013. For the twelve months ended December 31, 2014, our cash flows from operations provided us with sufficient liquidity to meet our operating requirements. We paid net claims of \$1,107.7 million in 2014, and used \$515.0 million in investing and net purchases and sales of equipment during the period. We paid ordinary and preference share dividends of \$88.1 million, and \$180.9 million was used to repurchase ordinary shares. At December 31, 2014, we had a balance of cash and cash equivalents of \$1,178.5 million.

Letter of Credit Facilities.

On June 12, 2013, Aspen Holdings and several of its wholly-owned subsidiaries (collectively, the “Borrowers”) entered into an amended and restated credit agreement (the “Credit Agreement”) with various lenders and Barclays Bank PLC (“Barclays”), as administrative agent, which amends and restates the credit agreement, dated as of July 30, 2010, among Aspen Holdings, the Borrowers, various lenders and Barclays. The credit facility is used to finance our working capital needs and those of our subsidiaries for letters of credit in connection with our insurance and reinsurance businesses and for other general corporate purposes. Initial availability under the credit facility is \$200.0 million and we have the option (subject to obtaining commitments from acceptable lenders) to increase the facility by up to \$100.0 million. The facility will expire on June 12, 2017. As at December 31, 2016, no borrowings were outstanding under the credit facility.

The fees and interest rates on the loans and the fees on the letters of credit payable by the Borrowers under the Credit Agreement are based upon the credit ratings for Aspen Holdings’ long-term unsecured senior debt by S&P and Moody’s. In addition, the fees for a letter of credit vary based upon whether the applicable Borrower has provided collateral (in the form of cash or qualifying debt securities) to secure its reimbursement obligations with respect to such letter of credit.

Under the credit facility, we must not permit (a) consolidated tangible net worth to be less than approximately \$2,428.6 million plus 50% of consolidated net income and 50% of aggregate net cash proceeds from the issuance by Aspen Holdings of its capital stock, in each case after January 1, 2013, (b) the ratio of our total consolidated debt to the sum of such debt plus our consolidated tangible net worth to exceed 35% or (c) any material insurance subsidiary to have a financial strength rating of less than “B++” from A.M. Best. In addition, the credit facility contains other customary affirmative and negative covenants as well as certain customary events of default, including with respect to a change in control. The various affirmative and negative covenants, include, among others, covenants that, subject to various exceptions, restrict the ability of Aspen Holdings and its subsidiaries to: incur indebtedness; create or permit liens on assets; engage in mergers or consolidations; dispose of assets; pay dividends or other distributions; purchase or redeem Aspen Holdings’ equity securities or those of its subsidiaries and make other restricted payments; make certain investments; agree with others to limit the ability of Aspen Holdings’ subsidiaries to pay dividends or other restricted payments or to make loans or transfer assets to Aspen Holdings or another of its subsidiaries. In addition, the credit facility has customary events of default, including (subject to certain materiality thresholds and grace periods) payment default, failure to comply with covenants, material inaccuracy of representation or warranty, bankruptcy or insolvency proceedings, change of control and cross-default to other debt agreements. Our credit facility also contains customary provisions in respect of successor companies resulting from mergers and acquisitions assuming obligations thereunder.

On December 12, 2014, Aspen Holdings and the Borrowers entered into a first amendment to the Credit Agreement with various lenders and Barclays, which amends the Credit Agreement. Aspen Holdings has recently established, and may establish additional, special purpose entities that have issued or will issue insurance-linked securities to third-party investors (each, an “ILS Entity” and collectively, the “ILS Entities”). Accordingly, the Credit Agreement was amended, among other things, to (i) exclude ILS Entities from the definition of “Subsidiary”, (ii) permit the Borrowers to invest in ILS Entities and (iii) permit the Borrowers to engage in transactions with an ILS Entity.

On June 30, 2016, Aspen Bermuda and Citibank Europe plc (“Citi Europe”) amended the committed letter of credit facility, dated June 30, 2012, as amended on June 30, 2014 (the “LOC Facility”). The amendment to the LOC facility extended the term of the LOC Facility to June 30, 2018 and provides a maximum aggregate amount of up to \$550.0 million. Under the LOC Facility, Aspen Bermuda will pay to Citi Europe (a) a letter of credit fee based on the available amounts of each letter of credit and (b) a commitment fee, which varies based upon usage, on the unutilized portion of the LOC Facility. Aspen Bermuda will also pay interest on the amount drawn by any beneficiary under a credit provided under the LOC Facility at a rate per annum of LIBOR plus 1% (plus reserve asset costs, if any) from the date of drawing until the date of reimbursement by Aspen Bermuda. In addition, Aspen Bermuda and Citi Europe entered into an uncommitted letter of credit facility whereby Aspen Bermuda has the ability to request letters of credit under this facility subject to the prior approval of Citi Europe. The fee associated with the uncommitted facility is a letter of credit fee based on the available amounts of each letter of credit issued under the uncommitted facility. Both the LOC Facility and the uncommitted facility are used to secure obligations of Aspen Bermuda to its policyholders. In addition to these facilities, we also use regulatory trusts to secure our obligations to policyholders.

The terms of a pledge agreement between Aspen Bermuda and Citi Europe (pursuant to an assignment agreement dated October 11, 2006) dated January 17, 2006, as amended, were also amended on June 30, 2014 to change the types of securities or other assets that are acceptable as collateral under the New LOC Facility. All other agreements relating to Aspen Bermuda’s LOC Facility, which now apply to the New LOC Facility with Citi Europe, as previously filed with the United States Securities and Exchange Commission, remain in full force and effect. As at December 31, 2016, we had \$449.4 million of outstanding collateralized letters of credit under the New LOC Facility (December 31, 2015 — \$463.6 million under the LOC Facility).

Contractual Obligations and Commitments

The following table summarizes our contractual obligations (other than our obligations to employees and our Preference Shares) under long-term debt, operating leases (net of subleases) and reserves relating to insurance and reinsurance contracts as at December 31, 2016:

	2017	2018	2019	2020	2021	Later Years	Total
	(\$ in millions)						
Operating lease obligations.	\$ 16.1	\$ 15.3	\$ 14.0	\$ 9.9	\$ 8.7	\$ 86.4	\$ 150.4
Long-term debt obligations ⁽¹⁾	—	—	—	—	250.0	300.0	550.0
Reserves for losses and LAE ⁽²⁾	1,332.1	979.0	731.7	510.2	346.3	1,420.6	5,319.9
Total	<u>\$ 1,348.2</u>	<u>\$ 994.3</u>	<u>\$ 745.7</u>	<u>\$ 520.1</u>	<u>\$ 605.0</u>	<u>\$ 1,807.0</u>	<u>\$ 6,020.3</u>

⁽¹⁾ The long-term debt obligations disclosed above do not include the \$29.0 million annual interest payments on our outstanding senior notes or dividends payable to holders of our preference shares or the loan notes issued by Silverton in the amount of \$223.4 million.

⁽²⁾ In estimating the time intervals into which payments of our reserves for losses and loss adjustment expenses fall, as set out above, we have utilized actuarially assessed payment patterns. By the nature of the insurance and reinsurance contracts under which these liabilities are assumed, there can be no certainty that actual payments will fall in the periods shown and there could be a material acceleration or deceleration of claims payments depending on factors outside our control. This uncertainty is heightened by the relatively short time in which we have operated (relevant in particular to longer-tail lines), thereby providing limited Company-specific claims loss payment patterns. The total amount of payments in respect of our reserves, as well as the timing of such payments, may differ materially from our current estimates for the reasons set out under “ — Critical Accounting Policies — Reserves for Losses and Loss Expenses” above.

For a detailed description of our operating lease obligations, see Part I, Item 2, “Properties.”

Off-Balance Sheet Arrangements

As at December 31, 2016, we were not party to any off-balance sheet arrangements, as defined by Item 303(a)(4) of Regulation S-K, to which an entity unconsolidated with us is a party that management believes is reasonably likely to have a current or future effect on our financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that we believe is material to investors.

In November 2016, Peregrine, a subsidiary of the Company, was registered as a segregated accounts company under the Bermuda Segregated Accounts Companies Act 2000, as amended. As at December 31, 2016, Peregrine had formed three segregated accounts which were funded by a third party investor. The segregated accounts have not been consolidated as part of the Company's consolidated financial statements.

Effects of Inflation

Inflation may have a material effect on our consolidated results of operations by its effect on interest rates and on the cost of settling claims. The potential exists, after a catastrophe or other large property loss, for the development of inflationary pressures in a local economy as the demand for services, such as construction, typically surges. We believe this had an impact on the cost of claims arising from the 2005 hurricanes. The cost of settling claims may also be increased by global commodity price inflation. We seek to take both these factors into account when setting reserves for any events where we think they may be material.

Our calculation of reserves for losses and loss expenses in respect of casualty business includes assumptions about future payments for settlement of claims and claims-handling expenses, such as medical treatments and litigation costs. We write casualty business in the United States, the United Kingdom and Australia and certain other territories, where claims inflation has in many years run at higher rates than general inflation. To the extent inflation causes these costs to increase above reserves established for these claims, we will be required to increase our loss reserves with a corresponding reduction in earnings. The actual effects of inflation on our results cannot be accurately known until claims are ultimately settled.

In addition to general price inflation, we are exposed to a persisting long-term upwards trend in the cost of judicial awards for damages. We seek to take this into account in our pricing and reserving of casualty business.

We also seek to take into account the projected impact of inflation on the likely actions of central banks in the setting of short-term interest rates and consequent effects on the yields and prices of fixed interest securities. As at February 2017, although inflation is currently low, we consider that in the medium-term there is a risk that inflation, interest rates and bond yields may rise, resulting in a decrease in the market value of certain of our fixed interest investments.

Reconciliation of Non-U.S. GAAP Financial Measures

Adjusted diluted book value per ordinary share, a non-U.S. GAAP measure, is calculated by deducting from total shareholders equity the total of: accumulated other comprehensive income; the value of preference shares less issue expenses; the share of equity due to non-controlling interests; and adding back ordinary dividends. The resulting balance is then divided by the diluted number of ordinary shares as at the year end. We believe that adding back ordinary dividends provides a more consistent and useful measurement of total shareholder value, which supplements U.S. GAAP information.

	As at December 31, 2016	As at December 31, 2015
	(\$ in millions, except for share amounts)	
Total shareholders' equity	\$ 3,648.3	\$ 3,419.9
Accumulated other comprehensive income, net of taxes	5.1	(59.6)
Preference shares less issue expenses	(797.1)	(555.8)
Non-controlling interest	(1.4)	(1.3)
Ordinary dividends	52.7	50.9
Adjusted total shareholders' equity	<u>\$ 2,907.6</u>	<u>\$ 2,854.1</u>
Ordinary shares	59,774,464	60,918,373
Diluted ordinary shares	61,001,071	62,240,466
Book Value Per Share		
Basic	\$ 47.68	\$ 46.99
Diluted	\$ 46.72	\$ 46.00
Adjusted Diluted	\$ 47.67	\$ 44.98

Average equity, a non-U.S. GAAP financial measure, is used in calculating ordinary shareholders return on average equity. It is calculated by taking the arithmetic average of total shareholders equity on a monthly basis for the stated periods excluding (i) the average share of equity due to non-controlling interests and (ii) the average value of preference shares less issue expenses. Unrealized appreciation (depreciation) on investments is primarily the result of interest rate movements and the resultant impact on fixed income securities, and unrealized appreciation (depreciation) on foreign exchange is the result of exchange rate movements between the U.S. Dollar and the functional currencies of our Operating Subsidiaries. Therefore, we believe that excluding these unrealized appreciations (depreciations) provides a more consistent and useful measurement of operating performance, which supplements U.S. GAAP information.

	As at December 31, 2016	As at December 31, 2015
	(\$ in millions)	
Total shareholders' equity	\$ 3,648.3	\$ 3,419.9
Non-controlling interest	(1.4)	(1.3)
Preference shares less issue expenses	(797.1)	(555.8)
Average adjustment	144.2	(13.3)
Average equity	<u>\$ 2,994.0</u>	<u>\$ 2,849.5</u>

Operating income, a non-U.S. GAAP financial measure, is an internal performance measure used by us in the management of our operations and represents after-tax operational results excluding, as applicable, after-tax net realized and unrealized capital gains or losses, including net realized and unrealized gains and losses on interest rate swaps, after-tax net foreign exchange gains or losses, including net realized and unrealized gains and losses on foreign exchange contracts, changes in the fair value of derivatives, the amount attributable to non-controlling interest and certain non-recurring items. In 2016, the non-operating income and expenses relate to amortization of intangible assets and other corporate activities. We exclude after-tax net realized and unrealized capital gains or losses, after-tax net foreign exchange gains or losses and changes in the fair value of derivatives from

our calculation of operating income because the amount of these gains or losses is heavily influenced by, and fluctuates in part, according to the availability of market opportunities. We believe these amounts are largely independent of our business and underwriting process and including them distorts the analysis of trends in its operations. In addition to presenting net income determined in accordance with U.S. GAAP, we believe that showing operating income enables investors, analysts, rating agencies and other users of our financial information to more easily analyze our results of operations in a manner similar to how management analyzes our underlying business performance. Operating income should not be viewed as a substitute for U.S. GAAP net income.

	As at December 31, 2016	As at December 31, 2015
	(\$ in millions)	
Net income after tax	\$ 203.4	\$ 323.1
Add (deduct) after tax income:		
Net realized and unrealized investment (gains)	(20.6)	(16.0)
Net realized and unrealized exchange (gains)/losses	14.8	10.2
Changes to the fair value of derivatives	(20.4)	4.1
Amortization and other non-recurring expenses	8.7	—
Proportion due to non-controlling interest	(0.1)	(0.8)
Operating income after tax and non-controlling interest	\$ 185.8	\$ 320.6
Preference Shares dividends	\$ (41.8)	\$ (37.8)
Operating Income available to ordinary shareholders'	\$ 144.0	\$ 282.8

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We believe we are principally exposed to four types of market risk: interest rate risk, equity risk, foreign currency risk and credit risk.

Interest rate risk. Our investment portfolio consists primarily of fixed income securities. Accordingly, our primary market risk exposure is to changes in interest rates. Fluctuations in interest rates have a direct impact on the market valuation of these securities. As interest rates rise, the market value of our fixed-income portfolio falls, and the converse is also true. We manage interest rate risk by maintaining a short to medium duration to reduce the effect of interest rate changes on book value.

As at December 31, 2016, our fixed income portfolio had an approximate duration of 3.89 years. The table below depicts interest rate change scenarios and the effect on our interest rate sensitive invested assets:

Effect of Changes in Interest Rates on Portfolio Given a Parallel Shift in the Yield Curve					
Movement in Rates in Basis Points	-100	-50	0	50	100
	(\$ in millions, except percentages)				
Market Value	\$ 7,638.4	\$ 7,495.4	\$ 7,352.4	\$ 7,209.4	\$ 7,066.4
Gain/Loss	\$ 286.0	\$ 143.0	\$ —	\$ (143.0)	\$ (286.0)
Percentage of Portfolio	3.9%	1.9%	—	(1.9)%	(3.9)%
Corresponding percentage at December 31, 2015	3.6%	1.8%	—	(1.8)%	(3.7)%

Equity risk. We have invested in equity securities which had a fair market value of \$584.7 million as at December 31, 2016, equivalent to 6.8% of the Managed Portfolio at that date. These equity investments are exposed to equity price risk, defined as the potential for loss in market value due to a decline in equity prices. We believe that the effects of diversification and the relatively small size of our investments in equities relative to total invested assets mitigate our exposure to equity price risk.

Foreign currency risk. Our reporting currency is the U.S. Dollar. The functional currencies of our operations are U.S. Dollars, British Pounds, Euros, Swiss Francs, Australian Dollars, Canadian Dollars and Singaporean Dollars. As at December 31, 2016, approximately 89.3% of our cash and investments was held in U.S. Dollars (2015 — 88.7%), approximately 4.7% were in British Pounds (2015 — 5.1%) and approximately 6.0% were in currencies other than the U.S. Dollar and the British Pound (2015 — 6.2%). For the twelve months ended December 31, 2016, 12.0% of our gross premiums were written in currencies other than the U.S. Dollar and the British Pound (2015 — 15.3%) and we expect that a similar proportion will be written in currencies other than the U.S. Dollar and the British Pound in 2017.

Other foreign currency amounts are remeasured to the appropriate functional currency and the resulting foreign exchange gains or losses are reflected in the statement of operations. Functional currency amounts of assets and liabilities are then translated into U.S. Dollars. The unrealized gain or loss from this translation, net of tax, is recorded as part of ordinary shareholders' equity.

The change in unrealized foreign currency translation gain or loss during the year, net of tax, is a component of comprehensive income. Both the remeasurement and translation are calculated using current exchange rates for the balance sheets and average exchange rates for the statement of operations. We may experience exchange losses to the extent that our foreign currency exposure is not properly managed or otherwise hedged, which in turn would adversely affect our results of operations and financial condition. Management estimates that a 10% change in the exchange rate between British Pounds and U.S. Dollars as at December 31, 2016 would have impacted reported net comprehensive income by approximately \$2.5 million (2015 — \$0.9 million).

We will continue to manage our foreign currency risk by seeking to match our liabilities under insurance and reinsurance policies that are payable in foreign currencies with investments that are denominated in these currencies. This may involve the use of forward exchange contracts from time to time. A foreign exchange contract involves an obligation to purchase or sell a specified currency at a future date at a price set at the time of the contract. Foreign exchange contracts will not eliminate fluctuations in the value of our assets and liabilities denominated in foreign currencies but rather allow us to establish a rate of exchange for a future point in time.

As at December 31, 2016, we held foreign exchange contracts that were not designated as hedging under ASC 815 with an aggregate notional value of \$665.6 million (2015 — \$379.9 million). The foreign exchange contracts are recorded as derivatives at fair value in the balance sheet with changes recorded as a change in fair value of derivatives in the statement of operations. For the twelve months ended December 31, 2016, the impact of foreign exchange contracts on net income was a loss of \$21.5 million (December 31, 2015 — gain of \$11.6 million).

As at December 31, 2016, we held foreign exchange contracts that were designated as hedging under ASC 815 with an aggregate notional value of \$108.6 million (2015 — \$113.6 million). The foreign exchange contracts are recorded as derivatives at fair value in the balance sheet with the effective portion recorded in other comprehensive income and the ineffective portion recorded as a change in fair value of derivatives in the statement of operations. The contracts are considered to be effective and therefore the movement in other comprehensive income representing the effective portion was a decrease of \$0.7 million for the twelve months ended December 31, 2016 (December 31, 2015 — increase of \$2.6 million).

As the foreign exchange contracts settle, the realized gain or loss is reclassified from other comprehensive income into general, administration and corporate expenses of the statement of operations and other comprehensive income. For the twelve months ended December 31, 2016, the amount recognized within general, administration and corporate expenses for settled foreign exchange contracts was a realized loss of \$8.7 million (December 31, 2015 — loss of \$4.9 million).

Credit risk. As at December 31, 2016, we had no exposure to interest rate swaps. As at December 31, 2015, we had notional amounts of interest rate swaps of \$756.3 million with two counterparties, Goldman Sachs International (“Goldman”) (\$256.3 million notional) and Crédit Agricole CIB (\$500.0 million notional) under respective ISDA agreements.

As at December 31, 2015, our interest rate swap positions’ Net Present Value (“NPV”) under each of our interest rate swaps with Goldman and Crédit Agricole CIB were “negative” (i.e., in favor of Goldman and Crédit Agricole CIB) for which we posted collateral with a market value of \$4.6 million in favor of Goldman and \$5.5 million in favor of Crédit Agricole CIB.

As at December 31, 2015, we estimated our maximum loss due to counterparties defaulting to be in the range of \$0.6 million to \$2.5 million if we assume daily movement in the value of the interest rate swap of between 10 and 45 basis points. As collateral obligations are calculated on a daily basis, from a counterparty credit risk exposure we focus on the daily movement in the value of the interest rate swap. In the past ten years (2006-2015 inclusive), the biggest one day move in the interest rate swap market (using the 5 year interest rate swap as a proxy) was 39 basis points. If that movement were to occur in our favor, then our total exposure to counterparties we have as at December 31, 2015 would be approximately \$2.3 million in total to both counterparties.

We have exposure to credit risk primarily as a holder of fixed income securities. Our risk management strategy and investment policy is to invest in debt instruments of high credit quality issuers and to limit the amount of credit exposure with respect to particular ratings categories, business sectors and any one issuer. As at December 31, 2016, the average rating of fixed income securities in our investment portfolio was “AA-” (December 31, 2015 — “AA-”).

In addition, we are exposed to the credit risk of our insurance and reinsurance brokers to whom we make claims payments for our policyholders, as well as to the credit risk of our reinsurers and retrocessionaires who assume business from us. Other than fully collateralized reinsurance, the substantial majority of our reinsurers have a rating of “A” (Excellent), the third highest of fifteen rating levels, or better by A.M. Best and the minimum rating of any of our material reinsurers is “A-” (Excellent), the fourth highest of fifteen rating levels, by A.M. Best. The total amount recoverable by the Company from reinsurers at December 31, 2016 is \$560.7 million (2015 — \$354.8 million). Of the balance as at December 31, 2016, 12.8% of the un-collateralized reinsurance recoverables were with Lloyd’s of London Syndicates rated A by A.M. Best and A+ by S&P, 16.8% were with Munich Re rated A+ by AM Best and AA- by S&P and 6.5% were with Axis Re which is rated A+ by A.M. Best and A+ by S&P. These are our largest exposures to individual reinsurers.

Item 8. Financial Statements and Supplementary Data

Reference is made to Part IV, Item 15(a) of this report, commencing on page F-1, for the Consolidated Financial Statements and Reports of the Company and the Notes thereto, as well as the Schedules to the Consolidated Financial Statements.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

There were no disagreements with our public accounting firms on accounting and financial disclosure during the period covered by this report.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

The Company, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, has evaluated the design and operation of the Company's disclosure controls and procedures as of the end of the period of this report. Our management does not expect that our disclosure controls will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. As a result of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons or by collusion of two or more people. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. As a result of the inherent limitations in a cost-effective control system, misstatement due to error or fraud may occur and not be detected. Accordingly, our disclosure controls and procedures are designed to provide reasonable, not absolute, assurance that the disclosure requirements are met. Based on the evaluation of the disclosure controls and procedures, the Company's Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures were effective in ensuring that information required to be disclosed in the reports filed or submitted to the SEC under the Exchange Act by the Company is recorded, processed, summarized and reported in a timely fashion, and is accumulated and communicated to management, including the Company's Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

Management's assessment of the overall effectiveness of our internal controls over financial reporting was based on the criteria set forth in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations ("COSO") of the Treadway Commission. Based upon that evaluation, the Company's management is not aware of any change in its internal control over financial reporting that occurred during the year ended December 31, 2016 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

For management's report on internal control over financial reporting, as well as the independent registered public accounting firm's report thereon, see pages F-2 and F-3 of this report.

Item 9B. Other Information

Section 13(r) of the Securities Exchange Act of 1934, as amended (“Section 13(r)”), requires all issuers that file annual or quarterly reports with the SEC to disclose certain activities, transactions or dealings with Iran. Many of the activities, transactions and dealings that Section 13(r) requires to be reported were previously subject to U.S. sanctions or prohibited by applicable local law. On January 16, 2016, the United States and the E.U. eased sanctions against Iran pursuant to the Joint Comprehensive Plan of Action, and many of the reportable activities, transactions and dealings under Section 13(r) are no longer subject to U.S. sanctions and no longer prohibited by applicable local law.

Certain of our operations located outside the United States underwrite marine and energy treaties on a worldwide basis and, as a result, the underlying insurance and reinsurance portfolios may have exposure to the Iranian petroleum resources, refined petroleum, and petrochemical industries. For example, certain of our operations underwrite global marine hull and cargo policies that provide coverage for vessels navigating into and out of ports worldwide, including Iran. We do not believe that any coverage we have provided has directly or significantly facilitated or contributed to the Iranian petroleum resources, refined petroleum, or petrochemical industry.

For the quarter ended December 31, 2016, we are not aware of any premium apportionment with respect to underwriting insurance or reinsurance activities reportable under Section 13(r). Should any such risks have entered into the stream of commerce covered by the insurance and reinsurance portfolios underlying our treaties, we believe that the premiums associated with such business would be immaterial.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information called for by Item 10 is incorporated herein by reference to the section captioned “Management” of our Proxy Statement for our 2017 annual general meeting of shareholders which will be filed with the SEC.

Our Board of Directors has adopted a code of ethics entitled “Code of Business Conduct and Ethics” which applies to all of our employees, officers and directors. Copies of this code can be found at www.aspen.co and may be obtained in print, without cost, by writing to Aspen Insurance Holdings Limited, Attention: Company Secretary, 141 Front Street, Hamilton HM19, Bermuda.

Item 11. Executive Compensation

The information called for by Item 11 is incorporated herein by reference to the sections captioned “Compensation Discussion and Analysis,” “Executive Compensation” and “Non-Employee Director Compensation” of our Proxy Statement for our 2017 annual general meeting of shareholders which will be filed with the SEC.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information called for by Item 12 relating to the security ownership of certain beneficial owners and management is incorporated herein by reference to the sections captioned “Beneficial Ownership” of our Proxy Statement for our 2017 Annual General Meeting of shareholders which will be filed with the SEC.

Information required by this item relating to securities authorized for issuance under the equity compensation plans is included in the following table as at December 31, 2016:

Equity Compensation Plan Information

The table below includes securities to be issued upon exercise of outstanding options and other awards granted pursuant to our 2003 Share Incentive Plan, as amended, prior to April 24, 2013 and thereafter under our 2013 Share Incentive Plan, Amended 2006 Stock Option Plan, 2008 Employee Share Purchase Plan (the “2008 Employee Share Purchase Plan”) and 2008 Sharesave Scheme (the “2008 Sharesave Scheme” and, together with the 2008 Employee Share Purchase Plan, the “2008 Employee Purchase Plans”) as at December 31, 2016 and shares reserved for future issuance under the foregoing plans.

Plan Category	A	B	C
	Number of Securities to Be Issued Upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights ⁽²⁾	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column A)
Equity compensation plans approved by security holders ⁽¹⁾	1,170,789	—	2,052,605 ⁽³⁾⁽⁴⁾
Equity compensation plans not approved by security holders	—	—	—
Total	1,170,789	—	2,052,605 ⁽³⁾⁽⁴⁾

(1) In respect of performance shares, this includes (i) 293,216 performance shares that have been earned based on applicable performance testing prior to December 31, 2016 and (ii) 342,047 performance shares that are subject to performance testing after December 31, 2016, which we have assumed will vest at 100.0% of target performance (the actual number of performance shares earned can range from 0.0% to 200.0% of target based on applicable performance testing).

(2) The weighted average exercise price of outstanding options, warrants and rights is \$nil, as there are no outstanding options.

(3) The number of ordinary shares that may be issued under the 2013 Share Incentive Plan will be reduced by (i) the gross number of ordinary shares for which options or ordinary share appreciation rights are exercised, regardless of whether any of the ordinary shares underlying such awards are not actually issued to the participant as a result of a net settlement, and (ii) any ordinary shares withheld to satisfy any tax withholding obligation with respect to any award. In addition, the maximum aggregate number of ordinary shares that may be issued under the 2013 Share Incentive Plan will be cumulatively increased from time to time by the number of ordinary shares that are subject to awards outstanding pursuant to the 2003 Share Incentive Plan as of the effective date of the 2013 Share Incentive Plan, on or after such date, are forfeited, canceled, expire, terminate or lapse without payment of consideration.

- (4) Includes 673,183 ordinary shares authorized and remaining available for issuance under the 2008 Employee Purchase Plans as at December 31, 2016. Of these, 42,883 ordinary shares under the 2008 Employee Purchase Plans were subject to purchase rights as at December 31, 2016.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information called for by Item 13 is incorporated herein by reference to the sections captioned “Related Transactions” and “Director Independence” of our Proxy Statement for our 2017 annual general meeting of shareholders which will be filed with the SEC.

Item 14. Principal Accounting Fees and Services

The information called for by Item 14 is incorporated herein by reference from the information to be included in our Proxy Statement for our 2017 annual general meeting of shareholders which will be filed with the SEC.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) Financial Statements, Financial Statement Schedules and Exhibits

1. *Financial Statements*: The Consolidated Financial Statements of Aspen Insurance Holdings Limited and related Notes thereto are listed in the accompanying Index to Consolidated Financial Statements and Reports on page F-1 and are filed as part of this Report.

2. *Financial Statement Schedules*: The Schedules to the Consolidated Financial Statements of Aspen Insurance Holdings Limited are listed in the accompanying Index to Schedules to Consolidated Financial Statements on page S-1 and are filed as part of this Report.

