Investor Presentation

2022 Third Quarter

Informational Statements

The Private Securities Litigation Reform Act of 1995 (“PSLRA”) provides a “safe harbor” for forward-looking statements. This release or any other written or oral statements made by or on behalf of Arch Capital Group Ltd. and its subsidiaries may include forward-looking statements, which reflect our current views with respect to future events and financial performance. All statements other than statements of historical fact included in or incorporated by reference in this release are forward-looking statements.

Forward-looking statements, for purposes of the PSLRA or otherwise, can generally be identified by the use of forward-looking terminology such as “may,” “will,” “expect,” “intend,” “estimate,” “anticipate,” “believe” or “continue” and similar statements of a future or forward-looking nature or their negative or variations or similar terminology. Forward-looking statements involve our current assessment of risks and uncertainties. Actual events and results may differ materially from those expressed or implied in these statements. A nonexclusive list of the important factors that could cause actual results to differ materially from those in such forward-looking statements includes the following: adverse general economic and market conditions; increased competition; pricing and policy term trends; fluctuations in the actions of rating agencies and our ability to maintain and improve our ratings; investment performance; the loss of key personnel; the adequacy of our loss reserves, severity and/or frequency of losses, greater than expected loss ratios and adverse development on claim and/or claim expense liabilities; greater frequency or severity of unpredictable natural and man-made catastrophic events; the effect of contagious diseases (including COVID-19); the impact of acts of terrorism and acts of war; changes in regulations and/or tax laws in the United States or elsewhere; our ability to successfully integrate, establish and maintain operating procedures as well as consummate acquisitions and integrate the businesses the Company has acquired or may acquire into the existing operations; changes in accounting principles or policies; material differences between actual and expected assessments for guaranty funds and mandatory pooling arrangements; availability and cost to us of reinsurance to manage our gross and net exposures; the failure of others to meet their obligations to us; changes in the method for determining the London Inter-bank Offered Rate (“LIBOR”) and the potential replacement of LIBOR and other factors identified in our filings with the U.S. Securities and Exchange Commission (“SEC”).

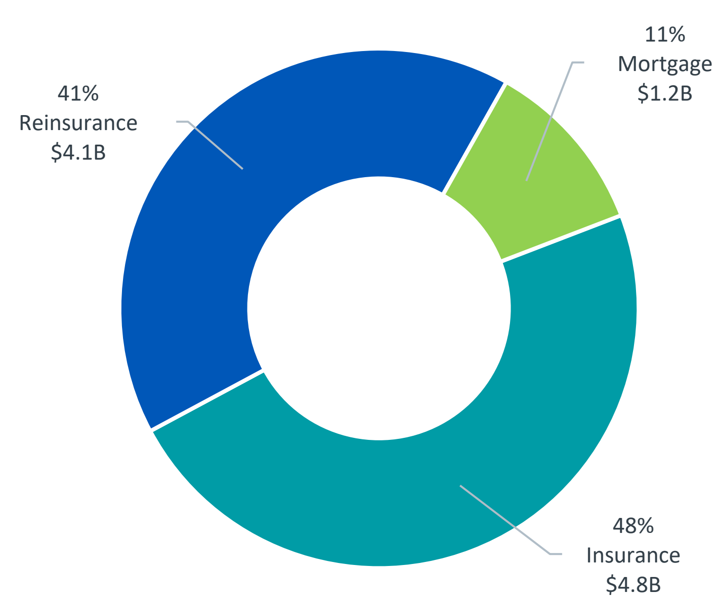
The foregoing review of important factors should not be construed as exhaustive and should be read in conjunction with other cautionary statements that are included herein or elsewhere. All subsequent written and oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by these cautionary statements. We undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

This presentation contains non-GAAP financial measures as defined by Regulation G of the rules of the SEC. Arch Capital Group Ltd. (the ”Company”) believes these non-GAAP measures provide users of its financial information meaningful and useful insight in evaluating the performance of the Company. Investors should consider non-GAAP measures in addition to, and not as a substitute for, or superior to, the comparable GAAP measures. The reconciliation to GAAP and definition of operating income can be found in the Current Report on Form 8-K furnished to the SEC by the Company in connection with its most recent earnings press release, and is also available on the Company's website: www.archgroup.com. From time to time, the Company posts additional financial information and presentations to its website, including information with respect to its subsidiaries, and investors and other recipients of this information are encouraged to check the website.

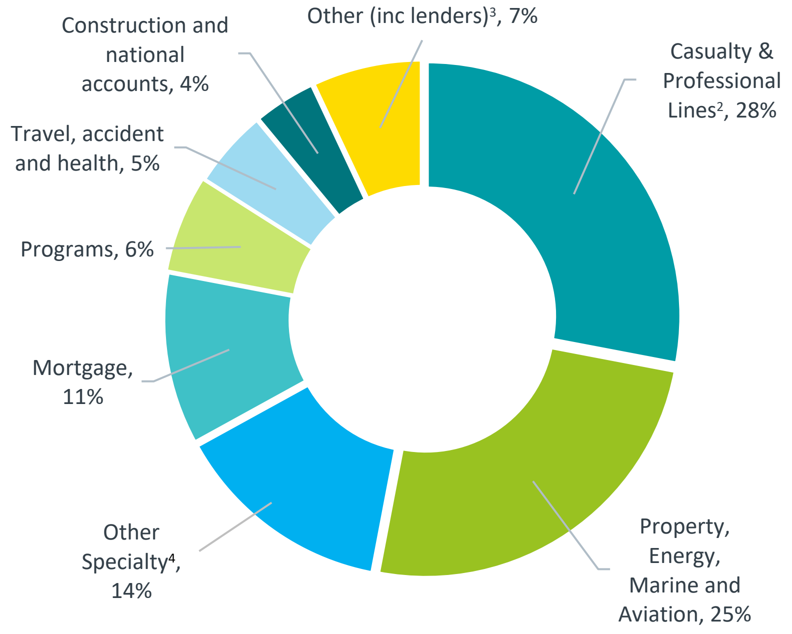
Specialty Insurance

Arch operates leading insurance businesses across a wide range of geographies and products providing meaningful diversification and earnings stability.

Total Net Premiums Written $10.1B[1,5]



Line of Business[1]



[1] Trailing twelve months (TTM) at September 30, 2022.
[2] Includes casualty, professional liability, executive assurance, cyber insurance, 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, cyber, trade credit and surety, accident and health, workers' compensation catastrophe, agriculture, political risk and other.
[5] Underwriting location: U.S. 51%, Europe 22%, Bermuda and Other 27%.

Creating Shareholder Value Throughout The Cycle

Generate Superior Risk Adjusted Returns

- Thorough risk assessment of underlying exposures
- Align executive compensation with long term performance
- Efficient capital management

Focus on Underwriting

- Talent intensive, not people intensive
- Specialty lines platforms
- Active cycle management

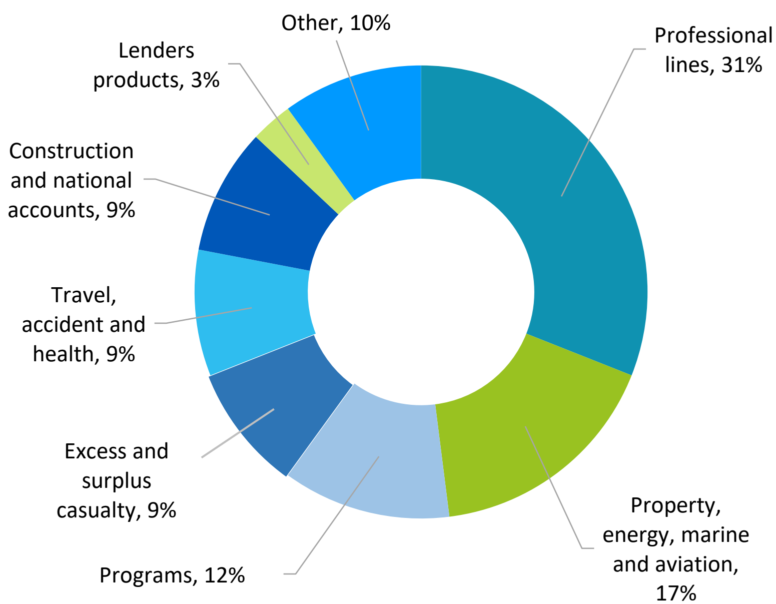
Conservative Balance Sheet

- Minimize investment risk
- Cautious reserving philosophy
- Low financial leverage and strong liquidity

