BERMUDA MONETARY AUTHORITY

FY-2021

Macroprudential Risk: Annual Statutory Filings Report Classes 3B/4

HIGHLIGHTS

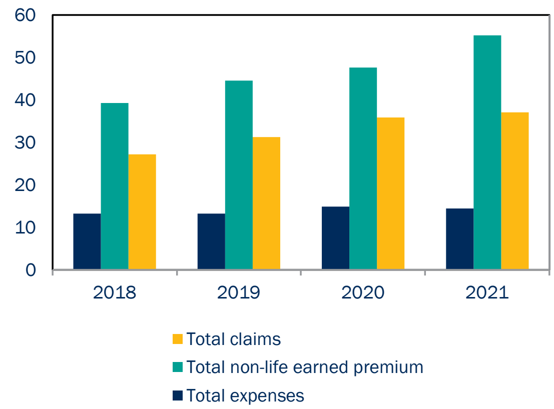
- Net Written Premiums (NWP) increased by 20.1% year-on-year (y/y) to $59.1 billion. The combined ratio dropped by 12.4% to 93.3%, while total claims increased by 3.1%.
- Liquidity conditions did not change significantly during the year as the share of BBB-AAA-rated securities relative to claims decreased by 1.0%.

(In US$ billions unless indicated otherwise)	2021	2020	2019	2018	2017	Y/Y change (%)
NWP	**59.1**	49.2	45.9	37.8	47.5	20.1
Net Earned Premiums (NEP)	**55.2**	47.6	44.6	39.2	48.4	15.8
Net income	**13.9**	7.1	11.3	3.1	1.5	95.9
Total claims	**37.0**	35.9	31.2	27.2	37.6	3.1
Total assets	**283.5**	281.3	244.3	216.1	221.5	0.8
Combined ratio	**93.3**	106.5	99.6	103.2	110.4	-12.4
Current assets/ current liabilities (in percent)	**1,105.3**	1,615.6	1,270.3	1,479.6	1,486.8	-31.6
BBB-AAA assets/claims (in percent)	**331.4**	334.9	348.8	389.6	209.4	-1.0

Source: BMA staff calculations. Note: The y/y change denotes the change between the current and the last fiscal year (e.g., FY-2021 and FY-2020).

Major Large Commercial (Re)insurers- Total Claims, Total Net Earned Premiums and Expenses

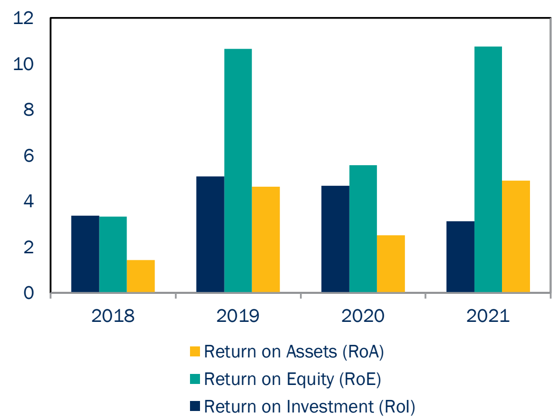
(In US$ billions)



Source: BMA staff calculations

Major Large Commercial (Re)insurers - Financial Ratios

(In percent)



Source: BMA staff calculations

Information presented in this report relates to the capital and solvency return filings of Bermuda legal entities registered as either Class 4 or Class 3B commercial (re)insurers under the supervision of the Bermuda Monetary Authority (Authority or BMA). The presented information is based on aggregated individual firm data. Class 3B companies are large commercial (re) insurers underwriting 50% or more unrelated business and unrelated net premiums over $50 million. Class 4 (re)insurers are large commercial (re)insurers underwriting direct excess liability and/or property catastrophe reinsurance.

Disclaimer: This document is produced by the BMA's Financial Stability and Research Department. It reflects an interpretation and analysis of market views and developments by BMA staff. Market views presented may or may not reflect the consensus of all market participants.

Minor changes are expected to numbers from previous versions as some data has been restated. Prior years may not be directly comparable due to the entry and exit of firms from the sample. Numbers may not add up due to rounding.