3. *Exhibits*:

<u>Exhibit Number</u>	<u>Description</u>
3.1	Certificate of Incorporation and Memorandum of Association (incorporated herein by reference to exhibit 3.1 to the Company's 2003 Registration Statement on Form F-1 (Registration No. 333-110435))
3.2	Amendments to the Memorandum of Association (incorporated by reference to exhibit 3.2 of the Company's Current Report on Form 8-K filed on May 4, 2009)
3.3	Amended and Restated Bye-laws (incorporated herein by reference to exhibit 3.1 to the Company's Current Report on Form 8-K filed on May 4, 2009)
4.1	Specimen Ordinary Share Certificate (incorporated herein by reference to exhibit 4.1 to the Company's 2003 Registration Statement on Form F-1 (Registration No. 333-110435))
4.2	Indenture, dated August 16, 2005, between the Company and Deutsche Bank Trust Company Americas, as trustee (incorporated herein by reference to exhibit 4.3 to the Company's 2004 Registration Statement on Form F-1 (Registration No. 333-119-314))
4.3	First Supplemental Indenture, dated as of August 16, 2004, by and between the Company, as issuer, and Deutsche Bank Trust Company Americas, as trustee (incorporated herein by reference to exhibit 4.4 to the Company's 2004 Registration Statement on Form F-1 (Registration No. 333-119-314))
4.4	Second Supplemental Indenture, dated December 10, 2010, between the Company, as issuer, and Deutsche Bank Trust Company Americas, as trustee (incorporated herein by reference to exhibit 4.1 to the Company's Current Report on Form 8-K filed on December 10, 2010).
4.5	Third Supplemental Indenture, dated November 13, 2013, between the Company, as issuer, and Deutsche Bank Trust Company Americas, as trustee (incorporated herein by reference to exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 13, 2013)
4.6	Form of Certificate of Designations of the Company's 7.401% Perpetual Non-Cumulative Preference Shares, dated November 15, 2006 (incorporated herein by reference to exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 15, 2006)
4.7	Specimen Certificate for the Company's 7.401% Perpetual Non-Cumulative Preference Shares, (incorporated herein by reference to the form of which is in exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 15, 2006)
4.8	Form of Certificate of Designations of the Company's 7.250% Perpetual Non-Cumulative Preference Shares, dated November 15, 2006 (incorporated herein by reference to exhibit 3.1 to the Company's Current Report on Form 8-K filed on April 11, 2012)
4.9	Specimen Certificate for the Company's 7.250% Perpetual Non-Cumulative Preference Shares, (incorporated herein by reference to the form of which is in exhibit 4.1 to the Company's Current Report on Form 8-K filed on April 11, 2012)
4.10	Form of Certificate of Designations of the Company's 5.95% Fixed-to-Floating Rate Perpetual Non-Cumulative Preference Shares, dated May 2, 2013 (incorporated herein by reference to exhibit 3.1 to the Company's Current Report on Form 8-K filed on May 2, 2013)
4.11	Specimen Certificate for the Company's 5.95% Fixed-to-Floating Rate Perpetual Non-Cumulative Preference Shares (incorporated herein by reference to the form of which is in exhibit 4.1 to the Company's Current Report on Form 8-K filed on May 2, 2013)

- 4.12 Form of Certificate of Designation of the Company's 5.625% Perpetual Non-Cumulative Preference Shares, dated September 20, 2016 (incorporated herein by reference to exhibit 3.1 to the Company's Current Report on Form 8-K filed on September 21, 2016)
- 4.13 Specimen Certificate for the Company's 5.625% Perpetual Non-Cumulative Preference Shares (incorporated herein by reference to the form of which is in exhibit 4.1 to the Company's Current Report on Form 8-K filed on September 21, 2016)
- 4.14 Form of Replacement Capital Covenant, dated November 15, 2006 (incorporated herein by reference to exhibit 4.3 to the Company's Current Report on Form 8-K filed on November 15, 2006)
- 10.1 Service Agreement, dated September 24, 2004, among Christopher O'Kane, Aspen Insurance UK Services Limited and the Company (incorporated herein by reference to exhibit 10.1 to the Company's Current Report on Form 8-K filed on September 24, 2004)*
- 10.2 Amendment Agreement, dated October 28, 2014, between Christopher O'Kane, Aspen Insurance UK Services Limited and the Company (incorporated herein by reference to exhibit 10.1 to the Company's Current Report on Form 8-K, filed on October 31, 2014)*
- 10.3 Change of Control Employment Agreement, dated February 23, 2015, among Christopher O'Kane, Aspen Insurance UK Services Limited and the Company (Addendum to Service Agreement) (incorporated herein by reference to exhibit 10.5 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014, filed on February 23, 2015)*
- 10.4 Employment Agreement, dated January 12, 2004, between Brian Boornazian and Aspen Insurance U.S. Services Inc. (incorporated herein by reference to exhibit 10.8 to the Company's Annual Report on Form 10-K for fiscal year ended December 31, 2005, filed on March 6, 2006)*
- 10.5 Addendum, dated February 5, 2008, to the Employment Agreement dated January 12, 2004 between Brian Boornazian and Aspen Insurance U.S. Services Inc. (incorporated herein by reference to exhibit 10.7 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2007, filed on February 29, 2008)*
- 10.6 Amendment to Brian Boornazian's Employment Agreement, dated October 28, 2008 (incorporated herein by reference to exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 3, 2008), as further amended, dated December 31, 2008, (incorporated herein by reference to exhibit 10.9 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008, filed on February 26, 2009)*
- 10.7 Amendment No. 2 to Brian Boornazian's Employment Agreement, dated February 11, 2010 (incorporated herein by reference to exhibit 10.10 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2009, filed on February 26, 2010)*
- 10.8 Change of Control Employment Agreement, dated February 23, 2015, between Brian Boornazian, Aspen Insurance U.S. Services Inc. and the Company (Addendum to Employment Agreement) (incorporated herein by reference to exhibit 10.14 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014, filed on February 23, 2015)*
- 10.9 Service Agreement, dated May 19, 2014, between Scott Kirk and Aspen Insurance UK Services Limited (incorporated herein by reference to exhibit 10.17 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014, filed on February 23, 2015)*
- 10.10 Change of Control Employment Agreement, dated February 23, 2015, between Scott Kirk, Aspen Insurance UK Services Limited and the Company (Addendum to Service Agreement) (incorporated herein by reference to exhibit 10.18 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014, filed on February 23, 2015)*
- 10.11 Service Agreement, dated September 4, 2014, between Stephen Postlewhite and Aspen Insurance UK Services Limited (incorporated herein by reference to exhibit 10.13 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015, filed on February 19, 2016)*
- 10.12 Change of Control Agreement, dated February 23, 2015, between Stephen Postlewhite, Aspen Insurance UK Services Limited and the Company (Addendum to Service Agreement) (incorporated herein by reference to exhibit 10.14 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015, filed on February 19, 2016)*
- 10.13 Employment Agreement, dated October 29, 2008, between Thomas Lillelund and Aspen Insurance UK Services Limited, filed with this report.*
- 10.14 Amendment to Employment Agreement, dated March 11, 2013, between Thomas Lillelund and Aspen UK Services Limited, filed with this report.*

- 10.15 Amendment to Employment Agreement, dated May 14, 2013, between Thomas Lillelund and Aspen UK Services Limited, filed with this report*
- 10.16 Amendment to Employment Agreement, dated December 9, 2013, between Thomas Lillelund and Aspen UK Services Limited, filed with this report*
- 10.17 Change of Control Agreement, dated March 3, 2016, between Thomas Lillelund, Aspen Insurance UK Services Limited and the Company (Addendum to Employment Agreement) filed with this report.*
- 10.18 Service Agreement, dated June 29, 2016, between Thomas Lillelund and Aspen Insurance UK Services Limited, filed with this report.*
- 10.19 International Assignment Letter, dated June 29, 2016, between Thomas Lillelund and Aspen Insurance UK Services Limited, filed with this report.*
- 10.20 Form of Retention Bonus Agreement, filed with this report*
- 10.21 Appointment Letter, dated April 19, 2007, between Glyn Jones and the Company (incorporated herein by reference to exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for three months ended March 31, 2007, filed on May 9, 2007)*
- 10.22 Appointment Letter, dated May 6, 2010 between Glyn Jones and the Company (incorporated herein by reference to exhibit 10.21 to the Company's Quarterly Report on Form 10-Q for three months ended March 31, 2010, filed on May 7, 2010)*
- 10.23 Aspen Insurance Holdings Limited 2003 Share Incentive Plan, as amended, dated February 6, 2008 (incorporated herein by reference to exhibit 10.12 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2007, filed on February 29, 2008)*
- 10.24 Amendment to the Aspen Insurance Holdings Limited Amended 2003 Share Incentive Plan (incorporated herein by reference to exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the three months ended September 30, 2008, filed on November 10, 2008)*
- 10.25 Aspen Insurance Holdings Limited 2013 Share Incentive Plan (incorporated herein by reference to exhibit 10.17 to the Company's Annual Report on Form 10-K for the year ended December 31, 2013, filed on February 20, 2014)*
- 10.26 Aspen Insurance Holdings Limited 2016 Stock Incentive Plan for Non-Employee Directors (incorporated herein by reference to exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the three months ended June 30, 2016, filed on August 4, 2016)*
- 10.27 Employee Share Purchase Plan, including the International Employee Share Purchase Plan of Aspen Insurance Holdings Limited (incorporated herein by reference to exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 5, 2008)*
- 10.28 Aspen Insurance Holdings Limited Revised 2008 Sharesave Scheme (incorporated herein by reference to exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2010, filed on May 7, 2010)*
- 10.29 Amended 2008 Sharesave Scheme (incorporated herein by reference to exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the three months ended September 30, 2014, filed on November 7, 2014)*
- 10.30 Amendment to the Forms of Performance Share Award Agreements relating to grants in 2007, 2008 and 2009 under the 2003 Share Incentive Plan (incorporated herein by reference to exhibit 10.51 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2009, filed on February 26, 2010)*
- 10.31 Form of 2012 Performance Share Award Agreement (incorporated herein by reference to exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2012, filed on May 7, 2012)*
- 10.32 Form of 2013 Performance Share Award Agreement (incorporated herein by reference to exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2013, filed on April 29, 2013)*
- 10.33 Form of 2014 Performance Share Award Agreement (incorporated herein by reference to exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the three months ended June 30, 2014, filed on August 5, 2014)*
- 10.34 Form of 2015 Performance Share Award Agreement (incorporated herein by reference to exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2015, filed on April 30, 2015)*
- 10.35 Form of 2016 Performance Share Award Agreement (incorporated herein by reference to exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2016, filed on April 28, 2016)*

- 10.36 Form of Non-Employee Director Nonqualified Share Option Agreement (incorporated herein by reference to exhibit 10.2 to the Company's Current Report on Form 8-K, filed on May 26, 2006)*
- 10.37 Form of Non-Employee Director Restricted Share Unit Award Agreement (incorporated herein by reference to exhibit 10.2 to the Company's Current Report on Form 8-K, filed on May 7, 2007)*
- 10.38 Form of 2008 Non-Employee Director Restricted Share Unit Award Agreement (incorporated herein by reference to exhibit 10.5 to the Company's Quarterly Report on Form 10-Q for the six months ended September 30, 2008, filed on August 6, 2008)
- 10.39 Form of Restricted Share Unit Award Agreement (incorporated herein by reference to exhibit 10.40 to the Company's Annual Report on Form 10-K for the year ended December 31, 2008, filed on February 26, 2009)
- 10.40 Amendment to Form of Restricted Share Unit Award Agreement (U.S. version) (incorporated herein by reference to exhibit 10.5 to the Company's Quarterly Report on Form 10-Q for the nine months ended September 30, 2008, filed on November 10, 2008)
- 10.41 Amendment to Form of Restricted Share Unit Award Agreement (U.S. employees employed outside the U.S.) (incorporated by reference to exhibit 10.6 to the Company's Quarterly Report on Form 10-Q for the nine months ended September 30, 2008, filed on November 10, 2008)*
- 10.42 Form of Restricted Share Unit Award Agreement made as part of the annual incentive grant (U.S. recipients) (incorporated herein by reference to exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2012, filed on May 7, 2012)*
- 10.43 Form of Restricted Share Unit Award Agreement made as part of the annual incentive grant (non-U.S. recipients) (incorporated herein by reference to exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2012, filed on May 7, 2012)*
- 10.44 Form of Restricted Share Unit Award Agreement (U.S. version) (incorporated herein by reference to exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2016, filed on April 28, 2016)*
- 10.45 Form of Restricted Share Unit Award Agreement (U.K version) (incorporated herein by reference to exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2016, filed on April 28, 2016)*
- 10.46 Form of Restricted Share Unit Award Agreement made as part of the annual incentive grant (U.S. recipients) (incorporated herein by reference to exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2016, filed on April 28, 2016)*
- 10.47 Form of Restricted Share Unit Award Agreement made as part of the annual incentive grant (U.K. recipients) (incorporated herein by reference to exhibit 10.5 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2016, filed on April 28, 2016)*
- 10.48 Aspen Insurance U.S. Services Inc. Nonqualified Deferred Compensation Plan (incorporated herein by reference to exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the three months ended March 31, 2014, filed on May 1, 2014)*
- 10.49 Amended and Restated Aspen Insurance U.S. Services Inc. Nonqualified Deferred Compensation Plan (incorporated herein by reference to exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the three months ended September 30, 2014, filed on November 7, 2014)*
- 10.50 Master Confirmation, dated September 28 2007, between the Company and Goldman, Sachs & Co relating to the accelerated share repurchase (incorporated herein by reference to exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the three months ended September 30, 2007 filed on November 8, 2007)**
- 10.51 Supplemental Confirmation, dated as of February 26, 2013, between the Company and Goldman, Sachs & Co relating to the accelerated share repurchase (incorporated herein by reference to exhibit 10.2 to the Company's Quarterly Report for the three months ended March 31, 2013 filed on April 29, 2013)**
- 10.52 Amended and Restated Credit Agreement, dated as of June 12, 2013, among the Company, various lenders and Barclays Bank plc, as administrative agent (incorporated herein by reference to exhibit 10.1 to the Company's Current Report on Form 8-K filed on August 2, 2013)
- 10.53 First Amendment to Amended and Restated Credit Agreement, dated December 12, 2014, among the Company, various subsidiaries thereof, various lenders and Barclays Bank plc, as administrative agent (incorporated herein by reference to exhibit 10.1 to the Company's Current Report on Form 8-K, filed on December 15, 2014)

- 10.54 Insurance Letters of Credit - Master Agreement, dated December 15, 2003, between Aspen Bermuda Limited (formerly known as Aspen Insurance Limited) and Citibank Ireland Financial Services plc. (incorporated herein by reference to exhibit 10.2 to the Company's Current Report on Form 8-K, filed on October 13, 2006)
- 10.55 Assignment Agreement, dated October 11, 2006, among Aspen Bermuda Limited (formerly known as Aspen Insurance Limited), Citibank, N.A., Citibank Ireland Financial Services plc and The Bank of New York (incorporated herein by reference to exhibit 10.5 to the Company's Current Report on Form 8-K, filed on October 13, 2006)
- 10.56 Reinsurance Deposit Agreement, dated October 11, 2006, between Aspen Bermuda Limited (formerly known as Aspen Insurance Limited) and Citibank Ireland Financial Services plc. (incorporated herein by reference to exhibit 10.6 to the Company's Current Report on Form 8-K, filed on October 13, 2006)
- 10.57 Committed Letter of Credit Facility, dated July 30, 2012, between Aspen Bermuda Limited and Citibank Europe plc (incorporated herein by reference to exhibit 10.1 to the Company's Current Report on Form 8-K, filed on July 31, 2012)
- 10.58 Committed Letter of Credit Facility, dated June 30, 2014, between Aspen Bermuda Limited and Citibank Europe plc (incorporated herein by reference to exhibit 10.1 of the Company's Current Report on Form 8-K, filed on July 3, 2014)
- 10.59 Committed Letter of Credit Facility, dated June 30, 2016, between Aspen Bermuda Limited and Citibank Europe plc (incorporated herein by reference to exhibit 1 of the Company's Current Report on Form 8-K, filed on June 30, 2016)
- 10.60 Amended and Restated Pledge Agreement, dated December 18, 2014, between Aspen Bermuda Limited and Citibank Europe plc, as successor by assignment to Citibank, N.A. (incorporated herein by reference to exhibit 10.1 to the Company's Current Report on Form 8-K, filed on December 18, 2014)
- 21.1 Subsidiaries of the Company, filed with this report
- 23.1 Consent of KPMG Audit Plc, filed with this report
- 23.2 Consent of KPMG LLP, filed with this report
- 24.1 Power of Attorney for officers and directors of Aspen Insurance Holdings Limited (included on the signature page of this report)
- 31.1 Officer Certification of Christopher O'Kane, Chief Executive Officer of Aspen Insurance Holdings Limited, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, filed with this report
- 31.2 Officer Certification of Scott Kirk, Chief Financial Officer of Aspen Insurance Holdings Limited, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, filed with this report
- 32.1 Officer Certification of Christopher O'Kane, Chief Executive Officer of Aspen Insurance Holdings Limited, and Scott Kirk, Chief Financial Officer of Aspen Insurance Holdings Limited, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, submitted with this report
- 101 The following financial information from Aspen Insurance Holdings Limited's annual report on Form 10-K for the year ended December 31, 2016 formatted in XBRL: (i) Consolidated Statements of Operations and Comprehensive Income for the twelve months ended December 31, 2016, 2015 and 2014; (ii) Consolidated Balance Sheets at December 31, 2016 and December 31, 2015; (iii) Consolidated Statements of Shareholders' Equity for the twelve months ended December 31, 2016, 2015 and 2014; (iv) Consolidated Statements of Cash Flows for the twelve months ended December 31, 2016, 2015 and 2014; and (v) Notes to the Audited Consolidated Financial Statements, tagged as blocks of text and in detail***

* This exhibit is a management contract or compensatory plan or arrangement.

** Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted portions have been separately filed with the SEC.

*** As provided in Rule 406T of Regulation S-T, this information is "furnished" herewith and not "filed" for the purposes of Sections 11 and 12 of the Securities Act and Section 18 of the Exchange Act. Such exhibit will not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act unless Aspen Insurance Holdings Limited specifically incorporates it by reference.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, this Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ASPEN INSURANCE HOLDINGS LIMITED

By: /s/ Christopher O’Kane

Name: Christopher O’Kane

Title: Chief Executive Officer

Date: February 22, 2017

POWER OF ATTORNEY

Know all men by these presents, that the undersigned directors and officers of the Company, a Bermuda limited liability company, which is filing a Form 10-K with the Securities and Exchange Commission, Washington, D.C. 20549 under the provisions of the Securities Act of 1934 hereby constitute and appoint Christopher O’Kane and Scott Kirk, and each of them, the individual’s true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for the person and in his or her name, place and stead, in any and all capacities, to sign such Form 10-K therewith and any and all amendments thereto to be filed with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact as agents or any of them, or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1934, this Form 10-K has been signed by the following persons in the capacities indicated on February 22, 2017.

<u>Signature</u>	<u>Title</u>
<u>/s/ Glyn Jones</u> Glyn Jones	Chairman and Director
<u>/s/ Christopher O’Kane</u> Christopher O’Kane	Chief Executive Officer (Principal Executive Officer)
<u>/s/ Scott Kirk</u> Scott Kirk	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
<u>/s/ Liaquat Ahamed</u> Liaquat Ahamed	Director
<u>/s/ Albert Beer</u> Albert Beer	Director
<u>/s/ Matthew Botein</u> Matthew Botein	Director
<u>/s/ John Cavoores</u> John Cavoores	Director
<u>/s/ Gary Gregg</u> Gary Gregg	Director
<u>/s/ Heidi Hutter</u> Heidi Hutter	Director
<u>/s/ Gordon Ireland</u> Gordon Ireland	Director
<u>/s/ Karl Mayr</u> Karl Mayr	Director
<u>/s/ Bret Pearlman</u> Bret Pearlman	Director
<u>/s/ Ronald Pressman</u> Ronald Pressman	Director

ASPEN INSURANCE HOLDINGS LIMITED
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ASPEN INSURANCE HOLDINGS LIMITED
MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as is defined in Exchange Act Rule 13a-15(f) and as contemplated by Section 404 of the Sarbanes-Oxley Act. Our internal control system was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. All internal control systems, no matter how well designed, have inherent limitations. These limitations include the possibility that judgments in decision-making can be faulty and that breakdowns can occur because of error or mistake. Therefore, any internal control system can provide only reasonable assurance and may not prevent or detect all misstatements or omissions. In addition, our evaluation of effectiveness is as of a particular point in time and there can be no assurance that any system will succeed in achieving its goals under all future conditions.

Management assessed the effectiveness of the Company's internal control over financial reporting as at December 31, 2016. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control - Integrated Framework (2013)*. Based on our assessment in accordance with the criteria, we believe that our internal control over financial reporting is effective as at December 31, 2016.

The Company acquired full control of AgriLogic on January 19, 2016. As such, the scope of our assessment of the effectiveness of our internal control over financial reporting did not include the internal control over financial reporting at AgriLogic. This exclusion is consistent with the SEC Staff's guidance that an assessment of a recently acquired business may be omitted from the scope of assessment of the effectiveness of a company's internal control over financial reporting in the year of acquisition. AgriLogic is a wholly owned subsidiary of the Company and accounted for less than 1.2% of the Company's total assets and produced less than 5.7% of its gross written premiums at and for the year ended December 31, 2016, respectively.

The Company's internal control over financial reporting as at December 31, 2016 has been audited by KPMG LLP, an independent registered public accounting firm, who also audited our consolidated financial statements. KPMG LLP's attestation report on internal control over financial reporting appears on page F-3.

ASPEN INSURANCE HOLDINGS LIMITED
REPORTS OF THE INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders of Aspen Insurance Holdings Limited

We have audited the accompanying consolidated balance sheet of Aspen Insurance Holdings Limited and subsidiaries (“the Company”) as of December 31, 2016 and 2015, and the related consolidated statements of operations and other comprehensive income, changes in shareholders’ equity and cash flows for each of the years in the two-year period ended December 31, 2016. In connection with our audits of the consolidated financial statements, we also have audited the related financial statement schedules on pages S-2 to S-8 as at December 31, 2016 and 2015, and for each of the years in the two-year period then ended. We also have audited the Company’s internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). The Company’s management is responsible for these consolidated financial statements and financial statement schedules, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management’s Report on Internal Control over Financial Reporting*. Our responsibility is to express an opinion on these consolidated financial statements and on the financial statement schedules and an opinion on the Company’s internal control over financial reporting based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the consolidated financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2016 and 2015, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2016, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedules as at December 31, 2016 and 2015, and for each of the years in the two-year period ended December 31, 2016, when considered in relation to the basic consolidated financial statements taken as a whole, present fairly, in all material respects, the information set forth therein.

Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”).

The Company acquired AgriLogic on January 19, 2016. Management has excluded AgriLogic from its assessment of effectiveness of the Company’s internal control over financial reporting as of December 31, 2016. AgriLogic is a wholly-owned subsidiary of the Company and accounted for less than 1.2% of the Company’s total assets and produced less than 5.7% of its gross written premiums at and for the year ended December 31, 2016, respectively. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of AgriLogic.

/s/ KPMG LLP

KPMG LLP

London, United Kingdom

February 22, 2017

ASPEN INSURANCE HOLDINGS LIMITED
REPORT OF THE INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Shareholders of Aspen Insurance Holdings Limited:

We have audited the accompanying consolidated statement of operations and other comprehensive income, changes in shareholders' equity and cash flows of Aspen Insurance Holdings Limited and subsidiaries ("the Company") for the year ended December 31, 2014. In connection with our audits of the consolidated financial statements, we also have audited the related financial statement schedules on pages S-2 to S-8 for the year ended December 31, 2014. These consolidated financial statements and financial statement schedules are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements and on the financial statement schedules based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. Our audits of the consolidated financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the results of the Company's operations and its cash flows for the year ended December 31, 2014, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedules for the year ended December 31, 2014, when considered in relation to the basic consolidated financial statements taken as a whole, present fairly, in all material respects, the information set forth therein.

/s/ KPMG Audit Plc

KPMG Audit Plc

London, United Kingdom

February 23, 2015

ASPEN INSURANCE HOLDINGS LIMITED

CONSOLIDATED STATEMENTS OF OPERATIONS AND OTHER COMPREHENSIVE INCOME

For The Twelve Months Ended December 31, 2016, 2015 and 2014

(\$ in millions, except share and per share amounts)

	Twelve Months Ended December 31,		
	2016	2015	2014
Revenues			
Net earned premium	\$ 2,637.3	\$ 2,473.3	\$ 2,405.3
Net investment income	187.1	185.5	190.3
Realized and unrealized investment gains	108.4	94.5	46.3
Other income	5.7	0.1	4.5
Total revenues	<u>2,938.5</u>	<u>2,753.4</u>	<u>2,646.4</u>
Expenses			
Losses and loss adjustment expenses	1,576.1	1,366.2	1,307.5
Amortization of deferred policy acquisition costs	528.9	483.6	451.2
General, administrative and corporate expenses	490.1	424.0	445.7
Interest on long-term debt	29.5	29.5	29.5
Change in fair value of derivatives	24.6	(6.8)	15.2
Change in fair value of loan notes issued by variable interest entities	17.1	19.8	18.6
Realized and unrealized investment losses	63.2	77.5	14.7
Net realized and unrealized foreign exchange (losses)/gains	(1.8)	21.4	(5.6)
Other expenses	1.3	0.7	1.7
Total expenses	<u>2,729.0</u>	<u>2,415.9</u>	<u>2,278.5</u>
Income from operations before income tax	209.5	337.5	367.9
Income tax expense	(6.1)	(14.4)	(12.1)
Net income	<u>\$ 203.4</u>	<u>\$ 323.1</u>	<u>\$ 355.8</u>
Amount attributable to non-controlling interest	(0.1)	(0.8)	(0.8)
Net income attributable to Aspen Insurance Holdings Limited's ordinary shareholders	<u><u>\$ 203.3</u></u>	<u><u>\$ 322.3</u></u>	<u><u>\$ 355.0</u></u>
Other Comprehensive Income:			
Available for sale investments:			
Reclassification adjustment for net realized gains on investments included in net income	\$ (9.9)	\$ (37.9)	\$ (7.7)
Change in net unrealized gains on available for sale securities held	(29.1)	(71.7)	45.4
Net change from current period hedged transactions	0.6	2.6	(3.8)
Change in foreign currency translation adjustment	(28.0)	(83.0)	(23.8)
Other comprehensive (loss)/income, gross of tax	<u>(66.4)</u>	<u>(190.0)</u>	<u>10.1</u>
Tax thereon:			
Reclassification adjustment for net realized losses on investments included in net income	1.0	1.2	0.2
Change in net unrealized gains on available for sale securities held	0.3	3.2	(3.0)
Net change from current period hedged transactions	0.1	—	—
Change in foreign currency translation adjustment	0.3	10.9	7.9
Total tax on other comprehensive income	<u>1.7</u>	<u>15.3</u>	<u>5.1</u>
Other comprehensive (loss)/income, net of tax	<u>(64.7)</u>	<u>(174.7)</u>	<u>15.2</u>
Total comprehensive income attributable to Aspen Insurance Holdings Limited's ordinary shareholders	<u><u>\$ 138.6</u></u>	<u><u>\$ 147.6</u></u>	<u><u>\$ 370.2</u></u>
Per Share Data			
Weighted average number of ordinary share and share equivalents			
Basic	60,478,740	61,287,884	64,536,491
Diluted	61,860,689	62,687,503	65,872,949
Basic earnings per ordinary share adjusted for preference share dividends	\$ 2.67	\$ 4.64	\$ 4.92
Diluted earnings per ordinary share adjusted for preference share dividends	\$ 2.61	\$ 4.54	\$ 4.82

See accompanying notes to the consolidated financial statements.

ASPEN INSURANCE HOLDINGS LIMITED
CONSOLIDATED BALANCE SHEETS
As at December 31, 2016 and December 31, 2015
(\$ in millions, except share and per share amounts)

	As at December 31, 2016	As at December 31, 2015
ASSETS		
Investments:		
Fixed income securities, available for sale at fair value (amortized cost — \$5,620.1 and \$5,867.5)	\$ 5,664.6	\$ 5,951.1
Fixed income securities, trading at fair value (amortized cost — \$1,264.8 and \$794.2)	1,265.7	788.0
Equity securities, trading at fair value (cost — \$554.3 and \$722.5)	584.7	736.4
Short-term investments, available for sale at fair value (amortized cost — \$145.3 and \$162.9)	145.3	162.9
Short-term investments, trading at fair value (amortized cost — \$185.4 and \$9.5)	185.4	9.5
Catastrophe bonds, trading at fair value (cost — \$42.5 and \$55.2)	42.5	55.4
Other investments, equity method	12.1	8.9
Total investments	7,900.3	7,712.2
Cash and cash equivalents (including cash within consolidated variable interest entities of (\$291.3 and \$243.3))	1,273.8	1,099.5
Reinsurance recoverables:		
Unpaid losses	560.7	354.8
Ceded unearned premiums	255.2	168.9
Receivables:		
Underwriting premiums	1,399.4	1,115.6
Other	95.5	94.3
Funds withheld	73.1	36.0
Deferred policy acquisition costs	358.4	361.1
Derivatives at fair value	7.2	9.2
Receivables for securities sold	1.6	0.6
Office properties and equipment	83.8	70.6
Tax recoverable	0.5	—
Deferred tax assets	—	3.7
Other assets	1.0	4.1
Intangible assets	79.6	18.2
Total assets	\$ 12,090.1	\$ 11,048.8

See accompanying notes to the consolidated financial statements.

ASPEN INSURANCE HOLDINGS LIMITED
CONSOLIDATED BALANCE SHEETS
As at December 31, 2016 and December 31, 2015
(\$ in millions, except share and per share amounts)

	<u>As at December 31, 2016</u>	<u>At December 31, 2015</u>
LIABILITIES		
Insurance reserves		
Losses and loss adjustment expenses	\$ 5,319.9	\$ 4,938.2
Unearned premiums	1,618.6	1,587.2
Total insurance reserves	<u>6,938.5</u>	<u>6,525.4</u>
Payables		
Reinsurance premiums	345.3	92.7
Income taxes payable	—	10.8
Deferred tax liability	6.1	—
Accrued expenses and other payables	469.2	343.8
Liabilities under derivative contracts	18.4	4.0
Total payables	<u>839.0</u>	<u>451.3</u>
Loan notes issued by variable interest entities, at fair value	115.0	103.0
Long-term debt	549.3	549.2
Total liabilities	<u>\$ 8,441.8</u>	<u>\$ 7,628.9</u>
Commitments and contingent liabilities (see Note 19)	<u>—</u>	<u>—</u>
SHAREHOLDERS' EQUITY		
Ordinary shares:		
59,774,464 shares of par value 0.15144558¢ each (December 31, 2015 — 60,918,373)	\$ 0.1	\$ 0.1
Preference shares:		
11,000,000 5.950% shares of par value 0.15144558¢ each (December 31, 2015 — 11,000,000)	—	—
5,327,500 7.401% shares of par value 0.15144558¢ each (December 31, 2015 — 5,327,500)	—	—
6,400,000 7.250% shares of par value 0.15144558¢ each (December 31, 2015 — 6,400,000)	—	—
10,000,000 5.625% shares of par value 0.15144558¢ each (December 31, 2015 — Nil)	—	—
Non-controlling interest	1.4	1.3
Additional paid-in capital	1,259.6	1,075.3
Retained earnings	2,392.3	2,283.6
Accumulated other comprehensive income, net of taxes	(5.1)	59.6
Total shareholders' equity	<u>3,648.3</u>	<u>3,419.9</u>
Total liabilities and shareholders' equity	<u>\$ 12,090.1</u>	<u>\$ 11,048.8</u>

See accompanying notes to the consolidated financial statements.

ASPEN INSURANCE HOLDINGS LIMITED

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

For The Twelve Months Ended December 31, 2016, 2015 and 2014

(\$ in millions)

	Twelve Months Ended December 31,		
	2016	2015	2014
Ordinary shares			
Beginning and end of the year	\$ 0.1	\$ 0.1	\$ 0.1
Preference shares			
Beginning and end of the year	—	—	—
Non-controlling interest			
Beginning of the year	1.3	0.5	(0.3)
Net change attributable to non-controlling interest for the year	0.1	0.8	0.8
End of the year	1.4	1.3	0.5
Additional paid-in capital			
Beginning of the year	1,075.3	1,134.3	1,297.4
New ordinary shares issued	2.5	6.8	2.7
Ordinary shares repurchased and cancelled	(75.0)	(83.7)	(180.9)
Preference shares issued	241.3	—	—
Share-based compensation	15.5	17.9	15.1
End of the year	1,259.6	1,075.3	1,134.3
Retained earnings			
Beginning of the year	2,283.6	2,050.1	1,783.3
Net income for the year	203.4	323.1	355.8
Dividends on ordinary shares	(52.7)	(50.9)	(50.3)
Dividends on preference shares	(41.8)	(37.8)	(37.8)
Amount attributable to non-controlling interest for the year	(0.1)	(0.8)	(0.8)
Dividends due to non-controlling interest	(0.1)	(0.1)	(0.1)
End of the year	2,392.3	2,283.6	2,050.1
Accumulated other comprehensive income:			
Cumulative foreign currency translation adjustments, net of taxes:			
Beginning of the year	0.6	72.7	88.6
Change for the year, net of income tax	(27.7)	(72.1)	(15.9)
End of the year	(27.1)	0.6	72.7
Loss on derivatives, net of taxes:			
Beginning of the year	(1.2)	(3.8)	—
Net change from current period hedged transactions	0.7	2.6	(3.8)
End of the year	(0.5)	(1.2)	(3.8)
Unrealized appreciation on available for sale investments, net of taxes:			
Beginning of the year	60.2	165.4	130.5
Change for the year, net of taxes	(37.7)	(105.2)	34.9
End of the year	22.5	60.2	165.4
Total accumulated other comprehensive (losses)/income, net of taxes	(5.1)	59.6	234.3
Total shareholders' equity	\$ 3,648.3	\$ 3,419.9	\$ 3,419.3

See accompanying notes to the consolidated financial statements.

ASPEN INSURANCE HOLDINGS LIMITED
CONSOLIDATED STATEMENTS OF CASH FLOWS
For The Twelve Months Ended December 31, 2016, 2015 and 2014
(\$ in millions)

	Twelve Months Ended December 31,		
	2016	2015	2014
Cash flows from operating activities:			
Net income	\$ 203.4	\$ 323.1	\$ 355.8
Proportion due to non-controlling interest	(0.1)	(0.8)	(0.8)
Adjustments to reconcile net income to net cash flows from operating activities:			
Depreciation and amortization	51.5	28.5	29.6
Share-based compensation	15.5	17.9	15.1
Realized and unrealized investment (gains)	(108.4)	(94.5)	(46.3)
Realized and unrealized investment losses	63.2	77.5	14.7
Change in fair value of loan notes issued by variable interest entities	17.1	19.8	18.6
Deferred taxes	9.4	(6.8)	4.7
Net realized and unrealized investment foreign exchange losses	1.4	5.5	0.8
Loss on derivative contracts	0.7	2.6	—
Changes in:			
Insurance reserves:			
Losses and loss adjustment expenses	466.2	244.5	159.3
Unearned premiums	23.9	120.4	152.6
Reinsurance recoverables:			
Unpaid losses	(219.9)	(8.6)	(19.3)
Ceded unearned premiums	(87.6)	37.8	(51.8)
Other receivables	1.4	0.6	(4.5)
Deferred policy acquisition costs	2.4	(61.9)	(41.5)
Reinsurance premiums payable	234.0	2.7	4.5
Funds withheld	(37.1)	10.9	(0.4)
Premiums receivable	(271.1)	(123.7)	(28.5)
Income tax payable	(20.1)	(7.4)	(10.8)
Accrued expenses and other payable	75.7	(11.9)	51.6
Fair value of derivatives and settlement of liabilities under derivatives	16.4	(11.4)	10.4
Long-term debt and loan notes issued by variable interest entities	12.2	0.1	0.1
Intangible assets	—	—	(0.2)
Other assets	3.1	9.3	(6.3)
Net cash generated by operating activities	\$ 453.2	\$ 574.2	\$ 607.4

See accompanying notes to the consolidated financial statements.

ASPEN INSURANCE HOLDINGS LIMITED

CONSOLIDATED STATEMENTS OF CASH FLOWS
For The Twelve Months Ended December 31, 2016, 2015 and 2014
(\$ in millions)

	Twelve Months Ended December 31,		
	2016	2015	2014
Cash flows (used in)/from investing activities:			
(Purchases) of fixed income securities — Available for sale	\$ (2,236.7)	\$ (2,131.9)	\$ (2,005.0)
(Purchases) of fixed income securities — Trading	(973.3)	(556.9)	(653.4)
Proceeds from sales and maturities of fixed income securities — Available for sale	2,307.9	1,656.3	1,909.5
Proceeds from sales and maturities of fixed income securities — Trading	593.7	519.9	615.9
(Purchases) of equity securities — Trading	(195.3)	(392.2)	(361.0)
Net proceeds of catastrophe bonds — Trading	12.8	(20.9)	(28.7)
Proceeds from sales of equity securities — Available for sale	—	108.6	40.0
Proceeds from sales of equity securities — Trading	372.0	270.8	62.2
(Purchases) of short-term investments — Available for sale	(224.6)	(212.1)	(580.6)
Proceeds from sale of short-term investments — Available for sale	242.9	282.6	470.3
(Purchases) of short-term investments — Trading	(190.6)	(45.6)	(114.2)
Proceeds from sale of short-term investments — Trading	14.1	36.3	114.0
Net change in (payable)/receivable for securities (purchased)/sold	12.7	(2.1)	2.8
Net proceeds from other investments	—	—	39.3
Purchase of equipment	(23.7)	(13.9)	(26.1)
Other investments	(3.3)	(0.8)	—
Payments for acquisitions and investments, net of cash acquired	(59.5)	—	—
Net cash (used in) investing activities	(350.9)	(501.9)	(515.0)
Cash flows (used in)/from financing activities:			
Proceeds from the issuance of ordinary shares, net of issuance costs	2.5	6.8	2.7
Proceeds from the issuance of preference shares, net of issuance costs	241.3	—	—
Ordinary shares repurchased	(75.0)	(83.7)	(180.9)
Proceeds from loan notes issued by Silverton	105.0	100.0	70.0
Repayment of long-term debt issued by Silverton	(89.3)	(67.8)	—
Dividends paid on ordinary shares	(52.7)	(50.9)	(50.3)
Dividends paid on preference shares	(41.8)	(37.8)	(37.8)
Dividends paid to non-controlling interest	—	(0.1)	(0.1)
Net cash from/(used in) financing activities	90.0	(133.5)	(196.4)
Effect of exchange rate movements on cash and cash equivalents	(18.0)	(17.8)	(11.1)
Increase/(Decrease) in cash and cash equivalents	174.3	(79.0)	(115.1)
Cash and cash equivalents at beginning of period	1,099.5	1,178.5	1,293.6
Cash and cash equivalents at end of period	\$ 1,273.8	\$ 1,099.5	\$ 1,178.5
Supplemental disclosure of cash flow information:			
Net cash paid during the period for income tax	\$ 7.0	\$ 8.8	\$ 1.8
Cash paid during the period for interest	\$ 29.0	\$ 29.0	\$ 29.0

See accompanying notes to the consolidated financial statements.

