Alleghany Corporation Scorecard

($ in millions, except per share amounts)

	Book Value Per Share[1]	Book Value % Change	% Change in S&P 500 with Dividends Included	Market Price Per Share	Market Price % Change	Market Price to Ending Book Value	10-year Treasury Yield End of Year	Common Stockholders' Equity
2000	$ 135.49	15.3%	-9.1%	$ 165.28	13.0%	1.22	5.11%	$ 1,191
2001	162.36	19.8%	-11.9%	157.88	-4.5%	0.97	5.05%	1,426
2002	162.75	0.2%	-22.1%	148.52	-5.9%	0.91	3.82%	1,413
2003	182.18	11.9%	28.7%	189.90	27.9%	1.04	4.25%	1,600
2004	204.08	12.0%	10.9%	248.33	30.8%	1.22	4.22%	1,800
2005	212.80	4.3%	4.9%	252.18	1.6%	1.19	4.39%	1,894
2006	244.25	14.8%	15.8%	329.32	30.6%	1.35	4.70%	2,146
2007	281.36	15.2%	5.5%	371.39	12.8%	1.32	4.02%	2,485
2008	267.37	-5.0%	-37.0%	265.74	-28.4%	0.99	2.21%	2,347
2009	294.79	10.3%	26.4%	265.28	-0.2%	0.90	3.84%	2,718
2010	325.31	10.4%	15.1%	300.36	13.2%	0.92	3.29%	2,909
2011	342.12	5.2%	2.1%	285.29	-5.0%	0.83	1.88%	2,926
2012	379.13	10.8%	16.0%	335.42	17.6%	0.88	1.76%	6,404
2013	412.96	8.9%	32.4%	399.96	19.2%	0.97	3.03%	6,924
2014	465.51	12.7%	13.7%	463.50	15.9%	1.00	2.17%	7,473
2015	486.02	4.4%	1.4%	477.93	3.1%	0.98	2.27%	7,555
2016	515.24	6.0%	12.0%	608.12	27.2%	1.18	2.44%	7,940
2017	553.20	7.4%	21.8%	596.09	-2.0%	1.08	2.41%	8,514
2018	527.75	-4.6%[2]	-4.4%	623.32	4.6%	1.18	2.69%	7,693

CAGR								
5-years	5.0%		8.5%	9.3%				2.1%
10-years	7.0%		13.1%	8.9%				12.6%
15-years	7.3%		7.8%	8.2%				11.0%

CAGR - Including Special Dividend								
5-years	5.4%		8.5%	9.6%				2.5%
10-years	7.2%		13.1%	9.1%				12.8%
15-years	7.5%		7.8%	8.4%				11.2%

(1) Adjusted for stock dividends.

(2) Excludes the impact of a $10.00 per share special dividend payment on March 15, 2018.

To Our Stockholders

Alleghany's common stockholders' equity per share at year-end 2018 was $527.75, a decrease of $25.45, or 4.6% from common stockholders' equity per share of $553.20 at year-end 2017. In March of 2018, Alleghany paid a $10 per share special dividend to its stockholders. If this is added back to year-end 2018 book value, the change for the year was a decrease of 2.8%. For 2018, consolidated operating revenues[1] increased from $6.3 billion to $7.1 billion, or 12.4%, and we recorded operating earnings attributable to common stockholders of $242.9 million, or $16.13 per share, compared to $44.0 million, or $2.87 per share in 2017.

In last year's letter, I noted that financial asset returns have been strong since the 2008 Financial Crisis, as central banks throughout the world injected an incremental $10 trillion into the global banking system. I also noted at the time that the Federal Reserve's emerging posture toward balance sheet tightening and gradual interest rate increases in a modest growth environment introduced an element of risk to a late-stage economic expansion. Indeed, this multi-year environment of accommodation appeared to have ended in 2018. Like 1969 – when coincidentally the unemployment rate also reached 3.7% – both equities and fixed income markets produced negative returns, reflecting higher interest rates and less global liquidity. Because of this environment – and also because of above-average catastrophe losses in the (re)insurance industry – we were unable to grow our book value per share for the first time since 2008. As Butch said to Sundance, "Don't sugar-coat it like that Kid. Tell her straight."[2]

2018 was a reminder of the essential purpose that our insurance and reinsurance subsidiaries play in the economy at large. We exist to help our customers – whether they be insureds or their insurers – manage and recover from the consequences of unpredictable losses. In 2018, we incurred $658 million of net catastrophe losses. These funds ultimately will go primarily to the victims of two major hurricanes, a typhoon in Japan, and wildfires in California. This was the second consecutive year of above-average losses from natural catastrophes, which have cost us almost $1.5 billion over the past two years.

We also have a responsibility to our stockholders to make a profit from these activities. Sometimes it is difficult to tell whether we have been successful in this regard due to the vagaries of GAAP accounting. Under GAAP, we earn premiums each quarter from assuming a multitude of risks. For casualty risks, we make an estimate of the ultimate losses associated with these exposures, and add to our reserves for them on a regular basis. We also adjust these reserves as new information becomes available on loss emergence. For catastrophe exposures related to infrequent (but ultimately mostly predictable) property risks, GAAP accounting does not allow us to create a reserve for the expected losses that will occur over time until the loss events actually occur. So we wait until the hurricane or wildfire happens, and then we recognize a loss. Frankly, it does not make a whole lot of sense, as there is a mismatch between revenues and costs, but these are the rules that we must follow. Only with the passage of time – as we average low loss years with high loss years – do we get a picture of how we have done.

Over the last five years, our reinsurance subsidiary (TransRe) and our largest insurance subsidiary (RSUI Group) have generated underwriting profits of approximately $457 million and $463 million, respectively. In 2018, our insurance operations produced an underwriting profit, but TransRe had an underwriting loss. We believe that due to macroeconomic conditions (more about this later) and structural changes in the (re)insurance industry, property pricing has not been sufficient for insurers and reinsurers to generate an appropriate return, especially given the rising risks associated with climate change. Our response to this has been to reduce our exposure.

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[1] Total revenue excluding change in the fair value of equities, net realized capital gains or losses, and other than temporary impairment losses.
[2] Butch Cassidy and the Sundance Kid.

The global market for catastrophe insurance capacity rests on a small amount of capital provided by investors that are willing to assume the most improbable loss scenarios.[3] Since 2012, "non-traditional" capacity has provided most of this capital in the form of collateralized reinsurance funds and insurance linked securities. Notwithstanding the considerable amount of data and analytical rigor applied by managers and underwriters of these funds, investors have earned meager if not negative returns for two years running. This is in part due to the limitations of models in predicting losses, especially on an annual, aggregate basis, where they become even more unreliable. Investors have been attracted to so-called "alternative reinsurance" products because the risk is diversifying relative to equity and fixed income risks, even though the absolute returns have not (so far) helped them achieve their investment objectives.

For these investors, it has been diversification without return following two consecutive above-average catastrophe loss years. In short, the world has turned for investors in non-traditional vehicles, though it's a mostly recognizable world to (re)insurers with decades of underwriting experience. Having now realized that prices are inadequate, investors have been reluctant to invest more in these products and their managers are seeking better pricing. So-called "retro" capacity is in retreat, and pricing for extreme risk is going up. We believe that this will have an impact on reinsurers (and primary insurers), as their ability to manage risk accumulations is constrained. With less risk-bearing capacity in the industry, pricing should go up as the year ahead unfolds.

It is important to point out, however, that TransRe and RSUI Group do much more than just assume property and property catastrophe risk. As specialists in unusual and/or difficult risks, both companies write a multitude of casualty and other non-property risks. Here we are also optimistic about the outlook. Some of our major competitors have had especially poor results in 2018 in these lines of business and are undertaking significant underwriting, pricing, and exposure management changes to improve profitability, including reducing the size of limits provided to individual risks. This should contribute to improved market conditions going forward.

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As I have noted in the past, the performance of our stock price in any one year loosely relates to changes in long-term fundamental value. With the unwinding of the post-2008 central bank-induced liquidity bubble, our steady progress in building long-term value was recognized by the markets in 2018. Alleghany's stock price has now outperformed the S&P 500 over the past year, as well as over the past five years on a total return basis. However, our growth in book value per share (including dividends) over the past five years has been below our objective of 7-10% per year for the reasons previously mentioned.

[3] While it is hard to get good industry data, Dowling and Partners has estimated that the retrocessional market provides $25-$30 billion of aggregate limits that supports about $400 billion of global property catastrophe reinsurance limits.