GENERAL DEVELOPMENTS

The combined effects of a prolonged low interest rate period, the COVID-19 pandemic and the war in Ukraine have contributed to supply-driven rising inflation. This has, in turn, triggered widespread monetary policy tightening and increased the risk of a recession in various jurisdictions. Like other global hubs, Bermuda's international (re)insurance sector has not been immune to these developments. Additionally, the increased frequency of catastrophe events, among other climate change-related developments, has affected (re)insurers' strategies and outcomes.

Nonetheless, Bermuda (re)insurers in classes 3B and 4 withstood the events of 2021. Bermuda (re)insurers' aggregate combined ratio dropped by 12.4% to 93.3% y/y and total assets rose slightly to $283.5 billion. The FY-2021 premium volume increased compared to FY-2020. The NWP increased from $49.2 billion in FY-2020 to $59.1 billion in FY-2021. Net income rose to $13.9 billion.

Investment income dropped in FY-2021 on aggregate compared to FY-2020, with Bermuda (re)insurers achieving a lower RoI at 3.1% for FY-2021, while RoE and RoA increased over the prior year, to 10.8% and 4.9%, respectively.

The BMA performed forward-looking simulations on the asset side of the balance sheets of Bermuda (re)insurers using a bespoke economic scenario generator. The results indicated very strong capital positions coupled with conservatism and asset mixtures with short durations. This combination shielded (re)insurers from extreme movements in the yield curve.

The Catastrophe Bond (Cat Bond) and Insurance-Linked Securities (ILS) markets both saw record outstanding volume in FY-2021. Alternative risk capital, including non-securitised risk transfer mechanisms, stood at $96 billion, with total global reinsurance capital at $675 billion, according to Aon.[1]

Notes: *Due to merger and acquisition activity, de-registrations and new registrations of Class 3B and Class 4 (re)insurers, results may not be directly comparable y/y.*

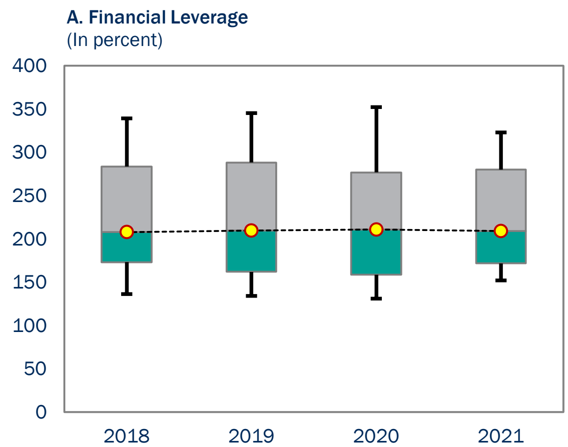
Table VII has been modified in this edition to include clearer asset definitions. Figure 3 has also been modified, including sub-figure D, which includes only equity investments in the form of common and preferred stocks.

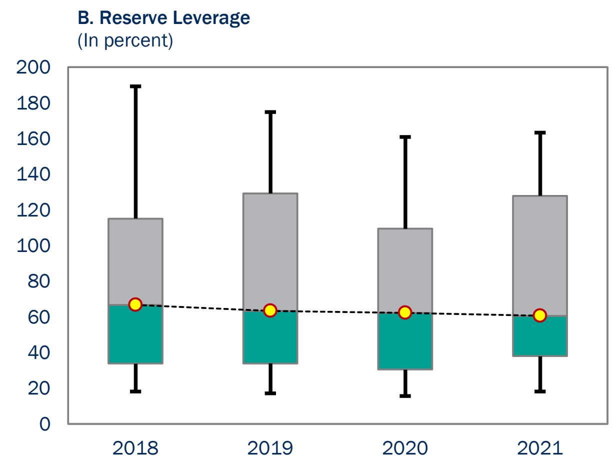
[1] https://www.reinsurancene.ws/global-reinsurance-capital-hit-new-high-of-675bn-in-2021-aon/