ASPEN INSURANCE HOLDINGS LIMITED

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

For The Twelve Months Ended December 31, 2016, 2015 and 2014

(\$ in millions, except share and per share amounts)

1. History and Organization

Aspen Insurance Holdings Limited (“Aspen Holdings”) was incorporated on May 23, 2002 and holds subsidiaries that provide insurance and reinsurance on a worldwide basis. Its principal operating subsidiaries are Aspen Insurance UK Limited (“Aspen U.K.”), Aspen Bermuda Limited (“Aspen Bermuda”), Aspen Specialty Insurance Company (“Aspen Specialty”), Aspen American Insurance Company (“AAIC”) and Aspen Underwriting Limited (corporate member of Lloyd’s Syndicate 4711, “AUL”, which is managed by Aspen Managing Agency Limited “AMAL”)(collectively, the “Operating Subsidiaries”). In addition, Aspen Capital Management, Ltd and other related entities (collectively, “ACM”) leverage our existing underwriting franchise, increase our operational flexibility in the capital markets and provide investors direct access to our underwriting expertise. Silverton Re Ltd. (“Silverton”), a sidecar, was established to attract third-party capital and provide additional collateralized capacity to support Aspen Re’s global reinsurance business. References to the “Company,” “we,” “us” or “our” refer to Aspen Holdings or Aspen Holdings and its subsidiaries.

2. Basis of Presentation and Significant Accounting Policies

The consolidated financial statements of Aspen Holdings are prepared in accordance with United States Generally Accepted Accounting Principles (“U.S. GAAP”) and are presented on a consolidated basis including the transactions of all operating subsidiaries. Transactions between Aspen Holdings and its subsidiaries are eliminated within the consolidated financial statements.

(a) Use of Estimates

Assumptions and estimates made by management have a significant effect on the amounts reported within the consolidated financial statements. The most significant of these relate to the losses and loss adjustment expenses, reinsurance recoverables, gross written premiums and commissions which have not been reported to the Company such as those relating to proportional treaty reinsurance contracts, unrecognized tax benefits, the fair value of derivatives and the fair value of other investments. All material assumptions and estimates are regularly reviewed and adjustments made as necessary, but actual results could turn out significantly different from those expected when the assumptions or estimates were made.

(b) Accounting for Insurance and Reinsurance Operations

Premiums Earned. Premiums are recognized as revenues proportionately over the coverage period. Premiums earned are recorded in the statements of operations, net of the cost of purchased reinsurance. Premiums written which are not yet recognized as earned premium are recorded in the consolidated balance sheet as unearned premiums, gross of any ceded unearned premiums. Written and earned premiums and the related costs include estimates for premiums which have not been finally determined. These relate mainly to contractual provisions for the payment of adjustment or additional premiums, premiums payable under proportional treaties and delegated underwriting authorities, and reinstatement premiums.

Adjustment and additional premiums are premiums charged which relate to experience during the policy term. The proportion of adjustable premiums included in the premium estimates varies between business lines with the largest adjustment premiums being in property and casualty reinsurance, marine, aviation and energy insurance and the smallest in property and casualty insurance.

Premiums payable under proportional treaty contracts and delegated underwriting authorities are generally not reported to the Company until after the reinsurance coverage is in force. As a result, an estimate of these “pipeline” premiums is recorded. The Company estimates pipeline premiums based on projections of ultimate premium taking into account reported premiums and expected development patterns.

Reinstatement premiums on assumed excess of loss reinsurance contracts are provided for based on experience under such contracts. Reinstatement premiums are the premiums charged for the restoration of the reinsurance limit of an excess of loss contract to its full amount after payment by the reinsurer of losses as a result of an occurrence and are recognized as revenue in full at the date of loss, triggering the payment of the reinstatement premiums. The payment of reinstatement premiums provides future insurance cover for the remainder of the initial policy term. An allowance for uncollectible premiums is established for possible non-payment of premium receivables, as deemed necessary.

Outward reinsurance premiums, which are paid when the Company purchases reinsurance or retrocessional coverage, are accounted for using the same accounting methodology as the Company uses for inwards premiums. Premiums payable under reinsurance contracts that operate on a “losses occurring during” basis are accounted for in full over the period of coverage while

those arising from “risks attaching during” policies are expensed over the earnings period of the premiums receivable from the reinsured business.

Losses and Loss Adjustment Expenses. Losses represent the amount paid or expected to be paid to claimants in respect of events that have occurred on or before the balance sheet date. The costs of investigating, resolving and processing these claims are known as loss adjustment expenses (“LAE”). The statement of operations records these losses net of reinsurance, meaning that gross losses and loss adjustment expenses incurred are reduced by the amounts recovered or expected to be recovered under reinsurance contracts.

Reinsurance. Written premiums, earned premiums, incurred claims, LAE and the amortization of deferred policy acquisition costs all reflect the net effect of assumed and ceded reinsurance transactions. Assumed reinsurance refers to the Company’s acceptance of certain insurance risks that other insurance companies have underwritten. Ceded reinsurance arises from contracts under which other insurance companies agree to share certain risks with the Company.

Reinsurance accounting is followed when there is significant timing risk, significant underwriting risk and a reasonable possibility of significant loss.

Reinsurance and retrocession does not isolate the ceding company from its obligations to policyholders. In the event that a reinsurer or retrocessionaire fails to meet its obligations, the ceding company’s obligations remain. The Company regularly evaluates the financial condition of its reinsurers and retrocessionaires and monitors the concentration of credit risk to minimize its exposure to financial loss from reinsurers’ and retrocessionaires’ insolvency. Where it is considered required, appropriate provision is made for balances deemed irrecoverable from reinsurers.

Reserves. Insurance reserves are established for the total unpaid cost of claims and LAE in respect of events that have occurred by the balance sheet date, including the Company’s estimates of the total cost of claims incurred but not yet reported (“IBNR”). Claim reserves are reduced for estimated amounts of salvage and subrogation recoveries. Estimated amounts recoverable from reinsurers on unpaid losses and LAE are reflected as assets.

For reported claims, reserves are established on a case-by-case basis within the parameters of coverage provided in the insurance policy or reinsurance agreement. For IBNR claims, reserves are estimated using a number of established actuarial methods to establish a range of estimates from which a management best estimate is selected. Both case and IBNR reserve estimates consider variables such as past loss experience, changes in legislative conditions, changes in judicial interpretation of legal liability, policy coverages and inflation.

As many of the coverages underwritten involve claims that may not be ultimately settled for many years after they are incurred, subjective judgments as to the ultimate exposure to losses are an integral and necessary component of the loss reserving process. The Company regularly reviews its reserves, using a variety of statistical and actuarial techniques to analyze current claims costs, frequency and severity data, and prevailing economic, social and legal factors. Reserves established in prior periods are adjusted as claim experience develops and new information becomes available. Adjustments to previously estimated reserves are reflected in the financial results of the period in which the adjustments are made.

The process of estimating required reserves does, by its very nature, involve considerable uncertainty. The level of uncertainty can be influenced by factors such as the existence of coverage with long duration payment patterns and changes in claims handling practices, as well as the factors noted above. Ultimate actual payments for claims and LAE could turn out to be significantly different from the Company’s estimates.

Amortization of Deferred Policy Acquisition Costs. The costs directly related to writing an insurance policy are referred to as policy acquisition expenses and include commissions, premium taxes and profit commissions. With the exception of profit commissions, these expenses are incurred when a policy is issued, and only the costs directly related to the successful acquisition of new and renewal insurance and reinsurance contracts are deferred and amortized over the same period as the corresponding premiums are recorded as revenues. Profit commissions are estimated based on the related performance criteria evaluated at the balance sheet date, with subsequent changes to those estimates recognized when they occur.

On a regular basis a recoverability analysis is performed of the deferred policy acquisition costs in relation to the expected recognition of revenues, including anticipated investment income, and adjustments, if any, are reflected as period costs. Should the analysis indicate that the acquisition costs are unrecoverable, further analyses are performed to determine if a reserve is required to provide for losses which may exceed the related unearned premium.

General, Administrative and Corporate Expenses. These costs represent the expenses incurred in running the business and include, but are not limited to compensation costs for employees, rental costs, IT development and operating costs and professional and consultancy fees. General, policy and administrative costs directly attributable to the successful acquisition of business are

deferred and amortized over the same period as the corresponding premiums are recorded as revenues. When reporting the results for its business segments, the Company includes expenses which are directly attributable to the segment plus an allocation of central administrative costs. Corporate expenses are not allocated to the Company's business segments as they typically do not fluctuate with the levels of premium written and are related to the Company's operations which include group executive costs, group finance costs, group legal and actuarial costs and certain strategic and non-recurring costs.

(c) Accounting for Investments, Cash and Cash Equivalents

Fixed Income Securities. The fixed income securities portfolio comprises securities issued by governments and government agencies, corporate bonds, mortgage and other asset-backed securities and bank loans. Investments in fixed income securities are classified as available for sale or trading and are reported at estimated fair value in the consolidated balance sheet. Investment transactions are recorded on the trade date with balances pending settlement reflected in the consolidated balance sheet under receivables for securities sold and accrued expenses and other payables for securities purchased, respectively. Fair values are based on quoted market prices and other data provided by third-party pricing services and index providers.

Equity Securities. The Company's equity securities comprise U.S. and foreign equity securities. They are classified as either trading or available for sale and are carried on the consolidated balance sheet at estimated fair value. The fair values are based on quoted market prices in active markets from independent pricing sources.

Short-term Investments. Short-term investments primarily comprise highly liquid debt securities with a maturity greater than three months but less than one year from the date of purchase and are held as part of the investment portfolio of the Company. Short-term investments are classified as either trading or available for sale and carried at estimated fair value.

Gains and Losses. Realized gains or losses on the sale of investments are determined on the basis of the first in first out cost method and, for fixed income available for sale securities, include adjustments to the cost basis of investments for declines in value that are considered to be other-than-temporary. Unrealized gains and losses represent the difference between the cost, or the cost as adjusted by amortization of any difference between its cost and its redemption value ("amortized cost"), of the security and its fair value at the reporting date and are included within other comprehensive income for securities classified as available for sale and in realized and unrealized investment gains or losses in the consolidated statement of operations for securities classified as trading.

Other Investments. Other investments represent the Company's investments that are recorded using the equity method of accounting. Adjustments to the fair value of these investments are made based on the net asset value of the investment.

Catastrophe Bonds. Investments in catastrophe bonds are classified as trading and are carried on the consolidated balance sheet at estimated fair value. The fair values are based on independent broker-dealer quotes.

Cash and Cash Equivalents. Cash and cash equivalents are carried at fair value. Cash and cash equivalents comprise cash on hand, deposits held on call with banks and other short-term highly liquid investments due to mature within three months from the date of purchase and which are subject to insignificant risk of change in fair value.

Other-than-temporary Impairment of Investments. A security is impaired when its fair value is below its cost or amortized cost. The Company reviews its investment portfolio each quarter on an individual security basis for potential other-than-temporary impairment ("OTTI") based on criteria including issuer-specific circumstances, credit ratings actions and general macro-economic conditions.

OTTI is deemed to occur when there is no objective evidence to support recovery in value of a security and a) the Company intends to sell the security or more likely than not will be required to sell the security before recovery of its cost or adjusted amortized cost basis or b) it is deemed probable that the Company will be unable to collect all amounts due according to the contractual terms of the individual security. In the first case, the entire unrealized loss position is taken as an OTTI charge to realized losses in earnings. In the second case, the unrealized loss is separated into the amount related to credit loss and the amount related to all other factors. The OTTI charge related to credit loss is recognized in realized losses in earnings and the amount related to all other factors is recognized in other comprehensive income. The cost basis of the investment is reduced accordingly and no adjustments to the cost basis are made for subsequent recoveries in value.

Although the Company reviews each security on a case by case basis, it has also established parameters focusing on the extent and duration of impairment to help identify securities in an unrealized loss position which are other-than-temporarily impaired. For fixed income securities in the available for sale portfolio, the Company considers securities which have been in an unrealized loss position for 12 months or more which currently have a market value of more than 20% below cost should be other-than-temporarily impaired.

Investment Income. Investment income includes amounts received and accrued in respect of periodic interest (“coupons”) payable to the Company by the issuer of fixed income securities, equity dividends and interest credited on cash and cash equivalents. It also includes amortization of premium and accretion of discount in respect of fixed income securities. Investment management and custody fees are charged against net investment income reported in the consolidated statement of operations.

(d) Accounting for Derivative Financial Instruments

The Company enters into derivative instruments such as interest rate swaps and forward exchange contracts in order to manage certain market and credit risks. The Company records derivative instruments at fair value on the Company’s balance sheet as either assets or liabilities, depending on their rights and obligations.

The accounting for the gain or loss due to the changes in the fair value of these instruments is dependent on whether the derivative qualifies as a hedge. If the derivative does not qualify as a hedge, the gains or losses are reported in earnings when they occur. If the derivative does qualify as a hedge, the accounting treatment varies based on the type of risk being hedged.

(e) Accounting for Intangible Assets

Intangible assets are held in the consolidated balance sheet at cost less amortization and impairment. Amortization applies on a straight-line basis in respect of assets having a finite estimated useful economic life. The Company performs a qualitative assessment annually to determine whether it is more likely than not that an intangible asset considered to have an indefinite life, other than goodwill, is impaired.

(f) Accounting for Office Properties and Equipment

Office properties and equipment are carried at cost less accumulated depreciation. These assets are depreciated on a straight-line basis over the estimated useful lives of the assets. Computer equipment and software is depreciated between three and five years with depreciation for software commencing on the date the software is brought into use. Furniture and fittings are depreciated over four years and leasehold improvements are depreciated over the lesser of 15 years or the lease term.

(g) Accounting for Foreign Currencies Translation

The reporting currency of the Company is the U.S. Dollar. The functional currencies of the Company’s foreign operations and branches are the currencies in which the majority of their business is transacted.

Transactions in currencies other than the functional currency are measured in the functional currency of that operation at the exchange rate prevailing at the date of the transaction. Monetary assets and liabilities denominated in non-functional currencies are remeasured at the exchange rate prevailing at the balance sheet date and any resulting foreign exchange gains or losses are reflected in the statement of operations.

Monetary and non-monetary assets and liabilities of the Company’s functional currency operations are translated into U.S. Dollars at the exchange rate prevailing at the balance sheet date. Income and expenses of these operations are translated at the exchange rate prevailing at the date of the transaction. Unrealized gains or losses arising from the translation of functional currencies are recorded net of tax as a component of other comprehensive income.

(h) Accounting for Earnings per Ordinary Share

Basic earnings per ordinary share is determined by dividing net income available to ordinary shareholders by the weighted average number of ordinary shares outstanding during the period. Net income available to ordinary shareholders is calculated by deducting preference share dividends and net income/(loss) attributable to non-controlling interest from net income after tax for the period. Diluted earnings per share reflect the effect on earnings of the average number of ordinary shares outstanding associated with dilutive securities. The dilutive effect of potentially dilutive securities is calculated using the treasury stock method.

(i) Accounting for Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. When the Company does not believe that, on the basis of available information, it is more likely than not that deferred tax assets will be fully recovered, it recognizes a valuation allowance against its deferred tax assets to reduce the deferred tax assets to the amount more likely than not to be realized. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

Furthermore, a tax benefit from a tax position may be recognized in the financial statements only if it is more-likely-than-not that the position is sustainable, based solely on its technical merits and consideration of the relevant tax authority’s widely

understood administrative practices and precedents. The tax benefit recognized, when the likelihood of realization is more likely-than-not (i.e. greater than 50 percent), is measured at the largest amount that is greater than 50 percent likely of being realized upon settlement.

(j) Accounting for Preference Shares

The Company had at the balance sheet date in issue four classes of perpetual preference shares. The Company has no obligation to pay interest on these securities but they do carry entitlements to dividends payable at the discretion of the Board of Directors. In the event of non-payment of dividends for six consecutive periods, holders of preference shares have director appointment rights. They are therefore accounted for as equity instruments and included within total shareholders' equity.

(k) Accounting for Long-term Incentive Plans

The Company operates an employee incentive plan, a director plan and employee share purchase plans, the terms and conditions of which are described in Note 17. The Company applies a fair-value based measurement method including estimates for future forfeitures in the calculation of the compensation costs of stock options, performance shares, phantom shares and restricted share units.

(l) Accounting for Long-term Debt Issued by Variable Interest Entities

Silverton, a consolidated variable interest entity, has issued debt instruments which are due to mature on September 18, 2017, September 17, 2018 and September 16, 2019 as further described in Note 7, "Variable Interest Entities" of these consolidated financial statements. This debt is separately identified on the Company's balance sheet and the Company has elected to record the debt at fair value due to the potential variability over the ultimate settlement value of the debt instruments.

(m) Accounting for Business Combinations

The Company accounts for a transaction as a business combination where the assets acquired and liabilities assumed following a transaction constitute a business. An acquired entity must have inputs and processes that make it capable of generating a return or economic benefit to be considered a business. If the assets acquired are not a business, the Company accounts the transaction as an asset acquisition. The Company recognizes and measures at fair value 100 percent of the assets and liabilities of any acquired business. Goodwill is recognized and measured as the difference between the consideration paid or payable less the fair value of assets acquired.

(n) New Accounting Pronouncements

New Accounting Pronouncements Adopted in 2016

In November 2014, the Financial Accounting Standards Board (the "FASB") issued ASU 2014-16, "*Derivatives and Hedging (Topic 815)*" which provides guidance on reducing existing diversity under U.S. GAAP in the accounting for hybrid financial instruments issued in the form of a share. This ASU is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2015. Early application for a public business entity is permitted. This ASU did not have a material impact on the Company's consolidated financial statements.

In February 2015, the FASB issued ASU 2015-02, "*Business Combinations (Topic 810)*" which provides guidance for reporting entities that are required to evaluate whether they should consolidate certain legal entities. This ASU is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2015. Early application for a public business entity is permitted. This ASU did not have a material impact on the Company's consolidated financial statements.

On April 15, 2015, the FASB issued ASU 2015-05, "*Intangibles - Goodwill and Other - Internal Use Software (Topic 350-40)*" which assists entities evaluate the accounting for fees paid by a customer in a cloud computing arrangement. ASU 2015-05 is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2015. This ASU did not have a material impact on the Company's consolidated financial statements.

On April 17, 2015, the FASB issued ASU 2015-03, "*Interest - Imputation of Interest (Subtopic 835-30)*" which requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability. This ASU simplifies the presentation of debt issuance costs as part of FASB's initiative to reduce complexity in accounting standards. This ASU is effective for fiscal years beginning after December 15, 2015. This ASU did not have a material impact on the Company's consolidated financial statements.

On May 8, 2015, the FASB issued ASU 2015-08, "*Business Combinations (Topic 805) Pushdown Accounting*" which conforms the FASB's guidance on pushdown accounting with the SEC's guidance. This ASU 2015-08 is effective for annual

periods beginning after December 15, 2015. The Company has applied the provisions of this standard in respect of its acquisitions of AG Logic Holdings, LLC (“AgriLogic”) and Blue Waters Insurers, Corp. (“Blue Waters”).

On May 21, 2015, the FASB issued ASU 2015-09, “*Financial Services - Insurance (Topic 944) Disclosures About Short-Duration Contracts*” which requires insurance entities to disclose additional information about the liability for unpaid claims and claim adjustment expenses, disclose information about significant changes in methodologies and assumptions used to calculate the liability for unpaid claims and claim adjustment expenses and disclose a roll forward of the liability for unpaid claims and claims adjustment expenses. This ASU is effective for annual periods beginning after December 15, 2015 and interim periods within annual periods beginning after December 15, 2016. This ASU has no material impact on the Company’s consolidated financial results but additional disclosures have been added in the note for “Reserves for Losses and Loss Adjustment Expenses.”

On July 31, 2015, the FASB issued ASU 2015-12, “*Plan Accounting: Defined Benefit Pension Plans (Topic 960), Defined Contribution Pension Plans (Topic 962), Health and Welfare Benefit Plans (Topic 965): (Part I) Fully Benefit-Responsive Investment Contracts, (Part II) Plan Investment Disclosures, (Part III) Measurement Date Practical Expedient*” which simplifies the benefit plan disclosures and reporting requirements. This ASU is effective for annual periods beginning after December 15, 2015. This ASU did not impact the Company’s consolidated financial statements as it does not have any fully benefit-responsive investment contracts.

On September 25, 2015, the FASB issued ASU 2015-16, “*Business Combinations (Topic 805)*” which requires an acquirer to adjust retrospectively to provisional amounts recognized in a business combination. This ASU is effective for annual periods beginning after December 15, 2015 and does not have an impact on the amounts booked in respect to the acquisition of AgriLogic or Blue Waters.

On August 12, 2015, the FASB issued ASU 2015-14, “*Revenue from Contracts with Customers (Topic 606)*” which delays the effective date of ASU 2014-09 by one year. ASU 2015-14 is effective for annual periods beginning after December 15, 2015. This ASU does not have a material impact on the Company’s consolidated financial statements as insurance contracts accounted for within the scope of *Topic 944, Financial Services* are exempt from this ASU and the Company has immaterial other revenue.

Accounting Pronouncements Not Yet Adopted

On August 27, 2014, the FASB issued ASU 2014-15, “*Presentation of Financial Statements - Going Concern (Subtopic 204-40)*” which provides U.S. GAAP guidance on management’s responsibility to evaluate whether there is substantial doubt about an entity’s ability to continue as a going concern or to provide related footnote disclosures. This ASU is effective for fiscal years beginning after December 15, 2016 and interim periods beginning after December 15, 2016. Early application for a public business entity is permitted. The Company does not expect this ASU to have a material impact on its consolidated financial statements.

On January 5, 2016, the FASB issued ASU 2016-1, “*Financial Instruments - Overall (Subtopic 825-10)*” which enhances the reporting model for financial instruments. This ASU requires all equity investments to be measured at fair value with changes in the fair value recognized through net income (other than those accounted for under the equity method of accounting or those that result in consolidation of the investee). The amendments required as a result of this ASU are effective for fiscal years beginning after December 15, 2017. The Company does not expect this ASU to have a material impact on the Company’s consolidated financial statements as the Company’s equity portfolio is classified as held for trading with changes in fair value recognized through net income.

On February 25, 2016, the FASB issued ASU 2016-2, “*Leases (Topic 842)*” which supersedes the leases requirements in Topic 840 and establishes the principles that lessees and lessors shall apply to report useful information to users of financial statements about the amount, timing, and uncertainty of cash flows arising from a lease. The amendments of this ASU are effective for fiscal years beginning after December 15, 2018. This ASU is expected to have a material impact on the Company’s consolidated financial statements, specifically increasing the Company’s assets and liabilities as all leases greater than twelve months will be recognized on the balance sheet as a right of use asset and lease liability. This ASU will not have a material impact on the Company’s consolidated income statement.

On March 30, 2016, the FASB issued ASU 2016-09, “*Compensation - stock compensation*” which provides guidance on several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. This ASU is effective for fiscal years beginning after December 15, 2016 and interim periods beginning after December 15, 2016. This ASU will have an impact on the way the Company accounts for its restricted share unit awards and their classification as liabilities or equity.

On June 16, 2016, the FASB issued ASU 2016-13, “*Financial Instruments - Credit Losses (Topic 326)*” which introduces a new impairment model, known as the current expected credit loss model, which is based on expected losses rather than incurred

losses. Under the new credit loss model, the Company would recognize an allowance for its estimate of expected credit losses and this would apply to most debt instruments (other than those measured at fair value), trade receivables, lease receivables, reinsurance receivables, financial guarantee contracts and loan commitments. Available-for-sale debt securities are outside the model's scope and this ASU made limited amendments to the impairment model for available-for-sale debt securities. There are other amendments required as a result of this ASU that are effective for fiscal years beginning after December 15, 2019. The Company is currently assessing the impact the adoption of this ASU will have on future financial statements and disclosures.

On August 26, 2016 the FASB issued ASU 2016-15, "*Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments (a consensus of the Emerging Issues Task Force)*" which standardizes the presentation and classification of certain cash receipts and cash payments in the statement of cash flows under Topic 230 Statement of Cash Flows. This ASU is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The Company is currently assessing the impact the adoption of this ASU will have on future financial statements and disclosures.

On October 24, 2016 the FASB issued ASU 2016-16, "*Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory*" which will require companies to account for the income tax effects of intercompany transfers of assets other than inventory (e.g., intangible assets) when the transfer occurs. This ASU is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The Company is currently assessing the impact the adoption of this ASU will have on future financial statements and disclosures.

On October 27, 2016 the FASB issued ASU 2016-17, "*Consolidation (Topic 810): Interests Held through Related Parties That Are under Common Control*" which introduces new variable interest entity guidance on evaluating indirect interests held by related parties under common control. This ASU is effective for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. The Company does not expect this ASU to have a material impact on its consolidated financial statements.

Other accounting pronouncements were issued during the year ended December 31, 2016 which were not relevant to the Company.

3. Related Party Transactions

There were no related party transactions for the twelve months ended December 31, 2016 or December 31, 2015.

4. Earnings per Ordinary Share

Basic earnings per ordinary share are calculated by dividing net income available to holders of Aspen Holdings' ordinary shares by the weighted average number of ordinary shares outstanding. Net income available to ordinary shareholders is calculated by deducting preference share dividends and net income/(loss) attributable to non-controlling interest from net income/(loss) after tax for the period. Diluted earnings per ordinary share are based on the weighted average number of ordinary shares and dilutive potential ordinary shares outstanding during the period of calculation using the treasury stock method. The following table sets forth the computation of basic and diluted earnings per share for the twelve months ended December 31, 2016, 2015, and 2014, respectively:

	Twelve Months Ended December 31,		
	2016	2015	2014
Net income	\$ 203.4	\$ 323.1	\$ 355.8
Preference share dividends	(41.8)	(37.8)	(37.8)
Net profit attributable to non-controlling interest	(0.1)	(0.8)	(0.8)
Net and diluted net income available to ordinary shareholders	<u>\$ 161.5</u>	<u>\$ 284.5</u>	<u>\$ 317.2</u>
Ordinary shares:			
Basic weighted average ordinary shares	60,478,740	61,287,884	64,536,491
Weighted average effect of dilutive securities ⁽¹⁾	1,381,949	1,399,619	1,336,458
Total diluted weighted average ordinary shares	<u>61,860,689</u>	<u>62,687,503</u>	<u>65,872,949</u>
Earnings per ordinary share:			
Basic	<u>\$ 2.67</u>	<u>\$ 4.64</u>	<u>\$ 4.92</u>
Diluted	<u>\$ 2.61</u>	<u>\$ 4.54</u>	<u>\$ 4.82</u>

- (1) Dilutive securities consist of employee options, restricted share units and performance shares associated with the Company's long term incentive plan, employee share purchase plans and director restricted stock units and options as described in Note 17.

Dividends. On February 8, 2017, the Company's Board of Directors declared the following quarterly dividends:

	Dividend	Payable on:	Record Date:
Ordinary shares	\$ 0.22	March 14, 2017	February 24, 2017
7.250% Preference Shares	\$ 0.4531	April 1, 2017	March 15, 2017
5.95% Preference Shares	\$ 0.3719	April 1, 2017	March 15, 2017
5.625% Preference Shares	\$ 0.3516	April 1, 2017	March 15, 2017

5. Segment Reporting

The Company has two reporting business segments: Insurance and Reinsurance. In addition to the way the Company manages its business, the Company has considered similarities in economic characteristics, products, customers, distribution, the regulatory environment of the Company's business segments and quantitative thresholds to determine the Company's reportable segments. Segment profit or loss for each of the Company's business segments is measured by underwriting profit or loss. Underwriting profit is the excess of net earned premiums over the sum of losses and loss expenses, amortization of deferred policy acquisition costs and general and administrative expenses. Underwriting profit or loss provides a basis for management to evaluate the segment's underwriting performance.

Reinsurance Segment. The reinsurance segment consists of property catastrophe reinsurance (including the business written through Aspen Capital Markets), other property reinsurance (risk excess, pro rata and facultative), casualty reinsurance (U.S. treaty, international treaty and global facultative) and specialty reinsurance (credit and surety, agriculture insurance and reinsurance, marine, aviation, terrorism, engineering and other specialty lines). Aspen Capital Markets forms part of our property catastrophe reinsurance line of business as it currently focuses on property catastrophe business through the use of alternative capital. For a more detailed description of this segment, see Part I, Item 1, "Business — Business Segments — Reinsurance" above.

Insurance Segment. The insurance segment consists of property and casualty insurance, marine, aviation and energy insurance and financial and professional lines insurance. For a more detailed description of this segment, see Part I, Item 1 “Business — Business Segments — Insurance” above.

Non-underwriting Disclosures. The Company has provided additional disclosures for corporate and other (non-underwriting) income and expenses. Corporate and other income and expenses include net investment income, net realized and unrealized investment gains or losses, expenses associated with managing the group, certain strategic and non-recurring costs, changes in fair value of derivatives and changes in fair value of the loan notes issued by variable interest entities, interest expenses, net realized and unrealized foreign exchange gains or losses and income taxes, none of which are allocated to the business segments. Corporate expenses are not allocated to the Company’s business segments as they typically do not fluctuate with the levels of premiums written and are not directly related to the Company’s business segment operations. The Company does not allocate its assets by business segment as it evaluates underwriting results of each business segment separately from the results of the Company’s investment portfolio.

The following tables provide a summary of gross and net written and earned premiums, underwriting results, ratios and reserves for each of the Company's business segments for the twelve months ended December 31, 2016, 2015 and 2014:

	Twelve Months Ended December 31, 2016		
	Reinsurance	Insurance	Total
	(\$ in millions)		
Underwriting Revenues			
Gross written premiums	\$ 1,413.2	\$ 1,733.8	\$ 3,147.0
Net written premiums	1,269.2	1,324.5	2,593.7
Gross earned premiums	1,317.9	1,768.4	3,086.3
Net earned premiums	1,181.9	1,455.4	2,637.3
Underwriting Expenses			
Losses and loss adjustment expenses	657.9	918.2	1,576.1
Amortization of deferred policy acquisition costs	226.4	302.5	528.9
General and administrative expenses	178.2	228.4	406.6
Underwriting income	119.4	6.3	125.7
Corporate expenses			(73.8)
Amortization and non-recurring corporate expenses ⁽¹⁾			(9.7)
Net investment income			187.1
Realized and unrealized investment gains			108.4
Realized and unrealized investment losses			(63.2)
Change in fair value of loan notes issued by variable interest entities			(17.1)
Change in fair value of derivatives			(24.6)
Interest expense on long term debt			(29.5)
Net realized and unrealized foreign exchange (losses)			1.8
Other income			5.7
Other expenses			(1.3)
Income before tax			209.5
Income tax expense			(6.1)
Net income			<u>\$ 203.4</u>
Net reserves for loss and loss adjustment expenses	\$ 2,462.1	\$ 2,297.1	\$ 4,759.2
Ratios			
Loss ratio	55.7%	63.1%	59.8%
Policy acquisition expense ratio	19.2	20.8	20.1
General and administrative expense ratio ⁽¹⁾	15.1	15.7	18.6
Expense ratio	34.3	36.5	38.7
Combined ratio	90.0%	99.6%	98.5%

⁽¹⁾ Amortization and non-recurring corporate expenses includes amortization of intangibles acquired from the acquisition of Agrilogic.

⁽²⁾ The general and administrative expense ratio in the total column includes corporate expenses, amortization and non-recurring corporate expenses.

