



Arch Capital Group Ltd. Sustainability Accounting Standards Board Disclosure Report 2019

For the year-ended December 31, 2019



Prepared in accordance with SASB

All data in this Sustainability Accounting Standards Board (SASB) disclosure is as of, or for the year-ended December 31, 2019 unless otherwise noted.

SUSTAINABILITY ACCOUNTING STANDARDS BOARD DISCLOSURE

Arch Capital Group Ltd. (together with its subsidiaries, "Arch" or "the Company"), a Bermuda public limited liability company, provides insurance, reinsurance and mortgage insurance on a worldwide basis through its wholly owned subsidiaries. While we are positioned to provide a full range of property, casualty and mortgage insurance and reinsurance lines, we focus on writing specialty lines of insurance and reinsurance.

This report is an initial step in our strategy to improve our sustainability disclosure framework. In addition to providing comprehensive disclosure on our website regarding our approach to value creation, which integrates environmental, social and governance (ESG) factors, Arch is providing the following disclosures, which are aligned with the Sustainability Accounting Standards Board (SASB) framework for the insurance industry.¹

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II. ACTIVITY METRIC

FN-IN-000.A	Number of policies in force, by segment	12
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(1) The inclusion of information contained in this report should not be construed as a characterization regarding the materiality or financial impact of that information. For a discussion of information that is material to Arch, please see our 2019 Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed with the SEC on February 28, 2020 ("2019 Annual Report").

Transparent Information & Fair Advice for Customers

FN-IN-270a.1

Total amount of monetary losses as a result of legal proceedings associated with marketing and communication of insurance product-related information to new and returning customers

In accordance with Securities and Exchange Commission (SEC) requirements, Arch discloses all material legal proceedings, other than ordinary routine litigation incidental to the business, in its Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q. In 2019, legal proceedings and/or losses, if any, associated with marketing and communication of insurance and financial product-related information to new and returning customers were immaterial. See Note 23 to our 2019 Annual Report.

FN-IN-270a.2

Complaints-to-claims ratio

We provide a wide range of commercial property and casualty insurance products primarily through our U.S.-based insurance subsidiaries. Our U.S.-based insurance subsidiaries are subject to insurance regulation in the various states and jurisdictions where they transact business. Most state insurance departments provide consumer complaint data to the National Association of Insurance Commissioners (NAIC) Consumer Information Search (CIS), and the NAIC produces several reports combining this data. Neither the NAIC nor Arch, however, calculates a complaints-to-claims ratio. We do not believe a complaints-to-claims ratio is a meaningful metric for assessing a company's claim handling process. For example, companies may track open and closed claims differently, which could result in a comparison that is not meaningful. Additionally, a complaint may be received years after a claim is closed, which could overstate a company's ratio for that reporting period. A complaints-to-claims ratio also would not account for variations in an underwriting company's concentration of lines of business or market share, which further diminishes the usefulness of the metric.

Based on information from the state insurance departments, the NAIC does provide a summary listing of all closed complaints by line of business for each U.S.-domiciled underwriting company. The NAIC then develops a "closed complaint index," which takes into account this information

as well as market share and premium by line of business. We believe this closed complaint index is a more meaningful metric, because it factors in market concentration by line of business, providing a more comparable measure. Accordingly, we are providing the closed complaint indices for our U.S. insurance underwriting companies that report financial information to the NAIC.

The NAIC defines "closed complaints" as complaints where the state has upheld the consumer's position and calculates a "closed complaint index" by comparing a company's closed complaints to the company's market share of premiums for the respective line of business. As part of the closed complaint ratio calculation, the NAIC uses an algorithm that compares each underwriting company's ratio to an industry-wide national median score of 1.0. The national median score attempts to normalize the ratio for each underwriting company based upon the total number of complaints, market share and other factors included in the algorithm. For each policy type, 50% of companies have ratios greater than the median score of 1.0, and 50% have ratios below the median score of 1.0. It is important to note, however, that because the NAIC ratio uses written premium for the denominator, its methodology may skew the ratio for an underwriting company with little or no written premium, such as a company with run-off business. For example, for an underwriting company with little or no written premium, the ratio may appear to be abnormally high even when the company received a minimal number of complaints.

As disclosed on the NAIC website, CIS data is voluntarily supplied by state insurance departments and compiled and coded by the NAIC. Not all states provide complaint data to the CIS.

For Arch Insurance Company, the closed complaint index reported by the NAIC for 2019 was 0.23 (based on 15 complaints). For Arch Indemnity Insurance Company, the closed complaint index reported by the NAIC for 2019 was 0 (based on 1 complaint). For Arch Specialty Insurance Company, the closed complaint index reported by the NAIC for 2019 was 0 (based on 1 complaint). This information may also be obtained through the Consumer page on the NAIC site at: https://www.naic.org/index_consumer.htm.