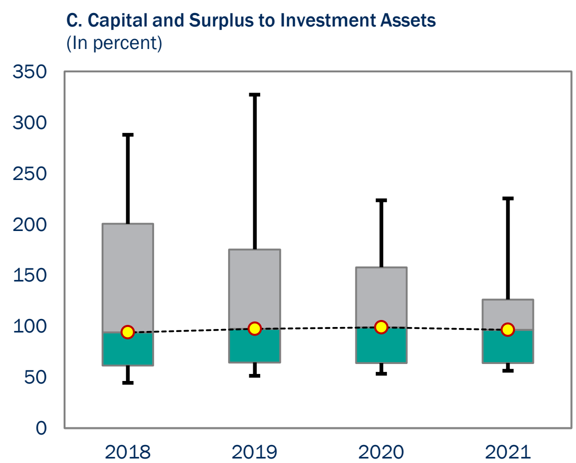
Figure 1: Large Commercial (Re)insurers (Class 4 and Class 3B) in Bermuda—Performance Indicators

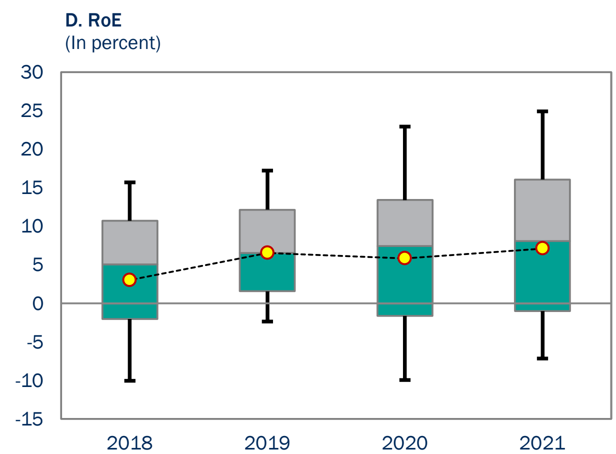
Source: BMA staff calculations. Note: Boxplots include the median (yellow dot), the 25th and 75th percentiles (grey box, with the change of shade indicating the median), and the 10th and 90th percentiles (whiskers). Underwriting profit/loss does not include general and administrative expenses.

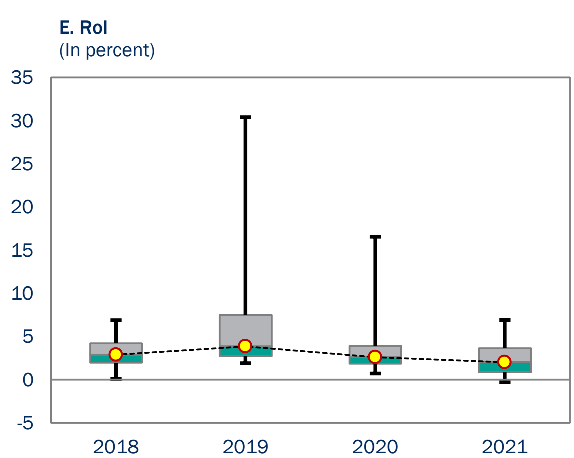
Figure 2: Large Commercial (Re)insurers (Class 4 and Class 3B) in Bermuda—Performance Indicators[2]











Source: BMA staff calculations. Note: Boxplots include the median (yellow dot), the 25th and 75th percentiles (grey box, with the change of shade indicating the median), and the 10th and 90th percentiles (whiskers).

[2] For the purpose of this report, capital and surplus to investment assets is calculated as (total assets-total liabilities)/investment assets. Investment assets is total of quoted, unquoted and non-rated investments, this excludes other assets such as 'investments in and advances to affiliates', 'policy loans' and 'funds held by ceding reinsurers'.

Figure 3: Large Commercial (Re)insurers (Class 4 and Class 3B) in Bermuda—Asset Quality