Twelve Months Ended December 31, 2015

	Reinsurance	Insurance	Total
	(\$ in millions)		
Underwriting Revenues			
Gross written premiums	\$ 1,248.9	\$ 1,748.4	\$ 2,997.3
Net written premiums	1,153.5	1,492.7	2,646.2
Gross earned premiums	1,153.5	1,703.3	2,856.8
Net earned premiums	1,072.6	1,400.7	2,473.3
Underwriting Expenses			
Losses and loss adjustment expenses	491.6	874.6	1,366.2
Amortization of deferred policy acquisition costs	224.7	258.9	483.6
General and administrative expenses	146.5	213.6	360.1
Underwriting income	209.8	53.6	263.4
Corporate expenses			(63.9)
Net investment income			185.5
Realized and unrealized investment gains			94.5
Realized and unrealized investment losses			(77.5)
Change in fair value of loan notes issued by variable interest entities			(19.8)
Change in fair value of derivatives			6.8
Interest expense on long term debt			(29.5)
Net realized and unrealized foreign exchange (losses)			(21.4)
Other income			0.1
Other expenses			(0.7)
Income before tax			337.5
Income tax expense			(14.4)
Net income			\$ 323.1
Net reserves for loss and loss adjustment expenses	\$ 2,409.5	\$ 2,173.9	\$ 4,583.4
Ratios			
Loss ratio	45.8%	62.4%	55.2%
Policy acquisition expense ratio	20.9	18.5	19.6
General and administrative expense ratio ⁽¹⁾	13.7	15.2	17.1
Expense ratio	34.6	33.7	36.7
Combined ratio	80.4%	96.1%	91.9%

⁽¹⁾ The general and administrative expense ratio in the total column includes corporate expenses, amortization and non-recurring corporate expenses.

	Twelve Months Ended December 31, 2014		
	Reinsurance	Insurance	Total
	(\$ in millions)		
Underwriting Revenues			
Gross written premiums	\$ 1,172.8	\$ 1,729.9	\$ 2,902.7
Net written premiums	1,124.0	1,391.2	2,515.2
Gross earned premiums	1,137.6	1,599.0	2,736.6
Net earned premiums	1,088.2	1,317.1	2,405.3
Underwriting Expenses			
Losses and loss adjustment expenses	497.8	809.7	1,307.5
Amortization of deferred policy acquisition costs	200.0	251.2	451.2
General and administrative expenses	146.4	205.5	351.9
Underwriting income	<u>244.0</u>	<u>50.7</u>	294.7
Corporate expenses			(65.3)
Amortization and non-recurring corporate expenses ⁽¹⁾			(28.5)
Net investment income			190.3
Realized and unrealized investment gains			46.3
Realized and unrealized investment losses			(14.7)
Change in fair value of loan notes issued by variable interest entities			(18.6)
Change in fair value of derivatives			(15.2)
Interest expense on long term debt			(29.5)
Net realized and unrealized foreign exchange gains			5.6
Other income			4.5
Other expenses			(1.7)
Income before tax			<u>367.9</u>
Income tax expense			(12.1)
Net income			<u>\$ 355.8</u>
Net reserves for loss and loss adjustment expenses	<u>\$ 2,493.3</u>	<u>\$ 1,907.5</u>	<u>\$ 4,400.8</u>
Ratios			
Loss ratio	45.7%	61.5%	54.4%
Policy acquisition expense ratio	18.4	19.1	18.8
General and administrative expense ratio ⁽²⁾	13.5	15.6	18.5
Expense ratio	31.9	34.7	37.3
Combined ratio	77.6%	96.2%	91.7%

⁽¹⁾ Amortization and non-recurring corporate expenses includes \$28.5 million of costs associated with the unsolicited approach and an inadequate offer by Endurance.

⁽²⁾ The general and administrative expense ratio in the total column includes corporate expenses, amortization and non-recurring corporate expenses.

Geographical Areas. The following summary presents the Company's gross written premiums based on the location of the insured risk.

	For the Twelve Months Ended		
	December 31, 2016	December 31, 2015	December 31, 2014
	(\$ in millions)		
Australia/Asia	\$ 140.5	\$ 140.0	\$ 130.1
Caribbean	14.3	20.3	19.7
Europe	109.7	113.6	113.9
United Kingdom	231.4	223.6	209.3
United States & Canada ⁽¹⁾	1,597.0	1,479.5	1,357.3
Worldwide excluding United States ⁽²⁾	90.7	107.2	116.2
Worldwide including United States ⁽³⁾	837.2	793.6	851.8
Others	126.2	119.5	104.4
Total	<u>\$ 3,147.0</u>	<u>\$ 2,997.3</u>	<u>\$ 2,902.7</u>

⁽¹⁾ "United States and Canada" comprises individual policies that insure risks specifically in the United States and/or Canada, but not elsewhere.

⁽²⁾ "Worldwide excluding the United States" comprises individual policies that insure risks wherever they may be across the world but specifically excludes the United States.

⁽³⁾ "Worldwide including the United States" comprises individual policies that insure risks wherever they may be across the world but specifically includes the United States.

6. Investments

Income Statement

Investment Income. The following table summarizes investment income for the twelve months ended December 31, 2016, 2015 and 2014:

	For the Twelve Months Ended		
	December 31, 2016	December 31, 2015	December 31, 2014
	(\$ in millions)		
Fixed income securities — Available for sale	\$ 141.3	\$ 143.4	\$ 151.1
Fixed income securities — Trading	31.6	27.8	26.7
Short-term investments — Available for sale	0.6	1.1	1.4
Short-term investments — Trading	0.2	—	—
Fixed term deposits (included in cash and cash equivalents)	3.4	3.0	3.3
Equity securities — Available for sale	—	0.1	4.1
Equity securities — Trading	20.4	20.0	13.0
Catastrophe bonds — Trading	1.6	1.9	1.3
Total	<u>199.1</u>	<u>197.3</u>	<u>200.9</u>
Investment expenses	(12.0)	(11.8)	(10.6)
Net investment income	<u>\$ 187.1</u>	<u>\$ 185.5</u>	<u>\$ 190.3</u>

The following table summarizes the net realized and unrealized investment gains and losses recorded in the statement of operations and the change in unrealized gains and losses on investments recorded in other comprehensive income for the twelve months ended December 31, 2016, 2015 and 2014:

	For the Twelve Months Ended		
	December 31, 2016	December 31, 2015	December 31, 2014
	(\$ in millions)		
Available for sale:			
Fixed income securities — gross realized gains	\$ 18.6	\$ 11.7	\$ 10.3
Fixed income securities — gross realized (losses)	(8.3)	(2.7)	(5.9)
Equity securities — gross realized gains	—	31.9	12.9
Equity securities — gross realized (losses)	—	(3.0)	(0.8)
Cash and cash equivalents — gross realized gains	0.2	—	—
Cash and cash equivalents — gross realized (losses)	(0.6)	—	—
Other-than-temporary impairments	—	—	(2.4)
Trading:			
Fixed income securities — gross realized gains	12.6	4.9	7.3
Fixed income securities — gross realized (losses)	(7.3)	(6.1)	(2.5)
Cash and cash equivalents — gross realized gains	0.1	—	—
Cash and cash equivalents — gross realized (losses)	(0.3)	—	—
Equity securities — gross realized gains	54.1	46.0	7.8
Equity securities — gross realized (losses)	(46.3)	(31.7)	(3.1)
Catastrophe bonds	—	(0.3)	0.4
Net change in gross unrealized (losses) gains	22.5	(33.1)	7.6
Other investments:			
Gross realized and unrealized (loss) in MVI	(0.3)	—	—
Gross unrealized gain/(loss) in Chaspark	0.3	(0.6)	—
Gross realized and unrealized (loss) in Bene	(0.1)	—	—
Total net realized and unrealized investment gains recorded in the statement of operations	<u>\$ 45.2</u>	<u>\$ 17.0</u>	<u>\$ 31.6</u>
Change in available for sale net unrealized gains:			
Fixed income securities	(39.0)	(82.2)	47.7
Short-term investments	—	(0.1)	—
Equity securities	—	(27.3)	(10.0)
Total change in pre-tax available for sale unrealized gains	<u>(39.0)</u>	<u>(109.6)</u>	<u>37.7</u>
Change in taxes	1.3	4.4	(2.8)
Total change in net unrealized gains/(losses), net of taxes recorded in other comprehensive income	<u>\$ (37.7)</u>	<u>\$ (105.2)</u>	<u>\$ 34.9</u>

Other-than-temporary Impairments. A security is potentially impaired when its fair value is below its cost or amortized cost. The Company reviews its available for sale fixed income and equity portfolios on an individual security basis for potential OTTI each quarter based on criteria including issuer-specific circumstances, credit ratings actions and general macro-economic conditions. The total OTTI charge for the twelve months ended December 31, 2016 was \$Nil (2015 — \$Nil). For a more detailed description of accounting policies for OTTI, please refer to Note 2 (c), “Basis of Preparation and Significant Accounting Policies — Accounting for Investments, Cash and Cash Equivalents” of these consolidated financial statements.

Balance Sheet

Fixed Income Securities, Short-Term Investments and Equities — Available For Sale. The following tables present the cost or amortized cost, gross unrealized gains and losses and estimated fair market value of available for sale investments in fixed income securities, short-term investments and equity securities as at December 31, 2016 and December 31, 2015:

	As at December 31, 2016			
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Market Value
	(\$ in millions)			
U.S. government	\$ 1,207.9	\$ 9.4	\$ (11.2)	\$ 1,206.1
U.S. agency	117.7	1.9	—	119.6
Municipal	23.2	1.6	(0.4)	24.4
Corporate	2,566.9	39.6	(20.0)	2,586.5
Non-U.S. government-backed corporate	89.2	0.7	(0.1)	89.8
Non-U.S Government	477.7	11.8	(0.8)	488.7
Asset-backed	62.6	0.4	—	63.0
Non-agency commercial mortgage-backed	12.3	0.3	—	12.6
Agency mortgage-backed	1,062.6	19.6	(8.3)	1,073.9
Total fixed income securities — Available for sale	5,620.1	85.3	(40.8)	5,664.6
Total short-term investments — Available for sale	145.3	—	—	145.3
Total	<u>\$ 5,765.4</u>	<u>\$ 85.3</u>	<u>\$ (40.8)</u>	<u>\$ 5,809.9</u>

The Company no longer holds equity investments in its available for sale portfolio. All equities are held in the trading portfolio. There were non-cash transfers of securities from available for sale to trading of \$95.1 million during the twelve months ended December 31, 2016. The transfers were made following the decision by the North Dakota regulator to reduce the held capital requirement for the recognition of ceded reinsurance recoveries from Aspen Bermuda Limited from 100% to 20%. This decision resulted in a new reduced collateral Regulation 114 trust being established and funded by non-cash transfers of securities from available for sale portfolios.

	As at December 31, 2015			
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Market Value
	(\$ in millions)			
U.S. government	\$ 1,113.9	\$ 13.0	\$ (3.8)	\$ 1,123.1
U.S. agency	154.5	4.3	(0.1)	158.7
Municipal	25.0	1.6	—	26.6
Corporate	2,626.2	49.5	(15.1)	2,660.6
Non-U.S. government-backed corporate	81.6	0.6	(0.1)	82.1
Non-U.S Government	634.6	10.5	(0.9)	644.2
Asset-backed	75.4	0.9	(0.3)	76.0
Non-agency commercial mortgage-backed	25.5	1.2	—	26.7
Agency mortgage-backed	1,130.8	27.6	(5.3)	1,153.1
Total fixed income securities — Available for sale	5,867.5	109.2	(25.6)	5,951.1
Total short-term investments — Available for sale	162.9	—	—	162.9
Total	<u>\$ 6,030.4</u>	<u>\$ 109.2</u>	<u>\$ (25.6)</u>	<u>\$ 6,114.0</u>

Fixed Income Securities, Short Term Investments, Equities and Catastrophe Bonds — Trading. The following tables present the cost or amortized cost, gross unrealized gains and losses, and estimated fair market value of trading investments in fixed income securities, short-term investments, equity securities and catastrophe bonds as at December 31, 2016 and December 31, 2015:

As at December 31, 2016				
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Market Value
(\$ in millions)				
U.S. government	\$ 82.8	\$ 0.4	\$ (0.8)	\$ 82.4
Municipal	15.7	—	(0.2)	15.5
Corporate	817.8	9.9	(7.1)	820.6
Non-U.S Government	203.4	3.5	(4.1)	202.8
Asset-backed	14.5	—	—	14.5
Agency mortgage-backed securities	130.6	0.2	(0.9)	129.9
Total fixed income securities — Trading	1,264.8	14.0	(13.1)	1,265.7
Total short-term investments — Trading	185.4	—	—	185.4
Total equity securities — Trading	554.3	55.4	(25.0)	584.7
Total catastrophe bonds — Trading	42.5	—	—	42.5
Total	<u>\$ 2,047.0</u>	<u>\$ 69.4</u>	<u>\$ (38.1)</u>	<u>\$ 2,078.3</u>

As at December 31, 2015				
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Market Value
(\$ in millions)				
U.S. government	\$ 27.4	\$ —	\$ (0.1)	\$ 27.3
Municipal	0.5	—	—	0.5
Corporate	561.9	5.9	(9.6)	558.2
Non-U.S Government	181.5	1.7	(3.7)	179.5
Asset-backed	20.7	—	(0.2)	20.5
Bank loans	2.2	—	(0.2)	2.0
Total fixed income securities — Trading	794.2	7.6	(13.8)	788.0
Total short-term investments — Trading	9.5	—	—	9.5
Total equity securities — Trading	722.5	57.3	(43.4)	736.4
Total catastrophe bonds — Trading	55.2	0.3	(0.1)	55.4
Total	<u>\$ 1,581.4</u>	<u>\$ 65.2</u>	<u>\$ (57.3)</u>	<u>\$ 1,589.3</u>

The Company classifies the financial instruments listed above as held for trading as this most closely reflects the facts and circumstances of the investments held.

In the fourth quarter of 2015, the Company liquidated the majority of its BB Bank Loans portfolio and received net proceeds of \$82.5 million. Proceeds from the sales were reinvested into the BBB Emerging Market Debt portfolio. As at December 31, 2016, the Company had a 6.8% position in equities, a 3.8% position in BBB Emerging Market Debt and a 0.2% in risk asset portfolio cash. As a result, the Company's investments in equities, BBB Emerging Market Debt and risk portfolio cash consisted of approximately 10.8% of our Managed Portfolio (December 31, 2015 — 12.6%).

Catastrophe bonds. The Company has invested in catastrophe bonds with a total value of \$42.5 million as at December 31, 2016. The bonds receive quarterly interest payments based on variable interest rates with scheduled maturities ranging from 2016 to 2021. The redemption value of the bonds will adjust based on the occurrence of a covered event, such as windstorms and earthquakes which occur in the geographic regions of the United States, Canada, the North Atlantic, Japan or Australia.

Other Investments. In January 2015, the Company established, along with seven other insurance companies, a micro-insurance venture consortium and micro-insurance incubator (“MVI”) domiciled in Bermuda. The MVI is a social impact organization that provides micro-insurance products to assist global emerging consumers. The Company’s initial investment in the MVI was \$0.8 million.

On October 2, 2012, the Company established a subsidiary, Aspen Recoveries Limited, to take ownership of a 58.5% shareholding in Chaspark Maritime Holdings Ltd., a Singaporean registered company (“Chaspark”), with the remaining shareholding owned by other insurers. The shareholding in Chaspark was received as a settlement for subrogation rights associated with a contract frustration claim settlement. The Company determined that Chaspark has the characteristics of a variable interest entity as addressed by the guidance in ASC 810-10, *Consolidation*. However, the Company’s investment in Chaspark does not permit the Company to direct the activities which most significantly impact Chaspark’s economic performance and the Company is not acting as principal or agent for a related party group of investors. Under these circumstances and in accordance with the provisions of ASC 810-10, the Company is not required to consolidate Chaspark. As a result, the Company’s investment in Chaspark is accounted for under the equity method and adjustments to the carrying value of this investment are made based on the Company’s share of capital, including share of income and expenses, which is provided in the quarterly management accounts. The adjusted carrying value approximates fair value. In the twelve months ended December 31, 2016, the change in the value of the Company’s investment in Chaspark was an unrealized gain of \$0.3 million (December 31, 2015 — unrealized loss of \$0.6 million). Changes in the value were recognized in realized and unrealized investment gains and losses in the consolidated statement of operations.

On July 26, 2016, the Company purchased through its wholly-owned subsidiary, Acorn Limited (“Acorn”), a 20.0% share of Bene Assicurazioni (“Bene”), an Italian-based motor insurer for a total consideration of \$3.3 million. The investment is accounted for under the equity method and adjustments to the carrying value of this investment are made based on the Company’s share of capital, including share of income and expenses.

The table below shows the Company’s investments in MVI, Chaspark and Bene for the twelve months ended December 31, 2016 and 2015:

	<u>MVI</u>	<u>Chaspark</u>	<u>Bene</u>	<u>Total</u>
Opening undistributed value of investment as at January 1, 2016	\$ 0.8	\$ 8.1	\$ —	\$ 8.9
Investment in the period.	—	—	3.3	3.3
Unrealized (loss)/gain for the twelve months to December 31, 2016	(0.3)	0.3	(0.1)	(0.1)
Closing value of investment as at December 31, 2016	<u>\$ 0.5</u>	<u>\$ 8.4</u>	<u>\$ 3.2</u>	<u>\$ 12.1</u>
Opening undistributed value of investment as at January 1, 2015	\$ —	\$ 8.7	\$ —	\$ 8.7
Investment in the period.	0.8	—	—	0.8
Unrealized (loss) for the twelve months to December 31, 2015	—	(0.6)	—	(0.6)
Closing value of investment as at December 31, 2015	<u>\$ 0.8</u>	<u>\$ 8.1</u>	<u>\$ —</u>	<u>\$ 8.9</u>

Fixed Income Securities. The scheduled maturity distribution of the Company’s available for sale fixed income securities as at December 31, 2016 and December 31, 2015 is set forth below. Actual maturities may differ from contractual maturities because issuers of securities may have the right to call or prepay obligations with or without call or prepayment penalties.

As at December 31, 2016			
	Amortized Cost or Cost	Fair Market Value	Average S&P Ratings by Maturity
	(\$ in millions)		
Due one year or less	\$ 567.2	\$ 570.0	AA
Due after one year through five years	2,643.7	2,671.9	AA-
Due after five years through ten years	1,172.3	1,168.1	A+
Due after ten years	99.4	105.1	A+
Subtotal	4,482.6	4,515.1	
Non-agency commercial mortgage-backed	12.3	12.6	AAA
Agency mortgage-backed	1,062.6	1,073.9	AA+
Asset-backed	62.6	63.0	AAA
Total fixed income securities — Available for sale	<u>\$ 5,620.1</u>	<u>\$ 5,664.6</u>	

At December 31, 2015			
	Amortized Cost or Cost	Fair Market Value	Average S&P Ratings by Maturity
	(\$ in millions)		
Due one year or less	\$ 661.8	\$ 664.4	AA
Due after one year through five years	2,765.2	2,806.6	AA-
Due after five years through ten years	1,122.5	1,132.0	A+
Due after ten years	86.3	92.3	A+
Subtotal	4,635.8	4,695.3	
Non-agency commercial mortgage-backed	25.5	26.7	AA+
Agency mortgage-backed	1,130.8	1,153.1	AA+
Asset-backed	75.4	76.0	AAA
Total fixed income securities — Available for sale	<u>\$ 5,867.5</u>	<u>\$ 5,951.1</u>	

Guaranteed Investments. As at December 31, 2016, and 2015 the Company held no investments which are guaranteed by mono-line insurers, excluding those with explicit government guarantees, and the Company’s holding was limited to one municipal security with fair value less than \$0.1 million rated CC or higher (December 31, 2015 — one municipal security rated CC or higher). The standalone rating (rating without guarantee) is determined as the senior unsecured debt rating of the issuer. Where the credit ratings were split between the two main rating agencies, Standard & Poor’s Financial Services LLC (“S&P”) and Moody’s Investors Service Inc. (“Moody’s”), the lowest rating was used. The Company’s exposure to other third-party guaranteed debt is primarily to investments backed by non-U.S. government guaranteed issuers.

Gross Unrealized Losses. The following tables summarize, by type of security, the aggregate fair value and gross unrealized loss by length of time the security has been in an unrealized loss position for the Company's available for sale portfolio as at December 31, 2016 and December 31, 2015:

	December 31, 2016						
	0-12 months		Over 12 months		Total		
	Fair Market Value	Gross Unrealized Losses	Fair Market Value	Gross Unrealized Losses	Fair Market Value	Gross Unrealized Losses	Number of Securities
	(\$ in millions)						
U.S. government.....	\$ 724.4	\$ (11.2)	\$ —	\$ —	\$ 724.4	\$ (11.2)	78
U.S. agency	14.1	—	—	—	14.1	—	4
Municipal	7.7	(0.2)	0.8	(0.2)	8.5	(0.4)	6
Corporate	1,044.4	(19.4)	6.6	(0.6)	1,051.0	(20.0)	386
Non-U.S. government-backed corporate.....	29.6	(0.1)	—	—	29.6	(0.1)	11
Non-U.S. Government.....	143.5	(0.8)	1.0	—	144.5	(0.8)	29
Asset-backed	25.8	—	1.4	—	27.2	—	15
Agency mortgage-backed.....	527.6	(7.6)	27.2	(0.7)	554.8	(8.3)	148
Total fixed income securities — Available for sale.....	2,517.1	(39.3)	37.0	(1.5)	2,554.1	(40.8)	677
Total short-term investments — Available for sale.....	1.1	—	—	—	1.1	—	2
Total	<u>\$ 2,518.2</u>	<u>\$ (39.3)</u>	<u>\$ 37.0</u>	<u>\$ (1.5)</u>	<u>\$ 2,555.2</u>	<u>\$ (40.8)</u>	<u>679</u>

	December 31, 2015						
	0-12 months		Over 12 months		Total		
	Fair Market Value	Gross Unrealized Losses	Fair Market Value	Gross Unrealized Losses	Fair Market Value	Gross Unrealized Losses	Number of Securities
	(\$ in millions)						
U.S. government.....	\$ 583.2	\$ (3.7)	\$ 4.6	\$ (0.1)	\$ 587.8	\$ (3.8)	72
U.S. agency	17.6	(0.1)	—	—	17.6	(0.1)	12
Municipal	1.7	—	—	—	1.7	—	3
Corporate	1,179.7	(13.3)	81.1	(1.8)	1,260.8	(15.1)	510
Non-U.S. government-backed corporate.....	40.9	(0.1)	—	—	40.9	(0.1)	9
Non-U.S. Government.....	174.6	(0.8)	2.8	(0.1)	177.4	(0.9)	43
Asset-backed	51.4	(0.3)	4.2	—	55.6	(0.3)	39
Agency mortgage-backed.....	348.1	(3.6)	72.2	(1.7)	420.3	(5.3)	105
Total fixed income securities — Available for sale.....	2,397.2	(21.9)	164.9	(3.7)	2,562.1	(25.6)	793
Total short-term investments — Available for sale.....	56.7	—	—	—	56.7	—	12
Total	<u>\$ 2,453.9</u>	<u>\$ (21.9)</u>	<u>\$ 164.9</u>	<u>\$ (3.7)</u>	<u>\$ 2,618.8</u>	<u>\$ (25.6)</u>	<u>805</u>

7. Variable Interest Entities

As at December 31, 2016, the Company had three investments in three variable interest entities (“VIE”), Chaspark, Peregrine, and Silverton.

Chaspark. On October 2, 2012, the Company established a subsidiary, Aspen Recoveries Limited, to take ownership of a 58.5% shareholding in Chaspark, with the remaining shareholding owned by other insurers. The shareholding in Chaspark was received as a settlement for subrogation rights associated with a contract frustration claim settlement. The Company has determined

that Chaspark has the characteristics of a VIE as addressed by the guidance in ASC 810, *Consolidation*. As discussed further in Note 6, “Investments” in these consolidated financial statements, the investment in Chaspark is accounted for under the equity method. In the twelve months ended December 31, 2016, there was an unrealized gain of \$0.3 million to the value of the Company’s investment in Chaspark (December 31, 2015 — unrealized loss of \$0.6 million). The adjusted carrying value approximates fair value.

Peregrine. In November 2016, Peregrine, a subsidiary of the Company, was registered as a segregated accounts company under the Segregated Accounts Companies Act 2000, as amended. As at December 31, 2016, Peregrine had three segregated accounts which were funded by a third party investor. The segregated accounts have not been consolidated as part of the Company’s consolidated financial statements. The Company has, however, determined that Peregrine now has the characteristics of a VIE as addressed by the guidance in ASC 810, *Consolidation*. The Company concluded that it is not the primary beneficiary of the three segregated accounts of Peregrine but is the primary beneficiary of the Peregrine general fund and, similar to prior reporting periods, the Company has included the results of the Peregrine general fund in its consolidated financial statements. The Company’s exposure to Peregrine’s general fund is not material.

Silverton. On September 10, 2013, the Company established Silverton, a Bermuda domiciled special purpose insurer-formed to provide additional collateralized capacity to support Aspen Re’s business through retrocession agreements which are collateralized and funded by Silverton through the issuance of one or more series of participating loan notes (collectively, the “Loan Notes”). Silverton is a non-rated insurer and the risks are fully collateralized by way of funds held in trust for the benefit of Aspen Bermuda and Aspen U.K., the ceding reinsurers.

All proceeds from the issuance of the Loan Notes were deposited into separate collateral accounts for each series of Loan Notes to fund Silverton’s obligations under a retrocession property quota share agreement entered into with Aspen Bermuda or Aspen Bermuda and Aspen U.K, as the case may be. The holders of the Loan Notes participate in any profit or loss generated by Silverton attributable to the operations of the respective Silverton segregated account. Any existing value of the Loan Notes will be returned to the noteholders in installments after the expiration of the risk period of the retrocession agreement issued by Silverton for the related series of Loan Notes with the final payment being contractually due on the respective maturity dates.

The following tables show the total liability balance of the Loan Notes for the twelve months ended December 31, 2016 and 2015:

	For the Twelve Months Ended December 31, 2016		
	Third Party	Aspen Holdings	Total
	(\$ in millions)		
Opening balance	\$ 190.6	\$ 44.4	\$ 235.0
Total change in fair value for the period	17.1	4.3	21.4
Total distributed in the period	(89.3)	(19.2)	(108.5)
Total issued in the period	105.0	25.0	130.0
Closing balance as at December 31, 2016	<u>\$ 223.4</u>	<u>\$ 54.5</u>	<u>\$ 277.9</u>
Liability			
Loan notes (long-term liabilities)	\$ 115.0	\$ 27.0	\$ 142.0
Accrued expenses (current liabilities)	108.4	27.5	135.9
Total aggregate unpaid balance as at December 31, 2016	<u>\$ 223.4</u>	<u>\$ 54.5</u>	<u>\$ 277.9</u>

	For the Twelve Months Ended December 31, 2015		
	Third Party	Aspen Holdings	Total
	(\$ in millions)		
Opening balance	\$ 138.6	\$ 35.6	\$ 174.2
Total change in fair value for the period	19.8	4.3	24.1
Total distributed in the period	(67.8)	(20.5)	(88.3)
Total issued in the period	100.0	25.0	125.0
Closing balance as at December 31, 2015	<u>\$ 190.6</u>	<u>\$ 44.4</u>	<u>\$ 235.0</u>
Liability			
Loan notes (long-term liabilities)	\$ 103.0	\$ 25.6	\$ 128.6
Accrued expenses (current liabilities)	87.6	18.8	106.4
Total aggregate unpaid balance as at December 31, 2015	<u>\$ 190.6</u>	<u>\$ 44.4</u>	<u>\$ 235.0</u>

The Company has determined that Silverton has the characteristics of a VIE that are addressed by the guidance in ASC 810, *Consolidation*. The Company concluded that it is the primary beneficiary of Silverton as it owns all of Silverton's voting shares and issued share capital, and has a significant financial interest in, and the power to control, Silverton. As a result, the Company consolidated Silverton upon its formation. The Company has no other obligation to provide financial support to Silverton and neither the creditors nor beneficial interest holders of Silverton have recourse to the Company's general credit.

In the event of an extreme catastrophic property reinsurance event or severe credit-related event, there is a risk that Aspen Bermuda and Aspen U.K. would be unable to recover losses from Silverton. These two risks are mitigated as follows:

- i. Silverton has collateralized the aggregate limit provided to Aspen Bermuda and Aspen U.K. by way of a trust in favor of Aspen Bermuda and Aspen U.K. as beneficiaries;
- ii. the trustee is a large, well-established regulated entity; and
- iii. all funds within the trust account are bound by investment guidelines restricting investments to one of the institutional class money market funds run by large international investment managers.

For further information regarding the Loan Notes attributable to the third-party investments in Silverton, refer to Note 8 of these unaudited condensed consolidated financial statements.

8. Fair Value Measurements

The Company's estimates of fair value for financial assets and liabilities are based on the framework established in the fair value accounting guidance included in ASC Topic 820, "*Fair Value Measurements and Disclosures*." The framework prioritizes the inputs, which refer broadly to assumptions market participants would use in pricing an asset or liability, into three levels.

The Company considers prices for actively traded securities to be derived based on quoted prices in an active market for identical assets, which are Level 1 inputs in the fair value hierarchy. The majority of these securities are valued using prices supplied by index providers.

The Company considers prices for other securities that may not be as actively traded which are priced via pricing services, index providers, vendors and broker-dealers, or with reference to interest rates and yield curves, to be derived based on inputs that are observable for the asset, either directly or indirectly, which are Level 2 inputs in the fair value hierarchy. The majority of these securities are also valued using prices supplied by index providers.

The Company considers securities, other financial instruments and derivative insurance contracts subject to fair value measurement whose valuation is derived by internal valuation models to be based largely on unobservable inputs, which are Level 3 inputs in the fair value hierarchy.

The following tables present the level within the fair value hierarchy at which the Company's financial assets and liabilities are measured on a recurring basis as at December 31, 2016 and December 31, 2015:

	As at December 31, 2016			Total
	Level 1	Level 2	Level 3	
	(\$ in millions)			
Available for sale financial assets, at fair value				
U.S. government	\$ 1,206.1	\$ —	\$ —	\$ 1,206.1
U.S. agency	—	119.6	—	119.6
Municipal	—	24.4	—	24.4
Corporate	—	2,586.5	—	2,586.5
Non-U.S. government-backed corporate	—	89.8	—	89.8
Non-U.S. government	343.7	145.0	—	488.7
Asset-backed	—	63.0	—	63.0
Non-agency commercial mortgage-backed	—	12.6	—	12.6
Agency mortgage-backed	—	1,073.9	—	1,073.9
Total fixed income securities available for sale, at fair value	1,549.8	4,114.8	—	5,664.6
Short-term investments available for sale, at fair value	118.6	26.7	—	145.3
Held for trading financial assets, at fair value				
U.S. government	82.4	—	—	82.4
U.S. agency	—	—	—	—
Municipal	—	15.5	—	15.5
Corporate	—	820.6	—	820.6
Non-U.S. government	—	202.8	—	202.8
Asset-backed	—	14.5	—	14.5
Agency Mortgage-Backed	—	129.9	—	129.9
Total fixed income securities trading, at fair value	82.4	1,183.3	—	1,265.7
Short-term investments trading, at fair value	76.1	109.3	—	185.4
Equity investments trading, at fair value	584.7	—	—	584.7
Catastrophe bonds trading, at fair value	—	42.5	—	42.5
Other financial assets and liabilities, at fair value				
Derivatives at fair value — foreign exchange contracts	—	7.2	—	7.2
Derivatives at fair value — interest rate swaps	—	—	—	—
Liabilities under derivative contracts — foreign exchange contracts	—	(18.4)	—	(18.4)
Loan notes issued by variable interest entities, at fair value	—	—	(115.0)	(115.0)
Loan notes issued by variable interest entities, at fair value (included within accrued expenses and other payables)	—	—	(108.4)	(108.4)
Total	\$ 2,411.6	\$ 5,465.4	\$ (223.4)	\$ 7,653.6

Transfers of assets into or out of a particular level are recorded at their fair values as of the end of each reporting period, consistent with the date of the determination of fair value. As at December 31, 2016, the Company transferred \$83.9 million of foreign government securities from Level 1 to Level 2 and there were no other transfers between Levels 1 and 2 during the twelve months ended December 31, 2016. There were no transfers between Levels 2 and 3 during the twelve months ended December 31, 2016.

The Company settled \$89.3 million Level 3 liabilities in respect to the loan notes issued by the VIEs for the twelve months ended December 31, 2016. As at December 31, 2016, there were no assets classified as Level 3 and the Company's Level 3 liabilities consisted of the loan notes issued by the VIEs.

At December 31, 2015

	Level 1	Level 2	Level 3	Total
	(\$ in millions)			
Available for sale financial assets, at fair value				
U.S. government	\$ 1,123.1	\$ —	\$ —	\$ 1,123.1
U.S. agency	—	158.7	—	158.7
Municipal	—	26.6	—	26.6
Corporate	—	2,660.6	—	2,660.6
Non-U.S. government-backed corporate	—	82.1	—	82.1
Non-U.S. government	449.5	194.7	—	644.2
Asset-backed	—	76.0	—	76.0
Non-agency commercial mortgage-backed	—	26.7	—	26.7
Agency mortgage-backed	—	1,153.1	—	1,153.1
Total fixed income securities available for sale, at fair value	1,572.6	4,378.5	—	5,951.1
Short-term investments available for sale, at fair value	130.5	32.4	—	162.9
Held for trading financial assets, at fair value				
U.S. government	27.3	—	—	27.3
U.S. agency	—	—	—	—
Municipal	—	0.5	—	0.5
Corporate	—	558.2	—	558.2
Non-U.S. government	73.8	105.7	—	179.5
Asset-backed	—	20.5	—	20.5
Bank loans	—	2.0	—	2.0
Total fixed income securities trading, at fair value	101.1	686.9	—	788.0
Short-term investments trading, at fair value	7.4	2.1	—	9.5
Equity investments trading, at fair value	736.4	—	—	736.4
Catastrophe bonds trading, at fair value	—	55.4	—	55.4
Other financial assets and liabilities, at fair value				
Derivatives at fair value — foreign exchange contracts	—	8.8	—	8.8
Derivatives at fair value — interest rate swaps	—	0.4	—	0.4
Liabilities under derivative contracts — foreign exchange contracts	—	(4.0)	—	(4.0)
Loan notes issued by variable interest entities, at fair value	—	—	(103.0)	(103.0)
Loan notes issued by variable interest entities, at fair value (included within accrued expenses and other payables)	—	—	(87.6)	(87.6)
Total	\$ 2,548.0	\$ 5,160.5	\$ (190.6)	\$ 7,517.9

There were no maturities, settlements or transfers between Level 1, Level 2 and Level 3 during the twelve months ended December 31, 2015. The Company settled \$67.8 million Level 3 liabilities in respect to the loan notes issued by the VIEs for the twelve months ended December 31, 2015. As at December 31, 2015, there were no assets classified as Level 3 and the Company's Level 3 liabilities consisted of the loan notes issued by the VIEs.

