



Manulife Financial Corporation Consolidated Financial Statements

For the year ended December 31, 2021

Responsibility for Financial Reporting

The accompanying consolidated financial statements of Manulife Financial Corporation are the responsibility of management and have been approved by the Board of Directors. It is also the responsibility of management to ensure that all information in the annual report to shareholders is consistent with these consolidated financial statements.

The consolidated financial statements have been prepared by management in accordance with International Financial Reporting Standards and the accounting requirements of the Office of the Superintendent of Financial Institutions, Canada. When alternative accounting methods exist, or when estimates and judgment are required, management has selected those amounts that present the Company's financial position and results of operations in a manner most appropriate to the circumstances.

Appropriate systems of internal control, policies and procedures have been maintained to ensure that financial information is both relevant and reliable. The systems of internal control are assessed on an ongoing basis by management and the Company's internal audit department.

The actuary appointed by the Board of Directors (the "Appointed Actuary") is responsible for ensuring that assumptions and methods used in the determination of policy liabilities are appropriate to the circumstances and that reserves will be adequate to meet the Company's future obligations under insurance and annuity contracts.

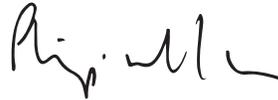
The Board of Directors is responsible for ensuring that management fulfills its responsibility for financial reporting and is ultimately responsible for reviewing and approving the consolidated financial statements. These responsibilities are carried out primarily through an Audit Committee of unrelated and independent directors appointed by the Board of Directors.

The Audit Committee meets periodically with management, the internal auditors, the peer reviewers, the external auditors and the Appointed Actuary to discuss internal control over the financial reporting process, auditing matters and financial reporting issues. The Audit Committee reviews the consolidated financial statements prepared by management and then recommends them to the Board of Directors for approval. The Audit Committee also recommends to the Board of Directors and shareholders the appointment of external auditors and approval of their fees.

The consolidated financial statements have been audited by the Company's external auditors, Ernst & Young LLP, in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States). Ernst & Young LLP has full and free access to management and the Audit Committee.



Roy Gori
President and Chief Executive Officer



Philip Witherington
Chief Financial Officer

Toronto, Canada
February 9, 2022

Appointed Actuary's Report to the Shareholders

I have valued the policy liabilities and reinsurance recoverables of Manulife Financial Corporation for its Consolidated Statements of Financial Position as at December 31, 2021 and 2020 and their change in the Consolidated Statements of Income for the years then ended in accordance with actuarial practice generally accepted in Canada, including selection of appropriate assumptions and methods.

In my opinion, the amount of policy liabilities net of reinsurance recoverables makes appropriate provision for all policyholder obligations and the consolidated financial statements fairly present the results of the valuation.



Steven Finch
Appointed Actuary

Toronto, Canada
February 9, 2022

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Manulife Financial Corporation

Opinion on the Consolidated Financial Statements

We have audited the consolidated financial statements of Manulife Financial Corporation (the “Company”), which comprise the Consolidated Statements of Financial Position as at December 31, 2021 and 2020, and the Consolidated Statements of Income, Consolidated Statements of Comprehensive Income, Consolidated Statements of Changes in Equity and Consolidated Statements of Cash Flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as at December 31, 2021 and 2020, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the *Auditor’s Responsibilities for the Audit of the Consolidated Financial Statements* section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in the audit of the consolidated financial statements of the current period. These matters were addressed in the context of the audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor’s Responsibilities for the Audit of the Consolidated Financial Statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

	Valuation of Insurance Contract Liabilities
Key Audit Matter	<p>The Company recorded insurance contract liabilities of \$392.3 billion at December 31, 2021 on its consolidated statement of financial position. Insurance contract liabilities are reported gross of reinsurance ceded and represent management’s estimate of the amount which, together with estimated future premiums and net investment income, will be sufficient to pay estimated future benefits, policyholder dividends and refunds, taxes (other than income taxes) and expenses on insurance policies in-force. Insurance contract liabilities are determined using the Canadian Asset Liability Method (CALM), as required by the Canadian Institute of Actuaries (CIA). The valuation of insurance contract liabilities is based on an explicit projection of cash flows using current assumptions for each material cash flow item. Cash flows related to insurance contract liabilities have two major components: a best estimate assumption and a provision for adverse deviation. Best estimates are made with respect to key assumptions including mortality, morbidity, investment returns, policy termination rates, premium persistency, expenses, and taxes. A provision for adverse deviation is recorded to reflect the inherent uncertainty related to the timing and amount of the best estimate assumptions and is determined by including a margin of conservatism for each assumption. Disclosures on this matter are found in Note 1 ‘Nature of Operations and Significant Accounting Policies’ and Note 6 ‘Insurance Contract Liabilities and Reinsurance Assets’ of the consolidated financial statements.</p> <p>Auditing the valuation of insurance contract liabilities was complex and required the application of significant auditor judgement due to the complexity of the cash flow models, the selection and use of assumptions, and the interrelationship of these variables in measuring insurance contract liabilities. The audit effort involved professionals with specialized skill and knowledge to assist in evaluating the audit evidence obtained.</p>

	Valuation of Insurance Contract Liabilities
<i>How Our Audit Addressed the Key Audit Matter</i>	<p>We obtained an understanding, evaluated the design, and tested the operating effectiveness of management's controls over the valuation of insurance contract liabilities. The controls we tested related to, among other areas, actuarial methodology, integrity of data used, controls over relevant information technology, and the assumption setting and implementation processes used by management.</p> <p>To test the valuation of insurance contract liabilities, our audit procedures included, among other procedures, involving our actuarial specialists to assess the methodology and assumptions with respect to compliance with the Company's policies. We performed audit procedures over key assumptions, including the implementation of those assumptions into the models. These procedures included testing underlying support and documentation, including reviewing a sample of experience studies supporting specific assumptions, challenging the nature, timing, and completeness of changes recorded, assessing whether individual changes were errors or refinements of estimates, and comparing the level of margins for adverse deviation to suggested ranges established by the CIA. We also performed independent recalculation procedures on a sample of insurance policies to evaluate management's recorded reserves. In addition, we assessed the adequacy of the disclosures provided in the notes to the consolidated financial statements.</p>
	Valuation of Invested Assets with Significant Non-Observable Market Inputs
<i>Key Audit Matter</i>	<p>The Company recorded invested assets of \$17.8 billion at December 31, 2021 on its consolidated statement of financial position which are both (a) measured at fair value and (b) subject to a valuation estimate that includes significant non-observable market inputs. These invested assets are classified as level 3 within the Company's hierarchy of fair value measurements and include real estate, timber and agriculture, high estimation uncertainty bonds, and private equities which are valued using internal models. There is increased measurement uncertainty in determining the fair value of these invested assets due to the impact of COVID-19 and the associated economic environment. These assets are valued based on internal models or third-party pricing sources that incorporate assumptions with a high-level of subjectivity. Examples of such assumptions include interest rates, yield curves, credit ratings and related spreads, expected future cash flows and transaction prices of comparable assets. Disclosures on this matter are found in Note 1 'Nature of Operations and Significant Accounting Policies' and Note 3 'Invested Assets and Investment Income' of the consolidated financial statements.</p> <p>Auditing the valuation of these invested assets was complex and required the application of significant auditor judgment in assessing the valuation methodologies and non-observable inputs used. The valuation of these assets is sensitive to the significant non-observable market inputs described above, which are inherently forward-looking and could be affected by future economic and market conditions. The audit effort involved professionals with specialized skill and knowledge to assist in evaluating the audit evidence obtained.</p>
<i>How Our Audit Addressed the Key Audit Matter</i>	<p>We obtained an understanding, evaluated the design, and tested the operating effectiveness of management's controls over the investment valuation process. The controls we tested related to, among other areas, management's determination and approval of assumptions and methodologies used in model-based valuations and management's review of valuations provided by third-party pricing sources.</p> <p>To test the valuation of these invested assets, our audit procedures included, among other procedures, involving our valuation specialists to assess the methodologies and significant assumptions used by management. These procedures included assessing the valuation methodologies used with respect to the Company's policies, valuation guidelines, and industry practice and comparing a sample of valuation assumptions used against benchmarks, including comparable transactions and independent pricing sources where available. We also performed independent investment valuations on a sample of investments with high estimation uncertainty to evaluate management's recorded values. In addition, we assessed the adequacy of the disclosures provided in the notes to the consolidated financial statements.</p>

Other Information

Management is responsible for the other information. The other information comprises:

- Management's Discussion and Analysis; and
- The information, other than the consolidated financial statements and our auditor's report thereon, in the 2021 Annual Report.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information, and in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

We obtained Management's Discussion and Analysis prior to the date of this auditor's report. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact in this auditor's report. We have nothing to report in this regard.

The 2021 Annual Report is expected to be made available to us after the date of the auditor's report. If based on the work we will perform on this other information, we conclude there is a material misstatement of other information, we are required to report that fact to those charged with governance.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Company's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our report of independent registered public accounting firm unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this report of independent registered public accounting firm is Sean Musselman.

The logo for Ernst & Young LLP, featuring the company name in a stylized, handwritten-style font.

Chartered Professional Accountants
Licensed Public Accountants

Toronto, Canada
February 9, 2022

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Manulife Financial Corporation

Opinion on the Consolidated Financial Statements

We have audited the accompanying Consolidated Statements of Financial Position of Manulife Financial Corporation (the “Company”) as of December 31, 2021 and 2020, the related Consolidated Statements of Income, Consolidated Statements of Comprehensive Income, Consolidated Statements of Changes in Equity and Consolidated Statements of Cash Flows for the years then ended, and the related notes (collectively referred to as the “consolidated financial statements”).

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2021 and 2020, and its financial performance and its cash flows for the years then ended in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Report on Internal Control over Financial Reporting

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 9, 2022, expressed an unqualified opinion thereon.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

	Valuation of Insurance Contract Liabilities
<i>Description of the Matter</i>	<p>The Company recorded insurance contract liabilities of \$392.3 billion at December 31, 2021 on its consolidated statement of financial position. Insurance contract liabilities are reported gross of reinsurance ceded and represent management’s estimate of the amount which, together with estimated future premiums and net investment income, will be sufficient to pay estimated future benefits, policyholder dividends and refunds, taxes (other than income taxes) and expenses on insurance policies in-force. Insurance contract liabilities are determined using the Canadian Asset Liability Method (CALM), as required by the Canadian Institute of Actuaries (CIA). The valuation of insurance contract liabilities is based on an explicit projection of cash flows using current assumptions for each material cash flow item. Cash flows related to insurance contract liabilities have two major components: a best estimate assumption and a provision for adverse deviation. Best estimates are made with respect to key assumptions including mortality, morbidity, investment returns, policy termination rates, premium persistency, expenses, and taxes. A provision for adverse deviation is recorded to reflect the inherent uncertainty related to the timing and amount of the best estimate assumptions and is determined by including a margin of conservatism for each assumption. Disclosures on this matter are found in Note 1 ‘Nature of Operations and Significant Accounting Policies’ and Note 6 ‘Insurance Contract Liabilities and Reinsurance Assets’ of the consolidated financial statements.</p> <p>Auditing the valuation of insurance contract liabilities was complex and required the application of significant auditor judgement due to the complexity of the cash flow models, the selection and use of assumptions, and the interrelationship of these variables in measuring insurance contract liabilities. The audit effort involved professionals with specialized skill and knowledge to assist in evaluating the audit evidence obtained.</p>