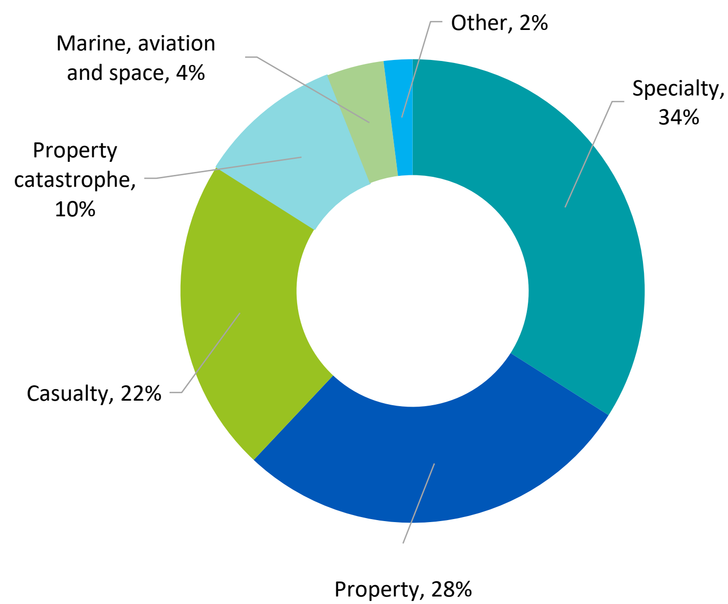
Property Casualty Segments

Diversified book of business across products and geographies

Insurance Net Premiums Written $4.8B*



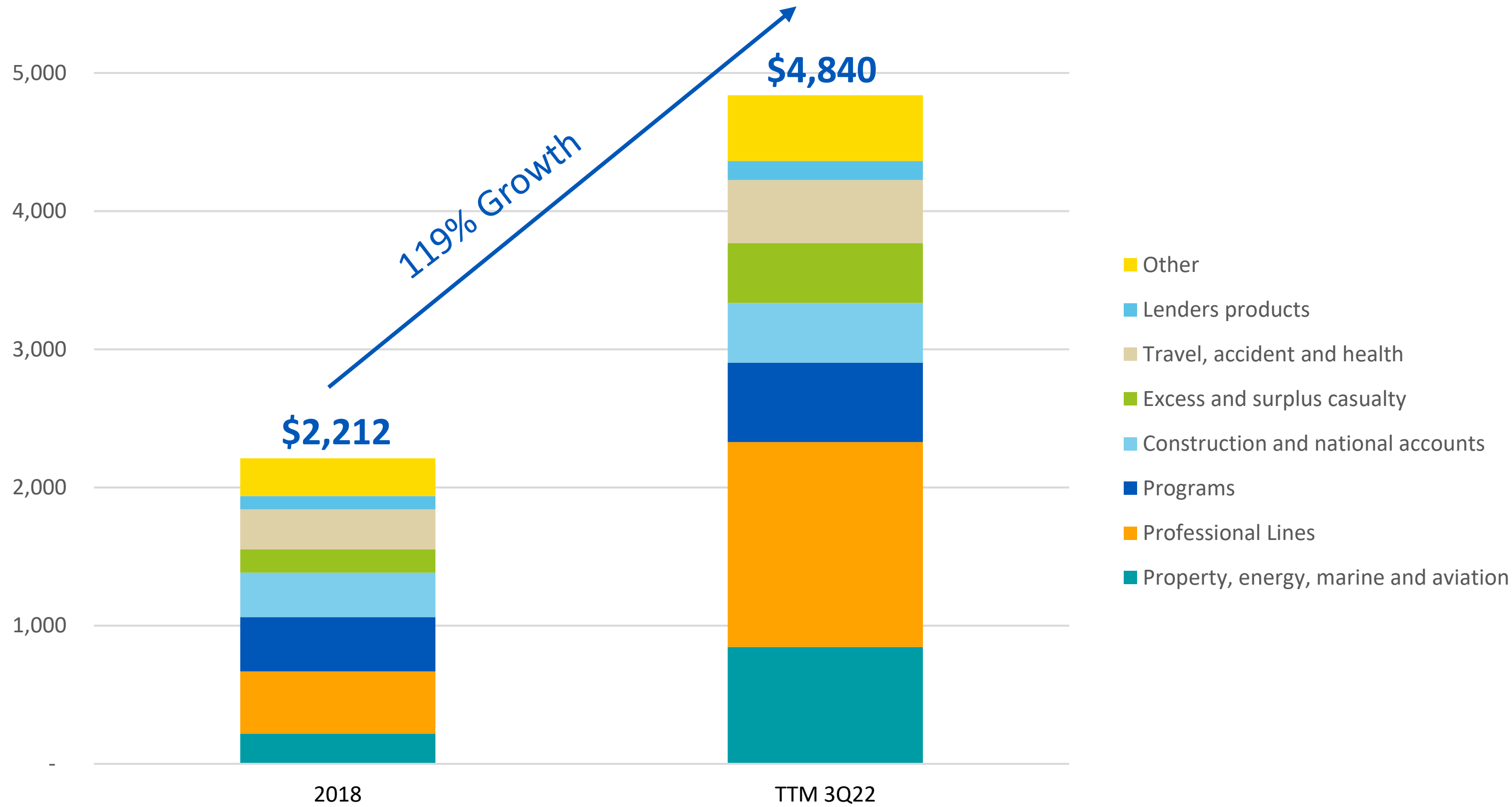
Reinsurance Net Premiums Written $4.1B*



*TTM ended September 30, 2022.