The following table presents a reconciliation of the beginning and ending balances for all assets and liabilities measured at fair value on a recurring basis using Level 3 inputs for the twelve months ended December 31, 2016:

Reconciliation of Liabilities Using Level 3 Inputs	Twelve Months Ended December 31, 2016	Twelve Months Ended December 31, 2015
	(\$ in millions)	
Balance at the beginning of the period ⁽¹⁾	\$ 190.6	\$ 138.6
Distributed to third party	(89.3)	(67.8)
Loan notes issued during the period	105.0	100.0
Total change in fair value included in the statement of operations	17.1	19.8
Balance at the end of the period ⁽¹⁾	<u>\$ 223.4</u>	<u>\$ 190.6</u>

⁽¹⁾ The amount classified as other payables was \$108.4 million and \$87.6 million as at December 31, 2016 and December 31, 2015, respectively.

Valuation of Fixed Income Securities. The Company's fixed income securities are classified as either available for sale or trading and are carried at fair value. As at December 31, 2016 and December 31, 2015, the Company's fixed income securities were valued by pricing services, index providers or broker-dealers using standard market conventions. The market conventions utilize market quotations, market transactions in comparable instruments and various relationships between instruments including, but not limited to, yield to maturity, dollar prices and spread prices in determining value.

Independent Pricing Services and Index Providers. The underlying methodology used to determine the fair value of securities in the Company's available for sale and trading portfolios by the pricing services and index providers the Company uses is very similar. Pricing services will gather observable pricing inputs from multiple external sources, including buy and sell-side contacts and broker-dealers, in order to develop their internal prices. Index providers are those firms which provide prices for a range of securities within one or more asset classes, typically using their own in-house market makers (traders) as the primary pricing source for the indices, although ultimate valuations may also rely on other observable data inputs to derive a dollar price for all index-eligible securities. Index providers without in-house trading desks will function similarly to a pricing service in that they will gather their observable pricing inputs from multiple external sources. All prices for the Company's securities attributed to index providers are for an individual security within the respective indices.

Pricing services and index providers provide pricing for less complex, liquid securities based on market quotations in active markets. Pricing services and index providers supply prices for a broad range of securities including those for actively traded securities, such as Treasury and other Government securities, in addition to those that trade less frequently or where valuation includes reference to credit spreads, pay down and pre-pay features and other observable inputs. These securities include Government Agency, Municipals, Corporate and Asset-Backed Securities.

For securities that may trade less frequently or do not trade on a listed exchange, these pricing services and index providers may use matrix pricing consisting of observable market inputs to estimate the fair value of a security. These observable market inputs include: reported trades, benchmark yields, broker-dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, reference data, and industry and economic factors. Additionally, pricing services and index providers may use a valuation model such as an option adjusted spread model commonly used for estimating fair values of mortgage-backed and asset-backed securities. Neither the Company, nor its index providers, derives dollar prices using an index as a pricing input for any individual security.

Broker-Dealers. The Company obtains quotes from broker-dealers who are active in the corresponding markets when prices are unavailable from independent pricing services or index providers. Generally, broker-dealers value securities through their trading desks based on observable market inputs. Their pricing methodologies include mapping securities based on trade data, bids or offers, observed spreads and performance of newly issued securities. They may also establish pricing through observing secondary trading of similar securities. Quotes from broker-dealers are non-binding.

The Company obtains prices for all of its fixed income investment securities via its third-party accounting service provider, and in the majority of cases receiving a number of quotes so as to obtain the most comprehensive information available to determine a security's fair value. A single valuation is applied to each security based on the vendor hierarchy maintained by the Company's third-party accounting service provider.

As at December 31, 2016, the Company obtained an average of 2.1 quotes per fixed income investment compared to 2.0 quotes at December 31, 2015. Pricing sources used in pricing fixed income investments as at December 31, 2016 and December 31, 2015 were as follows:

	As at December 31, 2016	At December 31, 2015
Index providers	87%	85%
Pricing services	7	10
Broker-dealers	6	5
Total	<u>100%</u>	<u>100%</u>

Summary Pricing Information Table. A summary of securities priced using pricing information from index providers as at December 31, 2016 and December 31, 2015 is provided below:

	As at December 31, 2016		At December 31, 2015	
	Fair Market Value Determined using Prices from Index Providers	% of Total Fair Value by Security Type	Fair Market Value Determined using Prices from Index Providers	% of Total Fair Value by Security Type
	(\$ in millions, except for percentages)			
U.S. government	\$ 1,288.2	100%	\$ 1,095.4	95%
U.S. agency	110.2	92%	148.5	94%
Municipal	28.8	72%	10.5	39%
Corporate	3,275.3	96%	3,083.5	96%
Non-U.S. government-backed corporate	44.8	50%	41.7	51%
Non-U.S. government	455.6	72%	517.6	63%
Asset-backed	32.1	41%	55.3	57%
Non-agency commercial mortgage-backed	12.5	98%	22.7	85%
Agency mortgage-backed	691.9	58%	742.9	64%
Total fixed income securities ⁽¹⁾	<u>\$ 5,939.4</u>	87%	<u>\$ 5,718.1</u>	85%
Equities	<u>\$ 584.7</u>	100%	<u>\$ 736.4</u>	100%
Total fixed income securities and equity investments ⁽¹⁾	<u>\$ 6,524.1</u>	88%	<u>\$ 6,454.5</u>	86%

(1) The total represents only those securities priced using Index Providers.

The Company, in conjunction with its third-party accounting service provider, obtains an understanding of the methods, models and inputs used by the third-party pricing service and index providers to assess the ongoing appropriateness of vendors' prices. The Company and its third-party accounting service provider also have controls in place to validate that amounts provided represent fair values. Processes to validate and review pricing include, but are not limited to:

- quantitative analysis (e.g., comparing the quarterly return for each managed portfolio to its target benchmark, with significant differences identified and investigated);
- comparison of market values obtained from pricing services, index providers and broker-dealers against alternative price sources for each security where further investigation is completed when significant differences exist for pricing of individual securities between pricing sources;
- initial and ongoing evaluation of methodologies used by outside parties to calculate fair value; and
- comparison of the fair value estimates to the Company's knowledge of the current market.

Prices obtained from pricing services, index providers and broker-dealers are not adjusted by us; however, prices provided by a pricing service, index provider or broker-dealer in certain instances may be challenged based on market or information available from internal sources, including those available to the Company's third-party investment accounting service provider. Subsequent to any challenge, revisions made by the pricing service, index provider or broker-dealer to the quotes are supplied to the Company's investment accounting service provider.

Management reviews the vendor hierarchy maintained by the Company's third-party accounting service provider in order to determine which price source provides the most appropriate fair value (i.e., a price obtained from a pricing service with more seniority in the hierarchy will be used over a less senior one in all cases). The hierarchy level assigned to each security in the Company's available for sale and trading portfolios is based upon its assessment of the transparency and reliability of the inputs

used in the valuation as of the measurement date. The hierarchy of index providers and pricing services is determined using various qualitative and quantitative points arising from reviews of the vendors conducted by the Company's third-party accounting service provider. Vendor reviews include annual onsite due diligence meetings with index providers and pricing services vendors covering valuation methodology, operational walkthroughs and legal and compliance updates. Index providers are assigned the highest priority in the pricing hierarchy due primarily to availability and reliability of pricing information.

Fixed Income Securities. Fixed income securities are traded on the over-the-counter ("OTC") market based on prices provided by one or more market makers in each security. Securities such as U.S. Government, U.S. Agency, Foreign Government and investment grade corporate bonds have multiple market makers in addition to readily observable market value indicators such as expected credit spread, except for Treasury securities, over the yield curve. The Company uses a variety of pricing sources to value fixed income securities including those securities that have pay down/prepay features such as mortgage-backed securities and asset-backed securities in order to ensure fair and accurate pricing. The fair value estimates for the investment grade securities in the Company's portfolio do not use significant unobservable inputs or modeling techniques.

U.S. Government and Agency. U.S. government and agency securities consist primarily of bonds issued by the U.S. Treasury and corporate debt issued by agencies such as the Federal National Mortgage Association ("FNMA"), the Federal Home Loan Mortgage Corporation ("FHLMC") and the Federal Home Loan Bank. As the fair values of U.S. Treasury securities are based on unadjusted market prices in active markets, they are classified within Level 1. The fair values of U.S. government agency securities are priced using the spread above the risk-free yield curve. As the yields for the risk-free yield curve and the spreads for these securities are observable market inputs, the fair values of U.S. government agency securities are classified within Level 2.

Municipals. The Company's municipal portfolio comprises bonds issued by U.S. domiciled state and municipality entities. The fair value of these securities is determined using spreads obtained from broker-dealers, trade prices and the new issue market which are Level 2 inputs in the fair value hierarchy. Consequently, these securities are classified within Level 2.

Foreign Government. The issuers for securities in this category are non-U.S. governments and their agencies. The fair values of certain non-U.S. government bonds, primarily sourced from international indices, are based on unadjusted market prices in active markets and are therefore classified within Level 1. The remaining non-U.S. government bonds are classified within level 2 as they are not actively traded. The fair values of the non-U.S. agency securities, again primarily sourced from international indices, are priced using the spread above the risk-free yield curve. As the yields for the risk-free yield curve and the spreads for these securities are observable market inputs, the fair values of non-U.S. agency securities are classified within Level 2. In addition, foreign government securities include a portion of the Emerging Market Debt ("EMD") portfolio which is also classified within Level 2.

Corporate. Corporate securities consist primarily of U.S. and foreign corporations covering a variety of industries and are for the most part priced by index providers and pricing vendors. Some issuers may participate in government programs which guarantee timely payment of principal and interest in the event of a default. The fair values of these securities are generally determined using the spread above the risk-free yield curve. Inputs used in the evaluation of these securities include credit data, interest rate data, market observations and sector news, broker-dealer quotes and trade volumes. In addition, corporate securities include a portion of the EMD portfolio. The Company classifies all of these securities within Level 2.

Mortgage-backed Securities. Residential and commercial mortgage-backed securities consist of bonds issued by the Government National Mortgage Association, the FNMA and the FHLMC as well as private non-agency issuers. The fair values of these securities are determined through the use of a pricing model (including Option Adjusted Spread) which uses prepayment speeds and spreads to determine the appropriate average life of the mortgage-backed security. These spreads are generally obtained from broker-dealers, trade prices and the new issue market. As the significant inputs used to price mortgage-backed securities are observable market inputs, these securities are classified within Level 2.

Asset-backed Securities. The underlying collateral for the Company's asset-backed securities consists mainly of student loans, automobile loans and credit card receivables. These securities are primarily priced by index providers and pricing vendors. Inputs to the valuation process include broker-dealer quotes and other available trade information, prepayment speeds, interest rate data and credit spreads. The Company classifies these securities within Level 2.

Bank Loans. These are variable rate, senior secured debt instruments issued by non-investment grade companies that are not publicly registered but are the most senior debt in a capital structure and are generally secured by company assets. Although these assets do not trade in as liquid a market as traditional fixed income instruments, they are valued in similar fashion to other fixed maturities, using similar inputs such as yield curves, interest rates and credit spreads. These securities are primarily priced by a third party pricing vendor. Bank loans are therefore classified within Level 2.

Short-term Investments. Short-term investments comprise highly liquid debt securities with a maturity greater than three months but less than one year from the date of purchase. Short-term investments are valued in a manner similar to the Company's fixed maturity investments and are classified within Levels 1 and 2.

Equity Securities. Equity securities include U.S. and foreign common stocks and are classified either as trading or available for sale and carried at fair value. As at December 31, 2015, all equity securities are classified as trading. These securities are

classified within Level 1 as their fair values are based on quoted market prices in active markets from independent pricing sources. As at December 31, 2016, the Company obtained an average of 3.9 quotes per equity investment, compared to 4.0 quotes as at December 31, 2015. Pricing sources used in pricing equities as at December 31, 2016 and December 31, 2015 were all provided by index providers.

Catastrophe Bonds. Catastrophe bonds held by the Company are variable rate fixed income instruments with redemption values adjusted based on the occurrence of a covered event, usually windstorms and earthquakes. These bonds have been classified as trading and carried at fair value. Bonds are priced using an average of multiple broker-dealer quotes and as such, are considered Level 2.

Foreign Exchange Contracts. The foreign exchange contracts which the Company uses to mitigate currency risk are characterized as OTC due to their customized nature and the fact that they do not trade on a major exchange. These instruments trade in a very deep liquid market, providing substantial price transparency and accordingly are classified as Level 2.

Interest Rate Swaps. The interest rate swaps which the Company uses to mitigate interest rate risk are also characterized as OTC and are valued by the counterparty using quantitative models with multiple market inputs. The market inputs, such as interest rates and yield curves, are observable and the valuation can be compared for reasonableness with third party pricing services. Consequently, these instruments are classified as Level 2.

Loan Notes Issued by Variable Interest Entities. Silverton, a licensed special purpose insurer, is consolidated into the Company's group accounts as a VIE. In the fourth quarter of 2014, Silverton issued \$85.0 million (\$70.0 million third-party funded) of Loan Notes with a maturity date of September 18, 2017. During the fourth quarter of 2015, Silverton issued an additional \$125.0 million (\$100.0 million third-party funded) loan notes with a maturity date of September 17, 2018. In the fourth quarter of 2016, Silverton issued an additional \$130.0 million (\$105.0 million third-party funded) of Loan Notes with a maturity date of September 16, 2019. The Company elected to account for the Loan Notes at fair value using the guidance as prescribed under ASC 825, *Financial Instruments* as the Company believes it represents the most meaningful measurement basis for these liabilities. The Loan Notes are recorded at fair value at each reporting period and, as they are not quoted on an active market and contain significant unobservable inputs, they have been classified as Level 3 instruments in the Company's fair value hierarchy. The Loan Notes are unique because they are linked to the specific risks of the Company's property catastrophe book.

To determine the fair value of the Loan Notes the Company runs an internal model which considers the seasonality of the risk assumed under the retrocessional agreement between Aspen Bermuda and/or Aspen U.K. and Silverton. The seasonality used in the model is determined by applying the percentage of property catastrophe losses planned by the Company's actuaries to the estimated written premium to determine earned premium for each quarter. The inputs to the internal valuation model are based on Company specific data due to the lack of observable market inputs. Reserves for losses are the most significant unobservable input. An increase in reserves for losses would normally result in a decrease in the fair value of the Loan Notes while a decrease in reserves would normally result in an increase in the fair value of the Loan Notes. The observable and unobservable inputs used to determine the fair value of the Loan Notes as at December 31, 2016 and December 31, 2015, respectively, are presented in the tables below:

At December 31, 2016	Fair Value Level 3	Valuation Method	Observable (O) and Unobservable (U) inputs	Low	High
	(\$ in millions)			(\$ in millions)	
Loan Notes	\$ 223.4 ⁽¹⁾	Internal Valuation Model	Gross premiums written (O)	\$ 38.9	\$ 43.4
			Reserve for losses (U)	\$ 2.7	\$ 11.8
			Contract period (O)	N/A	365 days
			Initial value of issuance (O)	\$ 220.0	\$ 220.0

At December 31, 2015	Fair Value Level 3	Valuation Method	Observable (O) and Unobservable (U) inputs	Low	High
	(\$ in millions)			(\$ in millions)	
Loan Notes	\$ 190.6 ⁽¹⁾	Internal Valuation Model	Gross premiums written (O)	\$ —	\$ 38.9
			Reserve for losses (U)	\$ —	\$ 4.2
			Contract period (O)	N/A	365 days
			Initial value of issuance (O)	\$ 220.0	\$ 220.0

⁽¹⁾ The amount classified as other payables was \$108.4 million and \$87.6 million as at December 31, 2016 and December 31, 2015, respectively.

The observable and unobservable inputs represent the potential variation around the inputs used in the valuation model. The contract period is defined in the respective Loan Notes agreement and the initial value represents the funds received from third parties.

9. Reinsurance

The Company purchases retrocession and reinsurance to limit and diversify the Company’s risk exposure and to increase its own insurance and reinsurance underwriting capacity. These agreements provide for recovery of a portion of losses and loss adjustment expenses from reinsurers. As is the case with most reinsurance contracts, the Company remains liable to the extent that reinsurers do not meet their obligations under these agreements. In line with its risk management objectives, the Company evaluates the financial condition of its reinsurers and monitors concentrations of credit risk.

Balances pertaining to reinsurance transactions are reported “gross” on the consolidated balance sheet, meaning that reinsurance recoverable on unpaid losses and ceded unearned premiums are not deducted from insurance reserves but are recorded as assets. For more information on reinsurance recoverables, please refer to Note 20, “Concentrations of Credit Risk — Reinsurance recoverables” of these consolidated financial statements.

The effect of assumed and ceded reinsurance on premiums written, premiums earned and insurance losses and loss adjustment expenses for the twelve months ended December 31, 2016, 2015 and 2014 was as follows:

	Twelve Months Ended December 31,		
	2016	2015	2014
	(\$ in millions)		
Premiums written:			
Direct	\$ 1,733.8	\$ 1,748.4	\$ 1,729.9
Assumed	1,413.2	1,248.9	1,172.8
Ceded	(553.3)	(351.1)	(387.5)
Net premiums written	<u>\$ 2,593.7</u>	<u>\$ 2,646.2</u>	<u>\$ 2,515.2</u>
Premiums earned:			
Direct	\$ 1,768.4	\$ 1,703.3	\$ 1,599.0
Assumed	1,317.9	1,153.5	1,137.6
Ceded	(449.0)	(383.5)	(331.3)
Net premiums earned	<u>\$ 2,637.3</u>	<u>\$ 2,473.3</u>	<u>\$ 2,405.3</u>
Insurance losses and loss adjustment expenses:			
Direct	\$ 1,091.9	\$ 980.6	\$ 908.2
Assumed	699.6	493.0	496.9
Ceded	(215.4)	(107.4)	(97.6)
Net insurance losses and loss adjustment expenses	<u>\$ 1,576.1</u>	<u>\$ 1,366.2</u>	<u>\$ 1,307.5</u>

10. Derivative Contracts

The following table summarizes information on the location and amounts of derivative fair values on the consolidated balance sheet as at December 31, 2016 and 2015:

Derivatives Not Designated as Hedging Instruments Under ASC 815	Balance Sheet Location	As at December 31, 2016		As at December 31, 2015	
		Notional Amount	Fair Value	Notional Amount	Fair Value
		(\$ in millions)		(\$ in millions)	
Interest Rate Swaps	Derivatives at Fair Value	\$ —	\$ —	\$ 756.3	\$ 0.4 ⁽¹⁾
Foreign Exchange Contracts	Derivatives at Fair Value	\$ 240.2	\$ 5.0	\$ 217.7	\$ 8.8
Foreign Exchange Contracts	Liabilities under Derivative Contracts	\$ 425.4	\$ (17.7)	\$ 162.2	\$ (2.8)

⁽¹⁾ Net of \$10.1 million of cash collateral provided to the counterparty, Goldman Sachs International (\$256.3 million notional) under an International Swap Dealers Association agreement, which terminated on May 9, 2016 as security for the Company's net liability position.

Derivatives Designated as Hedging Instruments Under ASC 815	Balance Sheet Location	As at December 31, 2016		As at December 31, 2015	
		Notional Amount	Fair Value	Notional Amount	Fair Value
		(\$ in millions)		(\$ in millions)	
Foreign Exchange Contracts	Liabilities under Derivative Contracts	\$ 108.6	\$ (0.7)	\$ 113.6	\$ (1.2)
Foreign Exchange Contracts	Derivatives at Fair Value	—	\$ 2.2 ⁽¹⁾	\$ —	\$ —

⁽¹⁾ This amount refers to cash collateral.

The following tables provide the unrealized and realized gains/(losses) recorded in the statement of operations for the twelve months ended December 31, 2016 and 2015:

Derivatives Not Designated as Hedging Instruments Under ASC 815	Location of Income/(Loss) Recognized in the Statement of Operations and Other Comprehensive Income	Amount of Income/(Loss) Recognized in the Statement of Operations and Other Comprehensive Income	
		For the Twelve Months Ended	
		December 31, 2016	December 31, 2015
		(\$ in millions)	
Foreign Exchange Contracts	Change in Fair Value of Derivatives	\$ (21.5)	\$ 11.6
Interest Rate Swaps	Change in Fair Value of Derivatives	\$ (3.1)	\$ (4.8)

Derivatives Designated as Hedging Instruments Under ASC 815	Location of Income/(Loss) Recognized in the Statement of Operations and Other Comprehensive Income	Amount of Income/(Loss) Recognized in the Statement of Operations and Other Comprehensive Income	
		For the Twelve Months Ended	
		December 31, 2016	December 31, 2015
		(\$ in millions)	
Foreign Exchange Contracts	General, administrative and corporate expenses	\$ (8.7)	\$ (4.9)
Foreign Exchange Contracts	Net change from current period hedged transactions	\$ 0.7	\$ 2.6

Foreign Exchange Contracts. The Company uses foreign exchange contracts to manage foreign currency risk. A foreign exchange contract involves an obligation to purchase or sell a specified currency at a future date at a price set at the time of the contract. Foreign exchange contracts will not eliminate fluctuations in the value of the Company's assets and liabilities denominated in foreign currencies but rather allow it to establish a rate of exchange for a future point in time.

As at December 31, 2016, the Company held foreign exchange contracts that were not designated as hedging under ASC 815 with an aggregate nominal amount of \$665.6 million (2015 — \$379.9 million). The foreign exchange contracts are recorded as derivatives at fair value in the balance sheet with changes recorded as a change in fair value of derivatives in the statement of operations. For the twelve months ended December 31, 2016, the impact of foreign exchange contracts on net income was a loss of \$21.5 million (December 31, 2015 — gain of \$11.6 million).

As at December 31, 2016, the Company held foreign exchange contracts that were designated as hedging under ASC 815 with an aggregate nominal amount of \$108.6 million (2015 — \$113.6 million). The foreign exchange contracts are recorded as derivatives at fair value in the balance sheet with the effective portion recorded in other comprehensive income and the ineffective portion recorded as a change in fair value of derivatives in the statement of operations. The contracts are considered to be effective and therefore the movement in other comprehensive income representing the effective portion for the twelve months ended December 31, 2016 was an increase of \$0.7 million (December 31, 2015 — increase of \$2.6 million).

As the foreign exchange contracts settle, the realized gain or loss is reclassified from other comprehensive income into general, administration and corporate expenses of the statement of operations and other comprehensive income. For the twelve months ended December 31, 2016, the amount recognized within general, administration and corporate expenses for settled foreign exchange contracts was a realized loss of \$8.7 million (December 31, 2015 — loss of \$4.9 million recognized within change in fair value of derivatives).

Interest Rate Swaps. In 2014, the Company decided to let its interest rate program roll-off and not renew maturing positions. This decision was made after an extensive reassessment of the costs of maintaining an interest rate swap program in a steep yield curve environment. In addition, the continued uncertainty in the global economy and low inflation make it difficult to gauge the timing and speed of interest rate rises by the Federal Reserve. On May 9, 2016, the Company terminated all remaining outstanding interest rate swaps (notional value of \$256.3 million) under its International Swap Dealers Association agreement.

As at December 31, 2016, the Company no longer had outstanding interest rate swaps for a total notional amount of \$Nil (December 31, 2015 — \$756.3 million). For the twelve months ended December 31, 2016, there was a loss of \$3.1 million (December 31, 2015 — loss of \$4.8 million).

As at December 31, 2016, cash collateral with a fair value of \$Nil was held by the Company's counterparties to support the current valuation of the interest rate swaps (December 31, 2015 — \$10.1 million). As at December 31, 2016, no non-cash collateral was transferred to the Company by its counterparties (December 31, 2015 — \$Nil). Transfers of cash collateral are recorded on the consolidated balance sheet within Derivatives at Fair Value, while transfers in respect of non-cash collateral are disclosed but not recorded. As at December 31, 2016, no amount was recorded in the consolidated balance sheet for the pledged assets.

11. Deferred Policy Acquisition Costs

The following table represents a reconciliation of beginning and ending deferred policy acquisition costs for the twelve months ended December 31, 2016 and 2015:

	Twelve Months Ended December 31, 2016	Twelve Months Ended December 31, 2015
	(\$ in millions)	
Balance at the beginning of the period	\$ 361.1	\$ 299.0
Acquisition costs deferred	526.2	545.7
Amortization of deferred policy acquisition costs	(528.9)	(483.6)
Balance at the end of the period	<u>\$ 358.4</u>	<u>\$ 361.1</u>

12. Reserves for Losses and Loss Adjustment Expenses

The following table represents a reconciliation of beginning and ending consolidated loss and LAE reserves for the twelve months ended December 31, 2016, 2015 and 2014:

	As at December 31,		
	2016	2015	2014
	(\$ in millions)		
Provision for losses and LAE at the start of the year	\$ 4,938.2	\$ 4,750.8	\$ 4,678.9
Less reinsurance recoverable	(354.8)	(350.0)	(332.7)
Net loss and LAE at the start of the year	<u>4,583.4</u>	<u>4,400.8</u>	<u>4,346.2</u>
Net loss and LAE expenses (disposed)	(80.1)	—	(24.2)
Provision for losses and LAE for claims incurred:			
Current year	1,705.4	1,522.7	1,411.6
Prior years	(129.3)	(156.5)	(104.1)
Total incurred	<u>1,576.1</u>	<u>1,366.2</u>	<u>1,307.5</u>
Losses and LAE payments for claims incurred ⁽¹⁾ :			
Current year	(241.0)	(178.8)	(161.9)
Prior years	(981.8)	(929.7)	(945.8)
Total paid	<u>(1,222.8)</u>	<u>(1,108.5)</u>	<u>(1,107.7)</u>
Foreign exchange (gains)	(97.4)	(75.1)	(121.0)
Net losses and LAE reserves at the end of the year	4,759.2	4,583.4	4,400.8
Plus reinsurance recoverable on unpaid losses at the end of the year . .	560.7	354.8	350.0
Provision for losses and LAE at the end of the year	<u>\$ 5,319.9</u>	<u>\$ 4,938.2</u>	<u>\$ 4,750.8</u>

⁽¹⁾ The current year and prior year disclosure of paid claims has been represented to disclose paid claims for proportional contracts allocated across accident years based on the underlying earnings profile of the proportional contract. In prior periods paid claims were allocated to the inception year of the proportional contract.

For the twelve months ended December 31, 2016, there was a reduction of \$129.3 million in the Company's estimate of the ultimate claims to be paid in respect of prior accident years compared to \$156.5 million for the twelve months ended December 31, 2015. The Company assumed \$5.7 million of additional loss reserves as part of the acquisition of AgriLogic. The Company ceded \$85.8 million of reserves as part of an adverse development cover purchased during the twelve months ended December 31, 2016 (December 31, 2015 — \$Nil, December 31, 2014 — \$24.2 million transfers out of reserves relating to commutations). For additional information on the reserve releases, please refer to Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations — Reserves for Losses and Loss Adjustment Expenses" above.

The following tables show an analysis of incurred claims and allocated loss adjustment expenses, net of reinsurance and cumulative paid claims and allocated claim adjustment expenses, net of reinsurance as at December 31, 2016, 2015, 2014, 2013 and 2012. The loss development triangles are derived from all business written by the Company as although a limited number of contracts are written which have durations of greater than one year the contracts do not meet the definition of a long duration contract.

Insurance							
Incurred Claims, IBNR and Loss Adjustment Expenses, Net of Reinsurance						As at December 31, 2016	
Accident Year	For the Years Ended December 31, Unaudited Prior Years					Total of IBNR Plus Expected Development on Reported Claims	Cumulative Number of Reported Claims
	2012	2013	2014	2015	2016		
	\$ (in millions)						
2012.....	597.8	620.3	649.1	662.6	647.5	57.5	15,462
2013.....		681.9	660.7	672.0	653.1	100.0	14,367
2014.....			747.4	721.9	694.4	164.0	18,403
2015.....				903.4	892.5	308.3	20,214
2016.....					896.4	528.6	16,490
				Total	<u>\$ 3,783.9</u>		

Insurance							
Cumulative Paid Claims and Allocated Loss Adjustment Expenses, Net of Reinsurance							
For the Years Ended December 31,							
Accident Year	2012	2013	2014	2015	2016		
	(\$ in millions)						
2012.....	115.3	304.2	373.4	446.6	496.8		
2013.....		89.2	251.4	360.9	450.1		
2014.....			98.7	245.0	386.0		
2015.....				117.8	322.0		
2016.....					115.8		
				Total	<u>\$ 1,770.7</u>		
	All outstanding liabilities for 2012 and subsequent years, net of reinsurance					\$	2,013.2
	All outstanding liabilities before 2012, net of reinsurance						254.9
	Liabilities for claims and claim adjustment expenses, net of reinsurance					<u>\$</u>	<u>2,268.1</u>

Reinsurance							
Incurred Claims, IBNR and Loss Adjustment Expenses, Net of Reinsurance						As at December 31, 2016	
Accident Year	For the Years Ended December 31, Unaudited Prior Years					Total of IBNR Plus Expected Development on Reported Claims	Cumulative Number of Reported Claims
	2012	2013	2014	2015	2016		
	\$ (in millions)						
2012.....	683.8	728.2	711.8	681.9	680.6	109.2	3,479
2013.....		566.5	558.6	537.1	511.7	111.6	3,251
2014.....			540.2	518.5	503.1	156.2	3,056
2015.....				569.6	552.3	253.1	2,833
2016.....					736.2	462.0	1,901
				Total	<u>\$ 2,983.9</u>		

Reinsurance							
Cumulative Paid Claims and Allocated Loss Adjustment Expenses, Net of Reinsurance							
For the Years Ended December 31,							
Accident Year	2012	2013	2014	2015	2016		
	(\$ in millions)						
2012.....	62.4	244.1	356.0	409.4	452.9		
2013.....		61.8	180.6	270.5	311.4		
2014.....			56.0	168.6	243.3		
2015.....				56.6	167.8		
2016.....					124.4		
				Total	<u>\$ 1,299.8</u>		
	All outstanding liabilities for 2012 and subsequent years, net of reinsurance					1,684.1	
	All outstanding liabilities before 2012, net of reinsurance					758.1	
	Liabilities for claims and claim adjustment expenses, net of reinsurance					<u>\$ 2,442.2</u>	

Reconciliation of Incurred and Paid Claims Development to total Provision for Losses and LAE

	Twelve Months Ended December 31, 2016	
	(\$ in millions)	
Net outstanding liabilities:		
Insurance lines	\$	2,268.1
Reinsurance lines		2,442.2
Net loss and LAE		<u>4,710.3</u>
Reinsurance recoverable on unpaid losses:		
Insurance lines		486.7
Reinsurance lines		74.0
Total reinsurance recoverable on unpaid losses		<u>560.7</u>
Insurance lines other than short-duration		—
Unallocated claims incurred		44.7
Other		4.2
	\$	<u>48.9</u>
Provision for losses and LAE at the end of the year	\$	<u><u>5,319.9</u></u>

Average Annual Percentage Payout of Incurred Claims by Age, Net of Reinsurance

Years	1	2	3	4	5
Insurance	14.4%	24.5%	15.9%	12.5%	7.8%
Reinsurance	11.9%	23.1%	16.3%	7.9%	6.4%

13. Income Taxes

Aspen Holdings and Aspen Bermuda are incorporated under the laws of Bermuda. Under current Bermuda law, they are not taxed on any Bermudian income or capital gains and they have received an undertaking from the Bermudian Minister of Finance that, in the event of any Bermudian income or capital gains taxes being imposed, they will be exempt from those taxes until March 31, 2035. The Company's U.S. operating companies are subject to United States corporate tax at a rate of 34%. Under current tax law, Aspen U.K., AUL and AMAL are taxed at the U.K. corporate tax rate which reduced from 21% to 20% effective April 1, 2015. This rate reduction has been reflected in current year income tax disclosures. Further reductions of the U.K. corporate tax rate to 19% effective April 1, 2017 and 17% effective April 1, 2020 were enacted on November 18, 2015 and September 16, 2016, respectively. These reductions have been reflected in measuring the deferred taxes.