	Valuation of Insurance Contract Liabilities
<i>How We Addressed the Matter in Our Audit</i>	<p>We obtained an understanding, evaluated the design, and tested the operating effectiveness of management's controls over the valuation of insurance contract liabilities. The controls we tested related to, among other areas, actuarial methodology, integrity of data used, controls over relevant information technology, and the assumption setting and implementation processes used by management.</p> <p>To test the valuation of insurance contract liabilities, our audit procedures included, among other procedures, involving our actuarial specialists to assess the methodology and assumptions with respect to compliance with the Company's policies. We performed audit procedures over key assumptions, including the implementation of those assumptions into the models. These procedures included testing underlying support and documentation, including reviewing a sample of experience studies supporting specific assumptions, challenging the nature, timing, and completeness of changes recorded, assessing whether individual changes were errors or refinements of estimates, and comparing the level of margins for adverse deviation to suggested ranges established by the CIA. We also performed independent recalculation procedures on a sample of insurance policies to evaluate management's recorded reserves. In addition, we assessed the adequacy of the disclosures provided in the notes to the consolidated financial statements.</p>
	Valuation of Invested Assets with Significant Non-Observable Market Inputs
<i>Description of the Matter</i>	<p>The Company recorded invested assets of \$17.8 billion at December 31, 2021 on its consolidated statement of financial position which are both (a) measured at fair value and (b) subject to a valuation estimate that includes significant non-observable market inputs. These invested assets are classified as level 3 within the Company's hierarchy of fair value measurements and include real estate, timber and agriculture, high estimation uncertainty bonds, and private equities which are valued using internal models. There is increased measurement uncertainty in determining the fair value of these invested assets due to the impact of COVID-19 and the associated economic environment. These assets are valued based on internal models or third-party pricing sources that incorporate assumptions with a high-level of subjectivity. Examples of such assumptions include interest rates, yield curves, credit ratings and related spreads, expected future cash flows and transaction prices of comparable assets. Disclosures on this matter are found in Note 1 'Nature of Operations and Significant Accounting Policies' and Note 3 'Invested Assets and Investment Income' of the consolidated financial statements.</p> <p>Auditing the valuation of these invested assets was complex and required the application of significant auditor judgment in assessing the valuation methodologies and non-observable inputs used. The valuation of these assets is sensitive to the significant non-observable market inputs described above, which are inherently forward-looking and could be affected by future economic and market conditions. The audit effort involved professionals with specialized skill and knowledge to assist in evaluating the audit evidence obtained.</p>
<i>How We Addressed the Matter in Our Audit</i>	<p>We obtained an understanding, evaluated the design, and tested the operating effectiveness of management's controls over the investment valuation process. The controls we tested related to, among other areas, management's determination and approval of assumptions and methodologies used in model-based valuations and management's review of valuations provided by third-party pricing sources.</p> <p>To test the valuation of these invested assets, our audit procedures included, among other procedures, involving our valuation specialists to assess the methodologies and significant assumptions used by management. These procedures included assessing the valuation methodologies used with respect to the Company's policies, valuation guidelines, and industry practice and comparing a sample of valuation assumptions used against benchmarks, including comparable transactions and independent pricing sources where available. We also performed independent investment valuations on a sample of investments with high estimation uncertainty to evaluate management's recorded values. In addition, we assessed the adequacy of the disclosures provided in the notes to the consolidated financial statements.</p>



Chartered Professional Accountants
Licensed Public Accountants

We have served as Manulife Financial Corporation's auditors since 1905.

Toronto, Canada

February 9, 2022

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Manulife Financial Corporation

Opinion on Internal Control over Financial Reporting

We have audited Manulife Financial Corporation's internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the "COSO criteria"). In our opinion, Manulife Financial Corporation (the "Company") maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Consolidated Statements of Financial Position of the Company as of December 31, 2021 and 2020, and the related Consolidated Statements of Income, Consolidated Statements of Comprehensive Income, Consolidated Statements of Changes in Equity and Consolidated Statements of Cash Flows for the years then ended, and the related notes and our report dated February 9, 2022, expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in Management's Report on Internal Control Over Financial Reporting contained in the Management's Discussion and Analysis. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Ernst & Young LLP

Chartered Professional Accountants
Licensed Public Accountants

Toronto, Canada

February 9, 2022

Consolidated Statements of Financial Position

As at December 31,
(Canadian \$ in millions)

	2021	2020
Assets		
Cash and short-term securities	\$ 22,594	\$ 26,167
Debt securities	224,139	218,724
Public equities	28,067	23,722
Mortgages	52,014	50,207
Private placements	42,842	40,756
Policy loans	6,397	6,398
Loans to bank clients	2,506	1,976
Real estate	13,233	12,832
Other invested assets	35,306	30,195
Total invested assets (note 3)	427,098	410,977
Other assets		
Accrued investment income	2,641	2,523
Outstanding premiums	1,294	1,444
Derivatives (note 4)	17,503	27,793
Reinsurance assets (notes 6 and 7)	44,579	45,836
Deferred tax assets (note 16)	5,254	4,842
Goodwill and intangible assets (note 5)	9,915	9,929
Miscellaneous	9,571	9,569
Total other assets	90,757	101,936
Segregated funds net assets (note 22)	399,788	367,436
Total assets	\$ 917,643	\$ 880,349
Liabilities and Equity		
Liabilities		
Insurance contract liabilities (note 6)	\$ 392,275	\$ 385,554
Investment contract liabilities (note 7)	3,117	3,288
Deposits from bank clients	20,720	20,889
Derivatives (note 4)	10,038	14,962
Deferred tax liabilities (note 16)	2,769	2,614
Other liabilities	18,205	18,607
	447,124	445,914
Long-term debt (note 9)	4,882	6,164
Capital instruments (note 10)	6,980	7,829
Segregated funds net liabilities (note 22)	399,788	367,436
Total liabilities	858,774	827,343
Equity		
Preferred shares and other equity (note 11)	6,381	3,822
Common shares (note 11)	23,093	23,042
Contributed surplus	262	261
Shareholders' and other equity holders' retained earnings	23,492	18,887
Shareholders' accumulated other comprehensive income (loss):		
Pension and other post-employment plans	(114)	(313)
Available-for-sale securities	848	1,838
Cash flow hedges	(156)	(229)
Real estate revaluation reserve	23	34
Translation of foreign operations	4,579	4,993
Total shareholders' and other equity	58,408	52,335
Participating policyholders' equity	(1,233)	(784)
Non-controlling interests	1,694	1,455
Total equity	58,869	53,006
Total liabilities and equity	\$ 917,643	\$ 880,349

The accompanying notes are an integral part of these Consolidated Financial Statements.



Roy Gori
President and Chief Executive Officer



John Cassaday
Chairman of the Board of Directors

Consolidated Statements of Income

For the years ended December 31,
(Canadian \$ in millions except per share amounts)

2021 2020

	2021	2020
Revenue		
Premium income		
Gross premiums	\$ 44,344	\$ 41,408
Premiums ceded to reinsurers	(5,279)	(8,491)
Net premiums	39,065	32,917
Investment income (note 3)		
Investment income	15,627	16,433
Realized and unrealized gains (losses) on assets supporting insurance and investment contract liabilities and on the macro hedge program	(4,003)	18,967
Net investment income	11,624	35,400
Other revenue (note 13)	11,132	10,591
Total revenue	61,821	78,908
Contract benefits and expenses		
To contract holders and beneficiaries		
Gross claims and benefits (note 6)	31,110	30,133
Increase (decrease) in insurance contract liabilities (note 6)	10,719	36,982
Increase (decrease) in investment contract liabilities (note 7)	44	178
Benefits and expenses ceded to reinsurers	(6,805)	(6,795)
(Increase) decrease in reinsurance assets (note 6)	754	(5,263)
Net benefits and claims	35,822	55,235
General expenses	7,828	7,510
Investment expenses (note 3)	1,980	1,787
Commissions	6,638	6,043
Interest expense	1,011	1,181
Net premium taxes	417	381
Total contract benefits and expenses	53,696	72,137
Income before income taxes	8,125	6,771
Income tax expense (note 16)	(1,213)	(1,195)
Net income	\$ 6,912	\$ 5,576
Net income (loss) attributed to:		
Non-controlling interests	\$ 255	\$ 250
Participating policyholders	(448)	(545)
Shareholders and other equity holders	7,105	5,871
	\$ 6,912	\$ 5,576
Net income attributed to shareholders	7,105	5,871
Preferred share dividends and other equity distributions	(215)	(171)
Common shareholders' net income	\$ 6,890	\$ 5,700
Earnings per share		
Basic earnings per common share (note 11)	\$ 3.55	\$ 2.94
Diluted earnings per common share (note 11)	3.54	2.93
Dividends per common share	1.17	1.12

The accompanying notes are an integral part of these Consolidated Financial Statements.

Consolidated Statements of Comprehensive Income

For the years ended December 31,
(Canadian \$ in millions)

	2021	2020
Net income	\$ 6,912	\$ 5,576
Other comprehensive income (loss) ("OCI"), net of tax:		
Items that may be subsequently reclassified to net income:		
Foreign exchange gains (losses) on:		
Translation of foreign operations	(514)	(505)
Net investment hedges	100	100
Available-for-sale financial securities:		
Unrealized gains (losses) arising during the year	(980)	2,506
Reclassification of net realized (gains) losses and impairments to net income	(13)	(2,175)
Cash flow hedges:		
Unrealized gains (losses) arising during the year	77	(81)
Reclassification of realized gains (losses) to net income	(4)	(5)
Share of other comprehensive income (losses) of associates	(1)	2
Total items that may be subsequently reclassified to net income	(1,335)	(158)
Items that will not be reclassified to net income:		
Change in pension and other post-employment plans	199	37
Real estate revaluation reserve	(11)	5
Total items that will not be reclassified to net income	188	42
Other comprehensive income (loss), net of tax	(1,147)	(116)
Total comprehensive income (loss), net of tax	\$ 5,765	\$ 5,460
Total comprehensive income (loss) attributed to:		
Non-controlling interests	\$ 252	\$ 254
Participating policyholders	(449)	(541)
Shareholders and other equity holders	5,962	5,747

Income Taxes included in Other Comprehensive Income

For the years ended December 31,
(Canadian \$ in millions)

	2021	2020
Income tax expense (recovery) on:		
Unrealized gains/losses on available-for-sale financial securities	\$ (181)	\$ 574
Reclassification of realized gains/losses and recoveries/impairments to net income on available-for-sale financial securities	21	(576)
Unrealized gains/losses on cash flow hedges	15	(19)
Reclassification of realized gains/losses to net income on cash flow hedges	(1)	(2)
Unrealized foreign exchange gains/losses on net investment hedges	21	8
Share of other comprehensive income (loss) of associates	-	(1)
Change in pension and other post-employment plans	61	9
Real estate revaluation reserve	-	2
Total income tax expense (recovery)	\$ (64)	\$ (5)

The accompanying notes are an integral part of these Consolidated Financial Statements.

Consolidated Statements of Changes in Equity

For the years ended December 31,
(Canadian \$ in millions)

	2021	2020
Preferred shares and other equity		
Balance, beginning of year	\$ 3,822	\$ 3,822
Issued (note 11)	3,200	-
Redeemed (note 11)	(612)	-
Issuance costs, net of tax	(29)	-
Balance, end of year	6,381	3,822
Common shares		
Balance, beginning of year	23,042	23,127
Repurchased (note 11)	-	(121)
Issued on exercise of stock options and deferred share units	51	36
Balance, end of year	23,093	23,042
Contributed surplus		
Balance, beginning of year	261	254
Exercise of stock options and deferred share units	(8)	(7)
Stock option expense	9	14
Balance, end of year	262	261
Shareholders' and other equity holders' retained earnings		
Balance, beginning of year	18,887	15,488
Net income attributed to shareholders	7,105	5,871
Common shares repurchased (note 11)	-	(132)
Preferred share dividends and other equity distributions	(215)	(171)
Preferred shares redeemed (note 11)	(13)	-
Common share dividends	(2,272)	(2,169)
Balance, end of year	23,492	18,887
Shareholders' accumulated other comprehensive income (loss) ("AOCI")		
Balance, beginning of year	6,323	6,447
Change in unrealized foreign exchange gains (losses) of net foreign operations	(414)	(405)
Change in actuarial gains (losses) on pension and other post-employment plans	199	37
Change in unrealized gains (losses) on available-for-sale financial securities	(989)	325
Change in unrealized gains (losses) on derivative instruments designated as cash flow hedges	73	(86)
Change in real estate revaluation reserve	(11)	3
Share of other comprehensive income (losses) of associates	(1)	2
Balance, end of year	5,180	6,323
Total shareholders' equity, end of year	58,408	52,335
Participating policyholders' equity		
Balance, beginning of year	(784)	(243)
Net income (loss) attributed to participating policyholders	(448)	(545)
Other comprehensive income (loss) attributed to policyholders	(1)	4
Balance, end of year	(1,233)	(784)
Non-controlling interests		
Balance, beginning of year	1,455	1,211
Net income attributed to non-controlling interests	255	250
Other comprehensive income (loss) attributed to non-controlling interests	(3)	4
Contributions (distributions/disposal), net	(13)	(10)
Balance, end of year	1,694	1,455
Total equity, end of year	\$ 58,869	\$ 53,006

The accompanying notes are an integral part of these Consolidated Financial Statements.