Specialty Insurance – Building on Market Opportunities

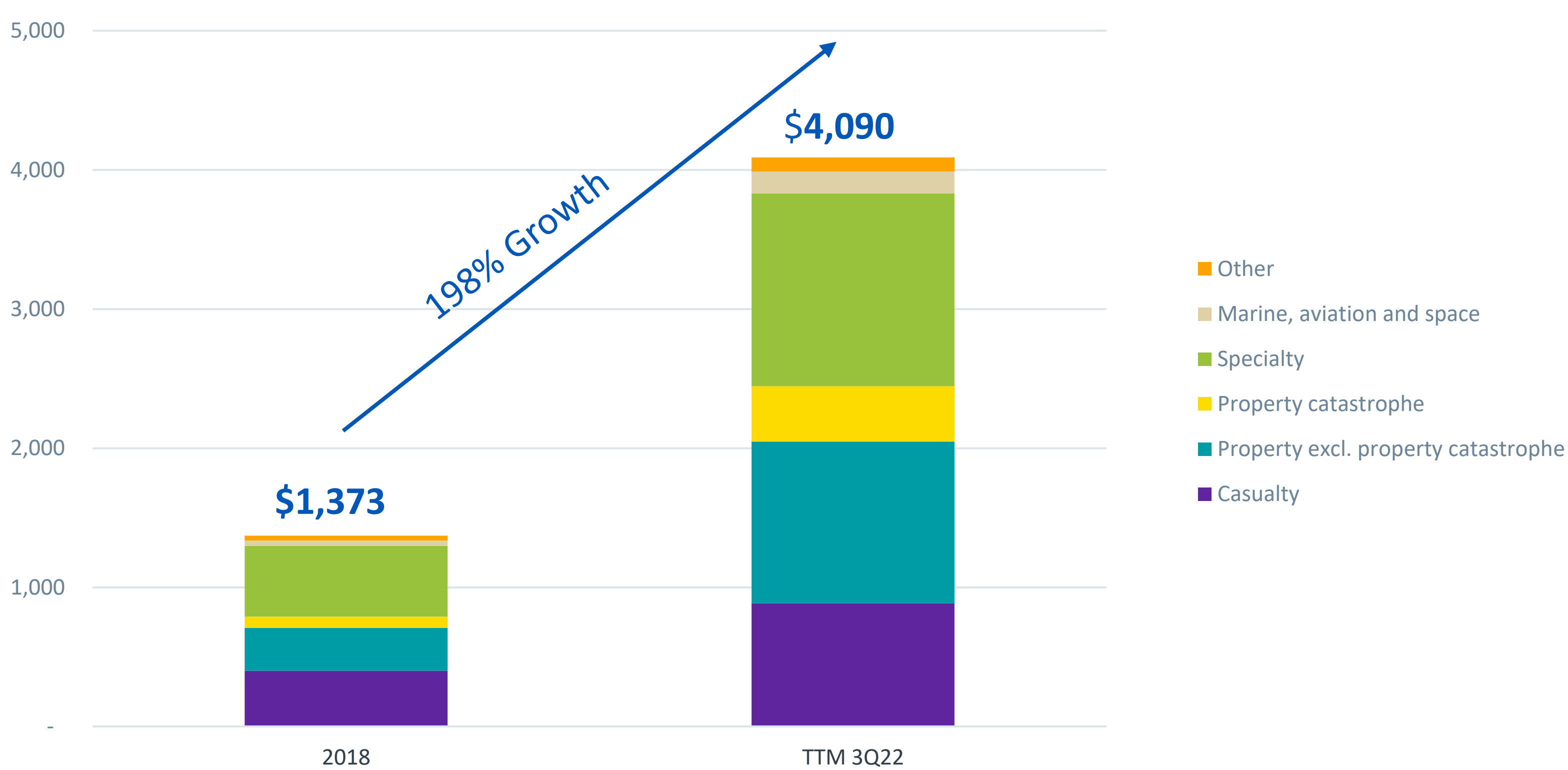
Calendar Year Net Premiums Written by Line ($M)



***Insurance Segment*: Professional Lines** includes professional liability, cyber insurance, executive assurance and healthcare business. **Excess and surplus casualty** includes casualty and contract binding business. **Other** includes alternative markets, excess workers' compensation and surety business.

Reinsurance – Flexing into a Hard Market

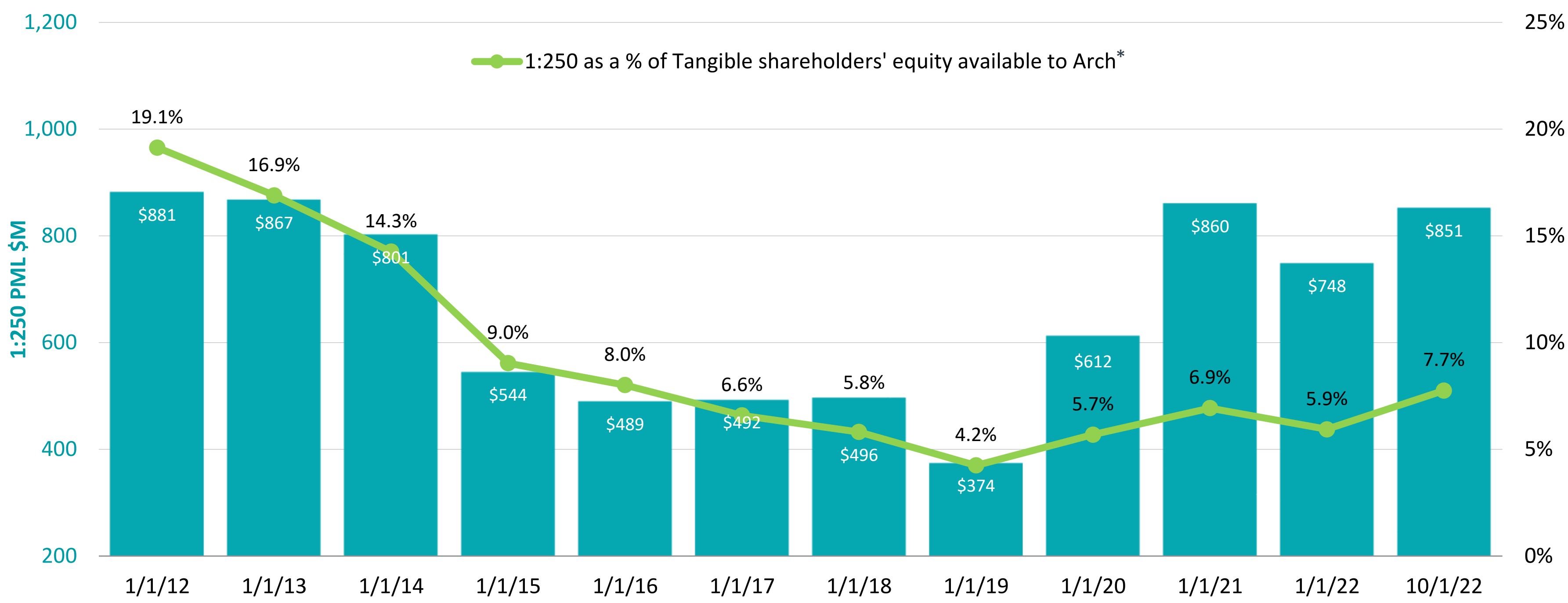
Calendar Year Net Premiums Written by Line ($M)



Reinsurance Segment**: Casualty** includes executive assurance, professional liability, workers' compensation, healthcare, Motor XOL and other. **Specialty** includes proportional motor, cyber, trade credit and surety, accident and health, workers' compensation catastrophe, agriculture, political risk and other. **Other** includes life, casualty clash and other.

Managed Catastrophe Risk

ACGL Peak Zone 1:250 PML

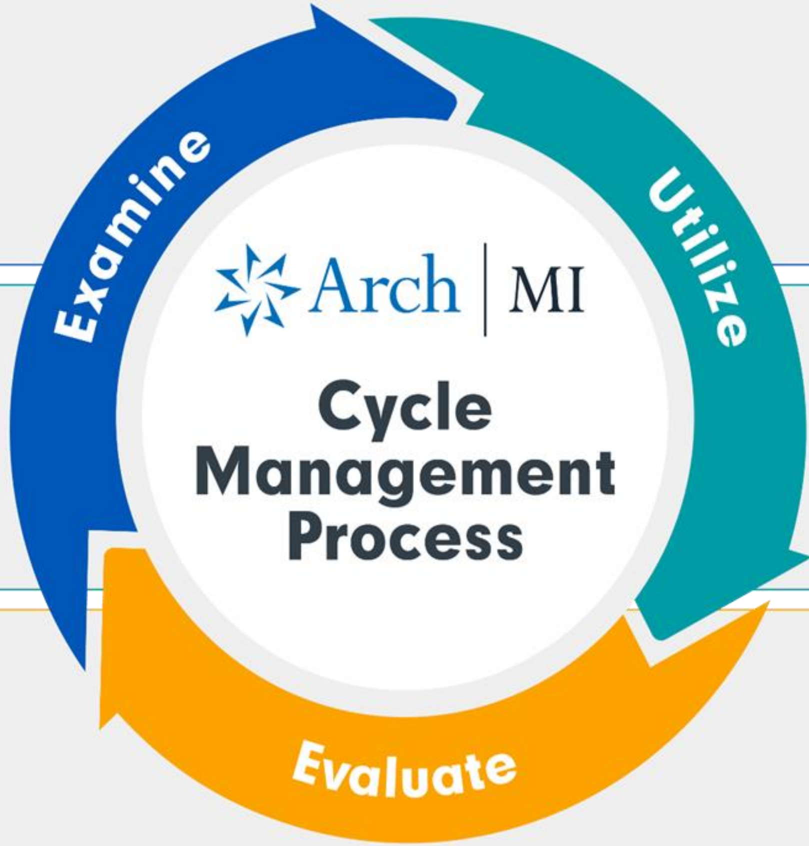


- **Non-GAAP Financial Measures**: Tangible shareholders' equity available to Arch represents total shareholders' equity available to Arch, which includes non-cumulative preferred shares, less goodwill and intangible assets (excluding amounts attributable to non-controlling interests). We believe that tangible shareholders' equity available to Arch is useful to investors because it provides a more accurate measure of the realizable value of shareholders' equity. The following table provides a reconciliation of total shareholders' equity available to Arch to tangible shareholders' equity available to Arch:

(U.S. Dollars in thousands)	2011	2012	2013	2014	2015	December 31, 2016	2017	2018	2019	2020	2021	September 30, 2022
Total shareholders' equity available to Arch	$ 4,628,486	$ 5,168,878	$ 5,647,496	$ 6,130,053	$ 6,204,881	$ 8,253,718	$ 9,196,602	$ 9,439,827	$ 11,497,371	$ 13,105,886	$ 13,545,896	$ 11,795,110
Less: goodwill and intangible assets	22,295	38,259	27,319	109,539	97,531	774,744	645,802	628,111	731,427	681,943	941,962	804,556
Tangible shareholders' equity available to Arch	$ 4,606,191	$ 5,130,619	$ 5,620,177	$ 6,020,514	$ 6,107,350	$ 7,478,974	$ 8,550,800	$ 8,811,716	$ 10,765,944	$ 12,423,943	$ 12,603,934	$ 10,990,554

Mortgage Segment: Differentiated Business Model

Arch MI manages the industry's cycles by shaping our net exposure to maximize our risk adjusted return given our assessment of the landscape.



Examine Attractivness of Landscape

- Housing Markets
- Mortgage Markets
- Jobs Markets
- Credit Quality
- Competitors' Pricing

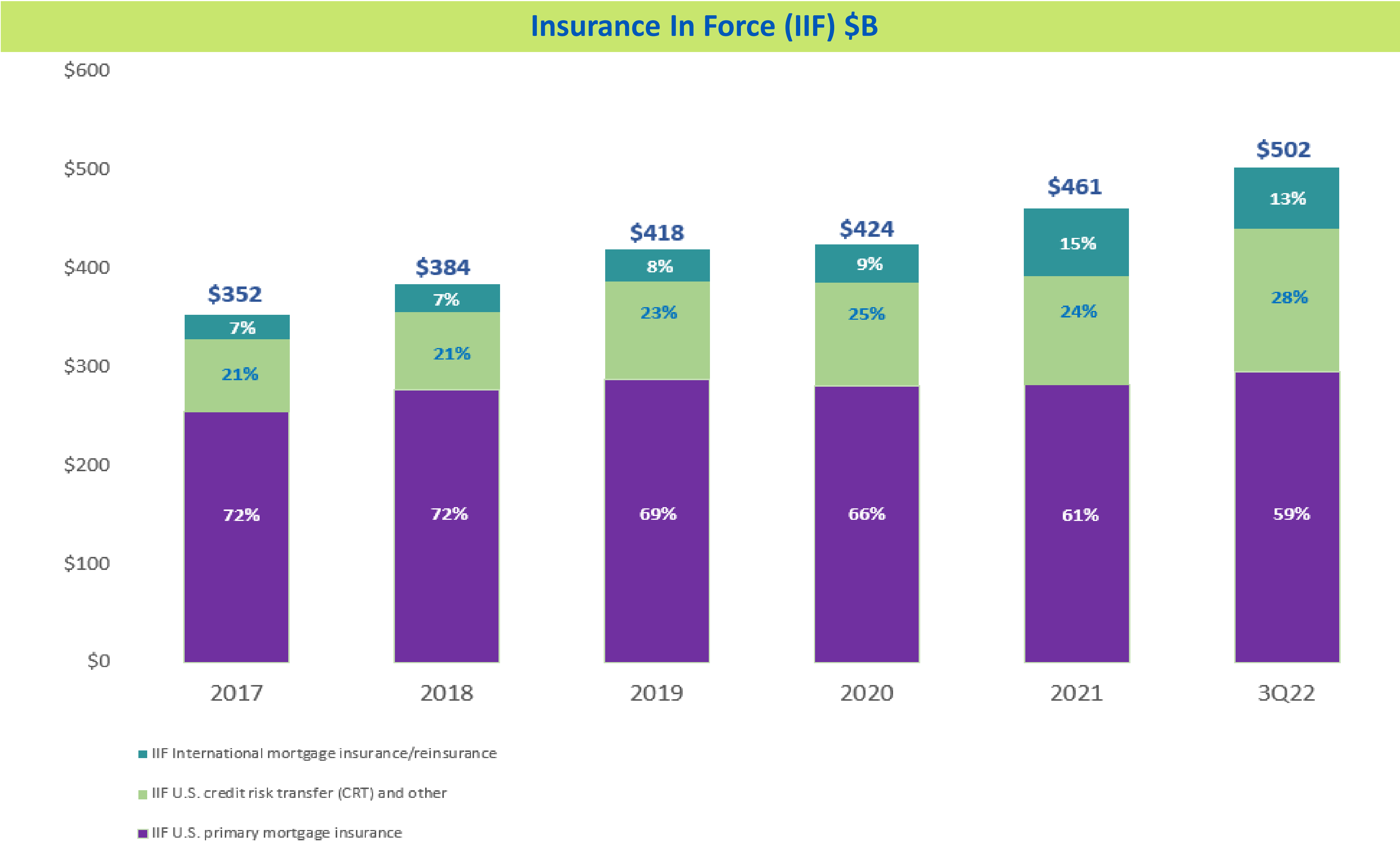
Utilize Tools to Shape Net Exposure

- RateStar® allows us to shape our portfolio risk attribute including geography
- Quota Share Reinsurance
- Mortgage Insurance Linked Notes (Bellemeade Re)
- Forward XOL
- Underwriting Guidelines