Total income tax expense for the twelve months ended December 31, 2016, 2015 and 2014 was allocated as follows:

	Twelve Months Ended December 31,		
	2016	2015	2014
	(\$ in millions)		
Income tax expense allocated to net income	\$ 6.1	\$ 14.4	\$ 12.1
Income tax (benefit) allocated to other comprehensive income	(1.7)	(15.3)	(5.1)
Income tax (benefit) allocated directly to shareholders' equity	(1.0)	(1.9)	(1.2)
Total income tax expense/(benefit)	<u>\$ 3.4</u>	<u>\$ (2.8)</u>	<u>\$ 5.8</u>

Income/(loss) from operations before income tax and income tax expense/(benefit) attributable to that income/(loss) for the twelve months ended December 31, 2016, 2015 and 2014 is provided in the tables below:

	Twelve Months Ended December 31, 2016			
	(Loss)/income before tax	Current income tax expense	Deferred income tax (benefit)	Total income tax expense
	(\$ in millions)			
Bermuda	\$ 259.5	\$ —	\$ —	\$ —
U.S.	(70.2)	—	0.3	0.3
U.K.	20.2	(2.1)	7.8	5.8
Total	<u>\$ 209.5</u>	<u>\$ (2.1)</u>	<u>\$ 8.1</u>	<u>\$ 6.1</u>

	Twelve Months Ended December 31, 2015			
	(Loss)/income before tax	Current income tax expense	Deferred income tax (benefit)	Total income tax expense
	(\$ in millions)			
Bermuda	\$ 283.9	\$ —	\$ —	\$ —
U.S.	(32.7)	(0.2)	—	(0.2)
U.K.	86.3	23.5	(8.9)	14.6
Total	<u>\$ 337.5</u>	<u>\$ 23.3</u>	<u>\$ (8.9)</u>	<u>\$ 14.4</u>

	Twelve Months Ended December 31, 2014			
	(Loss)/income before tax	Current income tax expense	Deferred income tax (benefit)	Total income tax expense
	(\$ in millions)			
Bermuda	\$ 376.2	\$ —	\$ —	\$ —
U.S.	(44.1)	(1.5)	—	(1.5)
U.K.	35.8	24.9	(11.3)	13.6
Total	<u>\$ 367.9</u>	<u>\$ 23.4</u>	<u>\$ (11.3)</u>	<u>\$ 12.1</u>

The branches of Aspen U.K. have been included under the U.K. category in the tables above on the basis that foreign taxes of the branches are not material and their income is also subject to taxation in the U.K.

The tax rate in Bermuda, the Company's country of domicile, is zero. Application of the statutory tax rate for operations in other jurisdictions produces a differential to the expected tax (benefit)/expense as shown in the table below.

The reconciliation between the income tax expense and the statutory rate for the Company for the twelve months ended December 31, 2016 is provided in the table below:

	Twelve Months Ended December 31,		
	2016	2015	2014
	(\$ in millions)		
Income Tax Reconciliation			
Expected tax (benefit)/expense	\$ —	\$ —	\$ —
Overseas statutory tax rates differential	(19.3)	6.4	(7.3)
Prior year adjustments ⁽¹⁾	3.3	(4.5)	(0.6)
Valuation allowance	21.0	11.8	12.7
Impact of unrecognized tax benefits ⁽²⁾	(1.9)	—	5.3
Restricted foreign tax credits	1.9	0.6	—
Non-deductible expenses	1.0	1.3	1.8
Non-taxable items	(0.9)	(1.3)	—
Impact of changes in statutory tax rates	1.0	0.1	0.2
Total income tax expense	<u>\$ 6.1</u>	<u>\$ 14.4</u>	<u>\$ 12.1</u>

⁽¹⁾ The submission dates for filing income tax returns for the Company's U.S. and U.K. operating subsidiaries are after the submission date of the Company's Annual Report on Form 10-K. The final tax liabilities may differ from the estimated tax expense included in the Annual Report on Form 10-K and may result in prior year adjustments being reported.

For 2016, the prior period adjustment of \$3.3 million includes a \$2.5 million charge relating to a revision to the U.S. Net Operating Losses position against which a valuation allowance is held. As a result of the recognition of a full valuation allowance against losses, both the estimated and actual net tax position for the U.S. operations remained \$Nil. Therefore there is no material impact of the adjustment on the previously estimated tax position. The remaining \$0.8 million relates to the determination of results under U.K. GAAP, upon which the U.K. tax returns are based. These items can only be reasonably determined on an accurate basis after the Company's Annual Report on Form 10-K has been filed.

For 2015, the prior period adjustment of \$4.5 million relates to the determination of results under U.K. GAAP, upon which the U.K. tax returns are based. These items can only be reasonably determined on an accurate basis after the Company's Annual Report on Form 10-K has been filed.

For 2014, the prior period adjustment of \$0.6 million relates to the determination of results under U.K. GAAP, upon which the U.K. tax returns are based. These items can only be reasonably determined on an accurate basis after the Company's Annual Report on Form 10-K has been filed.

⁽²⁾ For 2016, the \$1.9 million credit comprises a \$3.2 million credit following the conclusion of a tax examination in respect of tax deductions for certain interest payments and accrued interest of \$1.3 million in respect of the adjustment of equity reserves.

For 2015, there is \$Nil impact.

For 2014, the \$5.3 million charge relates to the increase in provision in respect of the tax deductions for certain interest expenses.

Unrecognized tax benefits. Unrecognized tax benefits relate to prior period tax positions for the years 2010 to 2013. As at December 31, 2016, they totaled \$10.5 million, representing \$13.5 million relating to the adjustment to equity reserves, \$0.4 million relating to tax deductions for certain expenses and \$3.4 million relating to currency differences. During the year ended December 31, 2016, the unrecognized tax benefit of \$15.3 million in relation to tax deductions for certain interest payments was released, following completion of the U.K. Tax Authority review.

All of the unrecognized tax benefits would reduce the effective tax rate if recognized. It is possible that the remaining balance of unrecognized tax benefits, totaling \$10.5 million, could be eliminated following completion of tax examinations into these matters.

	Twelve Months Ended December 31,	
	2016	2015
	(\$ in millions)	
Unrecognized tax benefits balance at January 1	\$ 29.2	\$ 29.2
Foreign exchange re-translation	(3.4)	—
Settlement in respect of tax position of prior years	\$ (15.3)	—
Unrecognized tax benefits balance at December 31	<u>\$ 10.5</u>	<u>\$ 29.2</u>

The Company accrues interest and penalties related to an underpayment of income taxes, if applicable, as income tax expenses. The Company does not believe it will be subject to any penalties in any open tax years and has not accrued any such amounts as at twelve months ended December 31, 2016 (December 31, 2015 — \$Nil). During the year, interest of \$1.3 million was accrued in respect of the adjustment to equity reserves (December 31, 2015 — \$Nil).

Income tax returns that have been filed by the U.S. operating subsidiaries are subject to examination for 2012 and later tax years. The U.K. operating subsidiaries' income tax returns are subject to examination for 2015 and later tax years. This is in addition to the U.K. tax returns against which tax benefits have not been recognized, as detailed above.

The tax effects of temporary differences and carryforwards that give rise to deferred tax assets and deferred tax liabilities are presented in the following table:

	As at December 31,	
	2016	2015
	(\$ in millions)	
Deferred tax assets:		
Share-based payments	\$ 5.6	\$ 4.0
Operating loss carryforwards	124.5	108.3
Loss reserves	7.8	0.5
Accrued expenses	14.4	7.9
Foreign tax credit carryforwards	2.5	16.3
Unearned premiums	20.0	6.0
Deferred policy acquisition costs	2.1	3.2
Office properties and equipment	5.6	7.1
Other temporary differences	3.8	9.6
Total gross deferred tax assets	<u>186.3</u>	<u>162.9</u>
Less valuation allowance	(142.5)	(124.4)
Net deferred tax assets	<u>\$ 43.8</u>	<u>\$ 38.5</u>
Deferred tax liabilities:		
Equalization provision reserves	\$ (23.0)	\$ (30.9)
Intangible assets (other)	(2.8)	(2.5)
Deferred policy acquisition costs	(22.4)	—
Other temporary differences	(1.7)	(1.4)
Total gross deferred tax (liabilities)	<u>(49.9)</u>	<u>(34.8)</u>
Net deferred tax (liability)/asset	<u>\$ (6.1)</u>	<u>\$ 3.7</u>

Deferred tax liabilities and assets represent the tax effect of temporary differences between the value of assets and liabilities for financial statement purposes and such values as measured by U.K. and U.S. tax laws and regulations. Deferred tax assets and

liabilities from the same tax jurisdiction have been netted off resulting in assets and liabilities being recorded under the deferred taxation captions on the consolidated balance sheet.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences and carryforwards become deductible or creditable. Management considers the scheduled reversal of existing taxable temporary differences, projected future taxable income, and tax-planning strategies in making this assessment. Substantially all of our deferred tax assets not reduced by a valuation allowance are supported by the scheduled reversal of existing taxable temporary differences.

At December 31, 2016, the Company had net operating losses carried forward for U.S. federal income tax purposes of \$343.2 million (2015 — \$291.4 million) and net operating losses carried forward for U.K. corporate tax purposes of \$18.2 million (2015 — \$46.0 million). The U.S. net operating losses are available to offset future U.S. federal taxable income, if any, with expiry periods between 2025 and 2036 and the U.K. net operating losses are available to offset future U.K. corporate income over an indefinite period. For U.S. federal income tax purposes, the Company also has capital loss carryforwards of \$0.5 million (2015 — \$0.3 million), with expiry periods between 2020 and 2021, and charitable contribution carryforwards of \$0.5 million (2015 — \$0.5 million), with expiry periods between 2017 and 2021. A full valuation allowance of \$139.2 million on U.S. deferred tax assets (which includes these loss carryforwards) has been recognized at December 31, 2016 as management believes that it is more likely than not that a tax benefit will not be realized. The increase in this portion of the valuation allowance totals \$20.7 million (2015 — \$12.0 million) with \$21.0 million (2015 — \$11.8 million) recorded in the consolidated income statement and a decrease of \$0.3 million (2015 — \$0.2 million increase) recorded in other comprehensive income. A valuation allowance of \$3.3 million (2015 — \$5.9 million) has been established against U.K. deferred tax assets. The decrease in this portion of the valuation allowance totals \$2.6 million (2015 — \$0.8 million decrease) with \$2.7 million (2015 — \$0.8 million) recorded in the consolidated income statement and \$Nil (2015 — \$Nil) recorded in other comprehensive income. The U.K. and U.S. valuation allowance combined total is \$142.5 million (2015 — \$124.4 million).

Included within foreign tax credits totalling \$2.5 million carried forward as at December 31, 2016, \$0.5 million is due to expire in 2017. The remainder will continue to be available to carry forward indefinitely.

AIUK's business includes income effectively connected with a U.S. trade or business and therefore AIUK has a branch for U.S. tax purposes ("U.S. Branch"). The U.S. Branch has cumulative earnings and profits of \$39.0 million as at December 31, 2016, which could become subject to an additional 'branch profits tax', estimated to be \$1.9 million, upon such income being repatriated to the AUK head office or upon termination of the branch. However, based on the plans currently in place, the U.S. Branch profits are being, and AIUK intends they will continue to be, indefinitely reinvested in the U.S. Branch such that there is no branch profits tax liability arising in the current period or in the foreseeable future. Accordingly, Aspen has determined that as permitted by ASC 740, no deferred tax liability for branch profits tax has been recognized as taxation is expected to be indefinitely postponed.

14. Capital Structure

The following table provides a summary of the Company's authorized and issued share capital as at December 31, 2016 and 2015:

	As at December 31, 2016		At December 31, 2015	
	Number	\$ in Thousands	Number	\$ in Thousands
Authorized share capital:				
Ordinary Shares 0.15144558¢ per share.....	969,629,030	1,469	969,629,030	1,469
Non-Voting Shares 0.15144558¢ per share	6,787,880	10	6,787,880	10
Preference Shares 0.15144558¢ per share	100,000,000	152	100,000,000	152
Total authorized share capital		<u>1,631</u>		<u>1,631</u>
Issued share capital:				
Issued ordinary shares of 0.15144558¢ per share.....	59,774,464	91	60,918,373	92
Issued 7.401% Preference Shares of 0.15144558¢ each with a liquidation preference of \$25 per share	5,327,500	8	5,327,500	8
Issued 7.250% Preference Shares of 0.15144558¢ each with a liquidation preference of \$25 per share	6,400,000	10	6,400,000	10
Issued 5.95% Preference Shares of 0.15144558¢ each with a liquidation preference of \$25 per share	11,000,000	17	11,000,000	17
Issued 5.625% Preference Shares of 0.15144558¢ each with a liquidation preference of \$25 per share	10,000,000	15	—	—
Total issued share capital		<u>140</u>		<u>127</u>

Additional paid-in capital as at December 31, 2016 was \$1,259.6 million (December 31, 2015 — \$1,075.3 million). Additional paid-in capital includes the aggregate liquidation preferences of the Company's preference shares of \$818.2 million (December 31, 2015 — \$568.2 million) less issue costs of \$21.1 million (December 31, 2015 — \$12.4 million).

(a) Ordinary Shares

The following table summarizes transactions in the Company's ordinary shares during the years ended December 31, 2016 and 2015:

	Number of Ordinary Shares	
	2016	2015
Ordinary shares in issue at the beginning of the year	60,918,373	62,017,368
Ordinary shares issued to employees under the 2003 and 2013 share incentive plans and/or 2008 share purchase plan	419,255	649,394
Ordinary shares issued to non-employee directors	32,241	41,944
Ordinary shares repurchased	(1,595,405)	(1,790,333)
Ordinary shares in issue at the end of the year	<u>59,774,464</u>	<u>60,918,373</u>

Ordinary Share Repurchases in 2015. On February 5, 2015, the Company's Board of Directors approved a share repurchase authorization program of \$500.0 million. The share repurchase authorization program, which was effective immediately and expired on February 6, 2017, permitted the Company to effect the repurchases of ordinary shares from time to time through a combination of transactions, including open market repurchases, privately negotiated transactions and accelerated share repurchase transactions. During the course of 2015, the Company repurchased 1,790,333 ordinary shares for a total consideration of \$83.7 million at an average price of \$46.74 per ordinary share. The Company had \$416.3 million remaining under its share repurchase authorization program in effect as at December 31, 2015.

Ordinary Share Repurchases in 2016. During the course of 2016, the Company repurchased 1,595,076 ordinary shares for a total consideration of \$75.0 million at an average price of \$47.02 per ordinary share. The Company had \$341.3 million remaining under its share repurchase authorization program in effect as at December 31, 2016.

Share Repurchase Authorization Program. On February 8, 2017, the Company's Board of Directors approved a new share repurchase authorization program of \$250.0 million. The new share repurchase authorization program, which was effective

immediately and expires on February 8, 2019, permits the Company to effect the repurchases of its ordinary shares from time to time through a combination of transactions, including open market purchases, privately negotiated transactions and accelerated share repurchase transactions.

(b) Preference Shares

Preference Shares Issuance. On September 20, 2016, the Company issued 10,000,000 shares of 5.625% Perpetual Non-Cumulative Preference Shares (the “5.625% Preference Shares”). The 5.625% Preference Shares have a liquidation preference of \$25 per share. Net proceeds were \$241.3 million, comprising \$250.0 million of total liquidation preference less \$8.7 million of issuance expenses. The Company used \$133.2 million of the net proceeds from the offering to redeem all the Company’s outstanding 7.401% Perpetual Non-Cumulative Preference Shares on January 3, 2017. The Company intends to use remaining proceeds to redeem all the Company's outstanding 7.250% Perpetual Non-Cumulative Preference Shares in July 2017. The 5.625% Preference Shares rank equally with preference shares previously issued by the Company and have no fixed maturity date. The Company may redeem all or a portion of the 5.625% Preference Shares at a redemption price of \$25 per share on or after January 1, 2027. The 5.625% Preference Shares are listed on the NYSE under the symbol “AHLPRD”.

Preference Shares Redemption. On November 3, 2016, the Company issued a notice of redemption in connection with all of its issued and outstanding 7.401% Perpetual Non-Cumulative Preference Shares (the “7.401% Preference Shares”) (NYSE: AHL-PRA). The redemption took place on January 3, 2017 and was conducted pursuant to the terms of the certificate of designation, dated November 15, 2006, governing the 7.401% Preference Shares. Each holder of a 7.401% Preference Share received \$25 per 7.401% Preference Share, representing an aggregate amount of \$133.2 million, plus all declared and unpaid dividends to the date of redemption.

Rights Agreement. On April 17, 2014, the Company's Board of Directors resolved to issue one preferred share purchase right (a “Right”) for each outstanding ordinary share and adopted a shareholder rights plan as set forth in a Rights Agreement which expired on April 16, 2015. Each Right allowed its holder to purchase from the Company one one-thousandth of a share of Series A Junior Participating Preference Shares for \$160 once the Rights became exercisable. The Rights would not have been exercisable until 10 business days after the public announcement that a person or group had acquired the beneficial ownership of 10% or more of the outstanding ordinary shares of the Company (or 15% in the case of passive institutional investors).

15. Statutory Requirements and Dividends Restrictions

As a holding company, Aspen Holdings relies on dividends and other distributions from its Operating Subsidiaries to provide cash flow to meet ongoing cash requirements, including any future debt service payments and other expenses, and to pay dividends, if any, to our preference and ordinary shareholders. Aspen Holdings must comply with the provisions of the Bermuda Companies Act 1981, as amended, (the "Companies Act") regulating the payment of dividends and distributions. As at December 31, 2016, there were no restrictions under Bermuda law or the law of any other jurisdiction on the payment of dividends from retained earnings by Aspen Holdings. The ability of the Company's Operating Subsidiaries to pay the Company dividends or other distributions is subject to the laws and regulations applicable to each jurisdiction, as well as the Operating Subsidiaries' need to maintain capital requirements adequate to maintain their insurance and reinsurance operations and their financial strength ratings issued by independent rating agencies.

The company law of England and Wales prohibits Aspen U.K. or AUL from declaring a dividend to its shareholders unless it has "profits available for distribution." The determination of whether a company has profits available for distribution is based on its accumulated realized profits and other distributable reserves less its accumulated realized losses. While the U.K. insurance regulatory laws impose no statutory restrictions on a general insurer's ability to declare a dividend, the rules of the Prudential Regulation Authority (the "PRA") require each insurance company within its jurisdiction to maintain its solvency margin at all times. On October 21, 2013, and in line with emerging common market practice for regulated institutions, the PRA requested that it be afforded with the opportunity to provide a "non-objection" prior to all future dividend payments made by Aspen U.K. As at December 31, 2016, Aspen U.K. had an accumulated balance of retained losses of approximately \$98.5 million and AUL had an accumulated balance of retained income of approximately £4.7 million. In addition, Aspen U.K. held a capital contribution reserve of \$470.0 million which under certain circumstances would also be distributable.

Aspen Bermuda must comply with the provisions of the Companies Act regulating the payment of dividends and distributions. There were no significant restrictions under company law on the ability of Aspen Bermuda to pay dividends funded from its accumulated balances of retained income as at December 31, 2016. Aspen Bermuda may not in any financial year pay dividends which would exceed 25% of its total statutory capital and surplus, as shown on its statutory balance sheet in relation to the previous financial year, unless it files with the BMA a solvency affidavit at least seven days in advance. As at December 31, 2016, 25% of Aspen Bermuda's statutory capital and surplus amounted to \$573.6 million. Further, Aspen Bermuda must obtain the prior approval of the BMA before reducing by 15% or more its total statutory capital as set out in its previous year's financial statements.

Under both North Dakota and Texas law, insurance companies may only pay dividends out of earned surplus as distinguished from contributed surplus. As such, Aspen Specialty and AAIC could not pay a dividend as at December 31, 2016.

Actual and required statutory capital and surplus for the principal operating subsidiaries of the Company, excluding its Lloyd's syndicate, as at December 31, 2016 and December 31, 2015 were estimated to be as follows:

	As at December 31, 2016		
	U.S.	Bermuda	U.K.
	(\$ in millions)		
Required statutory capital and surplus	\$ 77.3	\$ 1,259.4	\$ 558.1
Statutory capital and surplus	\$ 598.3	\$ 2,294.4	\$ 970.3

	As at December 31, 2015		
	U.S.	Bermuda	U.K.
	(\$ in millions)		
Required statutory capital and surplus	\$ 61.1	\$ 1,162.6	\$ 202.2
Statutory capital and surplus	\$ 409.9	\$ 2,028.3	\$ 934.9

AUL, as the sole corporate member of our Lloyd's Syndicate, is required to maintain Funds at Lloyd's of \$424.9 million. As at December 31, 2016, AUL had total funds at Lloyd's of \$442.6 million of which \$412.1 million was provided by Aspen Bermuda.

The Bermuda Monetary Authority is the group supervisor of the Company. The laws and regulations of Bermuda require that the Company maintain a minimum amount of group statutory capital and surplus based on the enhanced capital requirement using the group standardized risk-based capital model of the Bermuda Monetary Authority. As of December 31, 2016, the Company's enhanced capital requirement is 60% of the amount calculated. The Company is also subject to an early-warning level based on 120% of the enhanced capital requirement which may trigger additional reporting requirements or other enhanced

oversight. As at December 31, 2016, the amount of group statutory capital and surplus maintained by the Company satisfied these regulatory requirements.

16. Retirement Plans

The Company operates defined contribution retirement plans for the majority of its employees at varying rates of their salaries, up to a maximum of 20.0%. Total contributions by the Company to the retirement plans were \$15.4 million in the twelve months ended December 31, 2016, \$14.9 million in the twelve months ended December 31, 2015 and \$13.7 million in the twelve months ended December 31, 2014.

17. Share-Based Payments

The Company has issued options and other equity incentives under three arrangements: the employee incentive plan, the non-employee director plan and the employee share purchase plans. When options are exercised or other equity awards vest, new ordinary shares are issued as the Company does not currently hold treasury shares.

(a) Employee Equity Incentives

Employee options and other awards were granted under the Company's 2003 Share Incentive Plan prior to April 24, 2013 and thereafter under the Company's 2013 Share Incentive Plan. The total number of ordinary shares that may be issued under the 2013 Share Incentive Plan is 2,845,683 shares, which includes 595,683 shares available to grant under the 2003 Share Incentive Plan as of February 25, 2013. The number of ordinary shares that may be issued under the 2013 Share Incentive Plan is adjusted per the number of awards that may be forfeited under the 2003 Share Incentive Plan.

Options. Stock options have been granted with an exercise price equivalent to the fair value of the share on the grant date. The weighted average value at grant date was determined using the Black-Scholes option pricing model. Stock options typically vest over a three-year period with a ten-year contract period (except for options granted in 2007 which have a seven-year exercise period) with vesting dependent on time and performance conditions established at the time of grant. In the case of Mr. O'Kane, the Company's Chief Executive Officer, the Compensation Committee approved the extension of the expiration of the 2007 options by one year to May 4, 2015.

No options were granted during the twelve months ended December 31, 2016 (2015 — Nil) and 29,222 options were exercised and shares issued in the twelve months ended December 31, 2016 (2015 — 189,215). No charges or tax charges against income were made in respect of employee options for the twelve months ended December 31, 2016 (2015 — \$Nil; 2014 — \$Nil).

The following table summarizes information about employee options as at December 31, 2016.

	As at December 31, 2016						
	Options Granted	Options Forfeited	Options Exercised	Outstanding and Exercisable	Exercise Price	Weighted Average Fair Value at Grant Date	Remaining Contractual Time
<u>Option Holder</u>							
2006 Option granted February 16.	1,072,490	450,567	621,923	—	\$23.65	\$6.99	expired
2007 Option granted May 4	607,635	157,980	449,655	—	\$27.28	\$6.14	expired

The 2006 options vested at the end of a three-year period with vesting subject to the achievement of one-year and three-year performance targets. The options lapse if the criteria were not met. A total of 695,643 of 2006 options vested.

The 2007 option grants are not subject to performance conditions and 476,250 options vested at the end of the three-year period from the date of grant on May 4, 2010. The options are exercisable for a period of seven years from the date of grant.

The intrinsic value of options exercised in the twelve months ended December 31, 2016 was \$0.6 million (2015 — \$4.3 million; 2014 — \$1.5 million).

The following table shows the per share weighted average fair value and the related underlying assumptions using a modified Black-Scholes option pricing model by date of grant:

	Grant Date			
	October 22, 2007	May 4, 2007	August 4, 2006	February 16, 2006
Per share weighted average fair value	\$ 5.76	\$ 6.14	\$ 4.41	\$ 6.99
Risk free interest rate	4.09%	4.55%	5.06%	4.66%
Dividend yield	2.1%	2.2%	2.6%	2.7%
Expected life	5 years	5 years	5 years	5 years
Share price volatility	20.28%	23.76%	19.33%	35.12%
Foreign currency volatility	—	—	—	—

Restricted Share Units. Restricted share units (“RSUs”) granted to employees vest over a two or three-year period, subject to the employee’s continued service. Some of the grants vest at year-end, while other grants vest on the anniversary of the date of grant or when the Compensation Committee of the Board of Directors agrees to deliver them. Holders of RSUs will be paid one ordinary share for each RSU that vests as soon as practicable following the vesting date. Holders of RSUs generally will not be entitled to any rights of a holder of ordinary shares, including the right to vote, unless and until their RSUs vest and ordinary shares are issued but they are entitled to receive dividend equivalents. Dividend equivalents are denominated in cash and paid in cash if and when the underlying RSUs vest.

The following table summarizes information about RSUs as at December 31, 2016:

RSU Holder	As at December 31, 2016			
	Restricted Share Units			
	Amount Granted	Amount Vested	Amount Forfeited	Amount Outstanding
2004 - 2013 Grants	1,624,251	1,472,152	152,099	—
2014 Grants	259,640	152,543	44,621	62,476
2015 Grants	287,852	91,749	32,067	164,036
2016 Grants	328,550	2,824	21,898	303,828
Total	2,500,293	1,719,268	250,685	530,340

The fair value of RSUs is based on the closing price on the date of the grant less a deduction for illiquidity. The fair value is expensed through the consolidated income statement evenly over the vesting period. Compensation cost in respect of RSUs charged against income was \$9.8 million for the twelve months ended December 31, 2016 (2015 — \$8.7 million; 2014 — \$9.3 million) with a fair value adjustment for the twelve months ended December 31, 2016 of \$1.8 million (2015 — \$0.6 million; 2014 — \$3.1 million). The total tax credit recognized by the Company in relation to RSUs in the twelve months ended December 31, 2016 was \$2.4 million (2015 — \$1.8 million; 2014 — \$2.2 million).

Performance Shares. Performance share awards are not entitled to dividends before they vest. Performance shares that vest will only be issued following the assessment of the final performance target in the three-year period and subject to the employee’s continued employment. The following table summarizes information about performance shares as at December 31, 2016:

	As at December 31, 2016			
	Performance Share Awards			
	Amount Granted	Amount Vested	Amount Forfeited	Amount Outstanding
2004 - 2013 Grants ⁽¹⁾	4,788,835	2,665,202	2,123,633	—
2014 Grants	315,389	243,827	71,562	—
2015 Grants ⁽²⁾	277,585	107,882	81,802	87,902
2016 Grants ⁽²⁾	278,477	28,566	82,824	167,086
Total	5,660,286	3,045,477	2,359,821	254,988

⁽¹⁾ The amounts vested and forfeited in respect of the 2004 - 2013 performance share awards have been updated to reflect employees leaving after the financial reporting date but before the final vesting date.

⁽²⁾ The amount granted could increase depending on future performance.

On February 6, 2013, the Compensation Committee approved the grant of 250,066 performance shares with a grant date of February 11, 2013. The performance shares were subject to a three-year vesting period with a separate BVPS growth test for each year, adjusted to add back ordinary dividends to shareholders' equity at the end of the relevant year. One-third of the grant was eligible for vesting each year based on a formula and issuable at the end of the three-year period.

If the diluted BVPS growth achieved in 2013 was:

- less than 5%, then the portion of the performance shares subject to the vesting conditions in such year was forfeited (i.e., 33.33% of the initial grant);
- between 5% and 10%, then the percentage of the performance shares eligible for vesting in such year was between 10% and 100% on a straight-line basis; or
- between 10% and 20%, then the percentage of the performance shares eligible for vesting in such year was between 100% and 200% on a straight-line basis.

On February 5, 2014, the Compensation Committee approved the testing conditions of the performance share awards that were subject to the Company's 2013 annual growth in BVPS test. For purposes of the annual growth in the diluted BVPS test for 2013, diluted BVPS was initially defined as the diluted BVPS, after adding back dividends, as described above. The approval by the Compensation Committee revises within the original terms the definition of diluted BVPS for purposes of the annual growth in diluted BVPS test for 2013 to reflect (i) the impact of all of the Company's PIERS retired during the second quarter of 2013 and (ii) the variance between the Company's assumptions of the price at which it would execute its share repurchase program in 2013 against the price at which it actually repurchased its ordinary shares. As a result of the 28.8% increase in the Company's share price in 2013, the Company purchased a smaller quantity of ordinary shares than anticipated which adversely impacted the Company's BVPS.

The Compensation Committee approved the testing conditions to ensure that the Company's officers would not be penalized as a result of the increase in the Company's ordinary share price, which benefited the Company and its shareholders, or as result of the impact on the Company's diluted BVPS as a result of the retirement of the PIERS. Each of these factors were regarded by the Compensation Committee as sufficiently unusual or outside the control of the Company's management and therefore justified revising (within the original terms) the BVPS test applicable to the 2013 tested performance share awards. As a result, after consideration of all factors involved, including the importance of retaining key talent, the Compensation Committee believed it was appropriate to make the above-described awards. The awards resulted in a vesting of 31.6% of one-third of each of the 2012 and 2013 performance share awards that were subject to the 2013 BVPS test.

The 2014 and 2015 performance tests applicable to the 2013 performance share awards are described below under the 2014 performance share awards and 2015 performance share awards, respectively.

2013 Performance Shares

<u>Year</u>	<u>Split</u>	<u>Increase in BVPS</u>	<u>Banked</u>
2013	33.3%	6.2%	10.5%
2014	33.3%	13.3%	43.0%
2015	33.3%	10.7%	31.2%
Total	<u>100.0%</u>		<u>84.7%</u>

Based on the achievement of a BVPS growth of 6.2% in 2013, as refined by the Compensation Committee as discussed above, 31.6% of one-third of the 2013 performance award was eligible for vesting, resulting in 25,001 performance shares being banked. Based on the achievement of a BVPS growth in 2014 of 13.3%, as described below, 129.0% of one-third of the 2013 performance share award was eligible for vesting, resulting in 102,152 performance shares being banked. Based on the achievement of a BVPS growth in 2015 of 10.7% as described below, 93.5% of one-third of the 2013 performance share award was eligible for vesting, resulting in 74,818 performance shares being banked. All banked 2013 performance share awards were issuable upon filing of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015.

During the twelve months ended December 31, 2014, the Company granted 315,389 performance shares. The performance shares are subject to a three-year vesting period with a separate BVPS growth test for each year, adjusted to add back ordinary dividends and movements in AOCI to shareholders' equity at the end of the relevant year. One-third of the grant will be eligible for vesting each year based on a formula, and will only be issuable at the end of the three-year period.

If the diluted BVPS growth achieved in 2014 is:

- less than 5.2%, then the portion of the performance shares subject to the vesting conditions in such year will be forfeited (i.e., 33.3% of the initial grant);
- between 5.2% and 10.4% then the percentage of the performance shares eligible for vesting in such year will be between 10% and 100% on a straight-line basis; or
- between 10.4% and 20.8%, then the percentage of the performance shares eligible for vesting in such year will be between 100% and 200% on a straight-line basis.

In calculating BVPS for 2014, the entire movement in AOCI will be excluded. Interest rate movements and credit spread movements in AOCI can be fairly significant and adversely impact growth in BVPS which management does not have any control over. The Compensation Committee also agreed that it will review the impact of any capital management actions undertaken during 2014, including share repurchases and special dividends, and consider whether any further adjustments to growth in BVPS should be made in the context of such actions. The Compensation Committee also agreed to exclude from the calculation of BVPS for 2014 the costs payable to third-party service providers resulting from the Company's response to the proposals received from Endurance Specialty Holdings Ltd. ("Endurance"). The Compensation Committee believes it would not be appropriate for employees' performance-related compensation to be impacted by these costs.

2014 Performance Shares

<u>Year</u>	<u>Split</u>	<u>Increase in BVPS</u>	<u>Banked</u>
2014	33.3%	13.3%	43.0%
2015	33.3%	10.7%	31.2%
2016	33.3%	5.9%	11.4%
Total	<u>100.0%</u>		<u>85.6%</u>

Based on the achievement of a BVPS growth in 2014 of 13.3% as described above, 129.0% of one-third of the 2014 performance share award is eligible for vesting, resulting in 122,056 performance shares being banked. Based on the achievement of a BVPS growth in 2015 of 10.7% as described below, 93.5% of one-third of the 2014 performance share award is eligible for vesting, resulting in 93,336 performance shares being banked. Based on the achievement of a BVPS growth in 2016 of 5.9% as described below, 34.2% of one-third of the 2014 performance share award is eligible for vesting upon the filing of this report, resulting in 28,436 performance shares being banked.

During the twelve months ended December 31, 2015, the Company granted 277,585 performance shares. The performance shares are subject to a three-year vesting period with a separate BVPS growth test for each year, adjusted to add back ordinary dividends and movements in AOCI to shareholders' equity at the end of the relevant year. One-third of the grant will be eligible for vesting each year based on a formula, and will only be issuable at the end of the three-year period.