Consolidated Statements of Cash Flows

For the years ended December 31,
(Canadian \$ in millions)

	2021	2020
Operating activities		
Net income	\$ 6,912	\$ 5,576
Adjustments:		
Increase in insurance contract liabilities	10,719	36,982
Increase in investment contract liabilities	44	178
(Increase) decrease in reinsurance assets excluding coinsurance transactions (note 6)	754	(2,374)
Amortization of (premium) discount on invested assets	181	154
Other amortization	529	656
Net realized and unrealized (gains) losses and impairment on assets	4,824	(22,521)
Deferred income tax expense (recovery)	(127)	280
Stock option expense	9	14
Cash provided by operating activities before undernoted items	23,845	18,945
Changes in policy related and operating receivables and payables	(690)	1,103
Cash provided by (used in) operating activities	23,155	20,048
Investing activities		
Purchases and mortgage advances	(120,965)	(111,981)
Disposals and repayments	96,728	98,850
Change in investment broker net receivables and payables	(186)	(1,017)
Net cash flows from acquisition and disposal of subsidiaries and businesses	(19)	-
Cash provided by (used in) investing activities	(24,442)	(14,148)
Financing activities		
Issue of long-term debt, net (note 9)	-	2,455
Redemption of long-term debt (note 9)	(1,250)	(652)
Issue of capital instruments, net (note 10)	-	1,990
Redemption of capital instruments (note 10)	(818)	(1,250)
Secured borrowings (note 3(f))	26	1,376
Change in repurchase agreements and securities sold but not yet purchased	186	24
Changes in deposits from Bank clients, net	(164)	(579)
Lease payments	(124)	(134)
Shareholders' dividends and other equity distributions	(2,500)	(2,340)
Common shares repurchased (note 11)	-	(253)
Common shares issued, net (note 11)	51	36
Preferred shares and other equity issued, net (note 11)	3,171	-
Preferred shares redeemed, net (note 11)	(612)	-
Contributions from (distributions to) non-controlling interests, net	(13)	(10)
Cash provided by (used in) financing activities	(2,047)	663
Cash and short-term securities		
Increase (decrease) during the year	(3,334)	6,563
Effect of foreign exchange rate changes on cash and short-term securities	(319)	(528)
Balance, beginning of year	25,583	19,548
Balance, December 31	21,930	25,583
Cash and short-term securities		
Beginning of year		
Gross cash and short-term securities	26,167	20,300
Net payments in transit, included in other liabilities	(584)	(752)
Net cash and short-term securities, January 1	25,583	19,548
End of year		
Gross cash and short-term securities	22,594	26,167
Net payments in transit, included in other liabilities	(664)	(584)
Net cash and short-term securities, December 31	\$ 21,930	\$ 25,583
Supplemental disclosures on cash flow information		
Interest received	\$ 11,376	\$ 11,736
Interest paid	981	1,188
Income taxes paid	571	1,358

The accompanying notes are an integral part of these Consolidated Financial Statements.

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Notes to Consolidated Financial Statements

(Canadian \$ in millions except per share amounts or unless otherwise stated)

Note 1 Nature of Operations and Significant Accounting Policies

(a) Reporting entity

Manulife Financial Corporation (“MFC”) is a publicly traded company and the holding company of The Manufacturers Life Insurance Company (“MLI”), a Canadian life insurance company. MFC and its subsidiaries (collectively, “Manulife” or the “Company”) is a leading financial services group with principal operations in Asia, Canada and the United States. Manulife’s international network of employees, agents and distribution partners offers financial protection and wealth management products and services to personal and business clients as well as asset management services to institutional customers. The Company operates as Manulife in Canada and Asia and as John Hancock in the United States.

MFC is domiciled in Canada and incorporated under the Insurance Companies Act (Canada) (“ICA”). These Consolidated Financial Statements have been prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”).

These Consolidated Financial Statements should be read in conjunction with “Risk Management and Risk Factors” in the 2021 Management’s Discussion and Analysis (“MD&A”) dealing with IFRS 7 “Financial Instruments: Disclosures” as the discussion on market risk and liquidity risk includes certain disclosures that are considered an integral part of these Consolidated Financial Statements.

These Consolidated Financial Statements as at and for the year ended December 31, 2021 were authorized for issue by MFC’s Board of Directors on February 9, 2022.

(b) Basis of preparation

The preparation of Consolidated Financial Statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities, and the disclosure of contingent assets and liabilities as at the date of the Consolidated Financial Statements, and the reported amounts of revenue and expenses during the reporting periods. Actual results may differ from these estimates. The most significant estimation processes relate to evaluating assumptions used in measuring insurance and investment contract liabilities, assessing assets for impairment, determining pension and other post-employment benefit obligation and expense assumptions, determining income taxes and uncertain tax positions, and estimating fair values of certain invested assets. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the year in which the estimates are revised and in any future years affected. Although some variability is inherent in these estimates, management believes that the amounts recorded are appropriate. The significant accounting policies used and the most significant judgments made by management in applying these accounting policies in the preparation of these Consolidated Financial Statements are summarized below.

The Company’s results and operations have been and may continue to be adversely impacted by COVID-19 and the economic environment. The adverse effects include but are not limited to significant market volatility, low interest rates, increase in credit risk, strain on commodity markets and alternative long-duration asset prices, foreign currency exchange rate volatility, increases in insurance claims, persistency and redemptions, and disruption of business operations. The breadth and depth of these events and their duration contribute additional uncertainty around estimates used in determining the carrying value of certain assets and liabilities included in these Consolidated Financial Statements.

The uncertainty regarding key inputs used in establishing the carrying amounts of certain invested assets are outlined in note 3. The Company has applied appropriate measurement techniques using reasonable judgment and estimates from the perspective of a market participant to reflect current economic conditions. The impact of these techniques has been reflected in these Financial Statements. Changes in the inputs used could materially impact the respective carrying values.

(c) Fair value measurement

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction (not a forced liquidation or distress sale) between market participants at the measurement date; fair value is an exit value.

When available, quoted market prices are used to determine fair value. If quoted market prices are not available, fair value is typically based upon alternative valuation techniques such as discounted cash flows, matrix pricing, consensus pricing services and other techniques. Broker quotes are generally used when external public vendor prices are not available.

The Company has a valuation process in place that includes a review of price movements relative to the market, a comparison of prices between vendors, and a comparison to internal matrix pricing which uses predominately external observable data. Judgment is applied in adjusting external observable data for items including liquidity and credit factors.

The Company categorizes its fair value measurement results according to a three-level hierarchy. The hierarchy prioritizes the inputs used by the Company's valuation techniques based on their reliability. A level is assigned to each fair value measurement based on the lowest level input significant to the fair value measurement in its entirety. The three levels of the fair value hierarchy are defined as follows:

Level 1 – Fair value measurements that reflect unadjusted, quoted prices in active markets for identical assets and liabilities that the Company can access at the measurement date, reflecting market transactions.

Level 2 – Fair value measurements using inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in inactive markets, inputs that are observable that are not prices (such as interest rates, credit risks, etc.) and inputs that are derived from or corroborated by observable market data. Most debt securities are classified within Level 2. Also, included in the Level 2 category are derivative instruments that are priced using models with observable market inputs, including interest rate swaps, equity swaps, credit default swaps and foreign currency forward contracts.

Level 3 – Fair value measurements using significant non-market observable inputs. These include valuations for assets and liabilities that are derived using data, some or all of which is not market observable, including assumptions about risk. Level 3 security valuations include less liquid securities such as real estate investment property, other invested assets, timber investments held within segregated funds, certain long-duration bonds and other securities that have little or no price transparency. Certain derivative financial instrument valuations are also included in Level 3.

(d) Basis of consolidation

MFC consolidates the financial statements of all entities it controls, including certain structured entities. Subsidiaries are entities controlled by the Company. The Company has control over an entity when the Company has the power to govern the financial and operating policies of the entity and is exposed to variable returns from its activities which are significant in relation to the total variable returns of the entity and the Company is able to use its power over the entity to affect the Company's share of variable returns of the entity. In assessing control, significant judgment is applied while considering all relevant facts and circumstances. When assessing decision making power over an entity, the Company considers the extent of its rights relative to the management of the entity, the level of voting rights held over the entity which are potentially or presently exercisable, the existence of any contractual management agreements which may provide the Company with power over the entity's financial and operating policies, and to the extent of other parties' ownership in the entity, if any, the possibility for de facto control being present. When assessing variable returns from an entity, the Company considers the significance of direct and indirect financial and non-financial variable returns to the Company from the entity's activities in addition to the proportionate significance of such returns to the total variability of the entity. The Company also considers the degree to which its interests are aligned with those of other parties investing in the entity and the degree to which the Company may act in its own interest while interacting with the entity.

The financial statements of subsidiaries are included in MFC's consolidated results from the date control is established and are excluded from consolidation from the date control ceases. The initial control assessment is performed at inception of the Company's involvement with the entity and is reconsidered if the Company acquires or loses power over key operating and financial policies of the entity; acquires additional interests or disposes of interests in the entity; the contractual arrangements of the entity are amended such that the Company's proportionate exposure to variable returns changes; or if the Company's ability to use its power to affect its variable returns from the entity changes.

The Company's Consolidated Financial Statements have been prepared using uniform accounting policies for like transactions and events in similar circumstances. Intercompany balances, and revenue and expenses arising from intercompany transactions, have been eliminated in preparing the Consolidated Financial Statements.

Non-controlling interests are interests of other parties in the equity of MFC's subsidiaries and are presented within total equity, separate from the equity of MFC's participating policyholders and shareholders. Non-controlling interests in the net income and other comprehensive income ("OCI") of MFC's subsidiaries are included in total net income and total OCI, respectively. An exception to this occurs where the subsidiary's shares are either puttable by the other parties or are redeemable for cash on a fixed or determinable date, in which case other parties' interests in the subsidiary's capital are presented as liabilities of the Company and other parties' interests in the subsidiary's net income and OCI are recorded as expenses of the Company.

The equity method of accounting is used to account for entities over which the Company has significant influence or joint control ("associates" or "joint ventures"), whereby the Company records its share of the associate's or joint venture's net assets and financial results using uniform accounting policies for similar transactions and events. Significant judgment is used to determine whether voting rights, contractual management rights and other relationships with the entity, if any, provide the Company with significant influence or joint control over the entity. Gains and losses on the sale of associates or joint ventures are included in income when realized, while impairment losses are recognized immediately when there is objective evidence of impairment. Gains and losses on commercial transactions with associates or joint ventures are eliminated to the extent of the Company's interest in the equity of the associate or joint venture. Investments in associates and joint ventures are included in other invested assets on the Company's Consolidated Statements of Financial Position.

(e) Invested assets

Invested assets that are considered financial instruments are classified as fair value through profit or loss (“FVTPL”), loans and receivables, or as available-for-sale (“AFS”) financial assets. The Company determines the classification of its financial assets at initial recognition. Invested assets are recognized initially at fair value plus, in the case of investments not at FVTPL, directly attributable transaction costs. Invested assets are classified as financial instruments at FVTPL if they are held for trading, if they are designated by management under the fair value option, or if they are designated by management when they include one or more embedded derivatives. Invested assets classified as AFS are non-derivative financial assets that do not fall into any of the other categories described above.

Valuation methods for the Company’s invested assets are described above. All fair value valuations are performed in accordance with IFRS 13 “Fair Value Measurement”. Disclosure of fair value valuations within the three levels of the fair value hierarchy for invested assets carried at fair value or not carried at fair value on the Consolidated Statements of Financial Position are presented in note 3. Fair value valuations are performed by the Company and by third-party service providers. When third-party service providers are engaged, the Company performs a variety of procedures to corroborate pricing information. These procedures may include, but are not limited to, inquiry and review of valuation techniques, inputs to the valuation and vendor controls reports.

Cash and short-term securities comprise of cash, current operating accounts, overnight bank and term deposits, and debt securities held for meeting short-term cash commitments. Short-term securities are comprised of investments due to mature within one year of the date of purchase. Short-term securities are carried at fair value. Commercial paper and discount notes are classified as Level 2 for fair value disclosure purposes because these securities are typically not actively traded. Net payments in transit and overdraft bank balances are included in other liabilities.

Debt securities are carried at fair value or amortized cost. Debt securities are generally valued by independent pricing vendors using proprietary pricing models incorporating current market inputs for similar instruments with comparable terms and credit quality (matrix pricing). The significant inputs include, but are not limited to, yield curves, credit risks and spreads, prepayment rates and volatility of these inputs. These debt securities are classified as Level 2 for fair value disclosure purposes but can be Level 3 if significant inputs are market unobservable. Realized gains and losses on sale of debt securities and unrealized gains and losses on debt securities designated as FVTPL are recognized in investment income immediately. Unrealized gains and losses on AFS debt securities are recorded in OCI, except for unrealized gains and losses on foreign currency translation which are included in income. Impairment losses on AFS debt securities are recognized in income on an individual security basis when there is objective evidence of impairment. Impairment is considered to have occurred, based on management’s judgment, when it is deemed probable that the Company will not be able to collect all amounts due according to the debt security’s contractual terms. Debt securities which are classified as held-to-maturity are carried at amortized cost. This includes debt securities with fixed or determinable payments and fixed maturities, for which the Company has both positive intention and ability to hold to maturity, and which the Company has not designated at initial recognition as FVTPL or AFS.

Public equities are comprised of common and preferred equities and mutual fund shares and are carried at fair value. Public equities are generally classified as Level 1 for fair value disclosure purposes, as fair values are normally based on quoted market prices. Realized gains and losses on sale of equities and unrealized gains and losses on equities designated as FVTPL are recognized in investment income immediately. Unrealized gains and losses on AFS equities are recorded in OCI. Impairment losses on AFS equities are recognized in income on an individual security basis when there is objective evidence of impairment. Impairment is considered to have occurred when fair value has declined below cost by a significant amount or for a prolonged period. Significant judgment is applied in determining whether the decline is significant or prolonged.