The table below summarizes the change in stockholders' equity attributable to Alleghany common stockholders in 2018 ($ in millions):

	2018	% of Beginning Equity
Net investment income	$ 417	4.9%
Underwriting profit before catastrophe losses	392	4.6%
Catastrophe losses	(520)	(6.1%)
Corporate administration	(13)	(0.2%)
(Re)insurance subsidiary long-term compensation	(39)	(0.5%)
Interest expense	(72)	(0.8%)
Alleghany Capital and other operating items, net	78	0.9%
Operating earnings	$ 243	2.8%
Change in fair value of equity securities	(181)	(2.1%)
Change in fair value of debt securities and other	(204)	(2.4%)
Other non-operating items, net	(33)	(0.4%)
Investment and non-operating items	$(418)	(4.9%)
Change before capital transactions	**$(175)**	**(2.1%)**
Memo:		
Share repurchases	(492)	(5.8%)
Special dividend	(154)	(1.8%)
Total capital transactions	$(646)	(7.6%)

Our growth in book value would have been about 2.8% from operating earnings, a result suppressed by high levels of catastrophe losses. Ordinarily we also expect a contribution to book value growth from equity securities, but this was not the case in 2018 due to the sharp December stock market sell-off, most of which reversed in early 2019. Also, higher interest rates caused a mark-down in the carrying value of our fixed income portfolio.

Our operating results reflect continued improved earnings at Alleghany Capital, profitable but depressed results at TransRe and RSUI (due to high levels of catastrophe losses), and improved results at CapSpecialty. We also managed to produce strong *relative* performance in our equity portfolio, and slightly positive fixed income total returns in a difficult fixed income market. TransRe's catastrophe losses were higher than the amounts reported by some of its competitors. Much of this variance relates to the company's exposure in Japan, where it has long-standing relationships with the leading Japanese non-life insurers. We expect that these strong relationships will ensure that their reinsurance pricing returns to an adequate level.

The table below summarizes our 2018 growth in book value by major operating unit ($ in millions):

	TransRe	RSUI	Cap Specialty	ACC	Other	Total
Beginning equity	$ 5,218	$ 1,701	$ 368	$ 706	$ 521	$ 8,514
Operating earnings[4]	64	108	15	51	5	243
Investment gains (losses)	(97)	(23)	(8)	1	(58)	(185)
Other comprehensive income (loss)	(163)	(52)	(7)	-	2	(220)
Capital transactions	(300)	(100)	-	139	107	(154)
Treasury stock activity	-	-	-	-	(487)	(487)
Sub-total	$ 4,722	$ 1,634	$ 368	$ 897	$ 90	$ 7,711
Amortization of intangibles	2	(1)	(1)	(18)	-	(18)
Ending equity	$ 4,724	$ 1,633	$ 367	$ 879	$ 90	$ 7,693
Growth rate before amortization	(3.8%)	1.9%	- %	7.4%	nm	(7.7%)
Operating return on average equity	1.3%	6.5%	4.1%	6.4%	1.6%	3.0%

It should be noted that even in a year of normal catastrophe losses, the operating ROE of each of our (re)insurance subsidiaries is distorted by a historically large allocation to equity securities. Because equities are carried at market value, they typically inflate the denominator in the calculation of ROE and by convention we do not include the change in the value of the portfolio in the definition of "operating" earnings (i.e. the numerator). "Other" includes the parent company and various other investments, net of holding company debt. At the end of 2018, we had parent company cash and marketable invested assets of approximately $1.1 billion (down $0.3 billion from a year ago), despite total shareholder distributions of approximately $646 million.

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[4] Excluding changes in fair value of equity securities, net realized capital gains, other than temporary impairment losses and amortization of intangible assets, all after-tax.

Alleghany Capital

The highlight of 2018 was the breakout performance of Alleghany Capital, the owner and manager of a diverse portfolio of middle market businesses:

- Jazwares grew its net revenues by 43% and had record earnings on the strength of a number of product licenses including *Roblox*, *Fortnite*, and *Peppa Pig*. Even more impressive was the fact that Judd and Laura Zebersky were able to produce these results in an extremely challenging environment with the bankruptcy of the world's largest toy retailer. We expect continued strong growth from Jazwares in 2019, as the company has its first full-year of *Fortnite* sales and it continues to broaden its product line.

- W&W|AFCO Steel acquired Hirschfeld Industries, making it one of the largest structural steel fabricators for large construction and bridge projects in the United States. Rick Cooper and his team spent much of 2018 integrating this large acquisition, and watching their already large backlog of projects grow.

- Kentucky Trailer had a record year. Gary Smith and team continued to build on lean manufacturing initiatives, and reorganized production facilities to a more efficient footprint. A great year for Kentucky Trailer culminated in the year-end acquisition of CEI Equipment Company, the global leader in the production and service of aluminum feed transportation equipment.

- Dave Goswami and his talented executive team at IPS-Integrated Project Services produced double-digit revenue and earnings growth, and saw a multi-year global expansion begin to bear fruit. The company won multiple prestigious, high profile contracts from several major pharmaceutical companies in 2018, and it enters 2019 with a record backlog.

- On October 1, Alleghany Capital acquired a majority interest in Concord Hospitality Enterprises Company, a leading hotel management and development company headquartered in Raleigh, North Carolina. We are very excited to welcome Mark Laport and his exceptional team to the Alleghany Capital group of companies.

Alleghany Capital seeks to partner with owner-operators of companies in durable industries, providing them with a source of permanent capital and the resources to help them grow organically and through complementary acquisitions. Unlike the typical private equity fund buyer, our investment horizon is not limited to a specific time period and we generally would expect to sell a portfolio company only if and when our management-partners believe that it is in the best interest of their company to do so. With substantial resources and a long-term time horizon, Alleghany Corporation can provide a stable home for companies looking to execute business strategies that may not produce short-term payoffs. If you own a company that fits the bill, we would love to hear from you.

At the end of 2018, our seven platform businesses were Bourn & Koch, Kentucky Trailer, IPS-Integrated Project Services, Jazwares, W&W|AFCO Steel, Wilbert Funeral Services, and Concord Hospitality Enterprises Company. Each of these companies has a solid business position with good growth prospects.

Bourn & Koch, headquartered in Rockford, IL, is a manufacturer and remanufacturer of precision machine tools and a supplier of related parts and services. Through its Diamond Technology Innovations (DTI) division, the company is also the leading supplier of diamond orifices and consumables for the waterjet cutting machine industry. At the end of 2018, Alleghany owned approximately 89% of the company. 2018 was a solid year for the company, with all of its divisions generating good growth. Over the last two years, Bourn & Koch has segmented its business lines, invested in engineering to update key products, and expanded internal and external sales representation. The payback on these investments is now beginning to emerge, with new orders up strongly in 2018. In addition, DTI's consumable business continues to expand methodically, aided by a deep innovation pipeline. Although Bourn & Koch had an active year evaluating add-on acquisitions, the company did not complete any transactions. However, we believe there will be more opportunities in the highly fragmented machine tool and consumable tooling sectors in the years to come, with the industry benefiting from the secular growth in factory automation and super hard materials.

Kentucky Trailer, headquartered in Louisville, KY, is a manufacturer of custom trailers and truck bodies for the moving and storage, mobile medical, and other specialty markets. The company has the leading market position in many of its niche markets. At the end of 2018, Alleghany owned approximately 77% of the common equity of the company. Kentucky Trailer had a very strong year in 2018, with growth across multiple product lines, including a rebound in its U.S. mobile medical business. During the year, KT completed a facility consolidation in its specialty vehicle segment by combining two older operations. This facility, which was purpose-built with lean manufacturing principles in mind, is already showing positive results. As mentioned earlier, Kentucky Trailer closed on the acquisition of CEI Equipment Company on December 28, 2018. CEI has a leading market share producing specialized aluminum feed trailers used to transport animal feed to farms where livestock (primarily chickens and hogs) are grown. As we learned during due diligence, you don't want to hang around with a group of hungry chickens, so CEI's products have strong utilization rates and a regular replacement cycle. This acquisition opens up another complementary avenue of growth for Kentucky Trailer in an attractive end-market driven by the global demand for protein.

IPS-Integrated Project Services, headquartered in Blue Bell, PA with satellite offices around the world, is a leading provider of engineering, procurement, construction management, and validation services for the global biopharmaceutical industry. At the end of 2018, Alleghany owned approximately 85% of the company. IPS generated steady profit growth during the year, while setting the stage for significant international growth in the years to come, with a meaningful increase in backlog. Past investments in new offices, particularly in the U.K. and Ireland, were a drag on earnings early on as these offices ramped, but are now beginning to contribute meaningfully to revenue and earnings. IPS has also been active on the innovation front, co-developing a groundbreaking mobile modular platform called iCON, which is driving strong interest and multiple orders from leading biopharmaceutical companies worldwide.