For our U.S. mortgage insurance (MI) subsidiaries, we rarely deal directly with consumers and, therefore, do not receive many consumer complaints filed with state insurance departments. Because of the structure of MI products, the minimal number of complaints received is not a meaningful metric for assessing our claims handling process. Therefore, our U.S. MI subsidiaries do not measure claims performance based upon complaint volume.

For our reinsurance subsidiaries, we do not deal directly with consumers and, therefore, do not receive consumer complaints filed with state insurance departments. In addition, our reinsurance subsidiaries do not typically receive formal complaints from their ceding company clients other than in respect to infrequent claims disputes. Therefore, our reinsurance subsidiaries do not track or measure claims performance based upon complaint volume.

FN-IN-270a.3

Customer retention rate

For our U.S.-based insurance subsidiaries, we routinely monitor our customer retention rates for all measurable lines of business, excluding products that are by their nature non-recurring (e.g., surety, travel). We include this measure as part of our internal management reporting, ensuring we account for and address any unexpected changes within a business unit. We look at customer retention on both a premium-weighted and policy-count-weighted basis, as we feel each diagnostic is informative, and we analyze customer retention at lower segmented levels where useful. Note that our methodology does not adjust the calculation for involuntarily terminated customers as is provided in the SASB standards.

Due to the wide diversification of business written by our U.S.-based insurance subsidiaries, the expected customer retention ratio varies significantly across our business units. The majority of our business units achieve retention ratios between 75% to 90%, which remain relatively consistent over time.

For our U.S. MI subsidiaries, we do not track customer retention rates since we do not have direct contact with the customer. Instead, for our MI business, the customer is a lending institution. Based on this structure, a more meaningful metric is the retention rate of new insurance written (NIW), a common term in mortgage insurance which refers to the aggregate dollar amount of each insured mortgage loan's current principal balance by quarter. Over the course of 2018 and 2019, on average over 90% of the lender home offices that submitted at least one loan (or unit count) that became NIW, submitted at least one loan (or unit count) that became NIW the following quarter.

We do not track customer retention at a group level for our U.S.-based reinsurance business because we do not find it to be a useful metric given that our customers are insurance companies and our strategic focus is on adjusting capacity in different markets based on pricing. While the metric is not relevant at a group level, some individual departments do track retention rates when it makes sense for their part of the business.

FN-IN-270a.4

Description of approach to informing customers about products

For our insurance and mortgage products, customer interactions are handled generally through a limited number of specialized intermediaries including professionally licensed brokers, agents, wholesalers, administrators and mortgage originators, as applicable, who are instrumental in providing information and advisory assistance to existing and potential customers. These intermediaries are also generally involved in reviewing the policies and their terms and managing the insurance relationship following the purchase of the policy. The policyholders are also encouraged to carefully review the content wording and to seek clarification as needed.

Our underwriters and sales employees have regular contact with the intermediaries to confirm that their understanding of our products is clear and comprehensive. The applicable underwriting business unit, communications group and legal department are all involved in the preparation and review of communications that are distributed to customers or prospective customers. Our communications are tailored to meet the specific needs of the customer and vary based on the underlying product type and segment. The information we provide may include, among other things, the specific product and policy scope (including limits and deductibles as applicable), underwriting terms and conditions, pricing information, industry and exposure related materials, risk management support and other general information about the company issuing the underlying policy, Arch Capital Group Ltd., our brand and/or our financial strength as well as information regarding how to make a claim and claims procedures, as applicable.

In the unfortunate cases where our policyholders experience a covered loss, we are committed to providing timely client service when it comes time to pay claims. We offer a customer-focused approach to claims management and endeavor to deliver quick and efficient resolution of claimant needs. Our policies are clear about the scope of coverage and the claims process. We communicate with our customers through a variety of channels, including our website, email, social media, events and conferences and advertising and promotional materials.

Our reinsurance group generally markets its reinsurance products through professionally licensed intermediaries, except for our property facultative reinsurance group, which generally deals directly with the ceding companies. Per the applicable reinsurance contracts, all communications with ceding companies are directed through these intermediaries, including claims communications. The reinsurance group does not market to, contract with or communicate directly with individual insureds.

Please also refer to Item 1 of our 2019 Annual Report for certain responsive information.