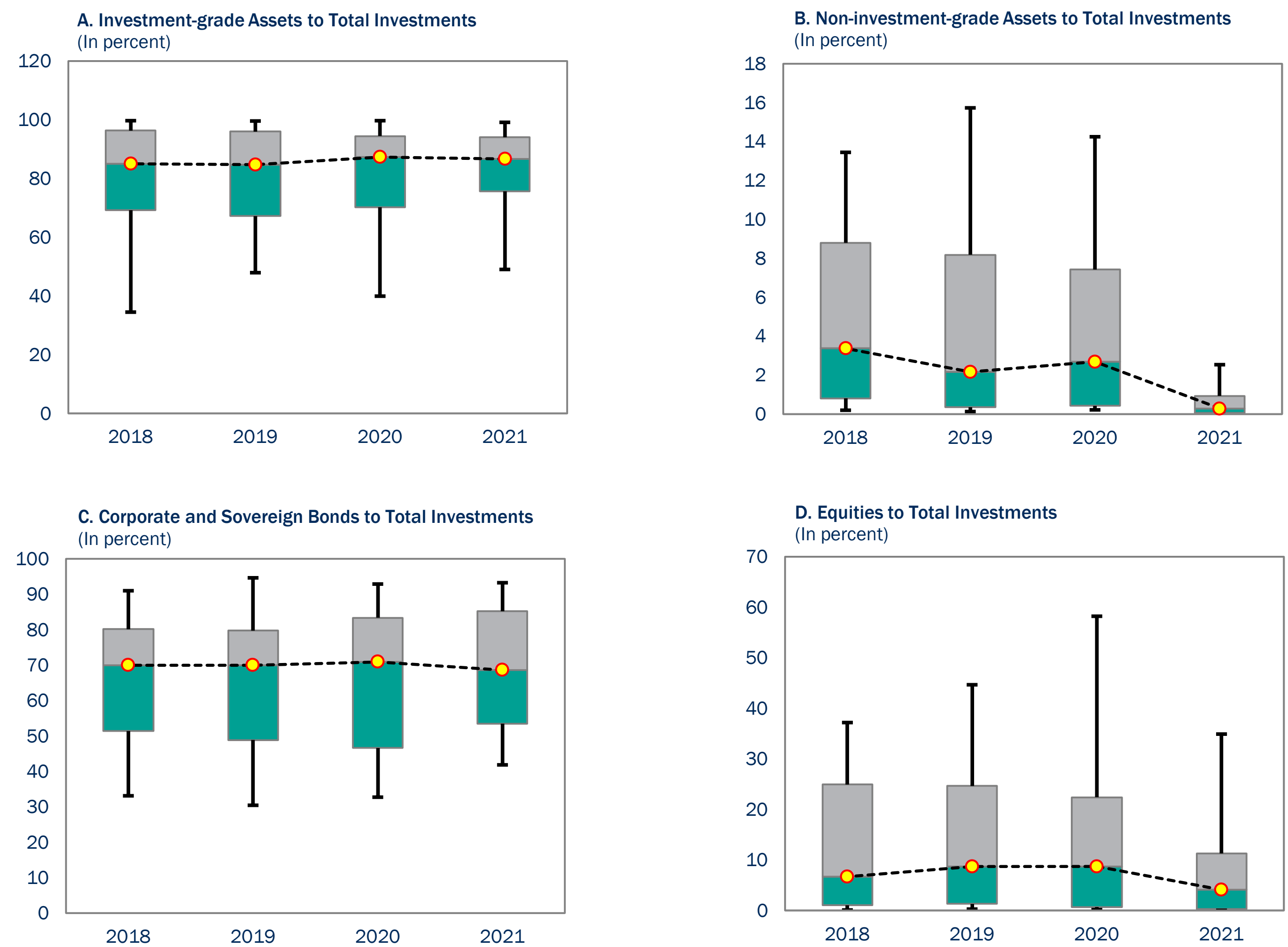
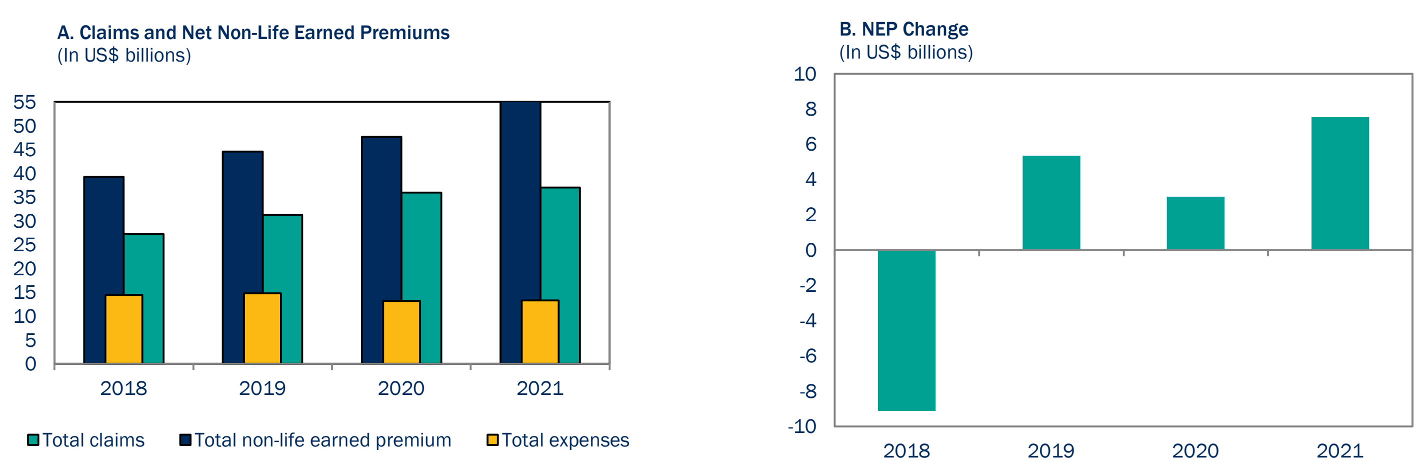