Mortgages are carried at amortized cost and are classified as Level 3 for fair value disclosure purposes due to the lack of market observability of certain significant valuation inputs. Realized gains and losses are recorded in investment income immediately. Impairment losses are recorded on mortgages when there is no longer reasonable assurance as to the timely collection of the full amount of principal and interest and are measured based on the discounted value of expected future cash flows at the original effective interest rates inherent in the mortgage. Expected future cash flows of impaired mortgages are typically determined with reference to the fair value of collateral security underlying the mortgage, net of expected costs of realization and including any applicable insurance recoveries. Significant judgment is applied in the determination of impairment including the timing and amount of future collections.

The Company accounts for insured and uninsured mortgage securitizations as secured financing transactions since the criteria for sale accounting are not met. For these transactions, the Company continues to recognize the mortgages and records liabilities within other liabilities for the amounts owed at maturity. Interest income from these mortgages and interest expense on the borrowings are recorded using the effective interest rate method.

Private placements, which include corporate loans for which there is no active market, are carried at amortized cost and are generally classified as Level 2 for fair value disclosure purposes or Level 3 if significant inputs are market unobservable. Realized gains and losses are recorded in income immediately. Impairment losses are recorded on private placements when there is no longer assurance as to the timely collection of the full amount of principal and interest. Impairment is measured based on the discounted value of expected future cash flows at the original effective interest rate inherent in the loan. Significant judgment is applied in the determination of impairment including the timing and amount of future collections.

Policy loans are carried at an amount equal to their unpaid balances and are classified as Level 2 for fair value disclosure purposes. Policy loans are fully collateralized by the cash surrender value of the underlying policies.

Loans to Manulife Bank of Canada (“Manulife Bank” or “Bank”) clients are carried at amortized cost and are classified as Level 2 for fair value disclosure purposes. A loan to a Bank client is considered impaired when there is objective evidence of impairment because of one or more loss events that have occurred after initial recognition, with a negative impact on the estimated future cash flows of the loan.

Once established, allowances for impairment of mortgages, private placements and loans to Bank clients are reversed only if the conditions that caused the impairment no longer exist. Reversals of impairment charges on AFS debt securities are only recognized in income to the extent that subsequent increases in fair value can be attributed to events after the impairment loss being recorded. Impairment losses for AFS equity instruments are not reversed through income. On disposition of an impaired asset, any allowance for impairment is released.

In addition to impairments and provisions for loan losses (recoveries) reported in investment income, the measurement of insurance contract liabilities, via investment return assumptions, includes expected future credit losses on fixed income investments. Refer to note 6(d).

Interest income is recognized on debt securities, mortgages, private placements, policy loans, loans to Bank clients and certain other invested assets as it accrues and is calculated using the effective interest rate method. Premiums, discounts and transaction costs are amortized over the life of the underlying investment using the effective yield method for all debt securities as well as mortgages and private placements.

The Company records purchases and sales of invested assets on a trade date basis. Loans originated by the Company are recognized on a settlement date basis.

Real estate consists of both own use property and investment property. Own use property, held for use for the Company’s operations, is carried at cost less accumulated depreciation and any accumulated impairment losses. Depreciation is calculated based on the cost of an asset less its residual value and is recognized in income on a straight-line basis over the estimated useful life ranging from 30 to 60 years. Impairment losses are recorded in income to the extent the recoverable amount is less than the carrying amount. Where own use property is included in assets backing insurance contract liabilities, the fair value of the property is used in the valuation of insurance contract liabilities. Own use property is classified as Level 3 for fair value disclosure purposes.

An investment property is a property held to earn rental income, for capital appreciation, or both. Investment properties are measured at fair value, with changes in fair value recognized in income. Fair value is determined using external appraisals that are based on the highest and best use of the property. The valuation techniques include discounted cash flows, the direct capitalization method as well as comparable sales analysis and include both observable and unobservable inputs. Inputs include existing and assumed tenancies, market data from recent comparable transactions, future economic outlook and market risk assumptions, capitalization rates and internal rates of return. Investment properties are classified as Level 3 for fair value disclosure purposes.

When a property changes from own use to investment property, any gain or loss arising on the remeasurement of the property to fair value at the date of transfer is recognized in OCI, to the extent that it is not reversing a previous impairment loss. Reversals of impairment losses are recognized in income.

Other invested assets include private equity and property investments held in infrastructure and timber, as well as in agriculture and oil and gas sectors. Private equity investments are accounted for as associates or joint ventures using the equity method (as described in note 1(d) above) or are classified as FVTPL or AFS and carried at fair value. Investments in oil and gas exploration and evaluation activities are measured on the cost basis using the “successful efforts” method. Timber and agriculture properties are measured at fair value with changes in fair value recognized in income, except for buildings, equipment and bearer plants which are measured at amortized cost. The fair value of other invested assets is determined using a variety of valuation techniques as described in note 3. Other invested assets that are measured or disclosed at fair value are primarily classified as Level 3.

Other invested assets also include investments in leveraged leases, which are accounted for using the equity method. The carrying value under the equity method reflects the amortized cost of the lease receivable and related non-recourse debt using the effective yield method.

(f) Goodwill and intangible assets

Goodwill represents the difference between the fair value of purchase consideration of an acquired business and the Company’s proportionate share of the net identifiable assets acquired. It is initially recorded at cost and subsequently measured at cost less any accumulated impairment.

Goodwill is tested for impairment at least annually and whenever events or changes in circumstances indicate that the carrying amounts may not be recoverable at the cash generating unit (“CGU”) or group of CGUs level. The Company allocates goodwill to CGUs or group of CGUs for impairment testing at the lowest level within the entity where the goodwill is monitored for internal management purposes. The allocation is made to those CGUs or group of CGUs that are expected to benefit from the business combination in which the goodwill arose. Any potential impairment of goodwill is identified by comparing the recoverable amount with the carrying value of a CGU or group of CGUs. Goodwill is reduced by the amount of deficiency, if any. If the deficiency exceeds the carrying amount of goodwill, the carrying values of the remaining assets in the CGU or group of CGUs are subject to being reduced by the remaining deficiency on a pro-rata basis.

The recoverable amount of a CGU or group of CGUs is the higher of the estimated fair value less costs to sell or the value-in-use of the CGU or group of CGUs. In assessing value-in-use, estimated future cash flows are discounted using a pre-tax discount rate that reflects current

market assessments of the time value of money and the risks specific to the CGU or group of CGUs. In some cases, the most recent detailed calculation made in a prior period of a recoverable amount is used in the current period impairment testing. This is the case only if there are no significant changes to the CGU or group of CGUs, the likelihood of impairment is remote based on the analysis of current events and circumstances, and the most recently calculated recoverable amount substantially exceeded the current carrying amount of the CGU or group of CGUs.

Intangible assets with indefinite useful lives include the John Hancock brand name, certain investment management contracts and certain agricultural water rights. The indefinite useful life assessment for the John Hancock brand name is based on the brand name being protected by indefinitely renewable trademarks in markets where branded products are sold, and for certain investment management contracts based on the ability to renew these contracts indefinitely. In addition, there are no legal, regulatory or contractual provisions that limit the useful lives of these intangible assets. Certain agricultural water rights are held in perpetuity. An intangible asset with an indefinite useful life is not amortized but is subject to an annual impairment test which is performed more frequently if an indication that it is not recoverable arises.

Intangible assets with finite useful lives include acquired distribution networks, customer relationships, capitalized software, and certain investment management contracts and other contractual rights. Distribution networks, customer relationships, and other finite life intangible assets are amortized over their estimated useful lives, six to 68 years, either based on straight-line or in relation to other asset consumption metrics. Software intangible assets are amortized on a straight-line basis over their estimated useful lives of three to 10 years. Finite life intangible assets are assessed for indicators of impairment at each reporting period. If indications of impairment arises, these assets are tested for impairment.

(g) Miscellaneous assets

Miscellaneous assets include assets held in a rabbi trust with respect to unfunded defined benefit obligations, defined benefit assets, if any, deferred acquisition costs and capital assets. Rabbi trust assets are carried at fair value. Defined benefit assets carrying value is explained in note 1(o). Deferred acquisition costs are carried at cost less accumulated amortization and are amortized over the period redemption fees may be charged or over the period revenue is earned. Capital assets are carried at cost less accumulated amortization computed on a straight-line basis over their estimated useful lives, which vary from two to 10 years.

(h) Segregated funds

The Company manages segregated funds on behalf of policyholders, which are presented as segregated fund net assets with offsetting segregated funds net liabilities to policyholders in the amount of their account balances. Amounts invested by the Company in segregated funds for seed purposes are presented within invested asset categories based on the nature of the underlying investments. The investment returns on these funds are passed directly to policyholders. In some cases, the Company has provided guarantees associated with these funds.

Segregated funds net assets are measured at fair value and include investments in mutual funds, debt securities, equities, cash, short-term investments and other investments. With respect to the consolidation requirement of IFRS, in assessing the Company's degree of control over the underlying investments, the Company considers the scope of its decision-making rights, the rights held by other parties, its remuneration as an investment manager and its exposure to variability of returns from the investments. The Company has determined that it does not have control over the underlying investments as it acts as an agent on behalf of segregated fund policyholders.

The methodology applied to determine the fair value of investments held in segregated funds is consistent with that applied to invested assets held by the general fund, as described above in note 1(e). Segregated funds liabilities are measured based on the value of the segregated funds net assets. Investment returns on segregated funds assets belong to policyholders and the Company does not bear the risk associated with these assets outside of guarantees offered on certain variable life and annuity products, for which the underlying investments are held within segregated funds. Accordingly, investment income earned by segregated funds and expenses incurred by segregated funds are offset and are not separately presented in the Consolidated Statements of Income. Fee income earned by the Company for managing and administering the segregated funds is included in other revenue.

Liabilities related to guarantees associated with certain segregated funds, as a result of certain variable life and annuity contracts, are recorded within the Company's insurance contract liabilities. The Company holds assets supporting these guarantees in the general fund, which are included in invested assets according to their investment type.

(i) Insurance and investment contract liabilities

Most contracts issued by the Company are considered insurance, investment or service contracts. Contracts under which the Company accepts significant insurance risk from a policyholder are classified as insurance contracts in the Consolidated Financial Statements. A contract is considered to have significant insurance risk if, and only if, an insured event could cause an insurer to make significant additional payments in any scenario, excluding scenarios that lack commercial substance at the inception of the contract. Contracts under which the Company does not accept significant insurance risk are either classified as investment contracts or considered service contracts and are accounted for in accordance with IAS 39 "Financial Instruments: Recognition and Measurement" or IFRS 15 "Revenue from Contracts with Customers", respectively.

Once a contract has been classified as an insurance contract it remains an insurance contract even if the insurance risk reduces significantly. Investment contracts can be reclassified as insurance contracts if insurance risk subsequently becomes significant.

Insurance contract liabilities, net of reinsurance assets, represent the amount which, together with estimated future premiums and net investment income, will be sufficient to pay estimated future benefits, policyholder dividends and refunds, taxes (other than income taxes) and expenses on policies in-force. Insurance contract liabilities are presented gross of reinsurance assets on the Consolidated Statements of Financial Position. The Company's Appointed Actuary is responsible for determining the amount of insurance contract liabilities in accordance with standards established by the Canadian Institute of Actuaries. Insurance contract liabilities, net of reinsurance assets, have been determined using the Canadian Asset Liability Method ("CALM") as permitted by IFRS 4 "Insurance Contracts". Refer to note 6.

Investment contract liabilities include contracts issued to retail and institutional investors that do not contain significant insurance risk. Investment contract liabilities and deposits are measured at amortized cost or at FVTPL by election. The election reduces accounting mismatches between FVTPL assets supporting these contracts and the related contract liabilities. Investment contract liabilities are derecognized when the contract expires, is discharged or is cancelled.

Derivatives embedded within insurance contracts are separately accounted for as derivatives if they are not considered to be closely related to the host insurance contract and do not meet the definition of an insurance contract. These embedded derivatives are presented separately in other assets or other liabilities and are measured at FVTPL.

(j) Reinsurance assets

The Company uses reinsurance in the normal course of business to manage its risk exposure. Insurance ceded to a reinsurer does not relieve the Company from its obligations to policyholders. The Company remains liable to its policyholders for the portion reinsured to the extent that any reinsurer does not meet its obligations for reinsurance ceded to it under a reinsurance agreement.

Reinsurance assets represent the benefit derived from reinsurance agreements in-force at the reporting date, considering the financial condition of the reinsurer. Amounts recoverable from reinsurers are estimated in accordance with the terms of the relevant reinsurance contract.