Incorporation of Environmental, Social & Governance Factors in Investment Management

FN-IN-410a.1

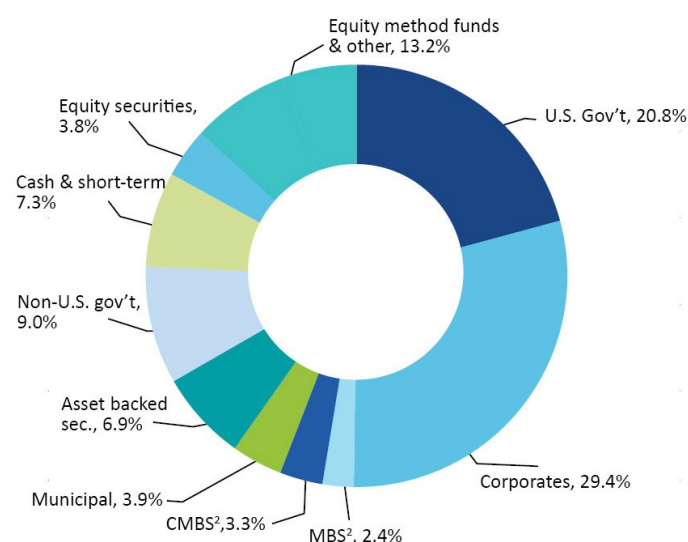
Total invested assets by industry and asset class

Our investment approach seeks to enhance Arch's return on equity while avoiding undue risk. We manage the portfolio

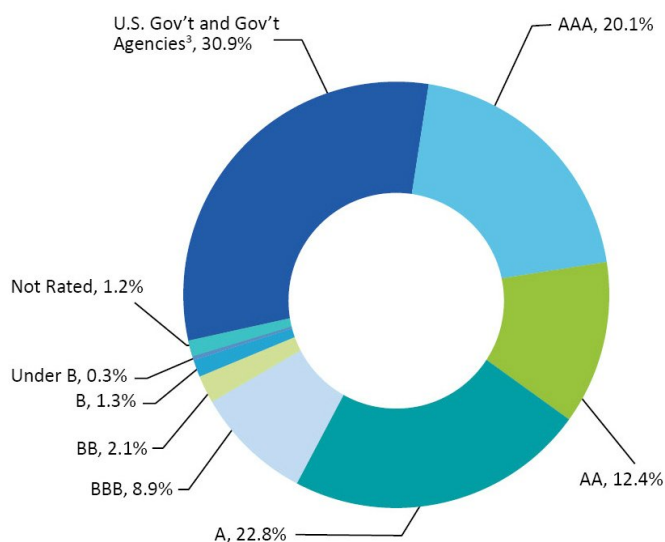
conservatively, securing our reserves and ensuring an ongoing ability to pay claims when due. This approach preserves the Company's capital and ensures ready liquidity.

For a discussion of our investment portfolio, see "Management's Discussion and Analysis of Financial Condition and Results of Operations - Financial Condition - Investable Assets, Liquidity, and Capital Resources" and note 8, "Investment Information," to our consolidated financial statements in Item 8 in our 2019 Annual Report. As of December 31, 2019, approximately 83.1% of our total investable assets were invested in fixed maturity, short-term investments and cash. The portfolio is diversified across sectors, with U.S. government securities and investment-grade corporates representing the two largest sectors. The portfolio's average S&P/Moody's credit rating was AA/Aa2.

INVESTMENTS BY TYPE¹



FIXED MATURITIES BY RATING¹



(1) Excludes the results of Watford Holdings Ltd.

(2) MBS = Mortgage backed securities. CMBS = Commercial mortgage backed securities.

(3) Includes U.S. government-sponsored agency MBS and agency CMBS.

FN-IN-410a.2

Description of approach to incorporation of environment, social and governance factors in investment management processes and strategies

Insurance companies are subject to significant regulatory investment requirements that limit our investment flexibility in terms of the types of investments we may hold and the concentrations of credit and equity risk we may amass. These requirements are designed to ensure that insurers have sufficient liquidity to pay claims as they are presented.

As disclosed in our 2019 Annual Report, a significant majority of our funds available for investment are deployed in a widely diversified portfolio of U.S. government, corporate and other high-quality, liquid assets. The majority of our portfolio is comprised of securities issued by the U.S. government and government agencies and AAA, AA and A-rated securities.