Figure 4: Large Commercial (Re)insurers (Class 4 and Class 3B) in Bermuda—Claims Experience



Source: BMA staff calculations. Note: Boxplots include the median (yellow dot), the 25th and 75th percentiles (grey box, with the change of shade indicating the median), and the 10th and 90th percentiles (whiskers).

CAPITAL CONDITIONS

The capital position of Bermuda (re)insurers changed in FY-2021 (Table I and Table III). Capital and surplus relative to total assets (equity ratio) increased by 0.7% y/y, standing at 45.6%.[3] Reserves dropped by 1.4% y/y and amounted to 36.2% of assets held by firms—almost 79.4% of capital and surplus.

Table I: Key Balance Sheet Indicators

(In US$ billions unless indicated otherwise)	2021	2020	2019	2018	2017	Y/Y change (%)
Capital and surplus	**129.2**	127.3	106.3	92.9	95.4	1.5
Total assets	**283.5**	281.3	244.3	216.1	221.5	0.8
Total liabilities	**154.3**	154.1	138.0	123.3	126.1	0.2
NWP/equity (in percent)	**45.7**	38.7	43.2	40.7	49.8	18.3
Reserve leverage (in percent)	**79.4**	81.8	85.1	89.3	88.2	-2.9

Table II: Key Income Statement Indicators

(In US$ billions)	2021	2020	2019	2018	2017	Y/Y change (%)
NWP	**59.1**	49.2	45.9	37.8	47.5	20.1
NEP	**55.2**	47.6	44.6	39.2	48.4	15.8
Total expenses	**14.5**	14.8	13.2	13.3	15.8	-2.6
Total claims	**37.0**	35.9	31.2	27.2	37.6	3.1
Investment income	**4.6**	7.1	6.4	3.8	4.9	-34.9
Underwriting income	**5.0**	-0.3	0.6	1.6	-2.2	—
Net income	**13.9**	7.1	11.3	3.1	1.5	95.9

The operational performance of Bermuda (re)insurers changed during the year but direct comparisons with past years were not feasible. Claims increased by 3.1% y/y, which resulted in a combined ratio of 93.3% (Tables II and VI). The expense ratio dropped by 15.9% y/y.

Table III: Aggregate Capital Structure

(In US$ billions unless indicated otherwise)	2021	2020	2019	2018	2017	Y/Y change (%)
Capital and surplus	**129.2**	127.3	106.3	92.9	95.4	1.5
Insurance reserves	**102.6**	104.1	90.5	82.9	84.1	-1.4
Financial leverage (in percent)	**219.4**	221.1	229.8	232.8	232.2	-0.7
Equity ratio (in percent)	**45.6**	45.2	43.5	43.0	43.1	0.7
Reserve ratio (in percent)	**36.2**	37.0	37.0	38.4	38.0	-2.2

Between FY-2020 and FY-2021, financial leverage (i.e., assets relative to capital and surplus) dropped by 0.7% to 219.4% due to the faster rate of increase of capital and surplus compared to assets. The reserve ratio dropped by 2.2% y/y. Reserves dropped by 1.4% y/y.