Gains or losses on reinsurance transactions are recognized in income immediately on the transaction date and are not amortized. Premiums ceded and claims reimbursed are presented on a gross basis on the Consolidated Statements of Income. Reinsurance assets are not offset against the related insurance contract liabilities and are presented separately on the Consolidated Statements of Financial Position. Refer to note 6(a).

(k) Other financial instruments accounted for as liabilities

The Company issues a variety of other financial instruments classified as liabilities, including notes payable, term notes, senior notes, senior debentures, subordinated notes, surplus notes and preferred shares. These financial liabilities are measured at amortized cost, with issuance costs deferred and amortized using the effective interest rate method.

(l) Income taxes

The provision for income taxes is calculated based on income tax laws and income tax rates substantively enacted as at the date of the Consolidated Statements of Financial Position. The income tax provision is comprised of current income taxes and deferred income taxes. Current and deferred income taxes relating to items recognized in OCI and directly in equity are similarly recognized in OCI and directly in equity, respectively.

Current income taxes are amounts expected to be payable or recoverable for the current year and any adjustments to taxes payable in respect of previous years.

Deferred income taxes are provided for using the liability method and result from temporary differences between the carrying values of assets and liabilities and their respective tax bases. Deferred income taxes are measured at the substantively enacted tax rates that are expected to be applied to temporary differences when they reverse.

A deferred tax asset is recognized to the extent that future realization of the tax benefit is probable. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the tax benefit will be realized. Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax assets and liabilities and they relate to income taxes levied by the same tax authority on the same taxable entity.

Deferred tax liabilities are recognized for all taxable temporary differences, except in respect of taxable temporary differences associated with investments in subsidiaries, associates and joint ventures, where the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

The Company records liabilities for uncertain tax positions if it is probable that the Company will make a payment on tax positions due to examinations by tax authorities. These provisions are measured at the Company's best estimate of the amount expected to be paid. Provisions are reversed to income in the period in which management assesses they are no longer required or determined by statute.

The Company is subject to income tax laws in various jurisdictions. Tax laws are complex and potentially subject to different interpretations by the taxpayer and the relevant tax authority. The provision for current income taxes and deferred income taxes represents management's interpretation of the relevant tax laws and its estimate of current and future income tax implications of the transactions and

events during the year. The Company may be required to change its provision for income taxes or deferred income tax balances when the ultimate deductibility of certain items is successfully challenged by taxing authorities, or if estimates used in determining the amount of deferred tax balances to recognize change significantly, or when receipt of new information indicates the need for adjustment in the amount of deferred income taxes to be recognized. Additionally, future events, such as changes in tax laws, tax regulations, or interpretations of such laws or regulations, could have an impact on the provision for income taxes, deferred tax balances and the effective tax rate. Any such changes could materially affect the amounts reported in the Consolidated Financial Statements in the period these changes occur.

(m) Foreign currency translation

Items included in the financial statements of each of the Company's subsidiaries, joint ventures and associates are measured by each entity using the currency of the primary economic environment in which the entity operates (the "functional currency"). If their functional currency is other than Canadian dollar, these entities are foreign operations of the Company.

Transactions in a foreign currency are translated to the functional currency at the exchange rate prevailing at the date of the transaction. Assets and liabilities denominated in foreign currencies are translated to the functional currency at the exchange rate in effect at the reporting date. Revenue and expenses denominated in foreign currencies are translated at the average exchange rate prevailing during the quarter reported. Exchange gains and losses are recognized in income except for translation of net investments in foreign operations and the results of hedging these positions, and for non-monetary items designated as AFS. These foreign exchange gains and losses are recognized in OCI until such time that the foreign operation or non-monetary item is disposed of or control or significant influence over it is lost.

The Consolidated Financial Statements are presented in Canadian dollars. The financial statements of the Company's foreign operations are translated from their functional currencies to Canadian dollars; assets and liabilities are translated at the exchange rate at the reporting date, and revenue and expenses are translated using the average exchange rates for the period. Foreign exchange gains and losses on these translations are recognized in OCI, subject to reclassification to income upon disposal of a foreign operation.

(n) Stock-based compensation

The Company provides stock-based compensation to certain employees and directors as described in note 14. Compensation expense of equity instruments granted is accrued based on the best estimate of the number of instruments expected to vest, with revisions made to that estimate if subsequent information indicates that actual forfeitures are likely to differ from initial forfeiture estimates, unless forfeitures are due to market-based conditions.

Stock options are expensed with a corresponding increase in contributed surplus. Restricted share units and deferred share units are expensed with a corresponding liability accrued based on the market value of MFC's common shares at the end of each quarter. Performance share units are expensed with a corresponding liability accrued based on specific performance conditions and the market value of MFC's common shares at the end of each quarter. The change in the value of the awards resulting from changes in the market value of MFC's common shares or changes in the specific performance conditions and credited dividends is recognized in income, offset by the impact of total return swaps used to manage the variability of the related liabilities.

Stock-based compensation cost is recognized over the applicable vesting period, unless the employee is eligible to retire at the time of grant or will be eligible to retire during the vesting period. Compensation costs attributable to stock options, restricted share units, and performance share units granted to employees who are eligible to retire on the grant date or who will become eligible to retire during the vesting period, are recognized at the grant date or over the period from the grant date to the date of retirement eligibility, respectively.

The Company's contributions to the Global Share Ownership Plan ("GSOP") (refer to note 14(d)), are expensed as incurred. Under the GSOP, subject to certain conditions, the Company will match a percentage of an employee's eligible contributions to certain maximums. All contributions are used by the plan's trustee to purchase MFC common shares in the open market on behalf of participating employees.

(o) Employee future benefits

The Company maintains defined contribution and defined benefit pension plans and other post-employment plans for employees and agents including registered (tax qualified) pension plans that are typically funded as well as supplemental non-registered (non-qualified) pension plans for executives, retiree and disability welfare plans that are typically not funded.

The Company's obligation in respect of defined benefit pension and other post-employment benefits is calculated for each plan as the estimated present value of future benefits that eligible employees have earned in return for their service up to the reporting date using the projected benefit method. The discount rate used is based on the yield, as at the reporting date, of high-quality corporate debt securities that have approximately the same term as the benefit obligations and that are denominated in the same currency in which the benefits are expected to be paid.

To determine the Company's net defined benefit asset or liability, the fair value of plan assets is deducted from the defined benefit obligations. When this calculation results in a surplus, the asset that can be recognized is limited to the present value of future economic benefit available in the form of future refunds from the plan or reductions in future contributions to the plan (the asset limit). Defined benefit assets are included in other assets and defined benefit liabilities are included in other liabilities.

Changes in the net defined benefit asset or liability due to re-measurement of pension and retiree welfare plans are recorded in OCI in the period in which they occur and are not reclassified to income in subsequent periods. They consist of actuarial gains and losses, the impact of the asset limit, if any, and the return on plan assets, excluding amounts included in net interest income or expense. Changes in the net defined benefit asset or liability due to re-measurement of disability welfare plans are recorded in income in the period in which they occur.

The cost of defined benefit pension plans is recognized over the employee's years of service to retirement while the cost of retiree welfare plans is recognized over the employee's years of service to their date of full eligibility. The net benefit cost for the year is recorded in income and is calculated as the sum of the service cost in respect of the fiscal year, the net interest income or expense and any applicable administration expenses, plus past service costs or credits resulting from plan amendments or curtailments. The net interest income or expense is determined by applying the discount rate to the net defined benefit asset or liability. The current year cost of disability welfare plans is the year-over-year change in the defined benefit obligation, including any actuarial gains or losses.

The cost of defined contribution plans is the contribution provided by the Company and is recorded in income in the periods during which services are rendered by employees.

(p) Derivative and hedging instruments

The Company uses derivative financial instruments ("derivatives") including swaps, forward and futures agreements, and options to manage current and anticipated exposures to changes in interest rates, foreign exchange rates, commodity prices and equity market prices, and to replicate permissible investments. Derivatives embedded in other financial instruments are separately recorded as derivatives when their economic characteristics and risks are not closely related to those of the host instrument, the terms of the embedded derivative are the same as those of a standalone derivative and the host instrument itself is not recorded at FVTPL. Derivatives which are separate financial instruments are recorded at fair value, and those with unrealized gains reported as derivative assets and those with unrealized losses reported as derivative liabilities.

A determination is made for each derivative as to whether to apply hedge accounting. Where hedge accounting is not applied, changes in the fair value of derivatives are recorded in investment income. Refer to note 3(c).

Where the Company has elected to apply hedge accounting, a hedging relationship is designated and documented at inception. Hedge effectiveness is evaluated at inception and throughout the term of the hedge. Hedge accounting is only applied when the Company expects that the hedging relationship will be highly effective in achieving offsetting changes in fair value or changes in cash flows attributable to the risk being hedged. The assessment of hedge effectiveness is performed at the end of each reporting period both prospectively and retrospectively. When it is determined that a hedging relationship is no longer effective, or the hedging instrument or the hedged item has been sold or terminated, the Company discontinues hedge accounting prospectively. In such cases, if the derivatives are not sold or terminated, any subsequent changes in fair value of the derivatives are recognized in investment income.

For derivatives that are designated as hedging instruments, changes in fair value are recorded according to the nature of the risks being hedged, as discussed below.

In a fair value hedging relationship, changes in fair value of the hedging instruments are recorded in investment income, offsetting changes in fair value of the hedged items, which would otherwise not be carried at fair value. Hedge ineffectiveness is recognized in investment income and arises from differences between changes in the fair values of hedging instruments and hedged items. When hedge accounting is discontinued, the carrying value of the hedged item is no longer adjusted and the cumulative fair value adjustments are amortized to investment income over the remaining term of the hedged item unless the hedged item is sold, at which time the balance is recognized immediately in investment income.

In a cash flow hedging relationship, the effective portion of the change in the fair value of the hedging instrument is recorded in OCI while the ineffective portion is recognized in investment income. Gains and losses in accumulated other comprehensive income ("AOCI") are recognized in income during the same periods that the variability in the hedged cash flows or the hedged forecasted transactions are recognized in income. The reclassifications from AOCI are made to investment income, except for total return swaps that hedge stock-based compensation awards, which are reclassified to general expenses.

Gains and losses on cash flow hedges in AOCI are reclassified immediately to investment income when the hedged item is sold or the forecasted transaction is no longer expected to occur. When a hedge is discontinued, but the hedged forecasted transaction is expected to occur, the amounts in AOCI are reclassified to investment income in the periods during which variability in the cash flows hedged or the hedged forecasted transaction is recognized in income.

In a net investment in foreign operations hedging relationship, gains and losses relating to the effective portion of the hedge are recorded in OCI. Gains and losses in AOCI are recognized in income during the periods when gains or losses on the underlying hedged net investment in foreign operations are recognized in income upon disposal of the foreign operation.

(q) Premium income and related expenses

Gross premiums for all types of insurance contracts, and contracts with limited mortality or morbidity risk, are generally recognized as revenue when due. Premiums are reported gross of reinsurance ceded (refer to note 6).

(r) Revenue from service contracts

The Company recognizes revenue from service contracts in accordance with IFRS 15. The Company's service contracts generally impose single performance obligations, each consisting of a series of similar related services for each customer. Revenue is recorded as performance obligations are satisfied over time because the customers simultaneously receive and consume the benefits of the services rendered, measured using an output method. Revenue for variable consideration is recognized to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty is subsequently resolved. Refer to note 13.

Note 2 Accounting and Reporting Changes

(a) Changes in accounting and reporting policy

Interest Rate Benchmark Reform Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16

Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 were issued in August 2020, are related to interest rate benchmark reform and are effective retrospectively for annual periods beginning January 1, 2021. The amendments provide relief from modification of financial assets and liabilities, and discontinuation of hedge relationships, when changing risk free interest rate benchmarks due to interest rate benchmark reform. The amendments include a practical expedient to treat changes in risk free rates as a change to a floating interest rate with an update to the effective rate of interest, rather than as a change in future cash flows which might require adjustments to carrying values through recording a modification gain or loss. The Company's exposure to these changes through invested assets, derivatives and subordinate debt is not significant and has not resulted in significant changes to the Company's risk management strategies.

(b) Future accounting and reporting changes

(i) IFRS 9 "Financial Instruments"

IFRS 9 "Financial Instruments" was issued in November 2009 and amended in October 2010, November 2013 and July 2014, and is effective for years beginning on or after January 1, 2018, to be applied retrospectively, or on a modified retrospective basis. Additionally, the IASB issued amendments in October 2017 that are effective for annual periods beginning on or after January 1, 2019. In conjunction with the amendments to IFRS 17 "Insurance Contracts" issued in June 2020, the IASB amended IFRS 4 "Insurance Contracts" to permit eligible insurers to apply IFRS 9 effective January 1, 2023, alongside IFRS 17. The standard is intended to replace IAS 39 "Financial Instruments: Recognition and Measurement".