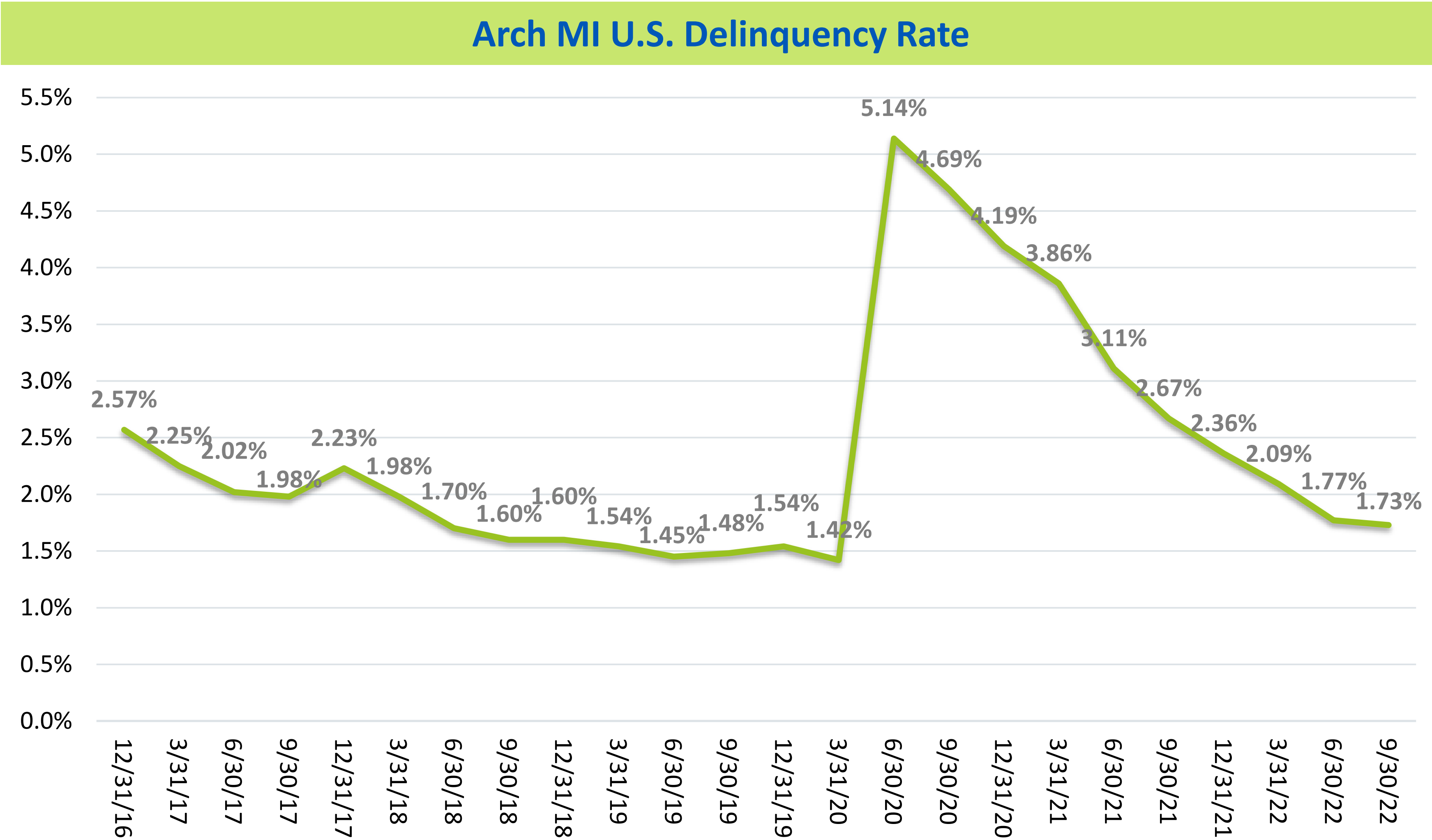
Evaluate Results

- Return on Capital
- Underwriting Results
- Realistic Disaster Scenario
- Embedded Value
- Geographic Diversification

Mortgage Segment



Low U.S. Delinquency Rate

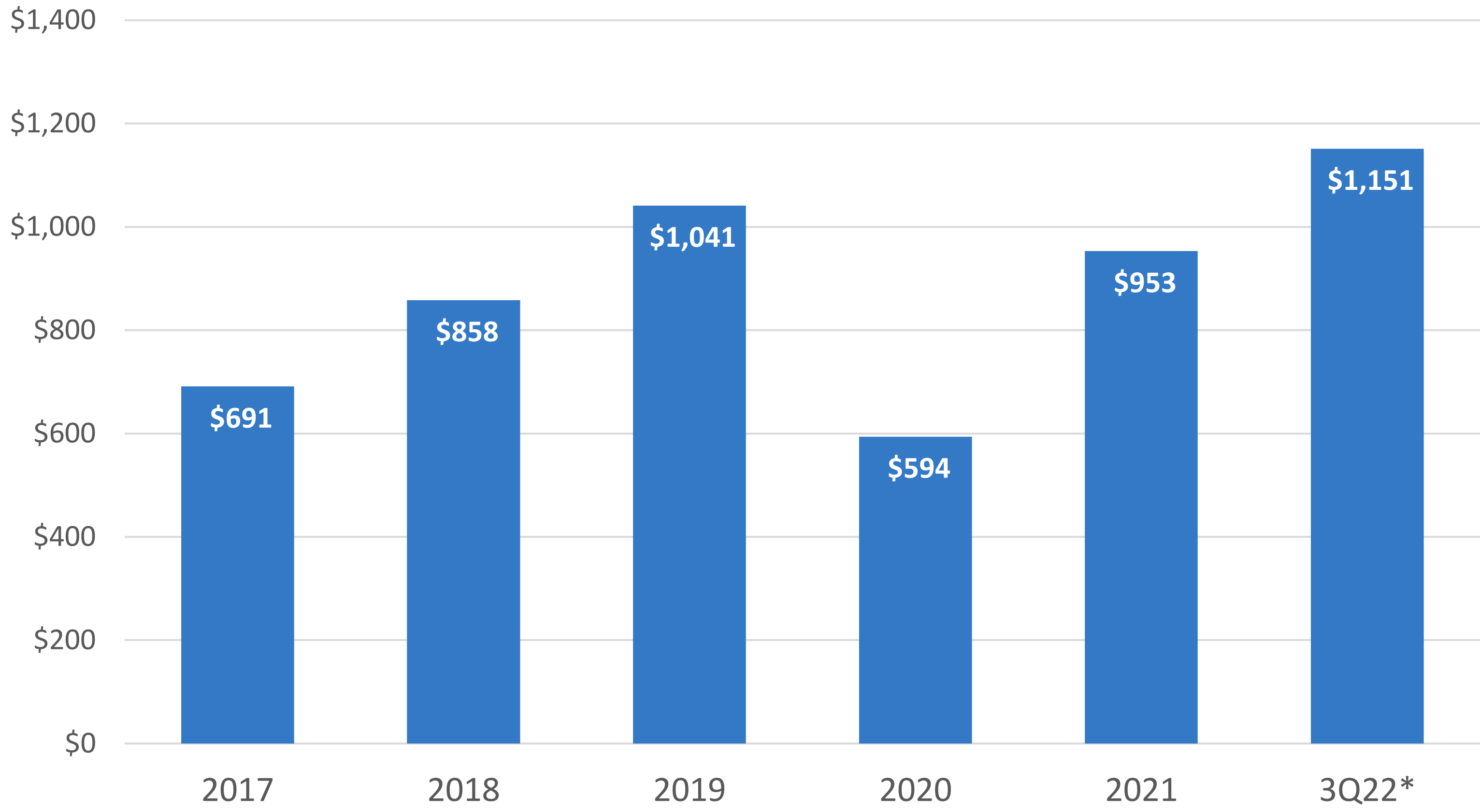


As of 9/30/2022, PMIERs sufficiency ratio: 237% – Calculated as available assets divided by required assets as defined within PMIERs; $2.18 billion of excess available assets.

Mortgage Segment: Earnings Power

Arch

Underwriting Income ($M)*



*TTM ended September 30, 2022 for 3Q22.

Reinsurance Coverage by Vintage

As of September 30, 2022 ($ in millions)

Vintage	Gross RIF	Est. RIF Ceded to QS	RIF net of QS (1)	Est. Bellemeade Coverage as % of RIF net of QS	Bellemeade Reference Pool
2012 and prior	$2,508	$ -	$2,508	68.1%	$1,707
2013	855	-	855	3.3%	29
2014	1,071	492	579	1.0%	6
2015	1,780	748	1,033	0.8%	8
2016	2,953	779	2,174	97.3%	2,115
2017	2,654	33	2,622	98.6%	2,585
2018	2,742	34	2,709	98.9%	2,679
2019	5,038	54	4,984	93.6%	4,664
2020	17,294	597	16,697	100.0%	16,697
2021	23,152	4,672	18,480	96.8%	17,883
2022	15,294	3,763	11,531	60.8%	7,009
Total *	**$75,343**	**$11,172**	**$64,171**	**86.3%**	**$55,380**

* Numbers may not foot due to rounding.
(1) RIF (US only) net of QS and excess of loss reinsurance is $56,890.