PROFITABILITY AND FINANCIAL INDICATORS

Table IV: Summary Profitability Indicators

(In US$ billions unless indicated otherwise)	2021	2020	2019	2018	2017	Y/Y change (%)
Loss ratio	**67.1**	75.4	70.1	69.3	77.8	-11.0
Investment income/net income	**33.1**	99.7	56.7	123.2	334.6	-66.8
Investments income/reserves	**4.5**	6.8	7.1	4.6	5.8	-34.0
Investments income/assets	**1.6**	2.5	2.6	1.8	2.2	-35.4
Total investments (in US$ billions)	**146.8**	151.0	126.1	113.0	120.5	-2.8
Investments income (in US$ billions)	**4.6**	7.1	6.4	3.8	4.9	-34.9

Profitability, measured by net income, increased. Underwriting income stood at $5.0 billion for the year (Table II). Investment income represents 33.1% of total net income, a drop of 66.8% from FY-2020.

[3] Equity Ratio=1/Financial Leverage. See Table III.

Table V: Summary Financial Indicators

(In percent)	**2021**	2020	2019	2018	2017	Y/Y change (%)
RoA	**4.9**	2.5	4.6	1.4	0.7	94.4
RoE	**10.8**	5.6	10.6	3.3	1.5	93.0
RoI	**3.1**	4.7	5.1	3.4	4.0	-33.1

Financial indicators improved in FY-2021. Aggregate RoA increased to 4.9%. RoE increased to 10.8% and RoI dropped to 3.1%.

ACTUARIAL INDICATORS

Table VI: Actuarial Indicators

(In percent unless indicated otherwise)	**2021**	2020	2019	2018	2017	Y/Y change (%)
Loss ratio	**67.1**	75.4	70.1	69.3	77.8	-11.0
Expense ratio	**26.2**	31.1	29.6	33.8	32.6	-15.9
Combined ratio	**93.3**	106.5	99.6	103.2	110.4	-12.4
Claims/ reserves	**36.1**	34.5	34.5	32.8	44.7	4.6
Reinsurance assets (in US$ billions)	**31.2**	24.9	27.3	25.9	22.0	25.3

The combined ratio dropped by 12.4% y/y to 93.3%. The loss ratio dropped by 11.0% during the year, while the expense ratio dropped by 15.9%. Reinsurance assets increased by 25.3%, reaching $31.2 billion.

ASSET QUALITY AND LIQUIDITY INDICATORS

Table VII: Asset Quality Indicators – Asset Classes

(In percent)	**2021**	2020	2019	2018	2017	Y/Y change (%)
Sovereigns/ total investments	**15.1**	14.2	14.9	13.8	19.0	6.5
Corporate bonds/ total investments	**48.6**	50.9	51.1	53.0	47.1	-4.5
Residential Mortgage-Backed Securities (MBS)/total investments	**7.7**	8.5	9.9	11.8	11.9	-9.5
Commercial MBS/ total investments	**9.4**	8.4	8.9	8.9	9.1	11.3
Bond mutual funds/ total investments	**1.2**	1.2	1.3	1.2	1.3	-0.6
Equities/ total investments	**7.2**	7.5	5.8	4.8	7.0	-4.0
Equity-type investments/ total investments	**8.8**	7.1	5.8	6.4	4.5	23.2
Investments in mortgage loans/total investments	**2.1**	2.2	2.3	0.1	0.2	-6.6

Note: Equity-type investments refer to hedge funds, mutual funds and, in general, packaged-style investments. The majority of residential MBS are issued in the United States.

Table VIII: Asset Quality Indicators – Rating Classes

(In percent)	**2021**	2020	2019	2018	2017	Y/Y change (%)
Investment-grade investments/ total investments	**74.9**	75.8	78.0	80.6	79.3	-1.1
Non-investment grade investments/ total investments	**5.9**	5.8	6.2	6.5	7.2	2.2
Unrated investments/ total investments	**3.3**	3.9	4.2	2.1	2.0	-15.6
Non-fixed income investments/ total investments	**15.9**	14.6	11.6	10.8	11.5	9.3

The composition of investment assets remained somewhat stable, with some increases in equities and commercial MBSs within FY-2021. Most fixed-income securities were investment grade-rated, with 74.9% of total investments in this asset class. This was followed by 5.9% of total investments in the sub-investment grade, 3.3% of total investments being unrated and 15.9% of total investments in the non-fixed-income class.