Jazwares, headquartered in Sunrise, FL, is a global toy, entertainment, and musical instrument company, with both a licensed and owned brand portfolio. At the end of 2018, Alleghany owned approximately 77% of the company. Jazwares had a tremendous year in 2018, generating significant earnings growth even with the unexpected liquidation of Toys "R" Us, Inc. early in the year. Prior to its liquidation, this major retailer represented a meaningful portion of U.S. toy industry sales, so Jazwares' growth in 2018 was a major accomplishment and something only a few toy companies achieved. Jazwares was also well prepared for the loss of Toys "R" Us from a credit insurance perspective, a great example of prudent risk management. During the year, Jazwares made two small tuck-in acquisitions (Zag Toys and the Russ Berrie/Applause brands) and won several exciting new licenses, including a highly sought after license for *Fortnite*. Products related to this license, which hit stores in four English-speaking countries on December 1, should drive growth next year when offered to many world markets, alongside Jazwares' other key brands. The U.S. toy industry is consolidating and we expect Jazwares to be active on this front as well.

W&W|AFCO Steel, headquartered in Oklahoma City, OK, provides fabricated steel for use in steel bridges and overpasses in North America as well as large structural construction projects, including commercial, industrial, and public structures. The company also erects steel (primarily its own fabrications) in select markets, such as New York City and Las Vegas. At the end of 2018, Alleghany owned approximately 80% of W&W. The company started 2018 with the transformational acquisition of Hirschfeld Industries, the largest steel bridge fabricator in the industry. Following the acquisition, W&W is now the largest company in the industry in terms of fabricating capacity, the largest steel bridge fabricator in the nation, and the most diversified company in the U.S. market. W&W's earnings contribution grew during the year, but growth was restrained by customer-driven delays on two large projects, first year acquisition integration costs, and transaction fees. W&W is entering 2019 with enhanced economies of scale and a large backlog of projects, with recent orders coming from a diversified set of customers operating in a wide variety of end markets.

Wilbert Funeral Services, headquartered in Overland Park, KS, is a provider of products and services for the funeral and cemetery industries as well as precast concrete markets. Alleghany owned approximately 45% of Wilbert at the end of 2018, and we have a path to majority ownership in the coming years. Wilbert's revenue grew modestly during 2018, driven by an industry-wide drop in mortality rates at the end of the year. Wilbert continues to focus on product innovation, while leveraging its unparalleled distribution capabilities through a broad network of company-owned and licensee-owned locations. The company maintains an active acquisition pipeline and ended the year signing a letter of intent on a highly strategic acquisition in the casket market, which should keep the team busy in 2019. In addition, Wilbert had the honor of assisting in the burials of former First Lady Barbara Bush and former President George H.W. Bush.

Concord Hospitality Enterprises Company, which is based in Raleigh, NC and joined the Alleghany family in October 2018, is a manager and developer of full-service and upscale select-service hotel properties throughout the U.S. and Canada. At the end of 2018, Alleghany owned approximately 85% of the company. Concord currently operates over 100 hotels representing over 15,500 rooms and manages properties for leading brands such as Marriott, Hilton, Hyatt, Choice, and IHG. We are looking forward to our first full year of partnership with the Concord team, which has a large opportunity set in front of it as it gains share in a fragmented industry owing to its record of outstanding service in a highly competitive industry.

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We have made significant progress in increasing the value of the Alleghany Capital portfolio of companies over the past several years. In 2018 Alleghany Capital's platform companies produced $82 million of pretax operating earnings before non-controlling interests, an increase of 61% over the $51 million in 2017. At the end of 2018 the carrying value of Alleghany Capital's subsidiaries and investments was $879 million, and consisted of investments in seven companies with collective revenue of just under $1.6 billion. However, GAAP accounting is not especially friendly to our business model. Some of the factors that should be noted are the following:

- We have fixed costs associated with the Alleghany Capital organization, and until recently these costs were large in relation to the earnings of the portfolio companies. As our portfolio grows (both in terms of number of companies and earnings of each company) these fixed costs are spread over a larger portfolio, improving our overall results. In 2018, these fixed costs were about $7 million.

- We pay finders' fees to third parties in connection with the acquired companies, and have a multitude of legal and transactional costs each time we acquire a new company. All of these costs are immediately expensed. In 2018, these costs were slightly less than $8 million.

- We value acquired companies based on their growth, cash flow and capital intensity characteristics. We usually pay a premium to the historical cost net asset value of the acquired company. Some of this premium is attributed to intangible assets, which are then amortized into our income statement, reducing the company's historical cost earnings.

- Some of the purchase premium is attributed to the value of inventory, which is adjusted at closing to market value. Consequently, future sales result in lower gross margins until the inventory turns over.

- Occasionally we encounter the need to conform revenue recognition policies when we complete a major bolt-on acquisition. In the case of W&W's acquisition of Hirschfeld Industries, conforming revenue recognition policies reduced Hirshfeld's earnings by about $4 million in 2018.

- We generally do not own 100% of our portfolio companies. Under GAAP accounting, we value the minority shareholders' interests, and when the implied value of the overall company goes up, we incur an expense for their proportional share.

- Sometimes we decide to gross-up the purchase price for certain tax benefits. When we do this, our investment is larger and the GAAP ROE is lower than if we did not do a tax gross-up. We do it, of course, because it has a positive economic value to us.

- Finally, when we have an earn-out in the deal structure and are obligated to estimate the fair value of our future obligation, we generally conclude that it will be achieved and book the full liability up front. This avoids reporting a "non-recurring charge" if it is achieved.

We encourage our shareholders to look at the operating earnings (excluding amortization) of the Alleghany Capital companies as the best way to measure their performance. For the reasons mentioned above, it is a very conservative presentation of results. Because these companies have fairly modest capital expenditures, their pretax operating earnings are a reasonable proxy for cash flow over time.

Alleghany Capital is positioned for continued earnings growth in 2019, reflecting the organic growth prospects of our portfolio companies, improved margins at W&W|AFCO Steel and continued strong growth at Jazwares in particular. The operating earnings (before amortization) of the Alleghany Capital portfolio companies now adequately cover the fixed costs that we have incurred in building the organization and accordingly, Alleghany Capital should be a more significant contributor to Alleghany's earnings in the years ahead.

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Reinsurance and Insurance Operations

Before turning to a 2018 review of each of our reinsurance and insurance operations, let's consider further how macroeconomic conditions and structural changes in the (re)insurance industry have played an important part in our thinking about our (re)insurance operations and the markets in which they operate.

From Cash Flow Underwriting to "Risk Asset Underwriting"

In the 1970s and 1980s, the property and casualty industry routinely generated underwriting losses. Because real and nominal interest rates were significantly higher than they are now, (re)insurance companies were able to justify these underwriting losses as they were more than offset by the earnings on "float" – premiums collected in advance of claims and expenses paid. Insurance and reinsurance executives called this "cash flow underwriting," and until interest rates started falling, it was the way (re)insurance companies justified price competition that produced underwriting losses.

Today, property and casualty insurance companies and their reinsurers invest a portion of their capital in "risk assets." In our case, we invest a portion of our subsidiaries' surplus (the regulatory term for capital) in equity securities. The rationale is that because we have an almost infinite investment horizon for these funds, we will be better off investing this surplus over time in equities that can be expected to return 5-7% over the long-term instead of bonds that will earn 2-3%. Other companies in our industry invest in other risk asset classes, including hedge funds, private equity funds, and so on. To the extent a property and casualty insurer can generate higher returns on its assets in a capital-efficient manner, it is worth more.

Since the early 1990s, booming financial markets – interrupted briefly from 2000-2002 and 2007-2008 – have allowed property and casualty insurers and reinsurers to generate respectable growth in net asset value despite modest underwriting profits and low real interest rates. For lack of a better term, we call this ***"Risk Asset Underwriting."*** The industry accepts lower underwriting returns than it would like because competition forces it to – pricing is set by the market, and reacts directly and indirectly to the investment returns that can be obtained in the capital markets. Participants try to capture these returns by intelligently investing the surplus.

Rating agencies ascribe a very high capital charge to equities held within an insurance company. As equities appreciate in value – and expected future returns fall – the presence of equity securities on an insurance company balance sheet may contribute to an inefficient capital structure relative to high quality fixed income assets. Although we cannot predict future stock market returns, we do believe that the risk-reward profile of equities deteriorated in 2018 and early 2019. With the risk-free interest rate moving up, Risk Asset Underwriting may no longer be as attractive after considering the significant capital charges ascribed to risk assets. We expect that in the near future, the industry will adjust prices to reflect lower available investment returns on capital.