The project has been divided into three phases: classification and measurement, impairment of financial assets, and hedge accounting. IFRS 9's current classification and measurement methodology provides that financial assets are measured at either amortized cost or fair value on the basis of the entity's business model for managing the financial assets and the contractual cash flow characteristics of the financial assets. The classification and measurement for financial liabilities remains generally unchanged; however, for a financial liability designated as at fair value through profit or loss, revisions have been made in the accounting for changes in fair value attributable to changes in the credit risk of that liability. Gains or losses caused by changes in an entity's own credit risk on such liabilities are no longer recognized in profit or loss but instead are reflected in OCI.

Revisions to hedge accounting were issued in November 2013 as part of the overall IFRS 9 project. The amendment introduces a new hedge accounting model, together with corresponding disclosures about risk management activity for those applying hedge accounting. The new model represents a substantial overhaul of hedge accounting that will enable entities to better reflect their risk management activities in their financial statements.

Revisions issued in July 2014 replace the existing incurred loss model used for measuring the allowance for credit losses with an expected loss model. Changes were also made to the existing classification and measurement model designed primarily to address specific application issues raised by early adopters of the standard. They also address the income statement accounting mismatches and short-term volatility issues which have been identified as a result of the insurance contracts project.

The Company elected to defer IFRS 9 until January 1, 2023 as permitted under the June 2020 amendments to IFRS 4 "Insurance Contracts". The Company is assessing the impact of this standard on the Company's Consolidated Financial Statements.

(ii) IFRS 17 "Insurance Contracts"

IFRS 17 "Insurance Contracts" was issued in May 2017 to be effective for years beginning on January 1, 2021. Amendments to IFRS 17 "Insurance Contracts" were issued in June 2020 and include a two-year deferral of the effective date. IFRS 17 as amended, is effective for years beginning on January 1, 2023, to be applied retrospectively. If full retrospective application to a group of contracts is impractical, the modified retrospective or fair value methods may be used. The standard will replace IFRS 4 "Insurance Contracts" and will materially change the recognition and measurement of insurance contracts and the corresponding presentation and disclosures in the Company's Financial Statements.

Narrow-scope amendments to IFRS 17 "Insurance Contracts" were issued in December 2021 and are effective on initial application of IFRS 17 and IFRS 9 "Financial Instruments" which the Company will adopt on January 1, 2023. The amendments remove accounting mismatches between insurance contract liabilities and financial assets in scope of IFRS 9 within comparative prior periods when initially

applying IFRS 17 and IFRS 9. The amendments allow insurers to present comparative information on financial assets as if IFRS 9 were fully applicable during the comparative period. The amendments do not permit application of IFRS 9 hedge accounting principles to the comparative period. The Company is considering the effect of these amendments on its IFRS 9 transition disclosures.

The principles underlying IFRS 17 differ from CALM as permitted by IFRS 4. While there are many differences, the following outlines some of the key differences:

- Under IFRS 17 the discount rate used to estimate the present value of insurance contract liabilities is based on the characteristics of the liability, whereas under CALM, the Company uses the rates of returns for current and projected assets supporting insurance contract liabilities to value the liabilities. The difference in the discount rate approach also impacts the timing of investment-related experience earnings emergence. Under CALM, investment-related experience includes the impact of investing activities. The impact of investing activities is directly related to the CALM methodology. Under IFRS 17, the impact of investing activities will emerge over the life of the asset and is independent of the liability measurement.
- Under IFRS 17 the discount rate is not related to the expected return on ALDA and public equity assets, and as a result, the earnings sensitivity of a change in return assumptions for ALDA and public equity will be significantly reduced.
- Under IFRS 17 the discount rate used to present value future cashflows is disconnected from the assets the Company holds to support its insurance contract liabilities. As a result, the Company is considering electing the other comprehensive income option under IFRS 17 for insurance contract liabilities and the fair value through other comprehensive income option under IFRS 9 for fixed income assets.
- Under IFRS 17 new business gains are recorded on the Consolidated Statements of Financial Position (in the Contractual Service Margin component of the insurance contract liability) and amortized into income as services are provided. New business losses are recorded into income immediately. Under CALM, both new business gains and new business losses are recognized in income immediately.
- The change in timing of recognition of earnings under IFRS 17 does not impact the cash flows generated by the business, and, hence, IFRS 17 does not impact the economics of the Company's business. The value of new business will be recorded in the Contractual Service Margin on the Consolidated Statements of Financial Position. An increase in the Contractual Service Margin is indicative of growth in future earnings, all else being equal.

The Company continues its assessment of the implications of this standard and expects that it will have a significant impact on the Company's Consolidated Financial Statements. The establishment of a Contractual Service Margin on in-force business is expected to lead to an increase in insurance contract liabilities and a corresponding decrease in equity upon transition. The Contractual Service Margin represents unearned profits that are expected to amortize into income as services are provided. The Company continues to evaluate the potential impacts of all other changes including available accounting policy choices under IFRS 17 on the measurement of its insurance contract liabilities.

(iii) Annual Improvements 2018 – 2020 Cycle

Annual Improvements 2018 – 2020 Cycle was issued in May 2020 and is effective on or after January 1, 2022. The IASB issued four minor amendments to different standards as part of the Annual Improvements process, to be applied prospectively. Adoption of these amendments is not expected to have a significant impact on the Company's Consolidated Financial Statements.

(iv) Amendments to IFRS 3 “Business Combinations”

Amendments to IFRS 3 “Business Combinations” were issued in May 2020, and are effective on or after January 1, 2022, with earlier application permitted. The amendments update references within IFRS 3 to the 2018 Conceptual Framework and require that the principles in IAS 37 “Provisions, Contingent Liabilities and Contingent Assets” be used to identify liabilities and contingent assets arising from a business combination. Adoption of these amendments is not expected to have a significant impact on the Company's Consolidated Financial Statements.

(v) Amendments to IAS 37 “Provisions, Contingent Liabilities and Contingent Assets”

Amendments to IAS 37 “Provisions, Contingent Liabilities and Contingent Assets” were issued in May 2020, and are effective on or after January 1, 2022, with earlier application permitted. The amendments address identifying onerous contracts and specify the cost of fulfilling a contract which includes all costs directly related to the contract. These include incremental direct costs and allocations of other costs that relate directly to fulfilling the contract. Adoption of these amendments is not expected to have a significant impact on the Company's Consolidated Financial Statements.

(vi) Amendments to IAS 1 “Presentation of Financial Statements”

Amendments to IAS 1 “Presentation of Financial Statements” and IFRS Practice Statement 2 “Making Materiality Judgements” were issued in February 2021 and are effective prospectively on or after January 1, 2023 with earlier application permitted. The amendments address the process of selecting accounting policy disclosures, which will be based on assessments of the materiality of the accounting policies to the entity's financial statements. Adoption of these amendments is not expected to have a significant impact on the Company's Consolidated Financial Statements.

(vii) Amendments to IAS 8 “Accounting Policies, Changes to Accounting Estimates and Errors”

Amendments to IAS 8 “Accounting Policies, Changes to Accounting Estimates and Errors” were issued in February 2021, and are effective prospectively on or after January 1, 2023, with earlier application permitted. The amendments include new definitions of estimate and change in accounting estimate, intended to help clarify the distinction among changes in accounting estimates, changes in accounting policies, and corrections of errors. Adoption of these amendments is not expected to have a significant impact on the Company’s Consolidated Financial Statements.

Note 3 Invested Assets and Investment Income

(a) Carrying values and fair values of invested assets

As at December 31, 2021	FVTPL ⁽¹⁾	AFS ⁽²⁾	Other ⁽³⁾	Total carrying value ⁽⁴⁾	Total fair value ⁽⁵⁾
Cash and short-term securities ⁽⁶⁾	\$ 2,214	\$ 14,339	\$ 6,041	\$ 22,594	\$ 22,594
Debt securities ^{(3),(7),(8)}					
Canadian government and agency	18,706	3,964	–	22,670	22,670
U.S. government and agency	12,607	18,792	852	32,251	32,254
Other government and agency	21,888	2,871	–	24,759	24,759
Corporate	133,763	7,332	468	141,563	141,560
Mortgage/asset-backed securities	2,758	138	–	2,896	2,896
Public equities ⁽⁹⁾	25,716	2,351	–	28,067	28,067
Mortgages	–	–	52,014	52,014	54,089
Private placements ⁽⁸⁾	–	–	42,842	42,842	47,276
Policy loans	–	–	6,397	6,397	6,397
Loans to Bank clients	–	–	2,506	2,506	2,503
Real estate					
Own use property ⁽¹⁰⁾	–	–	1,812	1,812	3,024
Investment property	–	–	11,421	11,421	11,421
Other invested assets					
Alternative long-duration assets ⁽¹¹⁾	21,022	89	10,093	31,204	31,863
Various other ⁽¹²⁾	135	–	3,967	4,102	4,102
Total invested assets	\$ 238,809	\$ 49,876	\$ 138,413	\$ 427,098	\$ 435,475
As at December 31, 2020	FVTPL ⁽¹⁾	AFS ⁽²⁾	Other ⁽³⁾	Total carrying value ⁽⁴⁾	Total fair value ⁽⁵⁾
Cash and short-term securities ⁽⁶⁾	\$ 2,079	\$ 18,314	\$ 5,774	\$ 26,167	\$ 26,167
Debt securities ^{(7),(8)}					
Canadian government and agency	20,667	4,548	–	25,215	25,215
U.S. government and agency	11,449	19,787	–	31,236	31,236
Other government and agency	19,732	4,613	–	24,345	24,345
Corporate	128,297	6,566	–	134,863	134,863
Mortgage/asset-backed securities	2,916	149	–	3,065	3,065
Public equities ⁽⁹⁾	22,071	1,651	–	23,722	23,722
Mortgages	–	–	50,207	50,207	54,230
Private placements ⁽⁸⁾	–	–	40,756	40,756	47,890
Policy loans	–	–	6,398	6,398	6,398
Loans to Bank clients	–	–	1,976	1,976	1,982
Real estate					
Own use property ⁽¹⁰⁾	–	–	1,850	1,850	3,017
Investment property	–	–	10,982	10,982	10,982
Other invested assets					
Alternative long-duration assets ⁽¹¹⁾	16,183	88	9,901	26,172	27,029
Various other ⁽¹²⁾	145	–	3,878	4,023	4,023
Total invested assets	\$ 223,539	\$ 55,716	\$ 131,722	\$ 410,977	\$ 424,164

⁽¹⁾ FVTPL classification was elected for securities backing insurance contract liabilities to substantially reduce any accounting mismatch arising from changes in the fair value of these assets and changes in the value of the related insurance contract liabilities. If this election had not been made and instead the available-for-sale (“AFS”) classification was selected, there would be an accounting mismatch because changes in insurance contract liabilities are recognized in net income rather than in OCI.

⁽²⁾ Securities that are designated as AFS are not actively traded by the Company but sales do occur as circumstances warrant. Such sales result in a reclassification of any accumulated unrealized gain (loss) in AOCI to net income as a realized gain (loss).

⁽³⁾ Primarily includes assets classified as loans and carried at amortized cost, own use properties, investment properties, equity method accounted investments, and leveraged leases. Also includes debt securities classified as held-to-maturity which are accounted for at amortized cost. Refer to note 1(e).

⁽⁴⁾ Invested assets above include debt securities, mortgages, private placements and approximately \$323 (2020 – \$246) of other invested assets, which primarily have contractual cash flows that qualify as Solely Payment of Principal and Interest (“SPPI”). Invested assets which do not have SPPI qualifying cash flows as at December 31, 2021 include debt securities, private placements and other invested assets with fair values of \$nil, \$181 and \$518, respectively (2020 – \$94, \$211 and \$380, respectively). The change in the fair value of these invested assets during the year was \$15 (2020 – \$44).

- ⁽⁵⁾ The methodologies used in determining fair values of invested assets are described in note 1(c) and note 3(g).
- ⁽⁶⁾ Includes short-term securities with maturities of less than one year at acquisition amounting to \$7,314 (2020 – \$7,062) cash equivalents with maturities of less than 90 days at acquisition amounting to \$9,239 (2020 – \$13,331) and cash of \$6,041 (2020 – \$5,774).
- ⁽⁷⁾ Debt securities include securities which were acquired with maturities of less than one year and less than 90 days of \$2,196 and \$347, respectively (2020 – \$1,971 and \$129, respectively).
- ⁽⁸⁾ Floating rate invested assets above which are subject to interest rate benchmark reform, but have not yet transitioned to replacement reference rates, include debt securities benchmarked to CDOR and USD LIBOR of \$176 and \$1,002 (2020 – \$109 and \$842, respectively), and private placements benchmarked to USD LIBOR, AUD BBSW and NZD BKBM of \$1,984, \$166 and \$43 (2020 – \$1,710, \$180 and \$46, respectively). Exposures indexed to USD LIBOR represent floating rate invested assets with a maturity date beyond June 30, 2023 while all other exposures represent floating rate invested assets with a maturity date beyond December 31, 2021. The interest rate benchmark reform is expected to have an impact on the valuation of invested assets whose value is tied to the affected interest rate benchmarks. The Company has assessed its exposure at the contract level, by benchmark and instrument type. The Company is monitoring market developments with respect to alternative reference rates and the time horizon during which they will evolve. As at December 31, 2021, the interest rate benchmark reform has not resulted in significant changes in the Company's risk management strategy.
- ⁽⁹⁾ Includes \$5 (2020 – \$229) of public equities that are managed in conjunction with the Company's alternative long-duration asset ("ALDA") strategy.
- ⁽¹⁰⁾ Includes accumulated depreciation of \$407 (2020 – \$376).
- ⁽¹¹⁾ Alternative long-duration assets ("ALDA") include investments in private equity of \$11,598, infrastructure of \$9,824, oil and gas of \$1,950, timber and agriculture of \$5,259 and various other invested assets of \$2,573 (2020 – \$7,954, \$9,127, \$2,296, \$4,819 and \$1,976, respectively).
- ⁽¹²⁾ Includes \$3,457 (2020 – \$3,371) of leveraged leases. Refer to note 1(e).