Working within our regulatory framework, Arch established an "ESG Aware" Policy, which has been approved by our Board of Directors. Through this Policy we seek to:

- Comply with all applicable laws and regulations;
- Adhere to the highest standards of conduct and business practice;
- Integrate the consideration of ESG issues into our due diligence and investment decision-making processes;
- Measure our exposure to ESG risks in general and the individual subfactors (Environmental, Social, Governance), ensuring we focus on issues that are specific and material to individual companies;
- Assess and monitor the standards employed by external managers and service providers, and incorporate ESG factors into our annual review of the managers;
- Regularly review and quarterly report to our senior management and the Board, our exposures to ESG factors as part of the portfolio oversight and risk management process;
- Where possible, engage with companies in which we are invested to support sustainable long-term business planning;
- Engage with industry-wide initiatives to improve the consistency of ESG reporting across our industry; and
- Ensure that all investments employees are aware of these policies.

ESG Third Party Investment Management. At the end of 2019, the investments team launched its investment manager ESG due diligence survey to collect data for the purpose of assessing external managers' ESG profiles and potential risks

to our investments, as part of our ESG Aware Policy. The Arch ESG team will collaborate with the investments team to report progress in this area and understand emerging trends. We plan to continue to survey our third party asset managers on an annual basis.

Policies Designed to Incentivize Responsible Behavior

FN-IN-410b.1

Net premiums written related to energy efficiency and low carbon technology

At Arch, we do not currently capture data related to energy efficiency and low carbon technology. Our process is to capture premium data based on the line of business and by state (as applicable), as required by insurance regulators. In addition, the premium data reporting requirement of state insurance regulators does not lend itself to summarize the net premiums written related to such exposures.

We believe Arch is positioned to benefit from the increased economic activity related to energy and resource efficiency. Through our casualty insurance business, we are offering more products that support solar energy, wind, methane recovery, biofuel production and LEED-certified buildings.

FN-IN-410b.2

Discussion of products and/or product features that incentivize health, safety and/or environmentally responsible actions and/or behaviors

Through our U.S. casualty insurance business units such as construction, national accounts casualty, alternative markets and high excess workers' compensation, we offer primary and excess casualty coverages to middle and large accounts in a variety of industry segments. These underwriting segments specialize in loss sensitive insurance programs including large deductible, self-insured retention and retrospectively rated programs. These types of programs involve individual account ratings and pricing, which offers the insured the opportunity to better manage their premium costs since they are more closely tied to their own loss experience. With this type of program structure, the risk is shared between the insurer and the insured. The insured is significantly incentivized to implement and adhere to strong risk management, safety and loss prevention programs since their individual loss experience will have the most positive impact on their ultimate premium cost.

Health & Safety

1. Through our risk and loss control service platform (Arch Risk Control), we offer health and safety support for our U.S.-based casualty insurance customers including: construction, national accounts, high excess workers' compensation, alternative markets, property/casualty programs and excess and surplus casualty. We provide businesses with access to comprehensive services that include dedicated training, technical information and consulting solutions to help our customers safeguard their employees. Our risk control staff, with over 300 years of combined insurance industry experience, has helped our customers to better understand and manage their health, safety and environmental risks and exposures to loss. We engage directly with our customers to provide best practices and support. This support includes:

- **Consulting on Work-Site Safety and Employee Onboarding Programs.** We understand that a new employee's first few months on the job involve the greatest potential for injury. This is a critical time for employers to properly train and orient employees so that they are aware of hazards and how to control them. Through our consulting services, we help our customers develop and implement consistent workplace safety orientation and training programs and encourage them to hold their supervisors accountable for these critical activities. Examples of critical worksite employee safety training topics include: effective daily briefings and task hazard analysis, fall protection, electrical safety, struck-by, confined space entry, excavations, lockout/tagout, driver safety and heavy equipment operations.

Beyond the new employee focus, our consulting efforts emphasize client management systems and processes to encourage that the employee safety practices are carried out and consistently maintained and audited throughout the employment life-cycle.

- **Consulting to Protect the Public.** Many of our policyholders interact with or are exposed to the public in the communities and customers they serve. Some of their scopes of work may create potential injury exposure to the public. Arch Risk Control focuses on these public exposures and assists our clients in developing plans and best practices to eliminate or minimize exposure to injuries. This includes (i) driver improvement to prevent policyholder at-fault accidents impacting the traveling public, (ii) assistance with slip/fall exposures in retail environments and (iii) improved safety and management of temporary highway work zones to facilitate safe passage for pedestrians.