Bellemeade Reinsurance Coverage

September 30, 2022 ($ in millions)	Bellemeade Re Insurance-Linked Notes Key Metrics [1]*														
	2017-1	2018-1	2018-3	2019-1	2019-2	2019-3	2019-4	2020-2 (8)	2020-3 (8)	2020-4 (8)	2021-1 (8)	2021-2 (8)	2021-3 (8)	2022-1 (8)	2022-2 (8) (10)
Coverage dates for policies issued between (2)	**1/17-6/17**	**7/17-12/17**	**1/18-6/18**	**2005-2008 (3)**	**7/18-12/18**	**2016**	**1/19-6/19**	**1/20-5/20**	**6/20-8/20**	**7/19-12/19**	**9/20-11/20**	**12/20-3/21**	**4/21-6/21**	**7/21-11/21**	**11/21-6/22**
Initial risk in force	7,362	7,489	7,970	5,944	8,872	9,284	7,216	7,187	6,951	8,121	8,581	8,105	6,558	6,335	8,961
Current risk in force	1,139	1,424	1,241	1,749	1,432	2,121	1,516	3,465	4,441	3,126	6,679	6,714	5,729	5,843	8,762
Initial coverage at issuance date (ILN)	368	374	506	342	621	701	577	423	418	321	580	523	508	284	201
Current coverage (ILN)	47	103	218	119	347	258	284	123	268	107	497	471	498	284	201
Initial coverage at issuance date (traditional XOL)	-	-	-	-	-	-	-	26	34	16	64	93	131	33	126
Current coverage (traditional XOL)	-	-	-	-	-	-	-	-	9	5	43	80	129	33	126
Arch's retention layer	166	169	179	208	222	232	162	252	174	150	172	154	148	158	224
Claims paid under Arch's retention layer	6	4	5	28	4	2	1	-	-	-	-	-	-	-	-
Incurred losses under Arch's retention layer	28	32	36	99	40	29	26	18	14	13	19	14	12	8	2
Arch remaining retention, net of incurred losses	138	136	144	109	182	203	136	233	160	138	152	140	136	150	222
Delinquency % (4)(9)	3.56%	3.41%	4.23%	6.63%	4.45%	2.35%	3.03%	1.03%	0.77%	0.99%	0.76%	0.65%	0.70%	0.61%	0.16%
Delinquency trigger % (5)	5.00%	5.00%	5.00%	8.00%	5.00%	4.00%	5.00%	8.10%	7.61%	6.29%	7.99%	7.88%	6.06%	6.05%	4.88%
Initial attachment % (cumulative losses as % of RIF)	2.25%	2.25%	2.25%	3.50%	2.50%	2.50%	2.25%	3.50%	2.50%	1.85%	2.00%	1.90%	2.25%	2.50%	2.50%
Initial detachment % (cumulative losses as % of RIF)	7.25%	7.25%	8.60%	9.25%	9.50%	10.05%	10.25%	9.75%	9.00%	6.00%	9.50%	9.50%	12.00%	7.50%	6.50%
Current attachment % (6) (cumulative losses as % of RIF)	14.54%	11.84%	14.45%	11.89%	15.49%	10.94%	10.71%	7.26%	3.91%	4.81%	2.57%	2.29%	2.58%	2.71%	2.56%
Current detachment % (7) (cumulative losses as % of RIF)	18.65%	19.08%	32.00%	18.71%	39.73%	23.09%	29.42%	10.81%	10.15%	8.39%	10.66%	10.51%	13.55%	8.13%	6.65%

* Numbers may not foot due to rounding.

See notes on accompanying page.

Bellemeade Reinsurance Coverage

(1) Through September 30, 2022, including the initial coverage of $523M provided directly by a panel of reinsurers through traditional excess of loss agreements, Arch Mortgage Insurance Company ("AMIC") and United Guaranty Residential Insurance Company ("UGRIC") (together, "Arch MI" or the "Company"), has entered into various aggregate excess of loss mortgage reinsurance agreements with special purpose reinsurance companies ("SPRs") domiciled in Bermuda. The SPRs are not subsidiaries or affiliates of the Company. Based on applicable accounting guidance, the Company does not consolidate the SPRs in its consolidated financial statements.

(2) An immaterial number of loans in each transaction have coverage dates outside of the indicated ranges.

(3) Policies between 2005 and 2008 were issued by UGRIC; Policies through 2015 were issued by both UGRIC and AMIC.

(4) Represents the percentage of risk in force that is 60 or more days delinquent.

(5) When delinquency triggers are reached, then bond amortization stops and coverage remains constant.

(6) Represents the amount of cumulative losses as a percentage of current risk in force that the Company retains prior to the Bellemeade notes absorbing losses.

(7) Represents the amount of cumulative losses as a percentage of current risk in force that must be reached before the Company starts reabsorbing losses again.

(8) The Bellemeade 2020-2, 2020-3, 2020-4, 2021-1, 2021-2, 2021-3, 2022-1, and 2022-2 delinquency triggers are not driven by a static delinquency percentage, but occur when the average sixty-day plus delinquency amount from the prior three periods is equal to or exceeds a specific percentage of all subordinate tranches. Bellemeade agreements 2020-2, 2020-3, 2020-4, 2021-1, 2021-2, 2022-1, and 2022-2 have a 75% threshold, while Bellemeade 2021-3 has a 60% threshold as calculated against all subordinate tranches. As the delinquency triggers are not static, the current delinquency triggers shown reflect the percentages as of 3Q22. These amounts may adjust in future periods.

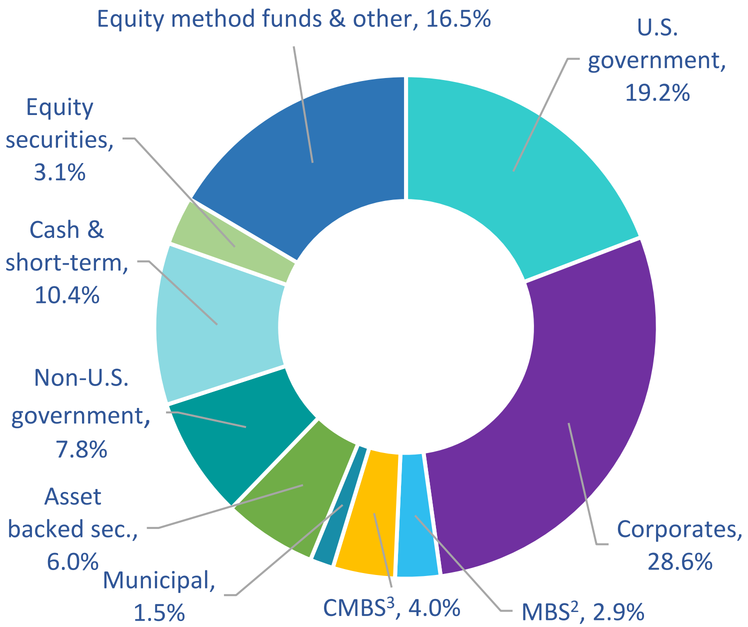
(9) The information regarding delinquencies and cures is reported to the Company from loan servicers. Delinquency reporting, particularly on a monthly basis, may be affected by several factors, including the date on which the report is generated and transmitted to Arch MI, updated information submitted by servicers, and by the timing of servicing transfers.

(10) Bellemeade 2022-2 currently has remaining coverage capacity of approximately $31 million, which is expected to be funded through the traditional XOL market in the near term.