Climate change and hurricanes

We are often asked how climate change and extreme weather are affecting our businesses, and how we are responding to what appears to be increasingly severe weather events. From a high level, it is important to understand that insurance and reinsurance companies, for the most part, adjust their prices and exposures ***on an annual basis***. So as the cost of risk increases (or has a chance of increasing) due to climate change, our industry's response will be either to increase the price of (re)insurance or, if this is not possible due to excessive levels of competition, to reduce the exposure that we take. We as an industry also work to mitigate the consequences of major natural catastrophes by encouraging appropriate building codes and responsible economic development.

Our underwriters make use of all of the expert opinion that exists on this issue. And while the scientific consensus[5] is that higher levels of carbon dioxide are causing a rise in global temperature, the scientific community is less certain about how rising temperatures will translate into the frequency of storms such as hurricanes. Evidence is mounting that hurricanes formed over warmer oceans have the potential to be stronger and produce more rain. We have no incentive to be optimistic on this topic, and in fact have become even more focused on the amount of "tail risk" that our insurance and reinsurance subsidiaries take due to extreme weather events or combinations of events.

Although the chances of more severe hurricanes increase with warmer global temperatures, it is difficult to take any one hurricane as evidence of climate change. Four of the ten most intense Atlantic hurricanes occurred more than 30 years ago. Hurricane Gilbert (1988), the "Labor Day" hurricane (1935), Hurricane Allen (1980), and Hurricane Camille (1969) were among the top-10 most severe hurricanes since hurricane records began, and both the "Labor Day" hurricane of 1935 and Camille of 1969 were the most severe landfalling hurricanes. And of course Alexander Hamilton wrote about a monster hurricane that hit Nevis in 1772. Indisputable, however, is that property values in wind-exposed areas have rampantly increased.

The past two years have seen elevated levels of hurricane and tropical cyclone activity. As one climate scientist has said, climate change will increase the probability of severe hurricanes forming, with severe potential consequences.[6] Moreover, in addition to the potential for increased frequency of severe weather events, the amount of ***exposure*** in catastrophe-exposed areas of the country, such as Florida, Texas, and California, has increased significantly over the past several decades. Theoretically, our premium volume reflects exposure, but competitive cycles in the industry can cause premium rates to be deficient from a long-term point of view, as can legal and political trends that effectively expand coverage.

Climate change and wildfire risk

Historically the reinsurance industry considered wildfire risk as a relatively modest peril that was priced for as part of the "load" for all other perils. After decades of relatively predictable fire losses, in 2017 and 2018 California experienced major wildfires that produced insured losses that dwarfed all prior. Multiple years of above-average temperatures and drought, widespread development in the so-called "Wildland Urban Interface," and what many experts view as poor forest management have been a dangerous combination.

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[5] "Science isn't the sum of what scientists think … it is a procedure that is highly skewed. Once you debunk something, it is now wrong. Had science operated by majority consensus, we would be still stuck in the Middle Ages, and Einstein would have ended as he started, a patent clerk with fruitless side hobbies." *Skin in the Game*, Nicholas Nassim Taleb. We really should say, "the consensus of the scientific community."

[6] Dr. Kerry Emanuel, the Cecil and Ida Green Professor of Atmospheric Science and co-director of the Lorenz Center at MIT.

This is a classic example of a situation in which the industry, with 20/20 hindsight, has set the wrong price for the risk. Our main exposure to California wildfires is through our reinsurance subsidiary. We expect that the industry will need to get significantly more rate relative to the limits offered. The reinsurance industry needs to set the correct pricing signal so that insurers and their clients can make the right decisions on fire prevention and more sustainable real estate development.

Alternative reinsurance capital and tail risk

Since 2012, the alternative capital market (collateralized reinsurance and insurance-linked securities) has played an increasingly important role in the assumption of catastrophe risk by insurance and reinsurance companies. Today, roughly 30% of the market for catastrophe risk is comprised of these so-called alternative capital facilities.

In the collateralized reinsurance market, investors in insurance risk provide collateral to a fund that in turn provides reinsurance to insurance companies. The "transformer" vehicle requires a policy-issuing facility that assumes all of the risk (to policy limits), but is provided collateral only up to a certain probability (say, 1-in-500). In an extreme scenario, the entity providing the reinsurance coverage to the insurer could be stuck with losses in excess of the amount of collateral.

A truly extreme event or combination of events could therefore cause problems in our industry. Insurance and reinsurance companies have effectively assumed significant tail risk when they stand between their clients and the alternative capital market. We have a natural aversion to taking remote risks for a small profit, or what is better known as "picking up pennies in front of a steamroller." It is important, in our view, to be realistic about the improbable.

As Michael Lewis recently wrote:

> "If your ambition is to maximize short-term gain without regard to the long-term cost, you are better off not knowing the long-term cost. If you want to preserve your personal immunity to the hard problems, it's better never to really understand those problems. There is an upside to ignorance, and a downside to knowledge. Knowledge makes life messier …"[7]

The collateralized reinsurance market has been an important provider of so-called "retro" coverage for reinsurers, mostly on an annual aggregate basis. In 2017 and 2018, these retro providers were hit hard by the fact that there were multiple, improbable events occurring in a twelve-month period. The managers of these funds rely on models to determine whether pricing is sufficient relative to the risk. As Nassim Taleb noted: "Models are error-prone, something I knew well with finance; most risks only appear in analyses after harm is done."[8]

Some retro providers in particular have suffered very severe losses. Retro pricing has increased significantly, which is forcing reinsurers to choose between lower profitability or writing less risk. We expect that most will choose less risk, especially as we move into spring and summer renewals. This should cause reinsurance pricing to increase.

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[7] *The Fifth Risk,* Michael Lewis.
[8] *Skin in the Game*, Nicholas Nassim Taleb.

TransRe

Alleghany acquired TransRe on March 6, 2012. After several very profitable years, elevated catastrophe losses and a highly competitive market have recently challenged TransRe. We purchased TransRe for $3.5 billion. At that time, TransRe had a book value of $4.0 billion. Since then, we have received net dividends of $1.3 billion, and at the end of 2018 TransRe had a book value of $4.7 billion. If you do the math (and we have), TransRe's annual average return on book value from March 6, 2012 through the end of 2018 was 6.8%. However, because we purchased TransRe at a ***discount*** to its book value, Alleghany's IRR on our purchase price would be 9.1% if we valued the company at book value at the end of 2018.

TransRe is a leading global reinsurer, with a highly diversified spread of risk – by both geographic region and risk class. Many of TransRe's competitors have come and gone over the past four decades of TransRe's existence. The reinsurance industry has evolved from largely direct writers and departments of multiline insurers, to so-called "professional reinsurers," (sometimes domiciled in tax havens) that take shares of a syndicated market largely controlled by brokers, to a market that now overlaps with the capital markets as direct suppliers of risk capital. TransRe's management has successfully navigated these changes, and the company continues to occupy a leadership position in the industry.

The current challenge faced by the industry is how to use capital markets capacity effectively in the property catastrophe market. TransRe formed TransRe Capital Partners in 2013 to bring together all its relationships with third party capital (including traditional retrocession, the Pangaea sidecar series, and other initiatives and partnerships with capital markets) under the management of one team. This organization has allowed the company to leverage its underwriting, origination, analytic and research capabilities to enhance its competitive position with customers and brokers. The company's strategy is built on an alignment of interests with third-party capital providers, complete transparency, and low execution risk that allows it to share mutually attractive opportunities with a broad range of capital providers.

Another challenge faced by the reinsurance industry has been a prolonged period of price competition in casualty lines. Because TransRe has been around for over 40 years, there is significant institutional knowledge about how casualty reinsurance develops and how, usually, a reinsurer is well advised not to be optimistic in its assumptions. In 2018, a number of major insurers began to buy more proportional reinsurance. As these companies are adequately capitalized, this usually only happens because they view the business as either too volatile or inadequately priced, and can be a leading indicator of improving market conditions.

The table below summarizes TransRe's results since Alleghany acquired it on March 6, 2012 ($ in millions):

	Net Premiums Earned	Underwriting Profit (Loss)	Net Cat Losses	Combined Ratio
2012	$ 2,916	$ 267	$ 278	90.9 %
2013	3,279	334	92	89.9
2014	3,331	345	47	89.6
2015	3,116	327	32	89.5
2016	3,845	261	139	93.3
2017	3,809	(263)	581	106.9
2018	3,939	(213)	500	105.4
Total	$24,235	$ 1,058	$1,669	95.6 %

We would make two observations from the above table.

- First, TransRe's growth has been quite modest (3.7% annualized) since 2013, and purposely so. We strongly believe that the only viable strategy in the reinsurance business – given the uncertainty of future losses – is to maintain discipline during competitive cycles. Some of TransRe's competitors are more market share / top-line growth driven.