- **Leveraging the Resources of J.J. Keller & Associates, Inc.®** In March 2019, we launched a collaboration with J.J. Keller & Associates, Inc.® ("J.J. Keller"), to provide our customers with an expansive suite of complimentary tools and resources to create safe, productive and compliant workplaces. J.J. Keller's KellerOnLine® and FleetMentor® solutions provide access to libraries of technical regulatory information, employee training, policy/procedure development, chemical safety, driver safety, and the management tools necessary to create and maintain safe work environments. We have enrolled over 460 policyholder safety and risk management users since the program's inception and expect this number to grow over the next several years.
- **Safe Driving.** Driving creates significant risk to our customers' employees and the public. Our risk control staff works with our customers to help them properly screen and manage employee drivers of all types of vehicles to improve their on-the-road safety performance. We also promote safe driving and provide our customers with access to driver training and management resources through J.J. Keller. These resources are designed to, among other things, combat distracted driving and reinforce defensive driving skills. We are currently working on a solution to provide our customers with access to continuous employee driver record monitoring so that our customers can better assess their drivers' risk profiles on a real time basis.
- **Responsible Pain Management.** As a workers' compensation carrier, we offer products and services to maximize wellness and enable workplace safety. When work-related injuries occur, we facilitate services to enable the injured employee to return to work as soon as medically appropriate. In 2017, we partnered with ANS Solutions, LLC ("ANS"), a company that offers an industry leading suite of workers' compensation medical cost containment services. ANS's services are designed to coordinate drug therapies between multiple prescribes to avoid adverse interactions, consider alternative therapies and identify and recommend weaning programs for over-prescribed narcotics and other medications. This program is designed to encourage optimal outcomes for insured workers.

2. In addition, through our programs for emergency responders and firefighters, we offer a suite of safety and training aids to help promote safety and reduce the potential of on-the-job error or injury. Our services keep these first responders educated and informed on industry safety and compliance best practices. These services are offered to approximately 33,000 emergency medical responders and 440,000 firefighters. We offer the following programs:

- **E-Learning.** We offer our insureds free online training through our E-Learning and Training Management System. While this material is not meant to replace quality face-to-face and hands-on training, we realize that tremendous time requirements are placed on individuals in today's fast paced environment, making it difficult for everyone to attend scheduled training. Our E-Learning courses allow first-responders to supplement scheduled hands-on training and are available 24/7.
- **Emergency Vehicle Driver Training and Intersection Accident Prevention.** We offer comprehensive driver education courses covering the skills and knowledge required to operate emergency vehicles. These "hands-on" courses are offered to better prepare drivers to cope with the extra demands placed upon them when operating in emergency situations.
- **Operation SafeEMS.** This training program is designed to assist in safe patient handling. The program covers both health and safety of the EMS provider and the comfort and safety of the patient.
- **Violence Prevention for Emergency Responders.** 92% of paramedics report that they have encountered violence while performing their duties. To address this problem, we offer a training program that explores the growing occurrence of the situation and the need for both awareness and prevention methods. With this awareness, participants carry knowledge with them to the emergency scene to help prevent violence from occurring.
- **Safe Handling of Fire Gear.** We provide education on safely cleaning and storing protective fire gear that often contains by-products of combustion. Because some firefighters, especially volunteer firefighters, often take their gear home with them, we provide education about the secondary exposure risks for their families and how to prevent them.

Environmentally Responsible

As a core part of our business, we identify business opportunities associated with more environmentally friendly trends and provide products and product features that address our customers' evolving needs and incentivize responsible environmental behavior, while being priced to meet our long-term financial objectives.

- **Green Building Coverages.** Traditional property policies are designed to provide coverage to rebuild a structure as it existed prior to a loss, with materials of like kind and quality. If an insured, further to a covered peril, elects to replace its damaged traditional building with a sustainable one, our 2019 Arch Gateway form covers the additional costs to achieve at least the minimum requirement to get a certification. This includes the use of sustainable materials, the cost to hire certified professionals, the cost to apply for certification and the cost to transport debris to recycling facilities.
- **Retail Energy Business Unit.** Our proprietary general liability and umbrella policy forms extend coverage to oil and gas businesses. In this ever-changing industry, we offer expertise and products to address their unique risks. Our underwriting and risk control professionals are focused on our customers in this space and seek to provide the products, services and expertise needed to manage risk, avoid accidents and offer the support and resources to help customers recover in the event of a loss.
- **Pollution Spills.** It's critical for the oil and gas industries to keep wells operational and to be responsible stewards of the environment. We offer our oil and gas customers protection against oil-site spills including pollution cleanup costs and pollution-related bodily injury and property damage. Recognizing the potential for environmental impact as a result of seepage or a spill, we are currently working on coverage enhancements and services to allow our customers the ability to more rapidly address and clean up a spill before it migrates or gets worse.
- **Well Control Events.** To address these potentially significant impacts to our customers, their employees and the environment, we are currently working on a solution to offer our customers best practice oil and gas well control training, spill response plans and incident response. We also plan to provide access to a telephone hotline which will allow our customers to speak with a well control professional as a situation develops who can provide steps to manage well pressure to avoid a well blowout.