If the diluted BVPS growth achieved in 2015 is:

- less than 5.6%, then the portion of the performance shares subject to the vesting conditions in such year will be forfeited (i.e., 33.3% of the initial grant);
- between 5.6% and 11.1% then the percentage of the performance shares eligible for vesting in such year will be between 10% and 100% on a straight-line basis; or
- between 11.1% and 22.2%, then the percentage of the performance shares eligible for vesting in such year will be between 100% and 200% on a straight-line basis.

2015 Performance Shares

<u>Year</u>	<u>Split</u>	<u>Increase in BVPS</u>	<u>Banked</u>
2015	33.3%	10.7%	31.2%
2016	33.3%	5.9%	11.4%
2017	33.3%	NA	NA
Total	<u>100.0%</u>		<u>42.6%</u>

Based on the achievement of a BVPS growth in 2015 of 10.7% as described above, 93.5% of one-third of the 2015 performance share award is eligible for vesting, resulting in 77,825 performance shares being banked. Based on the achievement of a BVPS growth in 2016 of 5.9% as described below, 34.2% of one-third of the 2016 performance share award is eligible for vesting, resulting in 30,057 performance shares being banked.

During the twelve months ended December 31, 2016, the Company granted 278,477 performance shares. The performance shares are subject to a three-year vesting period with a separate BVPS growth test for each year, adjusted to add back ordinary dividends and movements in AOCI to shareholders' equity at the end of the relevant year. One-third of the grant will be eligible for vesting each year based on a formula, and will only be issuable at the end of the three-year period.

If the diluted BVPS growth achieved in 2016 is:

- less than 4.65%, then the portion of the performance shares subject to the vesting conditions in such year will be forfeited (i.e., 33.3% of the initial grant);
- between 4.65% and 9.30% then the percentage of the performance shares eligible for vesting in such year will be between 10% and 100% on a straight-line basis; or
- between 9.30% and 18.60%, then the percentage of the performance shares eligible for vesting in such year will be between 100% and 200% on a straight-line basis.

2016 Performance Shares

<u>Year</u>	<u>Split</u>	<u>Increase in BVPS</u>	<u>Banked</u>
2016.....	33.3%	5.9%	11.4%
2017.....	33.3%	NA	NA
2018.....	33.3%	NA	NA
Total.....	<u>100.0%</u>		<u>11.4%</u>

Based on the achievement of a BVPS growth in 2016 of 5.9% as described above, 34.2% of one-third of the 2016 performance share award is eligible for vesting, resulting in 28,566 performance shares being banked.

The Compensation Committee will determine the vesting conditions for the 2017 and 2018 portions of the grant in such years taking into consideration the market conditions and the Company's business plans at the commencement of the years concerned. Notwithstanding the vesting criteria for each given year, if in any given year, the shares eligible for vesting are greater than 100% for the portion of such year's grant and the average diluted BVPS growth over such year and the preceding year is less than the average of the minimum vesting thresholds for such year and the preceding year (which in the case of the 2013 portion of the grant), the average BVPS is less than 5%, then only 100% (and no more) of the shares that are eligible for vesting in such year shall vest. Notwithstanding the foregoing, if in the judgment of the Compensation Committee the main reason for the BVPS metric in the earlier year falling below the minimum threshold (or below 5% in the case of 2013) is due to the impact of rising interest rates and bond yields, then the Compensation Committee may, in its discretion, disapply this limitation on 100% vesting.

The fair value of performance share awards is based on the value of the closing share price on the date of the grant less a deduction for illiquidity and expected dividends which would not accrue during the vesting period. Compensation costs charged against income in the twelve months ended December 31, 2016 in respect of performance shares was a charge of \$2.2 million (2015 — \$6.5 million; 2014 — \$8.9 million). The total tax credit recognized by the Company in relation to performance share awards in the twelve months ended December 31, 2016 was \$0.5 million (2015 — \$1.5 million; 2014 — \$2.4 million).

A summary of performance share activity under the Company's 2013 Share Incentive Plan for the twelve months ended December 31, 2016 is presented below:

	<u>Twelve Months Ended December 31, 2016</u>	
	<u>Number of Shares</u>	<u>Weighted Average Grant Date Fair Value</u>
Outstanding performance share awards, beginning of period.....	266,424	\$24.17
Granted.....	278,477	\$34.44
Earned.....	(87,059)	\$37.30
Forfeited.....	(202,854)	\$36.93
Outstanding performance share awards, end of period.....	<u>254,988</u>	<u>\$36.92</u>

Phantom Shares. On February 6, 2013, the Compensation Committee approved the grant of 152,541 phantom shares with a grant date of February 11, 2013. Additional grants of 6,521 and 542 phantom shares were made on April 8, 2013 and June 11, 2013, respectively. The phantom shares were subject to a three-year vesting period with a separate annual diluted BVPS growth test for each year, in accordance with the test described above for the 2013 performance shares, with the difference being that any vested amount was paid in cash in lieu of shares. As shares were not issued, these instruments have no dilutive effect.

2013 Phantom Shares

<u>Year</u>	<u>Split</u>	<u>Increase in BVPS</u>	<u>Banked</u>
2013	33.3%	6.2%	10.5%
2014	33.3%	13.3%	43.0%
2015	33.3%	10.7%	31.2%
Total	<u>100.0%</u>		<u>84.7%</u>

The total number of 2013 phantom shares that were banked based on the 2013 performance test was 16,812. The total number of 2013 phantom shares that were banked based on the 2014 performance test was 64,357. The total number of 2013 phantom shares that were banked based on the 2015 performance test was 61,266.

On April 22, 2014, the Compensation Committee approved the grant of 154,512 phantom shares with a grant date of April 25, 2014. The phantom shares are subject to a three-year vesting period with a separate annual diluted BVPS growth test for each year in accordance with the test described above for the 2014 performance shares, with the difference being that any vested amount will be paid in cash in lieu of shares. As shares are not issued, these instruments have no diluted effect.

2014 Phantom Shares

<u>Year</u>	<u>Split</u>	<u>Increase in BVPS</u>	<u>Banked</u>
2014	33.3%	13.3%	43.0%
2015	33.3%	10.7%	31.2%
2016	33.3%	5.9%	11.4%
Total	<u>100.0%</u>		<u>85.6%</u>

The total number of 2014 phantom shares that were banked based on the 2014 performance test was 59,796. The total number of 2014 phantom shares that were banked based on the 2015 performance test was 45,726. The total number of 2014 phantom shares that will be banked based on the 2016 performance test will be 12,983.

On March 5, 2015, the Compensation Committee approved the grant of 134,530 phantom shares with a grant date of March 5, 2015. An additional grant of 1,121 phantom shares was made on March 16, 2015. The phantom shares are subject to a three-year vesting period with a separate annual diluted BVPS growth test for each year in accordance with the test described above for the 2015 performance shares, with the difference being that any vested amount would be paid in cash in lieu of shares. As shares are not issued, these instruments have no diluted effect.

2015 Phantom Shares

<u>Year</u>	<u>Split</u>	<u>Increase in BVPS</u>	<u>Banked</u>
2015	33.3%	10.7%	31.2%
2016	33.3%	5.9%	11.4%
2017	33.3%	NA	NA
Total	<u>100.0%</u>		<u>42.6%</u>

The total number of 2015 phantom shares that were banked based on the 2015 performance test was 38,032. The total number of 2015 phantom shares that will be banked based on the 2016 performance test will be 14,688.

On February 3, 2016, the Compensation Committee approved the grant of 145,809 phantom shares with a grant date of February 8, 2016. Additional grants of 548 and 1,156 phantom shares were made on February 12, 2016 and June 27, 2016, respectively. The phantom shares are subject to a three-year vesting period with a separate annual diluted BVPS growth test for each year in accordance with the test described above for the 2016 performance shares, with the difference being that any vested amount would be paid in cash in lieu of shares. As shares are not issued, these instruments have no diluted effect.

2016 Phantom Shares

Year	Split	Increase in BVPS	Banked
2016	33.3%	5.9%	11.4%
2017	33.3%	NA	NA
2018	33.3%	NA	NA
Total	100.0%		11.4%

The total number of 2016 phantom shares that will be banked based on the 2016 performance test will be 15,132.

The fair value of the phantom shares is based on the closing share price on the date of the grant less a deduction for illiquidity. The fair value is expensed through the consolidated income statement evenly over the vesting period but, as the payment to beneficiaries will ultimately be in cash rather than shares, an adjustment is required each quarter to revalue the accumulated liability to the balance sheet date fair value.

Compensation costs charged against income in the twelve months ended December 31, 2016 in respect of phantom shares was \$0.7 million (2015 — \$4.3 million; 2014 — \$6.1 million) with a fair value adjustment for the twelve months ended December 31, 2016 of \$2.9 million (2015 — \$3.2 million; 2014 — \$2.9 million). The total tax credit recognized by the Company in relation to phantom share awards in the twelve months ended December 31, 2016 was \$0.7 million (2015 — \$1.2 million; 2014 — \$2.2 million).

Employee Share Purchase Plans. On April 30, 2008, the shareholders of the Company approved the Employee Share Purchase Plan, the 2008 Sharesave Scheme, as amended, and the International Employee Share Purchase Plan (collectively, the “ESPP”), which are implemented by a series of consecutive offering periods as determined by the Board of Directors. In respect of the ESPP, employees can save up to \$500 per month over a two-year period, at the end of which they will be eligible to purchase Company shares at a discounted price. In respect of the 2008 Sharesave Scheme, employees can save up to £500 per month (prior to April 6, 2014 this amount was £250 per month) over a three-year period, at the end of which they will be eligible to purchase Company shares at a discounted price. The purchase price will be eighty-five percent 85% of the fair market value of a share on the offering date which may be adjusted upon changes in capitalization of the Company. Under the ESPP, 21,285 ordinary shares were issued during the twelve months ended December 31, 2016 (2015 — 54,940 shares; 2014 — 11,821). Compensation costs charged against income in the twelve months ended December 31, 2016 in respect of the ESPP was \$0.4 million (2015 — \$0.3 million; 2014 — \$0.3 million). The total tax credit recognized by the Company in relation to the ESPP in the twelve months ended December 31, 2016 was \$0.1 million (2015 — \$0.1 million; 2014 — \$0.1 million).

The fair value of the employee options granted under the ESPP was estimated on the date of grant using a modified Black-Scholes option pricing model under the following assumptions:

Grant Date	Per share weighted average fair value	Risk free interest rate	Dividend yield	Expected life	Share price volatility
	(\$)	(%)	(%)	(in years)	(%)
November 4, 2008	\$3.18	0.48%	2.70%	3.0	68.0%
December 4, 2008	2.87	(0.41)	3.16	2.0	102.0
November 23, 2009	3.76	0.01	2.28	3.0	22.0
December 21, 2009	3.82	0.04	2.34	2.0	18.0
December 22, 2010	4.24	0.13	2.07	3.0	14.0
December 22, 2010	4.46	0.13	2.07	2.0	14.0
December 13, 2011	4.20	0.05	2.80	3.0	26.2
December 13, 2011	3.85	0.05	2.75	2.0	26.2
March 20, 2013	7.79	0.38	1.88	3.0	2.8
March 20, 2013	5.75	0.25	1.88	2.0	3.2
September 26, 2014	6.61	1.06	1.87	3.0	6.2
September 26, 2014	6.43	0.58	1.87	2.0	4.0
March 25, 2015	8.17	0.94	1.78	3.0	16.0
March 25, 2015	7.08	0.60	1.78	2.0	16.0
March 25, 2016	7.97	1.04	1.88	3.0	4.2
March 25, 2016	7.00	0.87	1.88	2.0	2.4

(b) Non-Employee Director Plan

Non-employee director options were granted under the Aspen 2006 Stock Option Plan for Non-Employee Directors (the “Director Stock Option Plan”) prior to April 21, 2016.

Options. The following table summarizes information about non-employee director options outstanding to purchase ordinary shares at December 31, 2016.

Option Holder	Options Outstanding	Options Exercisable	Exercise Price	Fair Value at Grant Date	Remaining Contractual Time
Non-employee directors - 2006 Option grants (May 25)	—	—	\$21.96	\$4.24	Expired
Non-employee directors - 2007 Option grants (July 30)	—	—	\$24.76	\$4.97	7 months

The options granted in 2006 and 2007 vested at the end of a three-year period from the date of grant subject to continued service as a director. Vested options are exercisable for a period of ten years from the date of grant. No options were granted during the twelve months ended December 31, 2016 (2015 — Nil) and 4,447 options were exercised and shares issued in the twelve months ended December 31, 2016 (2015 — Nil). No charges or tax charges against income were made in respect of non-employee directors options for the twelve months ended December 31, 2016 (2015 — \$Nil; 2014 — \$Nil).

The fair value of the non-employee director options granted were estimated on the date of grant using a modified Black-Scholes option pricing model under the following assumptions:

	Grant Date	
	July 30, 2007	May 25, 2006
Per share weighted average fair value	\$4.97	\$4.24
Risk-free interest rate	4.64%	4.85%
Dividend yield	2.4%	2.7%
Expected life	5 years	5 years
Share price volatility	19.55%	20.05%

Restricted Share Units. The following table summarizes information about restricted share units issued to non-employee directors as at December 31, 2016.

	As at December 31, 2016			
	Restricted Share Units			
	Amount Granted	Amount Vested	Amount Forfeited	Amount Outstanding
Non-Employee Directors — 2014 and prior	194,776	185,773	9,003	—
Non-Employee Directors — 2015	27,620	27,620	—	—
Non-Employee Directors — 2016	24,456	18,006	3,104	3,346
Chairman — 2014 and prior	103,577	103,577	—	—
Chairman — 2015	12,154	12,154	—	—
Chairman — 2016	10,952	9,127	—	1,825
Total	373,535	356,257	12,107	5,171

One-twelfth of the RSUs vest on each one month anniversary of the date of grant, with 100% of the restricted share units becoming vested and issued on the first anniversary of the grant date, or on the date of departure of a director (for the amount vested through such date). A portion of the shares that is eligible to vest following the final vesting date in the calendar year of the date of grant is delivered as soon as practicable thereafter and the remaining shares under the RSUs are delivered on the first anniversary of the grant date. If a director leaves the Board of Directors for any reason other than “cause” (as defined in the award agreement), then the director would receive the shares under the restricted share units that had vested through the date the director leaves the Board. RSUs entitle the holder to receive one ordinary share unit for each unit that vests. Holders of RSUs are not entitled to any of the rights of a holder of ordinary shares, including the right to vote, unless and until their units vest and ordinary shares are issued but they are entitled to receive dividend equivalents with respect to their units. Dividend equivalents will be denominated in cash and paid in cash if and when the underlying units vest.

In respect of the RSUs granted to the Chairman prior to December 31, 2009, one-third of the grants vests on the anniversary date of grant over a three-year period. For grants from January 1, 2010 onwards, one-twelfth of the RSUs vest on each one month anniversary of the date of grant, with 100% of the restricted share units becoming vested and issued on the first anniversary of the grant date, or on the date of departure of a director.

The fair value of the RSUs is based on the closing price on the date of the grant. Compensation cost charged against income was \$1.4 million for the twelve months ended December 31, 2016 (2015 — \$1.8 million; 2014 — \$0.4 million). The total tax charge recognized by the Company in relation to non-employee RSUs in the twelve months ended December 31, 2016 was \$Nil (2015 — \$Nil; 2014 — \$Nil).

(c) Summary of investor options, employee and non-employee share options and restricted share units.

A summary of option activity and restricted share unit activity discussed above is presented in the tables below:

	Twelve Months Ended December 31, 2016	
<u>Option activity</u>	Number of Options	Weighted Average Exercise Price
Outstanding options, beginning of period	29,222	\$23.59
Exercised and issued.	(29,222)	23.59
Outstanding and exercisable options, end of period.	—	—

	Twelve Months Ended December 31, 2015	
<u>Option activity</u>	Number of Options	Weighted Average Exercise Price
Outstanding options, beginning of period	224,141	\$24.91
Exercised and issued.	(194,919)	25.04
Outstanding and exercisable options, end of period.	29,222	\$23.59

	Twelve Months Ended December 31, 2016	
<u>Restricted share unit activity</u>	Number of Shares	Weighted Average Grant Date Fair Value
Outstanding restricted stock, beginning of period.	510,870	\$40.40
Granted	363,958	37.84
Vested	(280,257)	39.69
Forfeited	(59,059)	39.59
Outstanding restricted stock, end of period.	535,511	\$39.25

	Twelve Months Ended December 31, 2015	
<u>Restricted share unit activity</u>	Number of Shares	Weighted Average Grant Date Fair Value
Outstanding restricted stock, beginning of period.	525,918	\$35.83
Granted	327,626	41.05
Vested	(306,888)	35.85
Forfeited	(35,786)	39.59
Outstanding restricted stock, end of period.	510,870	\$40.40

18. Intangible Assets

The following table provides a summary of the Company's intangible assets for the twelve months ended December 31, 2016 and 2015:

	Twelve Months Ended December 31, 2016				Twelve Months Ended December 31, 2015			
	Beginning of the Year	Additions	Amortization	End of the Year	Beginning of the Year	Amortization	End of the Year	
	(\$ in millions)				(\$ in millions)			
Intangible Assets								
Trade Mark	\$ 1.6	\$ 5.5	\$ (0.5)	\$ 6.6	\$ 1.6	\$ —	\$ 1.6	
Insurance Licenses	16.6	0.05	—	16.7	16.6	—	16.6	
Agency Relationships	—	28.1	(1.8)	26.3	—	—	—	
Non-compete Agreements	—	3.9	(0.6)	3.3	—	—	—	
Value of Business Acquired	—	1.8	(1.8)	—	—	—	—	
Consulting Relationships	—	1.0	(0.1)	0.9	—	—	—	
Goodwill	—	24.2	—	24.2	—	—	—	
Renewal Rights	—	1.9	(0.2)	1.7	—	—	—	
Total	<u>\$ 18.2</u>	<u>\$ 66.5</u>	<u>\$ (5.0)</u>	<u>\$ 79.6</u>	<u>\$ 18.2</u>	<u>\$ —</u>	<u>\$ 18.2</u>	

AgriLogic

On January 19, 2016, Aspen U.S. Holdings acquired 100% of the equity voting interest of AgriLogic, a specialist U.S. crop managing general agency business with an integrated agricultural consultancy, for an initial purchase price of \$53.0 million. In addition, the Company recognized \$14.1 million of contingent consideration, with a total maximum payable of \$22.8 million, subject to the future performance of the business and \$2.0 million of ceding commission. The total consideration for the acquisition was \$69.1 million.

A significant proportion of the acquired business was represented by intangible assets, specifically \$25.0 million for agency relationships, \$4.0 million for the right to use the AgriLogic trademark, \$2.9 million for non-compete agreements, \$1.8 million for the value of business acquired and \$1.0 million for consultancy relationships. In addition, \$12.0 million of software was acquired and is recognized in the balance sheet under office properties and equipment along with \$0.3 million of residual net assets. The total net assets acquired of \$47.0 million resulted in the Company recognizing a total of \$22.1 million in goodwill for the acquisition of AgriLogic, \$34.0 million of intangible assets and \$21.0 million of goodwill are eligible for tax deduction over the next 15 years.

License to use the "AgriLogic" Trademark. The Company acquired the right to use the AgriLogic trademark in the United States. The Company valued the trademark at \$4.0 million with an estimated economic useful life of 10 years. The Company will amortize the estimated value of the trademark over its estimated useful life.

Agency Relationships. The Company valued the agency relationships at \$25.0 million with an estimated economic useful life of 15 years. The Company will amortize the estimated value of the agency relationships over their estimated useful life.

Non-compete Agreements. The Company valued the non-compete agreements at \$2.9 million with an estimated economic useful life of 5 years. The Company will amortize the estimated value of the non-compete agreements over their estimated useful life.

Value of Business Acquired. The Company recognized a \$1.8 million asset for value of business acquired ("VOBA") consisting of the inforce unearned premium reserve and claims reserves at fair value. The Company will amortize the VOBA in line with the unwinding of the acquired unearned premium balances and loss reserves. Given the short tail nature of the book, the VOBA has been fully amortized in 2016.

Consulting Relationships. The Company valued the consulting relationships at \$1.0 million with an estimated economic useful life of 10 years. The Company will amortize the estimated value of the consulting relationships over their estimated useful life.

Goodwill. The Company valued the goodwill at \$22.1 million. The goodwill is deemed to have an indefinite useful life and will be assessed for impairment annually.

Blue Waters

On October 31, 2016, Acorn acquired 100% of the equity voting interest of Blue Waters, a specialist marine insurance agency. The total consideration for the acquisition was \$8.0 million.

A significant proportion of the acquired business was represented by intangible assets, specifically \$3.1 million for agency relationships, \$1.5 million for the right to use the Blue Waters trademark, \$1.0 million for non-compete agreements and \$0.05 million for the value of trading licenses. In addition, \$0.3 million of residual net assets were acquired. The total net assets acquired of \$5.75 million resulted in the Company recognizing a total of \$2.1 million in goodwill for the acquisition of Blue Waters.

Agency Relationships. The Company valued the agency relationships at \$3.1 million with an estimated economic useful life of 5 years. The Company will amortize the estimated value of the agency relationships over their estimated useful life.

License to use the “Blue Waters” Trademark. The Company acquired the right to use the Blue Waters trademark in the United States. The Company valued the trademark at \$1.5 million with an estimated economic useful life of 5 years. The Company will amortize the estimated value of the trademark over its estimated useful life.

Non-compete Agreements. The Company valued the non-compete agreements at \$1.0 million with an estimated economic useful life of 5 years. The Company will amortize the estimated value of the non-compete agreements over their estimated useful life.

Insurance Licenses. The Company valued the insurance licenses at \$0.05 million. The insurance licenses are considered to have an indefinite useful life and are not amortized. The licenses are tested annually for impairment.

Goodwill. The Company valued the goodwill at \$2.1 million. The goodwill is deemed to have an indefinite useful life and will be assessed for impairment annually.

Other Intangible Assets

Renewal Rights. On September 22, 2016, the Company entered into a renewal rights agreement with Liberty Specialty Markets Limited (“LSML”). The Company valued the renewal rights at \$1.9 million with an estimated economic useful life of 5 years. The Company will amortize the estimated value of the renewal rights over the estimated useful life.

In addition to the intangible assets and goodwill associated with the AgriLogic and Blue Waters acquisitions and the renewal rights agreement with LSML, the Company has the following intangible assets from prior transactions.

License to use the “Aspen” Trademark. On April 5, 2005, the Company entered into an agreement with Aspen (Actuaries and Pension Consultants) Plc to acquire the right to use the Aspen trademark in the United Kingdom. The consideration paid was approximately \$1.6 million. As at December 31, 2016, the value of the license to use the Aspen trademark was \$1.6 million (December 31, 2015 — \$1.6 million). The Company performed its annual qualitative assessment and determined that it was not more likely than not that the Aspen trademark was impaired as at December 31, 2016.

Insurance Licenses. The total value of the licenses as at December 31, 2016 was \$16.6 million (December 31, 2015 — \$16.6 million), including \$10.0 million of acquired licenses held by AAIC, \$4.5 million of acquired licenses held by Aspen Specialty and \$2.1 million of acquired licenses held by Aspen U.K. The insurance licenses are considered to have an indefinite life and are not being amortized. The Company performed its annual qualitative assessment and determined that it was not more likely than not that the insurance licenses were impaired as at December 31, 2016.

19. Commitments and Contingent Liabilities

(a) Restricted assets

The Company’s subsidiaries are obliged by the terms of its contractual obligations to U.S. policyholders and by obligations to certain regulatory authorities to facilitate issue of letters of credit or maintain certain balances in trust funds for the benefit of policyholders.

The following table details the forms and value of Company’s restricted assets as at December 31, 2016 and 2015:

	<u>As at December 31, 2016</u>	<u>At December 31, 2015</u>
	(\$ in millions, except percentages)	
Regulatory trusts and deposits:		
Affiliated transactions	\$ 1,482.8	\$ 1,421.0
Third party	2,380.8	2,265.6
Letters of credit / guarantees ⁽¹⁾	672.1	708.5
Total restricted assets	<u>\$ 4,535.7</u>	<u>\$ 4,395.1</u>
Total as percent of investable assets	<u>49.3%</u>	<u>49.6%</u>

- (1) As at December 31, 2016, the Company had pledged funds of \$672.0 million and £7.2 million (December 31, 2015 — \$697.6 million and £7.1 million) as collateral for the secured letters of credit.

The Company's current arrangements with our bankers for the issue of letters of credit require us to provide collateral in the form of cash and investments for the full amount of all secured and undrawn letters of credit that are outstanding. We monitor the proportion of our otherwise liquid assets that are committed to trust funds or to the collateralization of letters of credit. As at December 31, 2016 and 2015, these funds amounted to approximately 49.3% of the \$9.2 billion and approximately 49.6% of the \$8.8 billion of investable assets held by the Company, respectively. We do not consider that this unduly restricts our liquidity at this time. For more information on our credit facilities and long-term debt arrangements, please refer to Note 22, "Credit Facility and Long-term Debt" of these consolidated financial statements.

Funds at Lloyd's. AUL operates at Lloyd's as the corporate member for Syndicate 4711. Lloyd's determines Syndicate 4711's required regulatory capital principally through the syndicate's annual business plan. Such capital, called Funds at Lloyd's, consists of investable assets as at December 31, 2016 in the amount of \$447.3 million (2015 — \$436.8 million).

The amounts provided as Funds at Lloyd's will be drawn upon and become a liability of the Company in the event of Syndicate 4711 declaring a loss at a level that cannot be funded from other resources, or if Syndicate 4711 requires funds to cover a short term liquidity gap. The amount which the Company provides as Funds at Lloyd's is not available for distribution to the Company for the payment of dividends. AMAL, the managing agent to Syndicate 4711, is also required by Lloyd's to maintain a minimum level of capital which as at December 31, 2016 was £0.4 million (December 31, 2015 — £0.4 million). This is not available for distribution by the Company for the payment of dividends.

U.S. Reinsurance Trust Fund. For its U.S. reinsurance activities, Aspen U.K. has established and must retain a multi-beneficiary U.S. trust fund for the benefit of its U.S. cedants so that they may take financial statement credit without the need to post cedant-specific security. The minimum trust fund amount is \$20.0 million plus an amount equal to 100% of Aspen U.K.'s U.S. reinsurance liabilities, which were \$1,101.5 million as at December 31, 2016 and \$1,105.7 million as at December 31, 2015. As at December 31, 2016, the balance (including applicable letter of credit facilities) held in the trust was \$1,351.2 million (2015 — \$1,334.9 million).

Aspen Bermuda has also established and must retain a multi-beneficiary U.S. trust fund for the benefit of its U.S. cedants so that they may take financial statement credit without the need to post cedant-specific security. The minimum trust fund amount is \$20.0 million plus an amount equal to 100% of Aspen Bermuda's liabilities to its U.S. cedants which was \$953.2 million and \$889.3 million as at December 31, 2016 and 2015, respectively. As at December 31, 2016, the balance held in the U.S. trust fund and other Aspen Bermuda trusts was \$1,267.4 million (2015 — \$1,211.3 million).

U.S. Surplus Lines Trust Fund. Aspen U.K. and Syndicate 4711 have also established a U.S. surplus lines trust fund with a U.S. bank to secure liabilities under U.S. surplus lines policies. The balance held in trust as at December 31, 2016 was \$185.7 million (2015 — \$188.5 million).

U.S. Credit and Surety Lines Trust Fund. Aspen U.K. has also established a U.S. credit and surety lines trust fund with a U.S. bank to secure liabilities under U.S. credit and surety lines policies. The balance held in the trust as at December 31, 2016 was \$Nil (2015 — \$Nil).

U.S. Regulatory Deposits. As at December 31, 2016, Aspen Specialty had a total of \$6.0 million (2015 — \$6.0 million) on deposit with six U.S. states in order to satisfy state regulations for writing business in those states. AAIC had a further \$6.0 million (2015 — \$6.2 million) on deposit with twelve U.S. states.

Canadian Trust Fund. Aspen U.K. has established a Canadian trust fund with a Canadian bank to secure a Canadian insurance license. As at December 31, 2016, the balance held in trust was CAD\$249.2 million (2015 — CAD\$332.9 million).

Australian Trust Fund. Aspen U.K. has established an Australian trust fund with an Australian bank to secure policyholder liabilities and as a condition for maintaining an Australian insurance license. As at December 31, 2016, the balance held in trust was AUD\$137.8 million (2015 — AUD\$139.2 million).

Swiss Trust Fund. Aspen U.K. has established a Swiss trust fund with a Swiss bank to secure policyholder liabilities and as a condition for maintaining a Swiss insurance license. As at December 31, 2016, the balance held in trust was CHF18.3 million (2015 — CHF15.3 million).

Singapore Fund. Aspen U.K. has established a segregated Singaporean bank account to secure policyholder liabilities and as a condition for maintaining a Singaporean insurance license and meet local solvency requirements. As at December 31, 2016, the balance in the account was SGD\$106.4 million (2015 — SGD\$103.3 million).

Interest Rate Swaps. As at December 31, 2016, no cash collateral was held by the Company's counterparties to support the valuation of the interest rate swaps (December 31, 2015—\$10.1 million). For more information, please refer to Note 10, "Derivative Contracts" of these consolidated financial statements.

(b) Operating leases

Amounts outstanding under operating leases net of subleases as at December 31, 2016 and 2015 were:

As at December 31, 2016	2017	2018	2019	2020	2021	Later Years	Total
				(\$ in millions)			
Operating Lease Obligations	\$ 16.1	\$ 15.3	\$ 14.0	\$ 9.9	\$ 8.7	\$ 86.4	\$ 150.4
As at December 31, 2015	2016	2017	2018	2019	2020	Later Years	Total
				(\$ in millions)			
Operating Lease Obligations ⁽¹⁾	\$ 10.5	\$ 14.4	\$ 13.9	\$ 12.4	\$ 8.7	\$ 88.9	\$ 148.8

⁽¹⁾ In 2015, the Company entered into a new 16 year lease relating to the Company's premises in New York.

Total rental and premises expenses for 2016 was \$24.1 million (2015 — \$18.6 million). For all leases, rent incentives, including reduced-rent and rent-free periods, are spread on a straight-line basis over the term of the lease. The Company believes that our office space is sufficient for us to conduct our operations for the foreseeable future in these locations.

The total depreciation for fixed assets was \$7.0 million for the twelve months ended December 31, 2016 (2015 — \$7.0 million). Accumulated depreciation as at December 31, 2016 was \$111.6 million (2015 — \$104.6 million).

(c) Variable interest entities

As at December 31, 2016, the Company had three investments in variable interest entities, Chaspart Maritime Holdings Ltd, Peregrine Reinsurance Ltd and Silverton Re Ltd.

Chaspart Maritime Holdings Ltd. For further information regarding the Company's investment in Chaspart Maritime Holdings Ltd, please refer to Note 6, "Investments" of these consolidated financial statements.

Peregrine Reinsurance Ltd. For further information regarding the Company's investment in Peregrine Reinsurance Ltd, please refer to Note 7, "Variable Interest Entities" of these consolidated financial statements.

Silverton Re Ltd. For further information regarding the Company's investment in Silverton Re Ltd., please refer to Note 7, "Variable Interest Entities" of these consolidated financial statements.

(d) Contingent liabilities

In common with the rest of the insurance and reinsurance industry, the Company is also subject to litigation and arbitration in the ordinary course of business. The Company's Operating Subsidiaries are regularly engaged in the investigation, conduct and defense of disputes, or potential disputes, resulting from questions of insurance or reinsurance coverage or claims activities. Pursuant to insurance and reinsurance arrangements, many of these disputes are resolved by arbitration or other forms of alternative dispute resolution. Such legal proceedings are considered in connection with estimating the Company's Insurance Reserves — Loss and Loss Adjustment Expenses, as provided on the Company's consolidated balance sheet.

In some jurisdictions, noticeably the U.S., a failure to deal with such disputes or potential disputes in an appropriate manner could result in an award of "bad faith" punitive damages against the Company's Operating Subsidiaries. In accordance with ASC 450-20-50-4b, for (a) reasonably possible losses for which no accrual is made because any of the conditions for accrual in ASC 450-20-25-2 are not met and (b) reasonably possible losses in excess of the amounts accrued pursuant to ASC 450-20-30-1, the Company will provide an estimate of the possible loss or range of possible loss or state that such an estimate cannot be made.

As at December 31, 2016, based on available information, it was the opinion of the Company's management that the probability of the ultimate resolution of pending or threatened litigation or arbitrations having a material effect on the Company's financial condition, results of operations or liquidity would be remote.

20. Concentrations of Credit Risk

The Company is potentially exposed to concentrations of credit risk in respect of amounts recoverable from reinsurers, investments and cash and cash equivalents, and insurance and reinsurance balances owed by the brokers with whom the Company transacts business.

The Company's Reinsurance Credit Committee defines credit risk tolerances in line with the risk appetite set by our Board and they, together with the group's risk management function, monitor exposures to individual counterparties. Any exceptions are reported to senior management and the Risk Committee of the Board of Directors.

Reinsurance recoverables

The total amount recoverable by the Company from reinsurers as at December 31, 2016 was \$560.7 million (2015 — \$354.8 million). As at December 31, 2016, 12.8% of the Company's un-collateralized reinsurance recoverables were with Lloyd's of London Syndicates rated A by A.M. Best and A+ by S&P, 16.8% were with Munich Re which is rated A+ by A.M. Best and AA- by S&P and 6.5% were with Arch which is rated A+ by A.M. Best and A+ by S&P. These are the Company's largest exposures to individual reinsurers. The Company has made no provision for doubtful debts from any of its reinsurers as at December 31, 2016.