- Second, the variability of underwriting profits has mostly reflected fluctuations in catastrophe losses. Back in 2014 and 2015, catastrophe losses were below normal, and as a result, the company produced a combined ratio below 90%. By contrast, in 2017 and 2018, catastrophe losses have been above normal, and the combined ratio has been above 100%.

The past seven years may prove to have represented a full cycle in the reinsurance industry. If that's the case, a 95% combined ratio would be a good estimate of what an investor should expect over the long-term. A 5% underwriting profit equates to about $200 million currently. Add this to the investment income generated by TransRe's balance sheet and you get a respectable return on equity. Growth in TransRe's book value depends not only on its underwriting results, but on its investment returns as well – including returns from investments in equity securities. We therefore maintain a robust level of capital at TransRe to support both its underwriting risks and the volatility of its investment portfolio.

RSUI Group

The following table summarizes RSUI Group's results over the past seven years ($ in millions):

	Net Premiums Earned	Underwriting Profit (Loss)	Net Cat Losses	Combined Ratio
2012	$ 656	$ 5	$ 192	99.2 %
2013	764	151	59	80.2
2014	828	180	44	78.3
2015	810	158	26	80.4
2016	755	138	81	81.6
2017	722	(57)	232	107.9
2018	747	44	155	94.1
Total	$ 5,282	$ 619	$ 789	88.3 %

Over the past seven years, RSUI Group has earned $5.3 billion of premium and has produced $619 million of underwriting profits. Since we acquired the company on July 1, 2003, cumulative underwriting profits have totaled $1.67 billion. As is the case with TransRe, RSUI's recent underwriting results have reflected above-average catastrophe losses, although in 2018 RSUI Group was able to produce an underwriting profit.

Beginning in 2015, RSUI Group began to reduce its coastal catastrophe exposure, not because it could predict that major hurricanes were coming (although they did!), but because their seasoned and experienced underwriters knew that the market was not setting a price that was sufficient for the risk that was being offered. Because of these actions, when the storms ***did*** happen, their impact was manageable.

The key to RSUI's long-term success is a firm belief in the primacy of the underwriter, and a culture of superior service to its customers. RSUI has always been "wholesale only" – and dedicated to the specialty insurance market. Some of RSUI's major competitors have drifted away from this focus with mixed results. The acronym "RSUI" originally referred to the company's former parent. Today it stands for "Respect, Service, Underwriting and Integrity."

RSUI has a diversified mix of business allowing it flexibility to respond to shifting marketplace opportunities. Although it is perceived to be primarily a property insurer, in fact over half of its underwriting profits under our ownership have come from its non-property lines. In late 2018, RSUI began to see some of its competitors reduce limits in the casualty market, and we are optimistic that the excessive levels of competition may abate.

The table below summarizes 2018 gross premiums written by department ($ in millions):

	Gross Premiums Written	Year/Year % Change
Property	$ 430	18.6%
Umbrella	184	5.6
General Liability	39	(3.0)
Professional Liability	140	5.6
Management Liability	160	7.4
Binding Authority	139	(2.6)
Alternative Structures/Other	50	(9.9)
Total	$ 1,142	8.1%

The growth in the Property Department reflects improved pricing and increased opportunity as the market began to respond to the catastrophe loss activity of the prior year. RSUI continues to see good growth in Umbrella, Professional Liability, and Management Liability (aka "D&O") where it enjoys a leadership position in D&O for private companies and non-profits. General Liability, Binding Authority, and Alternative Structures all shrank last year, largely in response to excessive levels of competition and/or an underpriced market.

CapSpecialty

Alleghany Corporation acquired CapSpecialty (then known as Capitol Transamerica) in early 2002, and expanded the company shortly thereafter by acquiring a commercial surety business. After over a decade of mixed results, in 2014 we asked Stephen Sills, with whom we had collaborated on Darwin Professional Underwriters, to take charge of the company. Stephen's vision has been to build a leading specialty insurance provider for small and mid-sized businesses, and he is well on the way to accomplishing this objective.

($ in millions)	Net Premiums Written	Underwriting Profit (Loss)	Pre-tax Income	Combined Ratio
2012	$ 149	$(21)	$(10)	114.2 %
2013	171	(31)	21	119.7
2014	192	(11)	(2)	105.8
2015	221	(5)	3	102.6
2016	250	5	14	97.9
2017	271	4	15	98.3
2018	306	7	18	97.7
Growth/Average	12.7 %			103.5 %

The year just ended was the fourth consecutive profitable year under Stephen's leadership and the third consecutive underwriting profit. Stephen has dramatically reshaped the company's portfolio, growing in professional liability while improving the company's overall expense ratio. The expense ratio was over 50% in 2012; today it is 42.5% and falling. As the company continues to expand its product offerings and improve its operating efficiency, we expect further strides in the company's expense ratio and a combined ratio approaching 95%.

The table below summarizes CapSpecialty's 2018 gross premiums written by product line ($ in millions):

	Gross Premiums Written	Year/Year % Change
Binding Authority	$ 94	(0.8) %
Specialty Casualty	64	56.4
Healthcare	66	12.2
Professional Lines	54	16.7
Surety	51	2.8
Total	$ 329	13.3 %

CapSpecialty has been expanding in Specialty Casualty, Health Care, and Professional Lines, while improving the underwriting and efficiency of its legacy businesses – Binding Authority and Surety. The significant growth in Specialty Casualty in 2018 was partially due to a renewal rights transaction with Rockhill, formerly a unit of State Auto Insurance Companies.

* * * * * *

Economic Outlook: The Bubble Bursts (Again …)

As mentioned earlier, like 1969, when the unemployment rate last touched 3.7%, U.S. investors had a year of negative returns on both equities and bonds. As a popular song of that year said:

What goes up must come down
Spinnin' wheel got to go 'round
Talkin' 'bout your troubles it's a cryin' sin
Ride a painted pony let the spinnin' wheel spin[9]

In many ways, however, 2018 was ***unlike*** 1969. For example, in 1969 the United States sent a man to the moon; in 2019 we can't decide whether or not to build a wall. And it is most certainly ***not*** the "dawning of the Age of Aquarius".[10]

In order to understand 2018, it is instructive to rewind the clock to 2008. Following the Financial Crisis of 2008 – which was a worldwide event – global central banks collectively expanded their balance sheets to over $10 trillion through the implementation of so-called "large scale asset purchases." By purchasing securities (mostly government securities and government-backed mortgage securities), central banks effectively added to the reserves of the banking system. For much of the post-2008 period, the Federal Reserve paid interest on these reserves that reflected the prevailing short-term interest rate environment. Because policy rates were set at zero, interest rates available on Treasury securities and reserves were extremely low.

In his recent definitive analysis of the economy since 2008, Adam Tooze shows how global finance has become highly leveraged and integrated. He notes that:

> "…when it comes to analyzing the onset of financial crises in an age of deep globalization, the standard macroeconomic approach has its limits. In discussions of international trade it is now commonly accepted that it is no longer national economies that matter. What drives global trade are not the relationships between national economies but multinational corporations coordinating far-flung "value chains." The same is true for the global business of money."[11]

Perhaps no single event of the financial crisis period highlights the dramatic interconnectedness of global finance than the Federal Reserve's swap lines. Tooze illustrates that collapsing U.S. dollar liquidity required the Fed to initiate upwards of *$10 trillion* of swap lines to prevent a global collapse in asset prices. Foreign central banks then lent these dollars to financial institutions in their countries that were unable to satisfy their dollar debts.

Economist Dr. Lacy Hunt has illustrated that world dollar liquidity is the sum of the monetary base and foreign holdings of U.S. Treasury securities. He notes that in 2018, M2 growth has slowed, as foreign holdings of U.S. Treasury securities have remained flat. For world dollar liquidity to remain the same, foreign holdings of Treasury securities have to increase in an amount sufficient to offset a recent slowdown in M2.

[9] Spinning Wheel by Blood, Sweat & Tears. Released as a single in 1969.
[10] This hit by the Fifth Dimension celebrated the dawning of the Age of Aquarius, with "Harmony and understanding, sympathy and trust abounding."
[11] *Crashed: How a Decade of Financial Crises Changed the World*, Adam Tooze.