- Renewable Energy Practice.** Through our proprietary general liability practice, our products extend coverage to power generation and renewable energy customers active in solar and wind technology. Our products, services and expertise can help these industries keep their employees safe and protect their physical assets, balance sheet and ultimately their long term success. Our coverage provides insurance solutions for all aspects of a renewable energy business, from research and development to operations. As U.S. domestic and international renewable energy industries continue to expand, our renewable energy practice analyzes industry trends, market data and loss trends to design and develops insurance products tailored to the specific needs of renewable energy businesses.

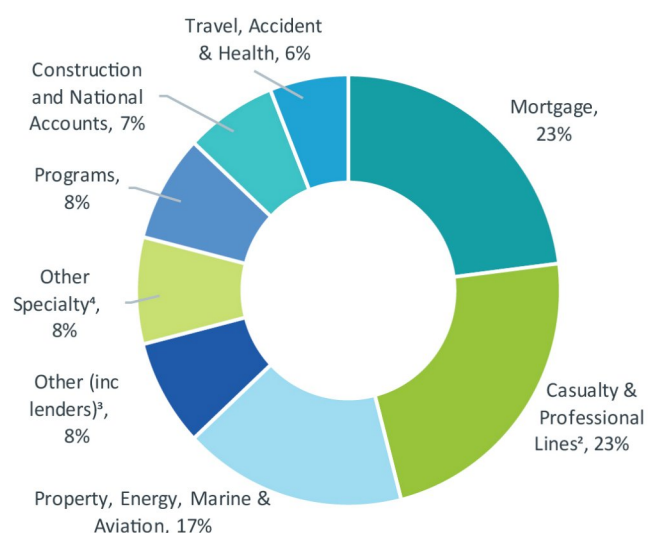
Environmental Risk Exposure

FN-IN-450a.1

Probable Maximum Loss of insured products from weather-related natural catastrophes

We operate leading specialty property and casualty and mortgage insurance businesses across a wide range of geographies and products providing meaningful diversification and earnings stability. Of our total net premiums written, 77% are from our property and casualty business and 23% originate from our mortgage insurance business. The graph below shows a detailed allocation of our net written premiums.

LINE OF BUSINESS¹



- (1) Based on net premiums written, excluding amounts attributable to the 'other' segment (Watford)
- (2) Includes casualty, professional liability, executive assurance, healthcare, contract binding, and excess motor
- (3) Includes insurance for lenders products, alternative markets, and other insurance and reinsurance
- (4) Includes reinsurance for proportional motor, trade credit, surety, workers' compensation catastrophe, and other

We have large aggregate exposures to natural catastrophic events including floods, tsunamis, windstorms, earthquakes, hailstorms, tornadoes, severe winter weather, fires, droughts and other natural disasters. We monitor our exposure to catastrophic events and periodically reevaluate the estimated probable maximum loss for such exposures. We utilize natural catastrophe modeling techniques to estimate loss from catastrophic events. Our approach to the evaluation of underwriting risk from natural catastrophes employs both proprietary and vendor-based models to inform risk assumption and reinsurance purchasing decisions designed to manage our exposure to catastrophic events. We actively monitor and evaluate the impact of changes in the vendor-based systems and adjust our evaluation of risk, as necessary. As new information and techniques emerge, we update our proprietary models, which are an integral part of our enterprise risk management process and support our long-term financial strategies and objectives.

For our natural catastrophe exposed business, we seek to limit the amount of exposure we will assume from any one insured or reinsured and the amount of the exposure to catastrophe losses from a single event in any geographic zone. Currently, we seek to limit our 1-in-250 year return period net probable maximum loss from a severe catastrophic event in any geographic zone to approximately 25% of total shareholders' equity available to Arch.

Based on in-force exposure estimated as of January 1, 2020, our modeled peak zone catastrophe exposure is a windstorm affecting the Florida Tri-County (Miami, Dade and Broward Counties), with a net probable maximum pre-tax loss of \$612 million representing approximately 6% of our shareholders equity at December 31, 2019, followed by windstorms affecting Northeastern U.S. with net probable maximum pre-tax losses of \$544 million. Our exposures to other perils, such as U.S. earthquake and international events, were less than the exposures arising from U.S. windstorms in both periods.

Net probable maximum loss estimates are net of expected reinsurance recoveries, before income tax and before excess reinsurance reinstatement premiums. Catastrophe loss estimates are reflective of the zone indicated and not the entire portfolio. Since windstorms can affect more than one zone and make multiple landfalls, our catastrophe loss estimates include clash estimates from other zones.