Table IX: Liquidity Indicators

(In percent)	2021	2020	2019	2018	2017	Y/Y change (%)
Cash investments/ total assets	**17.1**	16.2	10.8	14.3	16.3	**5.7**
Cash investments/ total liabilities	**31.4**	29.6	19.2	25.0	28.6	6.3
Cash investments/ reserves	**47.3**	43.8	29.3	37.2	42.8	8.0
Cash investments/ claims	**131.0**	126.9	84.8	113.5	95.7	3.3
BBB-AAA assets/ total assets	**43.3**	42.7	44.6	49.0	35.6	1.3
BBB-AAA assets/ total liabilities	**79.5**	78.0	79.0	85.9	62.5	1.9
BBB-AAA assets/ insurance reserves	**119.6**	115.5	120.4	127.8	93.7	3.5
BBB-AAA assets/ claims	**331.4**	334.9	348.8	389.6	209.4	-1.0
Current assets/ current liabilities	**1,105.3**	1,615.6	1,270.3	1,479.6	1,486.8	-31.6

Note: AAA refers to the rating category of investment assets held by firms. Cash investments are: i) sovereign debt issued by a country in its own currency that is rated AA- or better, and ii) debt issued by government-owned and related entities that were explicitly guaranteed by that government, except for MBSs.

Firms hold sufficient liquidity buffers. A balanced cash-to-claims position eliminates any liquidity risk from declining investment returns. Cash investments comprise 17.1% of total assets, 31.4% of total liabilities and 131.0% of claims. The sum of BBB, A, AA and AAA securities account for 43.3% of total assets and cover 79.5% of total liabilities and 331.4% of claims.

GLOSSARY

AAA-BBB are the generic classifications of the highest to lowest rating assigned by a rating agency for an asset, security or entity that remains investment-grade.

Actuarial indicator is an indicator based on outcomes from the evolution of a portfolio of insured risks. Each actuarial indicator excludes any investment or financing activity.

Capital gain is the realised profit from the sale of a financial asset due to its appreciation.

Capital structure is the composition of liabilities that fund the operations and the assets of a (re)insurance company.

Combined ratio is the sum of the expense ratio and claims ratio.

Earned premium is the premium that is recorded as income in the income statement of a (re)insurer. It is usually calculated on a pro-rata basis.

Expense ratio is the ratio of expenses paid within a period over the NWP written within that period.

Financial leverage is based on the average total assets divided by the average total common equity, with the average taken between the beginning and ending balance.

Gross premium is the premium with loadings such as expenses, commissions and fees.

Insurance-Linked Securities (ILS) are financial instruments with payoffs that are contingent on the realisation of an insurable risk.

Insurance reserves are provisions held by the (re)insurer to meet future obligations that stem from underwriting activities.

Loss ratio is the ratio of claims incurred within a period over the NWP earned within that period.

Net premium is the premium left after the reinsurance premium has been paid.

Reinsurance recoverables are estimates of the expected payments made to the cedant by the reinsurer.

Reserve leverage is the ratio between premium reserve and shareholder equity (defined as share capital plus additional paid-in capital plus retained earnings).

Return on Assets (RoA) is calculated by dividing the net income by the value of total assets over the same period.

Return on Equity (RoE) is calculated by dividing net income by the value of shareholder equity over the same period.

Return on Investment (RoI) is calculated by dividing investment income by the value of investment assets over the same period.

Seniority (capital structure) is the specified way in which holders of financing instruments of a corporation incur its losses and distribute its assets and profits.

Shareholder equity is the difference between assets and liabilities, including subordinated debt.

Subordinated debt is debt with seniority that is junior to policyholder claims on a (re)insurer.

Underwriting profit (loss) is the profit (loss) attributed to the operations of a (re)insurer by excluding all other activities other than underwriting and claims processing.

Written premium is the premium that the (re)insurer collects from the policyholder but is not recorded as income in the profit and loss statement.

BERMUDA MONETARY AUTHORITY

BMA House • 43 Victoria Street • Hamilton HM 12 Bermuda
P.O. Box HM 2447 • Hamilton HM JX Bermuda
tel: (441) 295 5278 • fax: (441) 292 7471
email: enquiries@bma.bm • website: www.bma.bm