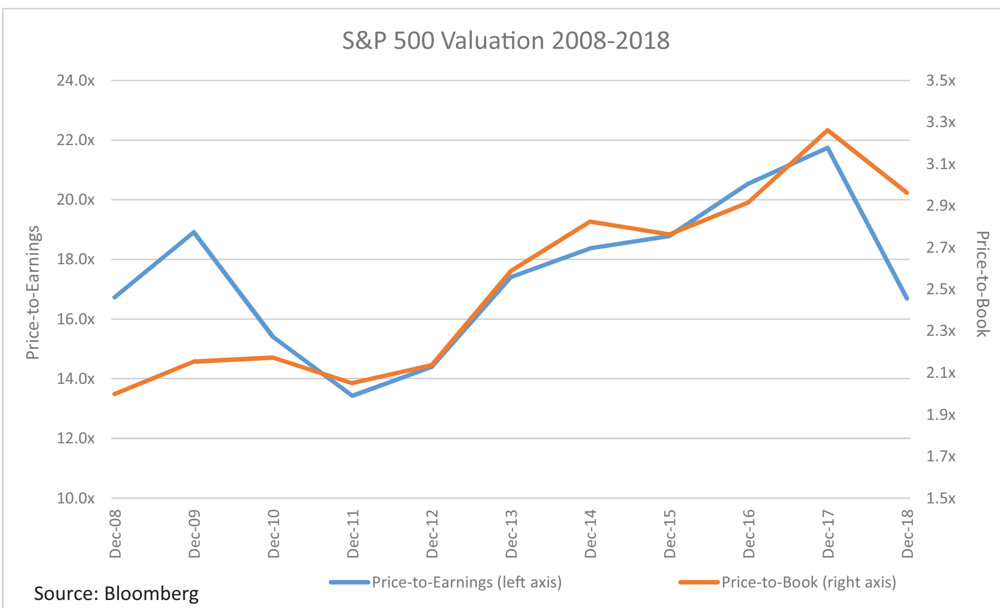
From 1980 through mid-2018, M2 plus foreign holdings of Treasury securities increased from about $1.7 trillion to $20.3 trillion. From 2007 through 2011 foreign holdings of Treasury securities more than doubled ($2.4 trillion to $5 trillion), expanding the supply of dollars outside the United States. Since 2015 however, this figure has been more or less flat, with the result being increasing pressures on world dollar liquidity.

Until the Financial Crisis, the world economy grew through globalization and massive U.S. trade deficits. U.S. dollars found their way into foreign banks, where they have been leveraged directly through borrowings and indirectly through derivatives. As trade tensions rise – in response to rising populist demands – these flows are slowing, which puts significant strains on world dollar liquidity.

We believe that one of the greatest challenges faced by the world economy is the fact that the working-age population of the industrialized world has peaked. At the same time, debt levels have never been higher. The modern monetary system creates money through increased debt. Without a new class of borrowers, and with existing borrowers still highly leveraged, it is not clear what the source of monetary growth will be. In short, deflation continues to be a significant risk to the world economy.

Meanwhile, back at home …

The Federal Reserve has argued that its various programs of asset purchases (called "Quantitative Easing") were necessary to support asset prices and thereby encourage economic activity. The result was an expansion in risk asset multiples from 2011 through 2017, as shown below:



Returns from equities were strong from 2011 through the third quarter of 2018 due primarily to expanding multiples. In 2018, stocks continued their upward march for the first three quarters due to strong corporate earnings, in turn due to a cyclically strong economy and a reduction in corporate tax rates. However, at the same time this was occurring central banks ceased their large-scale asset purchase programs, and in some cases began selling securities to "unwind" their past programs.

It may be inconsistent to say, on the one hand, that large scale asset purchases will help the economy by lifting asset prices, and on the other hand to say that so-called "Quantitative Tightening" will not have the reverse effect. For the first nine months of 2018, however, it appeared that the Federal Reserve's magic was working … despite the implementation of a program of reductions in assets of $50 billion a month, the economy continued to perform well and asset prices appeared unaffected.

Like a frog in a pot of water that is slowly coming to a boil, eventually what feels like a warm bath becomes a lethal environment. For the past several years, investors (ourselves included) remained invested as markets continued to perform well despite a central bank that was gradually moving from an accommodative stance to a neutral stance. The question is, "now what?"

We believe that the world economy is at risk of a significant slowdown or recession, if not there already. Commodity prices have collapsed; long-term interest rates are falling; the yield curve is near inversion; and international economies are either slowing or in contraction. In such an environment, our goal is to preserve capital and de-risk where possible. Consequently, we have sold our most cyclically exposed equities (energy, materials, etc.) and reduced our overall allocation to equities. This has continued into the first quarter of this year.

We also worry that the Federal Reserve is underestimating the impact that changes in short-term interest rates have on a more leveraged economy. It would seem logical that higher levels of leverage in the economy should mean that a change in interest rates will have a more leveraged effect today than it did in the past. It is possible that the world economy suffers from a case of "debt saturation." Demographics and high levels of debt are both working against a consumer-led economic recovery. The baby boom generation needs to save more, while the millennials are struggling under $1.5 trillion of student loan debt.

Stepping back from the cyclical considerations, however, one cannot be encouraged by the deteriorating finances of the United States. The table below compares average annual debt growth by decade to average GDP growth, from a report by MacroMavens:[12]

Debt Growth vs. GDP Growth by Decade ($ in billions)

	Avg Annual Debt Growth	**Avg Annual GDP Growth**	**Debt per $ GDP**
1960s	$ 64	$ 50	1.28x
1980s	$ 668	$ 301	2.22x
2000s	$ 1,809	$ 482	3.75x

[12] *A Costanza Moment*, Stephanie Pomboy, MacroMavens, January 31, 2019.

Private credit growth was the main driver of forward momentum until the financial crisis. Since 2008, however, Federal debt outstanding has almost tripled (from $7.4 trillion to almost $18 trillion) and has accounted for 63% of the increase in debt outstanding. The fact that Federal debt outstanding is accounting for the majority of debt growth during the longest economic expansion in history suggests that private borrowing capacity has reached its limits.

In 2018 for example, nominal GDP grew by a little over $1 trillion. Coincidentally (?) total federal debt held by the public increased by about $1 trillion as well. One would expect that in a truly strong economy, nominal economic growth of ~5% (3% real plus 2% inflation) would result in slower growth in total debt outstanding. Borrowing to create growth, especially when much of the borrowing is to fund transfer payments, is a worrying sign for the future of the economy.

In today's economy (with fiat currencies), the amount of private debt outstanding determines the money supply. If private sector borrowing capacity is at its maximum and Federal debt is nearing an upper limit, it suggests that liquidity may be peaking. Add to this central banks that were determined to shrink their balance sheets and you have a recipe for less robust asset prices. In such an environment, we believe that there is also a risk that the Federal government will increasingly "crowd out" private investment, adding to deflationary pressures and causing interest rates to fall.

With the U.S. economy now at risk of recession, the Federal Reserve has limited ability to cause an expansion of private debt in an amount sufficient to pull the economy out of a recession by lowering interest rates. This will not stop it from trying, however. The extraordinary reversal in Federal Reserve monetary policy in the last week of January 2019 illustrates just how fragile the global economy actually is.

All of the above is negative in our view for prospective investment returns. For these reasons, we have de-risked our portfolio and expect to grow book value the old-fashioned way: through underwriting and operating profits.

Populism and corporate profit margins

In his 2018 book *The Populist Temptation*, Professor Barry Eichengreen outlines the conditions throughout recent history that have led to a populist response. He notes "populism is activated by the combination of economic insecurity, threats to national identity, and an unresponsive political system."[13] Our political system is increasingly polarized between urban and rural, coastal and central, and old versus young.

Perhaps one of the more disturbing images of the fourth quarter was the sight of the *gilets jaunes* ("Yellow Vest") movement in France, destroying property in protest throughout major cities, including the heart of Paris. As noted by Charles Gave of Gavekal Research, this is not a movement of the left, but "lower middle class folk from unfashionable areas of the provinces who had a non-ideological beef with their rulers."[14]

[13] *The Populist Temptation: Economic Grievance and Political Reaction in the Modern Era*, Barry Eichengreen.
[14] *The Real Gilets Jaunes*, Gavekal Research, December 5, 2018.

Europe is a mess, and is one of the many potential "Black Swans" that could finally come into play over the next several years in the global economic picture. As one observer succinctly put it, "the Europeans have locked themselves in a cage and thrown away the key. It's starting to get crazy inside the cage and a recession isn't going to help."[15]

In the United States there is a clear trend of populism emerging on both the left and the right, as is the case in many other Western countries. Political developments over the next two years could well determine the kind of investment environment that we have going forward. We believe we have seen "peak inequality" and that the political process will increasingly try to address this issue. As recently noted by Kiril Sokoloff[16], the cycles of history suggest that this is inevitable.

Rising populism represents a challenge to returns on capital, and therefore the outlook for financial asset returns. A new generation is taking a larger role in our Congress, and has a number of ideas to address the needs of their constituents and the apparent shortcomings of "winner-take-all" capitalism. The political landscape will no doubt continue to change, creating more volatility as our country evolves to find solutions to a system that is failing a large portion of the population.