Our Investment Strategy

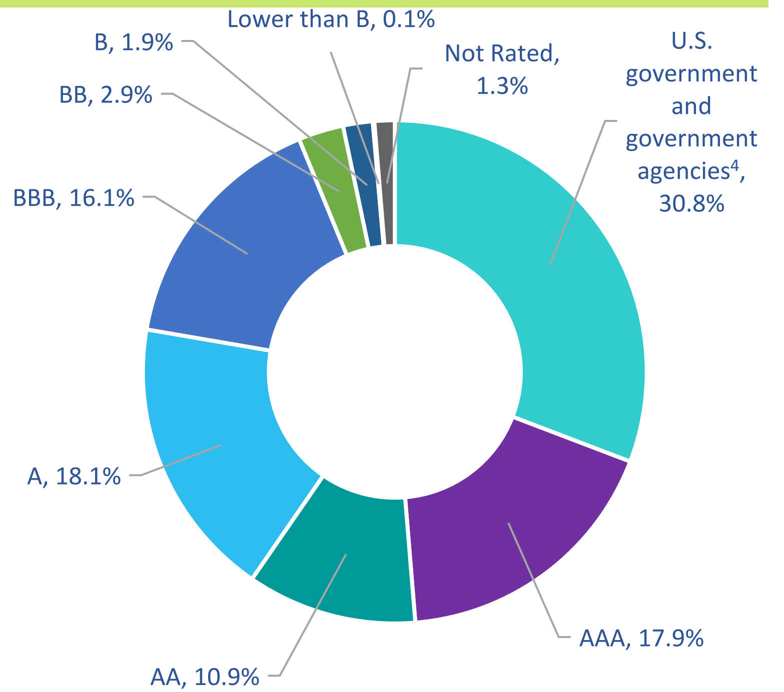
- Arch manages the portfolio conservatively to protect our reserves on an economic basis and ensure our ongoing ability to pay claims.
- Arch's investment approach is to focus on total return with thoughtful target allocation and periodic rebalancing.

Invested Assets - $26.7B



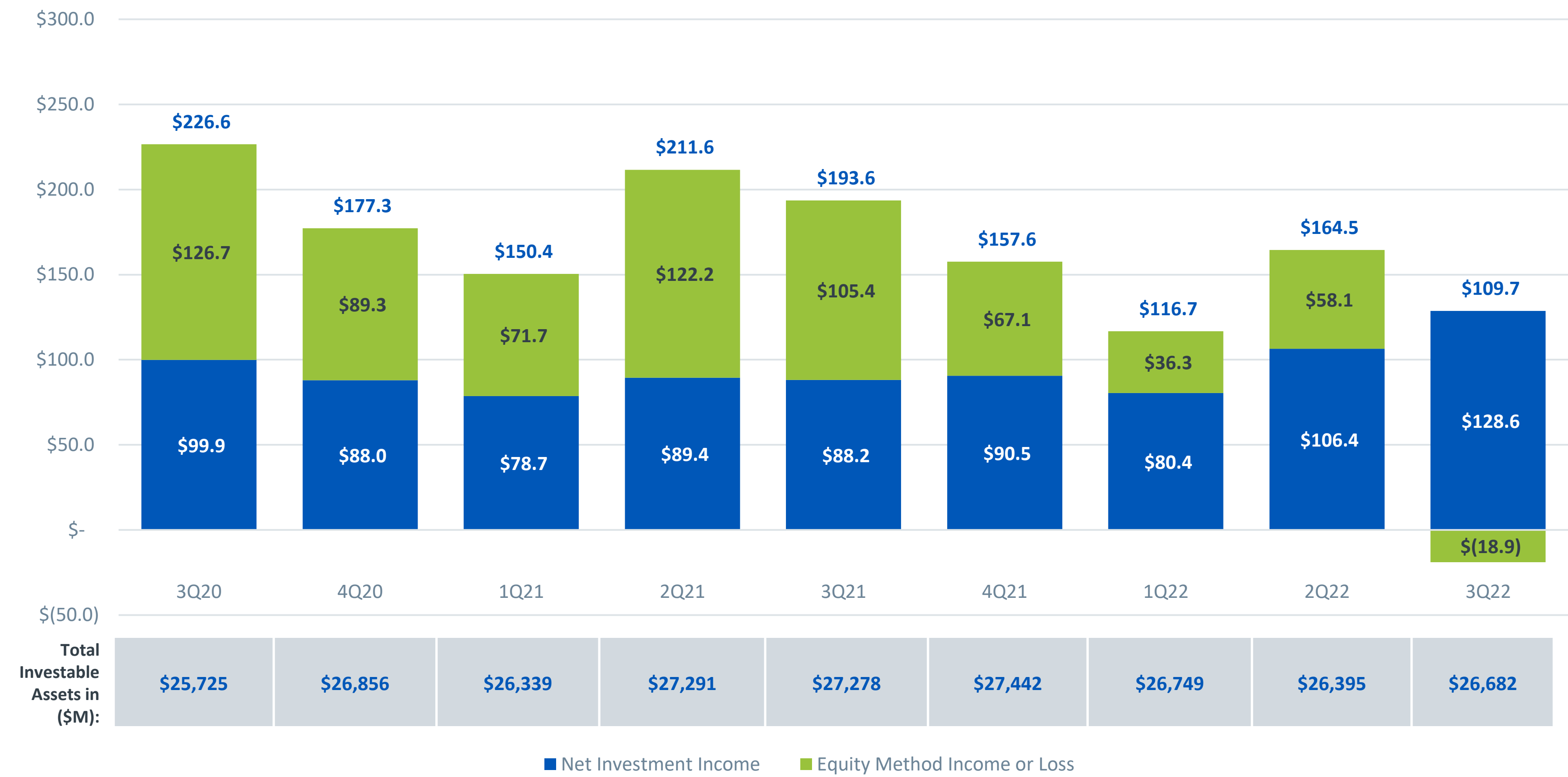
[1] MBS = Mortgage backed securities.
[2] CMBS = Commercial mortgage backed securities.
[3] Includes U.S. government – sponsored agency MBS and agency CMBS.

Fixed Maturity by Rating - $18.7B



Investment Income

Net Investment Income [1] and Equity Method Income or Loss [2] ($M)



[1] Investment income net of investment expenses, included as part of operating income. Pre-tax yield presented on an annualized basis and excluding the impact of investments for which returns are not included within investment income, such as investments accounted for using the equity method and certain equities.
[2] Represents equity in net income (loss) of investment funds accounted for using the equity method. Not included in operating Income. Excluding investments in operating affiliates.

Our ESG Strategy – Transparency and Disclosures

We take a measured approach to identifying existing and emerging ESG topics material to Arch and our wider industry and to working with internal groups to ensure appropriate integration of ESG risks and opportunities. Annually, we share our progress and disclosures around these topics to shareholders, rating agencies and the public.

Arch's Annual ESG Reporting

We believe in the value of transparency around our sustainability initiatives, and we are committed to sharing our progress to relevant stakeholders on an annual basis across the following three reports:

Annual Sustainability Report & *New* Highlights Report

Intended for all stakeholders and the general public.
Comprehensive ESG strategy and priority disclosure areas.

Sustainability Accounting Standards Board (SASB) Report

Intended for investors. Disclosures around the financial impacts of sustainability.