FN-IN-450a.2

Total amount of monetary losses attributable to insurance payouts from (1) modeled natural catastrophes and (2) non-modeled natural catastrophes, by type of event and geographic segment (net and gross of reinsurance)

The table below displays the estimated net losses incurred from current accident year catastrophic events for our insurance and reinsurance segments for the last three years, after consideration of ceded reinsurance and reinstatement premiums. Note these are estimates as of December 31 of each year for events occurring in that year, as reported in our Financial Supplements, which are available on the Investors page of our website <http://www.archcapgroup.com>.

Segment	Accident Year		
	2019	2018	2017
Insurance	\$ 34,235	\$ 74,598	\$ 218,406
Reinsurance	79,192	118,678	167,364
Total	\$ 113,427	\$ 193,276	\$ 385,770

Arch does not currently distinguish between modeled/non-modeled losses and does not find that to be a meaningful distinction.

FN-IN-450a.3

Description of approach to incorporation of environmental risks into (1) the underwriting process for individual contracts and (2) the management of firm-level risks and capital adequacy

For property and casualty lines, we consider climate risk alongside all other relevant perils in our evaluation process and look at the impact of climate factors in the near and long terms. We use various modeling methods, some proprietary and some utilizing third party computer models, to inform our underwriting and reinsurance decisions and manage our aggregate exposure to climate risk and catastrophic events. The exposures include those from natural catastrophes such as hurricanes, earthquakes, typhoons and wildfires. They keep our management informed of peak high risk zones and insurance policies with exposure to a risk for a substantial loss from a catastrophic event.

The underwriting process is tailored by its nature to reflect the unique characteristics of the underlying risk. In addition to natural catastrophe exposures, we may factor other related environmental risk characteristics into our underwriting process. As underlying drivers of risk change, such as those from environmental causes, we reflect the changed riskiness in both our pricing and our overall risk

appetite. We may limit risk through contract endorsements and/or exclusions in certain circumstances.

One key risk metric we incorporate in our underwriting decisions is target return on capital. Riskier contracts will require a higher return on capital and consequently higher prices. This enables us to manage risk in our overall portfolio to an acceptable level. Our target returns on capital are based on an overall view of group required risk capital and capital adequacy. We monitor capital adequacy against required capital on an ongoing basis and report the results to our Board of Directors on a quarterly basis. In addition, we perform an annual "Own Risk and Solvency Assessment" (ORSA) focused specifically on firm-wide risks and capital adequacy. The ORSA report is an analysis of firm-wide risks and capital adequacy and is provide to our Board or Directors and regulators.

In addition, Arch maintains ratings from the four major credit ratings agencies. This provides an external view of Arch's own assessment of capital adequacy.

Systemic Risk Management

FN-IN-550a.1

Exposure to derivative instruments by category: (1) total potential exposure to non-centrally cleared derivatives, (2) total fair value of acceptable collateral posted with the Central Clearinghouse and (3) total potential exposure to centrally cleared derivatives

On December 31, 2019, total investable assets held by Arch were \$22.3 billion, excluding the \$2.7 billion included in the "other" segment (*i.e.*, attributable to Watford). Results for the "other" segment can be found in Note 11 of Item 8 in our 2019 Form 10-K. Our current investment guidelines and approach stress preservation of capital, market liquidity and diversification of risk. The portfolio consists primarily of high quality fixed income securities, with fixed maturities, short-term investments and cash representing 83.1%, average effective duration of 3.4 years, and average S&P/Moody's credit rating of AA/Aa2. Additional details about the investment portfolio can be found in the "Investable Assets Held by Arch" section of "Financial Condition" in Item 7 and note 8, "Investment Information," to our consolidated financial statements in Item 8 in our 2019 Annual Report.

The Company's investment strategy allows for the use of derivative instruments which are recorded on consolidated balance sheets at fair value. Arch utilizes exchange-traded U.S. Treasury notes, Eurodollar and other futures contracts and commodity futures to manage portfolio duration or replicate investment positions in its portfolios. We also utilize foreign currency forward contracts, currency options, index

futures contracts and other derivatives as part of our total return objective. Certain of the Company's investments are managed in portfolios that incorporate the use of foreign currency forward contracts which are intended to provide an economic hedge against foreign currency movements. The Company also purchases to-be-announced mortgage-backed securities (TBAs) as part of its investment strategy. TBAs represent commitments to purchase a future issuance of agency mortgage-backed securities. For the period between the purchase of a TBA and issuance of the underlying security, the Company's position is accounted for as a derivative. The Company purchases TBAs in both long and short positions to enhance investment performance and as part of its overall investment strategy.