(b) Equity method accounted invested assets

Other invested assets include investments in associates and joint ventures which are accounted for using the equity method of accounting as presented in the following table.

As at December 31,	2021		2020	
	Carrying value	% of total	Carrying value	% of total
Leveraged leases	\$ 3,457	40	\$ 3,371	40
Timber and agriculture	808	9	694	8
Real estate	1,528	17	1,187	14
Other	3,025	34	3,222	38
Total	\$ 8,818	100	\$ 8,474	100

The Company's share of profit and dividends from these investments for the year ended December 31, 2021 were \$1,300 and \$2, respectively (2020 – \$315 and \$2).

(c) Investment income

For the year ended December 31, 2021	FVTPL	AFS	Other ⁽¹⁾	Total
Cash and short-term securities				
Interest income	\$ 12	\$ 84	\$ -	\$ 96
Gains (losses) ⁽²⁾	85	(22)	-	63
Debt securities				
Interest income	5,645	576	9	6,230
Gains (losses) ⁽²⁾	(5,600)	(266)	-	(5,866)
Recovery (impairment loss), net	28	1	-	29
Public equities				
Dividend income	670	61	-	731
Gains (losses) ⁽²⁾	3,221	250	-	3,471
Impairment loss, net	-	(3)	-	(3)
Mortgages				
Interest income	-	-	1,709	1,709
Gains (losses) ⁽²⁾	-	-	133	133
Provision, net	-	-	1	1
Private placements				
Interest income	-	-	1,931	1,931
Gains (losses) ⁽²⁾	-	-	270	270
Impairment loss, net	-	-	45	45
Policy loans	-	-	366	366
Loans to Bank clients				
Interest income	-	-	77	77
Provision, net	-	-	(2)	(2)
Real estate				
Rental income, net of depreciation ⁽³⁾	-	-	453	453
Gains (losses) ⁽²⁾	-	-	677	677
Derivatives				
Interest income, net	1,085	-	(35)	1,050
Gains (losses) ⁽²⁾	(5,925)	-	(14)	(5,939)
Other invested assets				
Interest income	-	-	57	57
Oil and gas, timber, agriculture and other income	-	-	2,996	2,996
Gains (losses) ⁽²⁾	2,554	23	527	3,104
Impairment loss, net	-	-	(55)	(55)
Total investment income	\$ 1,775	\$ 704	\$ 9,145	\$ 11,624
Investment income				
Interest income	\$ 6,742	\$ 661	\$ 4,114	\$ 11,517
Dividend, rental and other income	670	61	3,449	4,180
Impairments, provisions and recoveries, net	28	(2)	(11)	15
Other	(76)	(66)	57	(85)
	7,364	654	7,609	15,627
Realized and unrealized gains (losses) on assets supporting insurance and investment contract liabilities and on the macro hedge program				
Debt securities	(5,605)	20	-	(5,585)
Public equities	3,187	33	-	3,220
Mortgages	-	-	133	133
Private placements	-	-	270	270
Real estate	-	-	696	696
Other invested assets	2,628	(3)	451	3,076
Derivatives, including macro hedge program	(5,799)	-	(14)	(5,813)
	(5,589)	50	1,536	(4,003)
Total investment income	\$ 1,775	\$ 704	\$ 9,145	\$ 11,624

For the year ended December 31, 2020	FVTPL	AFS	Other ⁽¹⁾	Total
Cash and short-term securities				
Interest income	\$ 24	\$ 145	\$ -	\$ 169
Gains (losses) ⁽²⁾	(24)	(112)	-	(136)
Debt securities				
Interest income	5,805	692	-	6,497
Gains (losses) ⁽²⁾	10,739	2,785	-	13,524
Impairment loss, net	(113)	(6)	-	(119)
Public equities				
Dividend income	517	38	-	555
Gains (losses) ⁽²⁾	2,020	21	-	2,041
Impairment loss, net	-	(54)	-	(54)
Mortgages				
Interest income	-	-	1,837	1,837
Gains (losses) ⁽²⁾	-	-	86	86
Provision, net	-	-	(18)	(18)
Private placements				
Interest income	-	-	1,883	1,883
Gains (losses) ⁽²⁾	-	-	(18)	(18)
Impairment loss, net	-	-	(88)	(88)
Policy loans				
	-	-	390	390
Loans to Bank clients				
Interest income	-	-	72	72
Provision, net	-	-	(2)	(2)
Real estate				
Rental income, net of depreciation ⁽³⁾	-	-	468	468
Gains (losses) ⁽²⁾	-	-	(18)	(18)
Derivatives				
Interest income, net	924	-	(31)	893
Gains (losses) ⁽²⁾	6,501	-	28	6,529
Other invested assets				
Interest income	-	-	72	72
Oil and gas, timber, agriculture and other income	-	-	1,435	1,435
Gains (losses) ⁽²⁾	(210)	1	32	(177)
Impairment loss, net	(9)	(16)	(396)	(421)
Total investment income	\$ 26,174	\$ 3,494	\$ 5,732	\$ 35,400
Investment income				
Interest income	\$ 6,753	\$ 837	\$ 4,223	\$ 11,813
Dividend, rental and other income	517	38	1,903	2,458
Impairments, provisions and recoveries, net	(123)	(76)	(504)	(703)
Other	241	2,685	(61)	2,865
	7,388	3,484	5,561	16,433
Realized and unrealized gains (losses) on assets supporting insurance and investment contract liabilities and on the macro hedge program				
Debt securities	10,747	1	-	10,748
Public equities	1,908	9	-	1,917
Mortgages	-	-	86	86
Private placements	-	-	(47)	(47)
Real estate	-	-	1	1
Other invested assets	(318)	-	103	(215)
Derivatives, including macro hedge program	6,449	-	28	6,477
	18,786	10	171	18,967
Total investment income	\$ 26,174	\$ 3,494	\$ 5,732	\$ 35,400

⁽¹⁾ Primarily includes investment income on loans carried at amortized cost, own use properties, investment properties, derivative and hedging instruments in cash flow hedging relationships, equity method accounted investments, oil and gas investments, and leveraged leases.

⁽²⁾ Includes net realized and unrealized gains (losses) for financial instruments at FVTPL, real estate investment properties, and other invested assets measured at fair value. Also includes net realized gains (losses) for financial instruments at AFS and other invested assets carried at amortized cost.

⁽³⁾ Rental income from investment properties is net of direct operating expenses.

(d) Investment expenses

The following table presents total investment expenses.

For the years ended December 31,	2021	2020
Related to invested assets	\$ 633	\$ 649
Related to segregated, mutual and other funds	1,347	1,138
Total investment expenses	\$ 1,980	\$ 1,787

(e) Investment properties

The following table presents the rental income and direct operating expenses of investment properties.

For the years ended December 31,	2021	2020
Rental income from investment properties	\$ 837	\$ 874
Direct operating expenses of rental investment properties	(464)	(491)
Total	\$ 373	\$ 383

(f) Mortgage securitization

The Company securitizes certain insured and uninsured fixed and variable rate residential mortgages and Home Equity Lines of Credit ("HELOC") through creation of mortgage-backed securities under the Canadian Mortgage Bond Program ("CMB"), and the HELOC securitization program.

Benefits received from the securitization include interest spread between the asset and associated liability. There is no credit exposure from securitized mortgages under the Canada Mortgage and Housing Corporation ("CMHC") sponsored CMB securitization program as they are insured by CMHC and other third-party insurance programs against borrowers' default. Mortgages securitized in the Platinum Canadian Mortgage Trust II ("PCMT II") program are uninsured.

Cash flows received from the underlying securitized assets/mortgages are used to settle the related secured borrowing liability. For CMB transactions, receipts of principal are deposited into a trust account for settlement of the liability at time of maturity. These transferred assets and related cash flows cannot be transferred or used for other purposes. For the HELOC transactions, investors are entitled to periodic interest payments, and the remaining cash receipts of principal are allocated to the Company (the "Seller") during the revolving period of the deal and are accumulated for settlement during an accumulation period or repaid to the investor monthly during a reduction period, based on the terms of the note.

Securitized assets and secured borrowing liabilities

As at December 31, 2021

Securitization program	Securitized assets			Secured borrowing liabilities ⁽²⁾
	Securitized mortgages	Restricted cash and short-term securities	Total	
HELOC securitization ⁽¹⁾	\$ 2,618	\$ 1	\$ 2,619	\$ 2,500
CMB securitization	2,075	-	2,075	2,098
Total	\$ 4,693	\$ 1	\$ 4,694	\$ 4,598

As at December 31, 2020

Securitization program	Securitized assets			Secured borrowing liabilities ⁽²⁾
	Securitized mortgages	Restricted cash and short-term securities	Total	
HELOC securitization ⁽¹⁾	\$ 2,356	\$ -	\$ 2,356	\$ 2,250
CMB securitization	2,273	-	2,273	2,332
Total	\$ 4,629	\$ -	\$ 4,629	\$ 4,582

⁽¹⁾ Manulife Bank, a subsidiary, securitizes a portion of its HELOC receivables through Platinum Canadian Mortgage Trust II ("PCMT II"). PCMT II funds the purchase of the co-ownership interests from Manulife Bank by issuing term notes collateralized by an underlying pool of uninsured HELOCs to institutional investors. The restricted cash balance for the HELOC securitization reflects a cash reserve fund established in relation to the transactions. The reserve will be drawn upon only in the event of insufficient cash flows from the underlying HELOCs to satisfy the secured borrowing liability.

⁽²⁾ The PCMT II notes payable have floating rates of interest and are secured by the PCMT II assets. Under the terms of the agreements, no principal is expected to be repaid within one year, \$383 within 1-3 years, \$1,815 within 3-5 years and \$302 beyond 5 years. There is no specific maturity date for the contractual agreements. Under the terms of the notes, additional collateral must be provided to the series as added credit protection and the Series Purchase Agreements govern the amount of over-collateralization for each of the term notes outstanding. Manulife Bank also securitizes insured amortizing mortgages under the National Housing Act Mortgage-Backed Securities ("NHA MBS") program sponsored by CMHC. Manulife Bank participates in CMB programs by selling NHA MBS securities to Canada Housing Trust ("CHT"), as a source of fixed rate funding.

As at December 31, 2021, the fair value of securitized assets and associated liabilities were \$4,725 and \$4,601, respectively (2020 - \$4,679 and \$4,661).

(g) Fair value measurement

The following table presents the fair values of invested assets and segregated funds net assets measured at fair value categorized by the fair value hierarchy.