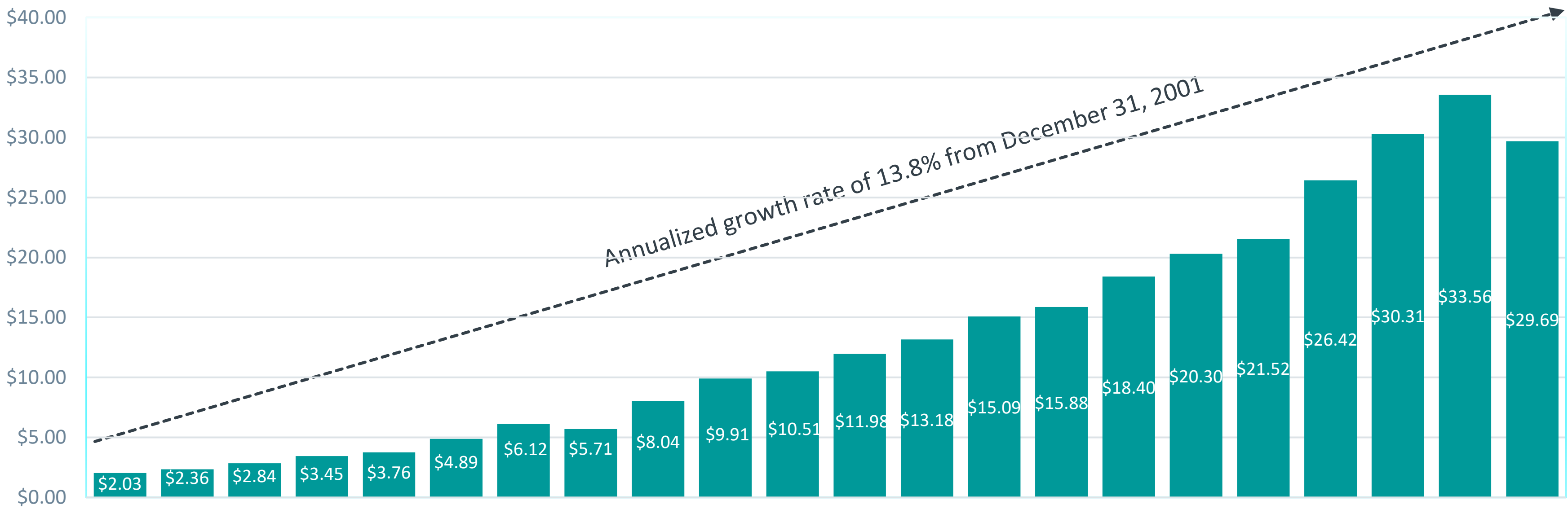
Task Force on Climate-Related Financial Disclosures (TCFD) Report

Intended for investors and sustainability specialists. Climate-related financial disclosures including governance, strategy, risk management and metrics/targets.

Growth and Book Value

Arch

Book value per common share[1]



	Dec-01	Dec-02	Dec-03	Dec-04	Dec-05	Dec-06	Dec-07	Dec-08	Dec-09	Dec-10	Dec-11	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Sep-22
Total Capitalization[2] ($B):	$1.0	$1.4	$1.9	$2.5	$2.8	$3.9	$4.3	$3.8	$4.7	$4.9	$5.0	$5.6	$6.5	$7.0	$7.1	$10.5	$11.3	$11.2	$13.2	$15.8	$16.3	$14.5
Debt/Preferred to Total Capitalization[2]	0.0%	0.0%	10.5%	11.8%	10.8%	16.1%	14.4%	18.9%	15.3%	14.9%	14.5%	13.0%	18.7%	17.3%	17.2%	28.7%	26.4%	22.5%	19.0%	22.1%	21.8%	24.5%

[1] Excluding the effects of stock options and restricted stock units outstanding

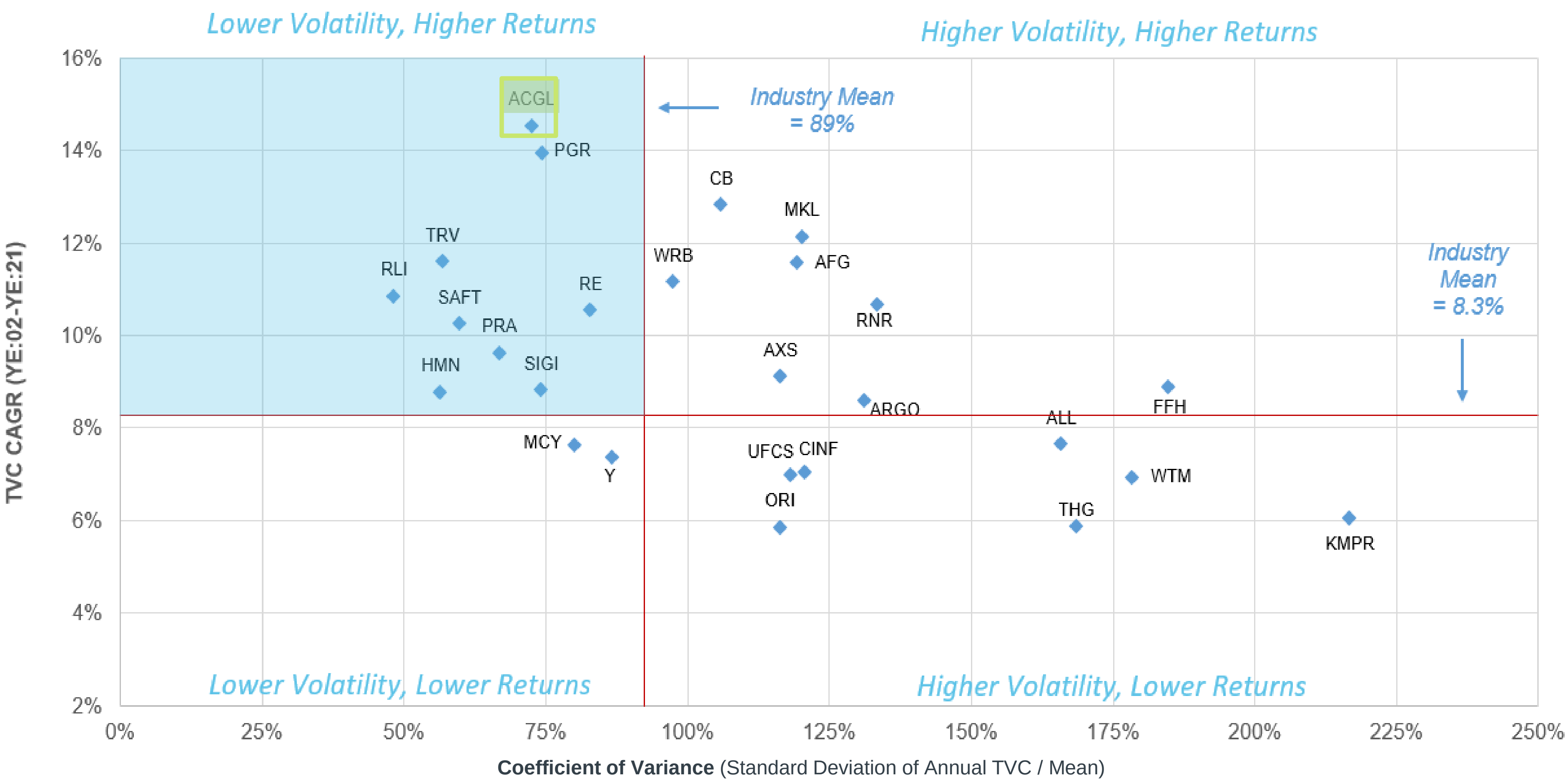
[2] Available to Arch, including senior debt, preferred equity, common stock and AOCI.

Superior Risk-Adjusted Returns

Strong track record of generating higher, more consistent risk-adjusted returns

Value Creation vs. Coefficient of Variation – Insurance Peers

12/31/2002 – 12/31/2021



Source: D&P Analysis. Chart represents **Total Value Creation,** which includes Tangible book value per share growth plus dividends.
Note: Excludes CNA (3.5%, 333%), Hartford (3.1%, 350%), MGIC (-3.0%, 539%) and Radian (-0.7%, 562%) as coefficient of variation exceeds 250%.

Contact

Investor Inquiries:

Donald Watson
Executive Vice President,
Financial Services
(914) 872 3616
DWatson@archgroup.com

Vinay Misquith
Senior Vice President,
Financial Services
(914) 872 3666
VMisquith@archgroup.com