The estimated fair value and notional values of the Company's derivative instruments at December 31, 2019 are summarized below:

(\$000's)	Estimated Fair Value		
	Asset Derivatives	Liability Derivatives	Notional Value (1)
Futures contracts	\$ 10,065	\$ (13,722)	\$ 4,104,559
Foreign currency forward contracts	5,352	(5,327)	686,878
TBAs	55,010	—	53,229
Other	33,529	(20,701)	4,356,300
Total	\$ 103,956	\$ (39,750)	

(1) Represents the absolute notional value of all outstanding contracts, consisting of long and short positions.

See note 10, "Derivative Instruments," to our consolidated financial statements in Item 8 of our 2019 Annual Report for additional disclosures concerning derivatives.

FN-IN-550a.2

Total fair value of securities lending collateral assets

Arch enters into securities lending agreements with financial institutions to enhance investment income whereby it loans certain of its securities to third parties, primarily major brokerage firms, for short periods through a lending agent. The Company maintains legal control over the securities it lends, retains the earnings and cash flows associated with the loaned securities and receives a fee from the borrower for the temporary use of the securities.

Collateral received is required at a rate of 102% or greater of the fair value of the loaned securities including accrued investment income and is monitored and maintained by the lending agent.

On December 31, 2019, the fair value of the cash collateral received on securities lending was \$81.2 million and the fair value of security collateral received was \$307.2 million.

Arch's securities lending transactions were accounted for as secured borrowings with significant investment categories as follows:

December 31, 2019	Remaining Contractual Maturity of the Agreements				
	Overnight and Continuous	Less than 30 Days	30-90 Days	90 Days or More	Total
U.S. government and government agencies	\$ 240,332	\$ —	\$ 115,973	\$ —	\$ 356,305
Corporate bonds	2,570	—	—	—	2,570
Equity securities	29,491	—	—	—	29,491
Total	\$ 272,393	\$ —	\$ 115,973	\$ —	\$ 388,366

FN-IN-550a.3

Description of approach to managing capital- and liquidity-related risks associated with systemic non-insurance activities

Arch's Enterprise Risk Management (ERM) framework encompasses all entities across the group. We have a number of non-insurance company entities performing various functions and/or services, primarily for our underwriting units. They are not considered to be material sources of risk to the enterprise, and are covered by our group risk policy. Included in these non-insurance entities are: (i) the ultimate parent holding company and the intermediate holding companies, (ii) the servicing companies for the group's operational activities, (iii) providers of insurance related services, (iv) managing general agents for certain of our insurance entities and (v) investment holding companies.

As a large property/casualty and mortgage insurance enterprise, we are exposed to risks from many sources. There are certain risks that we seek for return, while other risks we accept as a by-product of being in business. Since

certain risks can be correlated with other risks, the impact of an event or a series of events can aggregate across multiple areas simultaneously and have a material effect on our results of operations, financial position and/or liquidity. These exposures require an enterprise-wide view of risk with respect to the potential impact on all aspects of our operations. We manage our risk-taking to be within our stated risk appetites to create and preserve value for all of our stakeholders.

ERM activities involve both the identification and assessment of a broad range of risks, the monitoring of those risks and the execution of strategies to manage these risks. Effective ERM also includes the determination of our capital requirements to support these risks from economic, financial and regulatory perspectives.

Our Board of Directors oversees and monitors enterprise risk in support of our long-term financial strategies and objectives. Executive management has day-to-day responsibility for the risk management of our operations. Our Chief Risk Officer is responsible for risk management in support of executive management. Our risk management framework is reviewed at least annually to ensure that it aligns with our risk profile.

Activity Metric

FN-IN-000.A

Number of policies in force, by segment

Insurance and Reinsurance. The number of policies in force is not an activity metric we use for the insurance or reinsurance coverages we sell to businesses as this measure is not a meaningful metric for coverages that are sold and managed on an account or customer relationship basis.

U.S. Mortgage Insurance. We report policies-in-force data on a quarterly basis for our U.S. primary mortgage insurance operations. Information regarding our policies in force for 2018 and 2019 is disclosed in the table below:

Mortgage Insurance	1Q 2018	2Q 2018	3Q 2018	4Q 2018	1Q 2019	2Q 2019	3Q 2019	4Q 2019
Ending number of policies in force *	1,214,539	1,239,565	1,270,728	1,289,295	1,286,877	1,292,215	1,304,263	1,307,884
Change from prior year quarter (%)	4.3%	4.7%	5.7%	6.3%	6.0 %	4.2%	2.6%	1.4%
Change from prior quarter (%)	0.1%	2.1%	2.5%	1.5%	(0.2)%	0.4%	0.9%	0.3%

* Includes first lien primary and pool policies.