Investments

Absolute returns on our investment portfolio were negligible in a very challenging market environment in 2018. Our equity portfolio outperformed the S&P 500, while our fixed income portfolio generated a small positive return. We have now significantly outperformed our investment benchmarks over the past four years on both equities and fixed income.

The table below summarizes our largest individual positions at year-end ($ in millions):

Shares	Company	Cost	Fair Value
2,620,000	VISA Inc.	$ 184.8	$ 345.7
324,640	Alphabet Inc.	258.0	339.2
3,120,000	Microsoft Corp.	175.5	316.9
4,000,000	CSX Corp.	143.2	248.5
917,000	Roper Technologies Inc.	143.7	244.4
925,000	Cigna Corp.	130.8	175.7
975,000	Apple Inc.	199.4	153.8
1,500,000	JP Morgan Chase	93.5	146.4
521,450	Berkshire Hathaway	75.8	106.5
	Total	$1,404.7	$2,077.1

Our equity investment strategy is to invest in good businesses with sustainable market positions and reasonable long-term growth prospects. We supplement this strategy with an allocation to passive equity vehicles in order to capture the broad returns of equity markets on a tax efficient basis. Because of the negative cyclical outlook for equities, we reduced our allocation to passive equities from approximately $841 million at the end of 2017 to $442 million at the end of 2018, and have further reduced our passive exposure in early 2019.

[15] Eric Janszen, iTulip.com.
[16] "What I Learned This Week," 13D Research, January 24, 2019.

Oil companies are the new airlines, and airlines are the old oil companies

It used to be that investors considered airlines to be among the world's worst businesses. The industry was fragmented, it was relatively easy to add capacity, and competitors always added capacity by pricing to marginal cost. The result was an industry that never made money, and when an economic recession came along the industry would hemorrhage red ink. After decades of consolidation, however, the industry is now highly concentrated and for the most part has shown remarkable pricing discipline.

It used to be large oil companies and OPEC dominated the global oil industry. Adding production required huge capital expenditures and complex, multi-year oil infrastructure investments. As a result, the industry and OPEC was able to control supply, and steadily rising demand resulted in an upward bias to oil prices. This was true until 2008. Today, shale production has replaced long-cycle capex with short-cycle capex; the industry is more fragmented; and smaller industry participants can add capacity relatively quickly at a low cost. The U.S. shale industry has weakened OPEC's influence. As a result, oil companies now price based on marginal cost, and nobody makes any money. In short, they are the airlines of yesterday! The outlook for the oil industry is made worse by the potential for slowing global demand growth. Although we expect that demand will continue to grow on a global basis for at least the next decade, longer-term it is not clear what the trajectory will look like.

In 2018, we exited most of our public energy investments. We have not yet found the courage to make a bet on the airlines, perhaps because we fly commercial too much …[17]

Fixed income strategy

In 2018, our growth in book value was reduced by $201 million (after-tax) as the market value of our bond portfolio declined due to higher interest rates. While this is negative in the short-run, it is positive in the long-run, so long as we receive promised interest and principal payments. The mark-to-market loss that we booked in 2018 will come back to us in future periods as bond values accrete to par over their remaining life. Moreover, our structural return on equity increases, as the yield-to-maturity of the bond portfolio – which is carried at market value – goes up with higher interest rates.

In the aggregate, our fixed income portfolio produced a small positive return (+0.7%) in the year just ended. Over the past three years, the average annual return (excluding currency) was about 3.5%. As expected, over longer periods of time our fixed income portfolio return is very close to the average portfolio yield; barring defaults or realized capital losses, total returns should be close to the portfolio yield over the long run.

Our consolidated portfolio yield increased by more than 30 basis points in 2018, a result of an allocation to floating rate securities and the reinvestment of coupon payments and maturities at somewhat higher yields. Our external managers have done a fine job over the long-term, exceeding the top-end of our expected alpha relative to a custom benchmark while conforming to our risk parameters.

The fixed income portfolio remains very high in quality (AA-/Aa3), and at the margin we are reducing what lower-quality exposure we have. We do not believe that fixed income investors are particularly generously compensated for credit risk at present, especially considering the high levels of corporate leverage that exist today in the late stages of an economic expansion.

* * * * * *

[17] We do have a relatively small position in Delta Airlines, perhaps the best run of the bunch.

Other Corporate Investments

Alleghany has several corporate investments that are either the result of historical developments or more of a speculative nature. These are briefly reviewed below.

Alleghany Properties

Alleghany Properties is a legacy investment that owns approximately 125 acres in the Natomas Crossing area north of Sacramento, California. This portfolio has been ably managed by David Bugatto for the past 25 years. In 2018, we were successful in selling a large parcel that a major health insurance company is using as a regional headquarters. Because of this sale, development interest has increased for our remaining property. In 2018, Alleghany Properties sold 104 acres in total for gross sales of $46.8 million. We expect Alleghany Properties to sell its remaining holdings over the next couple of years.

Stranded Oil Resources Corporation

In 2018 we had success with two important test wells at Teapot Dome and one in Caddo Parish, Louisiana. These innovative projects use horizontal drilling techniques to recover oil from shallow shale and chalk formations. Because we purchased most of our oil and gas assets for possible (not-yet-proved) reserves, it is imperative that we expand the reserve base so that we can lower the per-barrel cost of production. Our recent projects are an important step toward this goal.

In late 2018, largely due to geopolitical and macroeconomic facts, oil prices fell by about 40% in three months. As a result of the lower oil strip, we incurred a charge of $35.4 million to reduce the carrying value of our oil and gas assets, and reported this charge as a realized capital loss. We understand that we may be unusual in that we use a point-in-time valuation reference, whereas some companies in the industry use average oil prices over a period of time. We did not believe it would have been appropriate to change our impairment assessment just to avoid a result that we did not like.

We now carry our investment in Stranded Oil at $88 million, or just over 1% of our total capital. Our goal continues to be to maximize potential value prospectively by proving oil recovery in the two remaining resource-rich areas that we control.

Ares Management

We reduced our holdings in Ares Management Corporation in 2018 after the company converted to a taxable entity. We originally acquired 12.5 million privately-placed shares of Ares in 2013 in anticipation of possible convergence of reinsurance and alternative asset management. Despite our best intentions, the strategic promise of so-called “hedge fund reinsurance” was not realized. Because of the strong performance of now publicly-traded Ares, however, the investment has produced acceptable returns. At the end of 2018, we continued to own approximately 7.157 million shares of the company that has a current market value of approximately $127 million.

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Summary and Outlook

Our two largest businesses – TransRe and RSUI Group – are in a cyclical industry that has experienced a prolonged competitive downturn, made worse by two years of above-average catastrophe loss activity. Each company has maintained discipline during this difficult period, and has modestly contributed to our growth in book value. We cannot predict the incidence of catastrophe losses, but we know that maintaining underwriting discipline and continuing to adjust exposure to market conditions is the best way to produce good returns on capital over time.

Given the cyclical pressures on the (re)insurance industry, and the risk/return outlook for financial assets, we have returned approximately $0.65 billion of capital to our stockholders over the past year. The primary destination for our retained capital has been acquisitions at Alleghany Capital, which we believe offers optimal prospective returns.

Alleghany Capital is now a portfolio of businesses with approximately $1.6 billion of total revenues and roughly $879 million of invested capital. It will be a more meaningful part of Alleghany in future years, and it provides us with diversification at attractive returns on invested capital. We look forward to continuing to expand the portfolio and working with our owner-partners to help them achieve their long-term objectives.

In the end, Alleghany Corporation operates as a holding company. We seek to be supportive and helpful partners to our operating subsidiaries, making sure that they have the resources they need to be successful and that they are interesting and enjoyable places to work for their employees. We also make sure that we have the right executives leading each subsidiary. I am pleased to say that we believe that all of our businesses have great leadership teams.

We manage Alleghany with a long-term perspective. These words are easy for any company to say, but what do they really mean? According to a study by the consulting firm Innosight,[18] the average age of a company in the S&P 500 has fallen from 33 years in 1964 to 24 years in 2016, and is projected to fall further to 12 years by 2027. This is occurring for a number of reasons, including industry consolidation, the emergence of new, innovative companies that disrupt the status quo, companies choosing to no longer be public and selling to private equity firms, and of course outright corporate failures. Given this reality, the life span of a typical public company is quite short – kind of like dog years!

If a company is truly managed for the long-term, it means that it must be financially strong and it must not try to generate short-term returns by taking undue levels of risk. Unfortunately, many governance experts – especially the proxy advisory firms – believe that executives should have the bulk of their compensation determined by how their company's stock price performs over *very short periods* (three years, typically) relative to either the stock market as a whole (which is a flawed benchmark due to company mortality) or other companies that are determined by them to be "comparable" – without ***any*** adjustment for risk profile. It would be like saying to someone at the slot machine, "you aren't very good at this because someone on the other side of the casino just won at black jack!"