Underwriting premium receivables

The total underwriting premium receivable by the Company as at December 31, 2016 was \$1,399.4 million (2015 — \$1,115.6 million). As at December 31, 2016, \$5.0 million of the total underwriting premium receivable balance has been due for settlement for more than one year. The Company assesses the recoverability of premium receivables through a review of policies and the concentration of receivables by broker. A bad debt provision was included of \$5.0 million as at December 31, 2016 (2015 — \$2.6 million) for underwriting premiums unlikely to be collected.

Investments and cash and cash equivalents

The Company's investment policies include specific provisions that limit the allowable holdings of a single issue and issuer. As at December 31, 2016, there were no investments in any single issuer, other than the U.S. government, U.S. government agencies, U.S. government sponsored enterprises, Canadian government and the U.K. government in excess of 2% of the aggregate investment portfolio.

Balances owed by brokers

The Company underwrites a significant amount of its business through brokers and a credit risk exists should any of these brokers be unable to fulfill their contractual obligations in respect of insurance or reinsurance balances due to the Company. The following table shows the largest brokers that the Company transacted business with in the three years ended December 31, 2016 and the proportion of gross written premiums from each of those brokers.

	Twelve Months Ended December 31,		
	2016	2015	2014
	(in percentages)		
Broker			
Aon Corporation	18.4%	18.7%	17.8%
Marsh & McLennan Companies, Inc.	14.7	15.4	15.1
Willis Group Holdings, Ltd.	13.7	14.5	13.7
Others ⁽¹⁾	53.2	51.4	53.4
Total	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>
Gross written premiums (\$ millions)	<u>\$ 3,147.0</u>	<u>\$ 2,997.3</u>	<u>\$ 2,902.7</u>

(1) No other individual broker accounted for more than 10% of total gross written premiums.

21. Reclassifications from Accumulated Other Comprehensive Income

The following table sets out the components of the Company's AOCI that are reclassified into the audited condensed consolidated statement of operations for the twelve months ended December 31, 2016 and 2015:

Details about the AOCI Components	Amount Reclassified from AOCI		Affected Line Item in the Consolidated Statement of Operations
	Twelve Months Ended December 31, 2016	Twelve Months Ended December 31, 2015	
	(\$ in millions)		
Available for sale securities:			
Realized gain on sale of securities	\$ 18.8	\$ 43.6	Realized and unrealized investment gains
Realized (losses) on sale of securities . . .	(8.9)	(5.7)	Realized and unrealized investment losses
	9.9	37.9	Income from operations before income tax
Tax on net realized gains of securities	(1.0)	(1.2)	Income tax expense
	<u>\$ 8.9</u>	<u>\$ 36.7</u>	Net income
Foreign currency translation adjustments:			
Foreign currency translation adjustments, before tax	\$ —	\$ —	Net realized and unrealized foreign exchange gains/(losses)
Tax on foreign currency translation adjustments	—	—	Income tax expense
	<u>\$ —</u>	<u>\$ —</u>	Net income
Realized derivatives:			
Net realized (losses) on settled derivatives	(8.7)	(4.9)	General, administrative and corporate expenses
Tax on settled derivatives	—	—	Income tax expense
	<u>\$ (8.7)</u>	<u>\$ (4.9)</u>	Net income
Total reclassifications from AOCI to the statement of operations, net of income tax	<u>\$ 0.2</u>	<u>\$ 31.8</u>	Net income

22. Credit Facility and Long-term Debt

Letter of Credit Facilities.

On June 12, 2013, the Company and several of its wholly-owned subsidiaries (collectively, the "Borrowers") entered into an amended and restated credit agreement (the "Credit Agreement") with various lenders and Barclays Bank PLC ("Barclays"), as administrative agent, which amends and restates the credit agreement dated as of July 30, 2010 among the Company, the Borrowers, various lenders and Barclays. The credit facility is used to finance the Company's working capital needs and those of its subsidiaries for letters of credit in connection with its insurance and reinsurance businesses and for other general corporate purposes. Initial availability under the credit facility is \$200.0 million with the option (subject to obtaining commitments from acceptable lenders) to increase the facility by up to \$100.0 million. The facility will expire on June 12, 2017. As at December 31, 2016, no borrowings were outstanding under the credit facility.

The fees and interest rates on the loans and the fees on the letters of credit payable by the Borrowers under the Credit Agreement are based upon the credit ratings for the Company's long-term unsecured senior debt by S&P and Moody's. In addition, the fees for a letter of credit vary based upon whether the applicable Borrower has provided collateral (in the form of cash or qualifying debt securities) to secure its reimbursement obligations with respect to such letter of credit.

Under the credit facility, the Company must not permit (a) consolidated tangible net worth to be less than approximately \$2,428.6 million plus 50% of consolidated net income and 50% of aggregate net cash proceeds from the issuance by the Company of its capital stock, in each case after January 1, 2013, (b) the ratio of its total consolidated debt to the sum of such debt plus our consolidated tangible net worth to exceed 35% or (c) any material insurance subsidiary to have a financial strength rating of less than “B++” from A.M. Best. In addition, the credit facility contains other customary affirmative and negative covenants as well as certain customary events of default, including with respect to a change in control. The various affirmative and negative covenants, include, among others, covenants that, subject to various exceptions, restrict the ability of the Company and its subsidiaries to: incur indebtedness; create or permit liens on assets; engage in mergers or consolidations; dispose of assets; pay dividends or other distributions; purchase or redeem the Company’s equity securities or those of its subsidiaries and make other restricted payments; make certain investments; agree with others to limit the ability of the Company’s subsidiaries to pay dividends or other restricted payments or to make loans or transfer assets to the Company or another of its subsidiaries. In addition, the credit facility has customary events of default, including (subject to certain materiality thresholds and grace periods) payment default, failure to comply with covenants, material inaccuracy of representation or warranty, bankruptcy or insolvency proceedings, change of control and cross-default to other debt agreements. Our credit facility also contains customary provisions in respect of successor companies resulting from mergers and acquisitions assuming obligations thereunder.

On December 12, 2014, Aspen Holdings and the Borrowers entered into a first amendment to update and restate the credit agreement with various lenders and Barclays, which amends the Credit Agreement. Aspen Holdings has recently established, and may establish additional, special purpose entities that have issued or will issue insurance-linked securities to third-party investors (each, an “ILS Entity” and collectively, the “ILS Entities”). Accordingly, the Credit Agreement was amended, among other things, to (i) exclude ILS Entities from the definition of “Subsidiary”, (ii) permit the Borrowers to invest in ILS Entities and (iii) permit the Borrowers to engage in transactions with an ILS Entity.

On June 30, 2016, Aspen Bermuda and Citibank Europe plc (“Citi Europe”) amended the committed letter of credit facility, dated June 30, 2012, as amended on June 30, 2014 (the “LOC Facility”). The amendment to the LOC facility extended the term of the LOC Facility to June 30, 2018 and provides a maximum aggregate amount of up to \$550.0 million. Under the LOC Facility, Aspen Bermuda will pay to Citi Europe (a) a letter of credit fee based on the available amounts of each letter of credit and (b) a commitment fee, which varies based upon usage, on the unutilized portion of the LOC Facility. Aspen Bermuda will also pay interest on the amount drawn by any beneficiary under a credit provided under the LOC Facility at a rate per annum of LIBOR plus 1% (plus reserve asset costs, if any) from the date of drawing until the date of reimbursement by Aspen Bermuda. In addition, Aspen Bermuda and Citi Europe entered into an uncommitted letter of credit facility whereby Aspen Bermuda has the ability to request letters of credit under this facility subject to the prior approval of Citi Europe. The fee associated with the uncommitted facility is a letter of credit fee based on the available amounts of each letter of credit issued under the uncommitted facility. Both the LOC Facility and the uncommitted facility are used to secure obligations of Aspen Bermuda to its policyholders. In addition to these facilities, we also use regulatory trusts to secure our obligations to policyholders.

The terms of a pledge agreement between Aspen Bermuda and Citi Europe (pursuant to an assignment agreement dated October 11, 2006) dated January 17, 2006, as amended, were also amended on June 30, 2014 to change the types of securities or other assets that are acceptable as collateral under the New LOC Facility. All other agreements relating to Aspen Bermuda’s LOC Facility, which now apply to the New LOC Facility with Citi Europe, as previously filed with the United States Securities and Exchange Commission, remain in full force and effect. As at December 31, 2016, we had \$449.4 million of outstanding collateralized letters of credit under the New LOC Facility (December 31, 2015 — \$463.6 million under the LOC Facility).

Long-term Debt. On August 16, 2004, the Company closed its offering of \$250.0 million 6.00% coupon Senior Notes due August 15, 2014 (the “2014 Senior Notes”). The net proceeds from the 2014 Senior Notes offering, before offering expenses, were \$249.3 million. On December 16, 2013, the Company redeemed the 2014 Senior Notes. The redemption resulted in a realized loss, or make-whole payment, of \$9.3 million which is reflected in net realized and unrealized investment gains and losses of the statement of operations and other comprehensive income.

On December 15, 2010, the Company closed its offering of \$250.0 million 6.00% coupon Senior Notes due December 15, 2020. The net proceeds from this offering, before offering expenses, were \$247.5 million.

On November 13, 2013, the Company closed its offering of \$300.0 million 4.65% Senior Notes due November 15, 2023 (the “2023 Senior Notes”). The net proceeds from the 2023 Senior Notes offering, before offering expenses, were \$299.7 million and a portion of the proceeds was used to redeem the then outstanding 2014 Senior Notes. Subject to applicable law, the 2023 Senior Notes will be the senior unsecured obligations of Aspen Holdings and will rank equally in right of payment with all of our other senior unsecured indebtedness from time to time outstanding.

Subject to certain exceptions, so long as any of the senior notes described above remain outstanding, the Company has agreed that neither the Company nor any of its subsidiaries will (i) create a lien on any shares of capital stock of any designated subsidiary (currently Aspen U.K. and Aspen Bermuda, as defined in the Indenture), or (ii) issue, sell, assign, transfer or otherwise dispose of any shares of capital stock of any designated subsidiary. Certain events will constitute an event of default under the Indenture, including default in payment at maturity of any of our other indebtedness in excess of \$50.0 million.

Silverton, our Bermuda-domiciled special purpose insurer, was established in December 2013 to provide additional collateralized capacity to support Aspen Re’s global reinsurance business. On December 23, 2014, Silverton issued \$85.0 million of participating notes (of which \$70.0 million was issued to third parties), which will provide quota share support for Aspen Re’s global property catastrophe excess of loss reinsurance business. The Company’s maximum loss exposure to Silverton in relation to the 2015 Loan Notes is its \$0.6 million note holdings as at December 31, 2016 due to mature on September 18, 2017.

In the fourth quarter of 2015, Silverton issued \$125.0 million of participating notes (of which \$100.0 million was issued to third parties), which will provide quota share support for Aspen Re’s global property catastrophe excess of loss reinsurance business. The Company’s maximum loss exposure to Silverton in relation to the 2016 Loan Notes is its \$28.9 million note holdings as at December 31, 2016 due to mature on September 17, 2018.

In the fourth quarter of 2016, Silverton issued \$130.0 million of participating notes (of which \$105.0 million was issued to third parties), which will provide quota share support for Aspen Re’s global property catastrophe excess of loss reinsurance business. The Company’s maximum loss exposure to Silverton in relation to the 2017 Loan Notes is its \$28.9 million note holdings as at December 31, 2016 due to mature on September 16, 2019.

The following table summarizes our contractual obligations under the long-term debts as at December 31, 2016.

<u>Contractual Basis</u>	Payments Due By Period				
	Less than 1 year	1-3 years	3-5 years	More than 5 years	Total
	(\$ in millions)				
Long-term Debt Obligations	\$ —	\$ —	\$ 250.0	\$ 300.0	\$ 550.0

The Senior Notes obligation disclosed above does not include the \$29.0 million annual interest payable associated with the Senior Notes or the loan notes issued by Silverton. For more information on Silverton, please refer to Note 7, “Variable Interest Entities” of these consolidated financial statements.

23. Unaudited Quarterly Financial Data

The following is a summary of the quarterly financial data for the twelve months ended December 31, 2016, 2015 and 2014.

	2016				
	Quarter Ended March 31	Quarter Ended June 30	Quarter Ended September 30	Quarter Ended December 31	Year Ended December 31
Revenues	(\$ in millions)				
Net earned premium	\$ 663.1	\$ 680.8	\$ 681.0	\$ 612.4	\$ 2,637.3
Net investment income	49.5	48.0	46.4	43.2	187.1
Realized and unrealized investment gains	65.6	45.1	26.7	(29.0)	108.4
Other income	1.4	(0.5)	1.5	3.3	5.7
Total revenues	779.6	773.4	755.6	629.9	2,938.5
Expenses					
Losses and loss adjustment expenses	357.4	442.2	389.2	387.3	1,576.1
Amortization of deferred policy acquisition costs	130.2	126.7	130.9	141.1	528.9
General, administrative and corporate expenses	119.8	116.4	125.0	128.9	490.1
Interest on long-term debt	7.4	7.4	7.3	7.4	29.5
Change in fair value of derivatives	7.2	0.4	(0.6)	17.6	24.6
Change in fair value of loan notes issued by variable interest entities	4.4	(0.5)	9.8	3.4	17.1
Realized and unrealized investment losses/(gains)	20.6	8.3	5.2	29.1	63.2
Net realized and unrealized foreign exchange losses/(gains)	15.7	5.3	(10.8)	(12.0)	(1.8)
Other expenses	—	1.0	(0.9)	1.2	1.3
Total expenses	662.7	707.2	655.1	704.0	2,729.0
Income from operations before income tax	116.9	66.2	100.5	(74.1)	209.5
Income tax (expense)	(2.5)	(1.3)	(4.9)	2.6	(6.1)
Net income	\$ 114.4	\$ 64.9	\$ 95.6	\$ (71.5)	\$ 203.4
Per Share Data					
Weighted average number of ordinary share and share equivalents					
Basic	60,867,815	60,705,028	60,225,705	60,152,420	60,478,740
Diluted	62,483,938	62,192,142	61,577,018	61,198,041	61,860,689
Basic earnings per ordinary share adjusted for preference share dividends	\$ 1.73	\$ 0.91	\$ 1.43	\$ (1.41)	\$ 2.67
Diluted earnings per ordinary share adjusted for preference share dividends	\$ 1.68	\$ 0.89	\$ 1.40	\$ (1.41)	\$ 2.61

	2015				
	Quarter Ended March 31	Quarter Ended June 30	Quarter Ended September 30	Quarter Ended December 31	Year Ended December 31
Revenues	(\$ in millions)				
Net earned premium	\$ 593.6	\$ 609.4	\$ 640.6	\$ 629.7	\$ 2,473.3
Net investment income	47.4	46.7	45.0	46.4	185.5
Realized and unrealized investment gains	57.4	13.5	10.7	12.9	94.5
Other income	3.9	(1.2)	(2.3)	(0.3)	0.1
Total revenues	<u>702.3</u>	<u>668.4</u>	<u>694.0</u>	<u>688.7</u>	<u>2,753.4</u>
Expenses					
Losses and loss adjustment expenses	306.1	360.5	365.6	334.0	1,366.2
Amortization of deferred policy acquisition costs	119.3	114.1	132.0	118.2	483.6
General, administrative and corporate expenses	102.2	95.4	100.5	125.9	424.0
Interest on long-term debt	7.4	7.3	7.4	7.4	29.5
Change in fair value of derivatives	7.8	(2.0)	(10.1)	(2.5)	(6.8)
Change in fair value of loan notes issued by variable interest entities	2.9	3.3	8.3	5.3	19.8
Realized and unrealized investment losses/(gains)	14.5	28.8	51.9	(17.7)	77.5
Net realized and unrealized foreign exchange losses/ (gains)	6.4	11.6	8.4	(5.0)	21.4
Other expenses	2.6	(1.8)	—	(0.1)	0.7
Total expenses	<u>569.2</u>	<u>617.2</u>	<u>664.0</u>	<u>565.5</u>	<u>2,415.9</u>
Income from operations before income tax	133.1	51.2	30.0	123.2	337.5
Income tax (expense)	(5.1)	(2.2)	(1.8)	(5.3)	(14.4)
Net income	<u>\$ 128.0</u>	<u>\$ 49.0</u>	<u>\$ 28.2</u>	<u>\$ 117.9</u>	<u>\$ 323.1</u>
Per Share Data					
Weighted average number of ordinary share and share equivalents					
Basic	62,159,303	61,408,633	60,779,295	60,784,832	61,287,884
Diluted	63,532,662	62,896,907	62,155,125	62,176,505	62,687,503
Basic earnings per ordinary share adjusted for preference share dividends	\$ 1.91	\$ 0.64	\$ 0.30	\$ 1.78	\$ 4.64
Diluted earnings per ordinary share adjusted for preference share dividends	\$ 1.87	\$ 0.62	\$ 0.30	\$ 1.75	\$ 4.54

	2014				
	Quarter Ended March 31	Quarter Ended June 30	Quarter Ended September 30	Quarter Ended December 31	Year Ended December 31
Revenues	(\$ in millions)				
Net earned premium	\$ 566.5	\$ 616.2	\$ 610.4	\$ 612.2	\$ 2,405.3
Net investment income	49.5	46.1	48.0	46.7	190.3
Realized and unrealized investment gains/(losses) ⁽¹⁾	17.9	34.6	1.1	(7.3)	46.3
Other income	0.6	3.2	1.0	(0.3)	4.5
Total revenues	634.5	700.1	660.5	651.3	2,646.4
Expenses					
Losses and loss adjustment expenses	288.1	337.1	342.7	339.6	1,307.5
Amortization of deferred policy acquisition costs	112.0	108.9	115.5	114.8	451.2
General, administrative and corporate expenses	95.6	108.8	119.8	121.5	445.7
Interest on long-term debt	7.4	7.3	7.4	7.4	29.5
Change in fair value of derivatives	(1.1)	4.6	5.1	6.6	15.2
Change in fair value of loan notes issued by variable interest entities	3.4	2.6	8.5	4.1	18.6
Realized and unrealized investment losses/(gains) ⁽¹⁾	4.3	3.3	21.2	(14.1)	14.7
Net realized and unrealized foreign exchange (gains)/losses ⁽¹⁾	(0.1)	(10.7)	1.3	3.9	(5.6)
Other expenses	0.7	1.2	0.3	(0.5)	1.7
Total expenses	510.3	563.1	621.8	583.3	2,278.5
Income from operations before income tax	124.2	137.0	38.7	68.0	367.9
Income tax (expense)	(3.8)	(6.2)	(1.3)	(0.8)	(12.1)
Net income	\$ 120.4	\$ 130.8	\$ 37.4	\$ 67.2	\$ 355.8
Per Share Data					
Weighted average number of ordinary share and share equivalents					
Basic	65,289,351	65,447,128	65,116,463	62,206,260	64,536,491
Diluted	66,565,890	66,700,368	66,513,009	63,605,298	65,872,949
Basic earnings per ordinary share adjusted for preference share dividends	\$ 1.70	\$ 1.85	\$ 0.43	\$ 0.92	\$ 4.92
Diluted earnings per ordinary share adjusted for preference share dividends	\$ 1.66	\$ 1.82	\$ 0.42	\$ 0.90	\$ 4.82

(1) Adjusted for a representation of foreign exchange in relation to investment securities from realized and unrealized exchange gains/(losses) to realized and unrealized investment gains/(losses).

24. Subsequent Events

On January 3, 2017, we elected to mandatorily redeem all of the outstanding 7.401% Perpetual Non-Cumulative Preference Shares (the “7.401% Preference Shares”). Each holder of a 7.401% Preference Share received \$25 per 7.401% Preference Share, plus any declared and unpaid dividends.

INDEX OF FINANCIAL STATEMENT SCHEDULES

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ASPEN INSURANCE HOLDINGS LIMITED

SCHEDULE I - INVESTMENTS

For the Twelve Months Ended December 31, 2016, 2015 and 2014

The Company's investments comprise investments in subsidiaries.

ASPEN INSURANCE HOLDINGS LIMITED
SCHEDULE II - CONDENSED FINANCIAL INFORMATION OF REGISTRANT
BALANCE SHEETS
As at December 31, 2016 and 2015

	As at December 31, 2016	As at December 31, 2015
	(\$ in millions, except per share amounts)	
ASSETS		
Short-term investments (available for sale)	\$ 25.1	\$ 25.0
Fixed Income Maturities (Trading)	145.7	—
Cash and cash equivalents	156.3	110.5
Investments in subsidiaries ⁽¹⁾	3,405.8	3,439.4
Other investments	11.7	0.8
Eurobond issued by subsidiary	480.0	480.0
Long-term debt issued by Silverton	54.5	44.5
Intercompany funds due from affiliates	9.8	5.3
Other assets	8.6	9.0
Total assets	<u>\$ 4,297.5</u>	<u>\$ 4,114.5</u>
LIABILITIES		
Accrued expenses and other payables	6.4	15.7
Intercompany funds due to affiliates	93.5	129.7
Long-term debt	549.3	549.2
Total liabilities	<u>\$ 649.2</u>	<u>\$ 694.6</u>
SHAREHOLDERS' EQUITY		
Ordinary Shares:		
59,774,464 shares of par value 0.15144558¢ each (December 31, 2015 — 60,918,373)	\$ 0.1	\$ 0.1
Preference Shares:		
11,000,000 5.950% shares of par value 0.15144558¢ each (December 31, 2015 — 11,000,000)	—	—
5,327,500 7.401% shares of par value 0.15144558¢ each (December 31, 2015 — 5,327,500)	—	—
6,400,000 7.250% shares of par value 0.15144558¢ each (December 31, 2015 — 6,400,000)	—	—
10,000,000 5.625% shares of par value 0.15144558¢ each (December 31, 2015 — Nil)	—	—
Additional paid in capital	1,259.6	1,075.3
Retained earnings	2,392.3	2,283.6
Non-controlling interest	1.4	1.3
Accumulated other comprehensive income, net of taxes:		
Unrealized gains on investments	22.5	60.2
Loss on derivatives	(0.5)	(1.2)
Gains on foreign currency translation	(27.1)	0.6
Total accumulated other comprehensive (loss)/income	<u>(5.1)</u>	<u>59.6</u>
Total shareholders' equity	<u>3,648.3</u>	<u>3,419.9</u>
Total liabilities and shareholders' equity	<u>\$ 4,297.5</u>	<u>\$ 4,114.5</u>

⁽¹⁾ The Company's investment in subsidiaries are accounted for under the equity method and adjustments to the carrying value of these investments are made based on the Company's share of capital, including share of income and expenses. Changes in the value were recognised in realised and unrealised investment gains and losses in the statement of operations.

ASPEN INSURANCE HOLDINGS LIMITED
SCHEDULE II - CONDENSED FINANCIAL INFORMATION OF REGISTRANT - Continued

STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME
For the Twelve Months Ended December 31, 2016, 2015 and 2014

	Twelve Months Ended December 31, 2016	Twelve Months Ended December 31, 2015	Twelve Months Ended December 31, 2014
	(\$ in millions)		
Operating Activities:			
Equity in net earnings of subsidiaries and other investments	\$ (85.2)	\$ 59.0	\$ 146.9
Dividend income	331.3	292.3	258.5
Interest income on Eurobond	21.1	29.5	29.5
Net realized and unrealized investment gains/(losses)	3.8	4.3	5.6
Other income	—	1.9	1.9
Total revenues	<u>271.0</u>	<u>387.0</u>	<u>442.4</u>
Expenses:			
General, administrative and corporate expenses	(38.1)	(34.4)	(57.1)
Interest expense	(29.5)	(29.5)	(29.5)
Income from operations before income tax	<u>203.4</u>	<u>323.1</u>	<u>355.8</u>
Income tax	—	—	—
Net income	<u>203.4</u>	<u>323.1</u>	<u>355.8</u>
Amount attributable to non-controlling interest	<u>(0.1)</u>	<u>(0.8)</u>	<u>(0.8)</u>
Net income attributable to Aspen Insurance Holdings Limited ordinary shareholders	<u>203.3</u>	<u>322.3</u>	<u>355.0</u>
Other comprehensive income/(loss), net of taxes:			
Change in unrealized gains on investments	(37.7)	(105.2)	34.9
Net change from current period hedged transactions	0.7	2.6	(3.8)
Change in foreign currency translation adjustment	(27.7)	(72.1)	(15.9)
Other comprehensive (loss)/income, net of tax	<u>(64.7)</u>	<u>(174.7)</u>	<u>15.2</u>
Comprehensive income	<u>\$ 138.6</u>	<u>\$ 147.6</u>	<u>\$ 370.2</u>

ASPEN INSURANCE HOLDINGS LIMITED

SCHEDULE II - CONDENSED FINANCIAL INFORMATION OF REGISTRANT - Continued

STATEMENTS OF CASH FLOWS

For the Twelve Months Ended December 31, 2016, 2015 and 2014

	Twelve Months Ended December 31, 2016	Twelve Months Ended December 31, 2015	Twelve Months Ended December 31, 2014
	(\$ in millions)		
Cash Flows From/(Used In) Operating Activities:			
Net income (excluding equity in net earnings of subsidiaries)	\$ 289.3	\$ 256.4	\$ 209.8
Adjustments:			
Share-based compensation expenses	15.5	17.9	15.1
Realized and unrealized losses/(gains)	(3.2)	(4.3)	(5.6)
Loss on derivative contracts	0.5	1.2	—
Change in other receivables	—	—	1.1
Change in other assets	0.4	(9.0)	0.6
Change in accrued expenses and other payables	(9.3)	(36.8)	37.9
Change in intercompany activities	(40.7)	71.9	32.3
Net cash generated by operating activities	<u>252.5</u>	<u>297.3</u>	<u>291.2</u>
Cash Flows From/(Used in) Investing Activities:			
Purchase of short term investments	(0.1)	(25.0)	—
Purchase of Fixed Income Securities	(145.7)	—	—
Investment in subsidiaries	(126.1)	(171.5)	(56.6)
Investment in long-term debt issued by Silverton	(25.0)	(25.0)	(15.0)
Repayment of loan notes issued by Silverton	19.2	20.5	—
Investment in Micro-insurance	—	(0.8)	—
Investment in Bene	(3.3)	—	—
Net proceeds from other investments	—	—	39.3
Net cash (used in) investing activities	<u>(281.0)</u>	<u>(201.8)</u>	<u>(32.3)</u>
Cash Flows From/(Used in) Financing Activities:			
Proceeds from issuance of ordinary shares, net of issuance costs	2.5	6.8	2.7
Proceeds from issuance of preference shares, net of issuance costs	241.3	—	—
Ordinary share repurchase	(75.0)	(83.7)	(180.9)
Ordinary and preference share dividends paid	(94.5)	(88.7)	(88.1)
Proceeds from maturity of Eurobond	—	573.8	—
Eurobond purchased from subsidiary	—	(480.0)	—
Net cash (used in)/from financing activities	<u>74.3</u>	<u>(71.8)</u>	<u>(266.3)</u>
Increase/(decrease) in cash and cash equivalents	45.8	23.7	(7.4)
Cash and cash equivalents — beginning of period	110.5	86.8	94.2
Cash and cash equivalents — end of period	<u>\$ 156.3</u>	<u>\$ 110.5</u>	<u>\$ 86.8</u>

ASPEN INSURANCE HOLDINGS LIMITED
SCHEDULE III - SUPPLEMENTARY INSURANCE INFORMATION
For the Twelve Months Ended December 31, 2016, 2015 and 2014

Supplementary Information
(\$ in millions)

Year Ended December 31, 2016	Deferred Policy Acquisition Costs	Net Reserves for Losses and LAE	Net Reserves for Unearned Premiums	Net Premiums Earned	Net Investment Income	Losses and LAE Expenses	Policy Acquisition Expenses	Net Premium Written	General and Administrative Expenses
Reinsurance	\$ 239.6	\$ 2,462.1	\$ 813.3	\$ 1,181.9		\$ 657.9	\$ 226.4	\$ 1,269.2	\$ 178.2
Insurance	118.8	2,297.1	550.1	1,455.4		918.2	302.5	1,324.5	228.4
Total	<u>\$ 358.4</u>	<u>\$ 4,759.2</u>	<u>\$ 1,363.4</u>	<u>\$ 2,637.3</u>	<u>\$ 187.1</u>	<u>\$ 1,576.1</u>	<u>\$ 528.9</u>	<u>\$ 2,593.7</u>	<u>\$ 406.6</u>

Year to date December 31, 2015	Deferred Policy Acquisition Costs	Net Reserves for Losses and LAE	Net Reserves for Unearned Premiums	Net Premiums Earned	Net Investment Income	Losses and LAE Expenses	Policy Acquisition Expenses	Net Premium Written	General and Administrative Expenses
Reinsurance	\$ 235.2	\$ 2,409.5	\$ 484.2	\$ 1,072.6		\$ 491.6	\$ 224.7	\$ 1,153.5	\$ 146.5
Insurance	125.9	2,173.9	934.1	1,400.7		874.6	258.9	1,492.7	213.6
Total	<u>\$ 361.1</u>	<u>\$ 4,583.4</u>	<u>\$ 1,418.3</u>	<u>\$ 2,473.3</u>	<u>\$ 185.5</u>	<u>\$ 1,366.2</u>	<u>\$ 483.6</u>	<u>\$ 2,646.2</u>	<u>\$ 360.1</u>

Year to date December 31, 2014	Deferred Policy Acquisition Costs	Net Reserves for Losses and LAE	Net Reserves for Unearned Premiums	Net Premiums Earned	Net Investment Income	Losses and LAE Expenses	Policy Acquisition Expenses	Net Premium Written	General and Administrative Expenses
Reinsurance	\$ 156.4	\$ 2,493.3	\$ 680.1	\$ 1,088.2		\$ 497.8	\$ 200.0	\$ 1,124.0	\$ 146.4
Insurance	142.6	1,907.5	554.9	1,317.1		809.7	251.2	1,391.2	205.5
Total	<u>\$ 299.0</u>	<u>\$ 4,400.8</u>	<u>\$ 1,235.0</u>	<u>\$ 2,405.3</u>	<u>\$ 190.3</u>	<u>\$ 1,307.5</u>	<u>\$ 451.2</u>	<u>\$ 2,515.2</u>	<u>\$ 351.9</u>

ASPEN INSURANCE HOLDINGS LIMITED

SCHEDULE IV - REINSURANCE

For the Twelve Months Ended December 31, 2016, 2015 and 2014

Premiums Written

	<u>Direct</u>	<u>Assumed</u>	<u>Ceded</u>	<u>Net Amount</u>
	(\$ in millions)			
2016.....	\$ 1,733.8	\$ 1,413.2	\$ (553.3)	\$ 2,593.7
2015.....	\$ 1,748.4	\$ 1,248.9	\$ (351.1)	\$ 2,646.2
2014.....	\$ 1,729.9	\$ 1,172.8	\$ (387.5)	\$ 2,515.2

Premiums Earned

	<u>Gross Amount</u>	<u>Ceded to Other Companies</u>	<u>Assumed From Other Companies</u>	<u>Net Amount</u>	<u>Percentage of Amount Assumed to Net</u>
	(\$ in millions, except for percentages)				
2016.....	\$ 1,768.4	\$ (449.0)	\$ 1,317.9	\$ 2,637.3	50.0%
2015.....	\$ 1,703.3	\$ (383.5)	\$ 1,153.5	\$ 2,473.3	46.6%
2014.....	\$ 1,599.0	\$ (331.3)	\$ 1,137.6	\$ 2,405.3	47.3%

ASPEN INSURANCE HOLDINGS LIMITED

SCHEDULE V - VALUATION AND QUALIFYING ACCOUNTS
For the Twelve Months Ended December 31, 2016, 2015 and 2014

	Balance at Beginning of Year	Charged to Costs and Expenses	Charged to Other Accounts	Deductions	Balance at End of Year
	(\$ in millions)				
2016					
Premiums receivable from underwriting activities . . .	\$ 2.6	\$ 2.4	\$ —	\$ —	\$ 5.0
Reinsurance	\$ —	\$ —	\$ —	\$ —	\$ —
2015					
Premiums receivable from underwriting activities . . .	\$ 4.3	\$ —	\$ (1.7)	\$ —	\$ 2.6
Reinsurance	\$ —	\$ —	\$ —	\$ —	\$ —
2014					
Premiums receivable from underwriting activities . . .	\$ 1.1	\$ 3.2	\$ —	\$ —	\$ 4.3
Reinsurance	\$ —	\$ —	\$ —	\$ —	\$ —



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Aspen Insurance Holdings Limited is a leading global specialty insurance and reinsurance company that is diversified, well capitalized and strongly rated. We specialize in providing customized underwriting solutions to clients and brokers across an array of geographies, products and perils. Our success is founded on our financial strength, underwriting expertise and risk management insight, and it is backed by our client-focused philosophy.

Domiciled in Hamilton, Bermuda, Aspen operates across three underwriting platforms: Bermuda, the U.K. and the U.S. The company has approximately 1,600 employees across 10 countries. At year-end 2016, Aspen reported \$12.1 billion in total assets, \$5.3 billion in gross reserves, \$3.6 billion in shareholders' equity, and \$3.1 billion in gross written premiums. Our shares are listed on the New York Stock Exchange under the ticker symbol AHL.



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