[18] 2018 Corporate Longevity Forecast: Creative Destruction is Accelerating.

While we recognize that the proxy advisory industry serves an institutional investor community that is judged and indeed competes on short-term performance, the system is not adequately structured to judge businesses where long-term risk/reward dynamics are paramount. This is becoming even more important as many companies have 20-25% of their outstanding shares owned by passive investors, whose time horizon is extremely long. Especially in our business, the factors that determine performance in the short run (i.e. 0-5 years) depend on external events (natural catastrophes in particular) that are somewhat random. It is only over long periods of time that one can begin to get an idea in the risk business if an underwriter, for example, is actually good at what they do.

For these reasons, we have structured the compensation of the underwriters and leadership teams of our (re)insurance subsidiaries as a combination of salary, an annual bonus based on each company's underwriting results (with some smoothing of catastrophe losses), and an equity interest in their company. For the leadership teams, the latter part is the largest and most important.

At the Alleghany level, our executive compensation is structured similarly, although most of the executives have some portion of their compensation tied to our overall company growth rate in book value per share with some minor adjustments. For the four years ended 2018, we failed to achieve the minimum hurdle rate in our long-term plan, so our long-term incentive program did not vest.

Alleghany Corporation is a rare example of a company that has survived and prospered through the best and worst business and economic cycles of the past 90 years. It was formed on January 26, 1929, and has reinvented itself several times. We believe our current structure and business focus have served our investors well over the past two decades, but it is in the company's DNA to reinvent itself again if circumstances and opportunities warrant. In the near-term, I have confidence in our teams' ability, both at the holding company and operating business levels, to navigate current market and economic conditions to best position us to deliver on our financial objectives going forward.

I would like to thank the employees of Alleghany and our subsidiaries for all of their efforts in 2018. It was one of our more challenging years, and although we ended roughly where we started from a book value point of view, much was accomplished to pave the way for better results in the future, especially as insurance and reinsurance market conditions continue to improve.

Yours sincerely,

Weston M. Hicks

Weston M. Hicks
President

Alleghany Corporation
Operating Principles

1. Created in 1929, Alleghany was originally a family-owned business. Although this is no longer the case, that legacy remains an essential part of our culture and is important to how we conduct ourselves. We expect our executives and managers to treat employees fairly and equitably, and to be responsible to the communities in which they operate and the constituencies that they serve. And we endeavor to custody shareholder capital as if it were our own.

2. Throughout most of Alleghany's history we have been investors in the insurance and reinsurance industries. These businesses provide an essential public function in helping organizations and individuals protect their assets. They also help the economy to allocate resources effectively by accurately pricing risk.

3. Because our insurance and reinsurance companies collect premiums before they pay claims, they accumulate substantial reserves. Reserves are a form of "leverage" that enhance our returns on capital, and there is no cost to the reserves unless we generate underwriting losses (see below). In part because of this inherent leverage, we do not believe that it is appropriate for us to use excessive amounts of *financial* leverage at the Alleghany corporate level.

4. Our insurance and reinsurance companies seek to earn an underwriting profit. This is essential to being reliable, secure counterparties that make good on their promises to pay.

5. Our core businesses operate, for the most part, in mature sectors. We believe that insurance markets, which are highly competitive, establish the price of risk; our choice is to write more business or less business at prevailing prices. The industry has a history of capacity dislocations, and when this happens we are prepared to grow more rapidly. Conversely, when excess capacity produces insufficient prices, we are prepared to reduce our risk exposure.

6. As the owner of insurance and reinsurance companies, Alleghany Corporation itself is, to a significant degree, an asset management company. Like a closed-end fund, the corporation retains most of its profits and reinvests those profits on behalf of its stockholders.

7. Given fluctuations in supply and demand for insurance and reinsurance, we can at times become overcapitalized. When this happens, we may invest our excess capital in risk assets, make acquisitions at Alleghany Capital, or build excess liquidity for a time when it may be more attractively valued. We also return excess capital to stockholders, including through share repurchases when we believe our stock price is trading below intrinsic value.

8. Alleghany Capital Corporation is our investment subsidiary that acquires and oversees primarily non-financial companies with durable businesses. Unlike a private equity firm, we do not acquire companies with the intention to sell them in the future. Rather, we believe that we provide a stable ownership structure when the founders or other control owners need to effect a capital transition. We believe that our ownership allows our owner-manager partners to grow their company and to improve each company's results over time.

9. Our primary function in overseeing operating businesses is to provide strategic guidance, to set risk parameters, and to ensure that management incentives are appropriate. We don't "run" our subsidiaries – their executive teams do.

10. Our insurance and reinsurance businesses – and our investment operations – are intellectual capital businesses. We believe that maintaining a stable rank of professional talent, both at Alleghany Corporation and at our insurance and reinsurance businesses, is a source of competitive advantage. Accordingly, we believe it is important to provide these employees with professional growth opportunities and competitive levels of compensation that are aligned with long-term performance.

11. We support equal opportunity for all employees and prospects without regard to race, gender, ethnicity, or sexual orientation. We also support the objective of a diverse board of directors, and intend to continue to enhance the diversity of the board composition in the future.

12. Our financial objective is to generate long-term returns that exceed the general inflation rate by 5-8% per year. In the current environment, this equates to a 7-10% return. By long-term, we mean a decade or more. Because the probability of extreme events increases with time, a long-term objective is best served by a conservative risk profile.

13. We report our results quarterly and annually through press releases and required SEC Filings. We do not provide financial guidance, and do not hold quarterly earnings conference calls. In these communications, we strive to provide information that is sufficient to understand our strategic direction and operations. Additionally, management and directors are available to meet with investors to explain these communications and to hear their perspective on our business opportunities and challenges. We are not promotional with respect to our prospects, and believe that our fundamental results will drive our stockholder returns over the long-term.

Comment on Non-GAAP Financial Measures

Our analysis of our financial condition and results of operations is based on our consolidated financial statements which have been prepared in accordance with accounting principles generally accepted in the U.S., or "GAAP." Our results of operations have been presented in the way that we believe will be the most meaningful and useful to investors, analysts, rating agencies and others who use financial information in evaluating our performance.

This presentation includes the use of operating earnings and related measures, and underwriting profit, which are "non-GAAP financial measures" as defined under regulations promulgated by the Securities and Exchange Commission. The presentation of these financial measures is not intended to be considered in isolation or as a substitute for, or superior to, financial information prepared and presented in accordance with GAAP. Also note that these measures may be different from non-GAAP financial measures used by other companies, limiting their usefulness for comparison purposes. A discussion of our calculation and use of these financial measures is provided below.

Operating earnings. This presentation includes the use of operating earnings and related measures, which we believe are useful to help explain changes in stockholders' equity attributable to Alleghany. A reconciliation of operating earnings and related measures to net earnings attributable to Alleghany stockholders is presented below.

	For the Year Ended December 31, 2018	2017
	($ in millions)	
Net earnings attributable to Alleghany stockholders	$ 39.5	$ 90.1
Adjustments to net earnings attributable to Alleghany stockholders:		
Change in the fair value of equity securities	(229.0)	-
Net realized capital gains	(3.2)	107.2
Other than temporary impairment losses	(1.3)	(16.9)
Amortization of intangible assets	(24.0)	(19.4)
Income tax effect of adjustments	54.1	(24.8)
	(203.4)	46.1
Operating earnings	$ 242.9	$ 44.0

Underwriting profit**.** This presentation includes the use of underwriting profit, which is a non-GAAP financial measure for our reinsurance and insurance segments. Underwriting profit represents net premiums earned less net loss and loss adjustment expenses and commissions, brokerage and other underwriting expenses, all as determined in accordance with GAAP, and does not include: change in the fair value of equity securities; net investment income; net realized capital gains; other than temporary impairment losses; noninsurance revenue; other operating expenses; corporate administration; amortization of intangible assets; and interest expense. We use underwriting profit as a supplement to earnings before income taxes, the most comparable GAAP financial measure, to evaluate the performance of our reinsurance and insurance segments and believe that underwriting profit provides useful additional information to investors because it highlights net earnings attributable to our reinsurance and insurance segments' underwriting performance. Earnings before income taxes may show a profit despite an underlying underwriting loss, and when underwriting losses persist over extended periods, a reinsurance or an insurance company's ability to continue as an ongoing concern may be at risk. A reconciliation of underwriting profit to earnings before income taxes is presented within Note 13 to Notes to Consolidated Financial Statements set forth in Part II, Item 8, "Financial Statements and Supplementary Data" of our Report on Form 10-K for the year ended December 31, 2018.