As at December 31, 2021	Total fair value	Level 1	Level 2	Level 3
Cash and short-term securities				
FVTPL	\$ 2,214	\$ -	\$ 2,214	\$ -
AFS	14,339	-	14,339	-
Other	6,041	6,041	-	-
Debt securities				
FVTPL				
Canadian government and agency	18,706	-	18,706	-
U.S. government and agency	12,607	-	12,607	-
Other government and agency	21,888	-	21,888	-
Corporate	133,763	-	133,723	40
Residential mortgage-backed securities	8	-	8	-
Commercial mortgage-backed securities	1,103	-	1,103	-
Other asset-backed securities	1,647	-	1,619	28
AFS				
Canadian government and agency	3,964	-	3,964	-
U.S. government and agency	18,792	-	18,792	-
Other government and agency	2,871	-	2,871	-
Corporate	7,332	-	7,331	1
Residential mortgage-backed securities	1	-	1	-
Commercial mortgage-backed securities	79	-	79	-
Other asset-backed securities	58	-	58	-
Public equities				
FVTPL	25,716	25,716	-	-
AFS	2,351	2,349	2	-
Real estate – investment property⁽¹⁾	11,421	-	-	11,421
Other invested assets⁽²⁾	24,300	257	-	24,043
Segregated funds net assets⁽³⁾	399,788	361,447	34,060	4,281
Total	\$ 708,989	\$ 395,810	\$ 273,365	\$ 39,814

As at December 31, 2020	Total fair value	Level 1	Level 2	Level 3
Cash and short-term securities				
FVTPL	\$ 2,079	\$ -	\$ 2,079	\$ -
AFS	18,314	-	18,314	-
Other	5,774	5,774	-	-
Debt securities				
FVTPL				
Canadian government and agency	20,667	-	20,667	-
U.S. government and agency	11,449	-	11,449	-
Other government and agency	19,732	-	19,732	-
Corporate	128,297	-	127,787	510
Residential mortgage-backed securities	9	-	9	-
Commercial mortgage-backed securities	1,172	-	1,172	-
Other asset-backed securities	1,735	-	1,690	45
AFS				
Canadian government and agency	4,548	-	4,548	-
U.S. government and agency	19,787	-	19,787	-
Other government and agency	4,613	-	4,613	-
Corporate	6,566	-	6,563	3
Residential mortgage-backed securities	1	-	1	-
Commercial mortgage-backed securities	93	-	93	-
Other asset-backed securities	55	-	55	-
Public equities				
FVTPL	22,071	22,071	-	-
AFS	1,651	1,651	-	-
Real estate – investment property⁽¹⁾	10,982	-	-	10,982
Other invested assets⁽²⁾	19,149	100	-	19,049
Segregated funds net assets⁽³⁾	367,436	327,437	35,797	4,202
Total	\$ 666,180	\$ 357,033	\$ 274,356	\$ 34,791

- ⁽¹⁾ For real estate investment properties, the significant unobservable inputs are capitalization rates (ranging from 2.25% to 9.00% during the year and ranging from 2.75% to 8.50% during 2020) and terminal capitalization rates (ranging from 3.25% to 9.25% during the year and ranging from 3.25% to 9.25% during 2020). Holding other factors constant, a lower capitalization or terminal capitalization rate will tend to increase the fair value of an investment property. Changes in fair value based on variations in unobservable inputs generally cannot be extrapolated because the relationship between the directional changes of each input is not usually linear.
- ⁽²⁾ Other invested assets measured at fair value are held primarily in infrastructure and timber sectors. The significant inputs used in the valuation of the Company's infrastructure investments are primarily future distributable cash flows, terminal values and discount rates. Holding other factors constant, an increase to future distributable cash flows or terminal values would tend to increase the fair value of an infrastructure investment, while an increase in the discount rate would have the opposite effect. Discount rates during the year ranged from 7.25% to 20.0% (2020 – ranged from 7.00% to 15.6%). Disclosure of distributable cash flow and terminal value ranges are not meaningful given the disparity in estimates by project. The significant inputs used in the valuation of the Company's investments in timberland are timber prices and discount rates. Holding other factors constant, an increase to timber prices would tend to increase the fair value of a timberland investment, while an increase in the discount rates would have the opposite effect. Discount rates during the year ranged from 4.5% to 7.0% (2020 – ranged from 5.0% to 7.0%). A range of prices for timber is not meaningful as the market price depends on factors such as property location and proximity to markets and export yards.
- ⁽³⁾ Segregated funds net assets are measured at fair value. The Company's Level 3 segregated funds assets are predominantly in investment properties and timberland properties valued as described above.

The following table presents fair value of invested assets not measured at fair value by the fair value hierarchy.

As at December 31, 2021	Carrying value	Fair value	Level 1	Level 2	Level 3
Mortgages ⁽¹⁾	\$ 52,014	\$ 54,089	\$ –	\$ –	\$ 54,089
Private placements ⁽²⁾	42,842	47,276	–	42,110	5,166
Policy loans ⁽³⁾	6,397	6,397	–	6,397	–
Loans to Bank clients ⁽⁴⁾	2,506	2,503	–	2,503	–
Real estate – own use property ⁽⁵⁾	1,812	3,024	–	–	3,024
Public Bonds HTM	1,320	1,320	–	1,320	–
Other invested assets ⁽⁶⁾	11,006	11,665	120	–	11,545
Total invested assets disclosed at fair value	\$ 117,897	\$ 126,274	\$ 120	\$ 52,330	\$ 73,824
As at December 31, 2020	Carrying value	Fair value	Level 1	Level 2	Level 3
Mortgages ⁽¹⁾	\$ 50,207	\$ 54,230	\$ –	\$ –	\$ 54,230
Private placements ⁽²⁾	40,756	47,890	–	41,398	6,492
Policy loans ⁽³⁾	6,398	6,398	–	6,398	–
Loans to Bank clients ⁽⁴⁾	1,976	1,982	–	1,982	–
Real estate – own use property ⁽⁵⁾	1,850	3,017	–	–	3,017
Other invested assets ⁽⁶⁾	11,046	11,903	128	–	11,775
Total invested assets disclosed at fair value	\$ 112,233	\$ 125,420	\$ 128	\$ 49,778	\$ 75,514

⁽¹⁾ Fair value of commercial mortgages is determined through an internal valuation methodology using both observable and unobservable inputs. Unobservable inputs include credit assumptions and liquidity spread adjustments. Fair value of fixed-rate residential mortgages is determined using the discounted cash flow method. Inputs used for valuation are primarily comprised of prevailing interest rates and prepayment rates, if applicable. Fair value of variable-rate residential mortgages is assumed to be their carrying value.

⁽²⁾ Fair value of private placements is determined through an internal valuation methodology using both observable and unobservable inputs. Unobservable inputs include credit assumptions and liquidity spread adjustments. Private placements are classified within Level 2 unless the liquidity adjustment constitutes a significant price impact, in which case the securities are classified as Level 3.

⁽³⁾ Fair value of policy loans is equal to their unpaid principal balances.

⁽⁴⁾ Fair value of fixed-rate loans to Bank clients is determined using the discounted cash flow method. Inputs used for valuation are primarily comprised of current interest rates. Fair value of variable-rate loans is assumed to be their carrying value.

⁽⁵⁾ Fair value of own use real estate and the fair value hierarchy are determined in accordance with the methodologies described for real estate – investment property in note 1.

⁽⁶⁾ Primarily include leveraged leases, oil and gas properties (disposed of during 2021) and equity method accounted other invested assets. Fair value of leveraged leases is disclosed at their carrying values as fair value is not routinely calculated on these investments. Fair value for oil and gas properties is determined using external appraisals based on discounted cash flow methodology. Inputs used in valuation are primarily comprised of forecasted price curves, planned production, as well as capital expenditures, and operating costs. Fair value of equity method accounted other invested assets is determined using a variety of valuation techniques including discounted cash flows and market comparable approaches. Inputs vary based on the specific investment.

As a result of COVID-19 and the associated economic environment, measurement uncertainty exists in determining the fair value of real estate and other invested assets. For the methodologies used in determining carrying values of the invested assets, refer to note 1(c).

Real Estate – For real estate investment properties, valuation inputs include existing and assumed tenancies, market data from recent comparable transactions, future economic outlook and market risk assumptions, capitalization rates and internal rates of return.

Measurement uncertainty is partially driven by a reduction in the availability of information, which could have a negative impact on the future carrying value of these assets.

Timberland and Farmland – For investments in timberland and farmland, valuation inputs include asset-specific production, relevant commodity prices and discount rates. There remains uncertainty regarding these inputs used, which could have a negative impact on the future carrying value of these assets.

Private Equity – Included in the Company's private equity investments are assets valued primarily based on net asset value as per financial statements provided by third-party general partners or sponsors and reasonable techniques from a market participant perspective.

Significant measurement uncertainty relating to volatility in underlying markets could have an impact on the future carrying value of these assets.

Infrastructure – For infrastructure investments, valuation is largely based on discounted cash flow techniques reflecting estimates regarding future cash flows, terminal values and discount rates. These assets are defensive in nature and are supported by existing contractual revenue streams. There remains uncertainty regarding critical valuation inputs listed, which could have a negative impact on the future carrying value of these assets.

Oil and Gas – Investments in oil and gas comprise of private equity interests. These investments are valued largely based on financial statements and inputs provided by third-party general partners and sponsors of the respective funds. Measurement uncertainty relating to future prices for relevant commodities could have an impact on the future carrying value of these assets.

Transfers between Level 1 and Level 2

The Company records transfers of assets and liabilities between Level 1 and Level 2 at their fair values as at the end of each reporting period. Assets are transferred out of Level 1 when they are no longer transacted with sufficient frequency and volume in an active market. Conversely, assets are transferred from Level 2 to Level 1 when transaction volume and frequency are indicative of an active market. The Company had \$5 of assets transferred between Level 1 and Level 2 during the years ended December 31, 2021 and 2020.

For segregated funds net assets, the Company had \$5 transfers from Level 1 to Level 2 for the year ended December 31, 2021 (2020 – \$nil). The Company had \$249 transfers from Level 2 to Level 1 for the year ended December 31, 2021 (2020 – \$15).

Invested assets and segregated funds net assets measured at fair value using significant unobservable inputs (Level 3)

The Company classifies fair values of invested assets and segregated funds net assets as Level 3 if there are no observable markets for these assets or, in the absence of active markets, most of the inputs used to determine fair value are based on the Company's own assumptions about market participant assumptions. The Company prioritizes the use of market-based inputs over entity-based assumptions in determining Level 3 fair values. The gains and losses in the table below includes the changes in fair value due to both observable and unobservable factors.

The following table presents a roll forward for invested assets, derivatives and segregated funds net assets measured at fair value using significant unobservable inputs (Level 3) for the years ended December 31, 2021 and 2020.

For the year ended December 31, 2021	Balance, January 1, 2021	Total gains (losses) included in net income ⁽¹⁾	Total gains (losses) included in AOCI ⁽²⁾	Purchases	Sales	Settlements	Transfer in ⁽³⁾	Transfer out ⁽³⁾	Currency movement	Balance, December 31, 2021	Change in unrealized gains (losses) on assets still held
Debt securities											
FVTPL											
Corporate	\$ 510	\$ 11	\$ –	\$ 11	\$ (93)	\$ –	\$ 11	\$ (409)	\$ (1)	\$ 40	\$ (8)
Other securitized assets	45	3	–	–	(9)	(39)	28	–	–	28	(4)
AFS											
Corporate	3	1	–	–	(3)	–	–	–	–	1	–
Public equities											
FVTPL	–	–	–	62	(62)	–	–	–	–	–	–
Investment property	10,982	702	–	186	(376)	–	–	–	(73)	11,421	626
Other invested assets	19,049	2,731	2	5,058	(1,131)	(1,453)	5	–	(218)	24,043	2,569
Total invested assets	30,589	3,448	2	5,317	(1,674)	(1,492)	44	(409)	(292)	35,533	3,183
Derivatives	3,443	(897)	–	14	–	(182)	–	(309)	32	2,101	(547)
Segregated funds net assets											
	4,202	350	–	68	(303)	(28)	–	–	(8)	4,281	116
Total	\$ 38,234	\$ 2,901	\$ 2	\$ 5,399	\$ (1,977)	\$ (1,702)	\$ 44	\$ (718)	\$ (268)	\$ 41,915	\$ 2,752

For the year ended December 31, 2020	Balance, January 1, 2020	Total gains (losses) included in net income ⁽¹⁾	Total gains (losses) included in AOCI ⁽²⁾	Purchases	Sales	Settlements	Transfer in ⁽³⁾	Transfer out ⁽³⁾	Currency movement	Balance, December 31, 2020	Change in unrealized gains (losses) on assets still held
Debt securities											
FVTPL											
Corporate	\$ 633	\$ 4	\$ -	\$ 54	\$ (272)	\$ (1)	\$ 151	\$ (50)	\$ (9)	\$ 510	\$ 105
Other securitized assets	-	(8)	-	-	-	(1)	55	-	(1)	45	-
AFS											
Corporate	15	(6)	2	-	-	-	5	(13)	-	3	-
Investment property	11,002	(255)	-	572	(318)	-	47	-	(66)	10,982	(300)
Other invested assets	18,103	(401)	(49)	3,162	(1,076)	(638)	92	(3)	(141)	19,049	(902)
Total invested assets	29,753	(666)	(47)	3,788	(1,666)	(640)	350	(66)	(217)	30,589	(1,097)
Derivatives	1,456	2,953	(18)	12	-	(1,165)	-	342	(137)	3,443	2,033
Segregated funds net assets											
	4,512	(6)	-	(84)	(149)	(26)	2	(3)	(44)	4,202	45
Total	\$ 35,721	\$ 2,281	\$ (65)	\$ 3,716	\$ (1,815)	\$ (1,831)	\$ 352	\$ 273	\$ (398)	\$ 38,234	\$ 981

⁽¹⁾ These amounts are included in net investment income on the Consolidated Statements of Income except for the amount related to segregated funds net assets, where the amount is recorded in changes in segregated funds net assets, refer to notes 1(h) and 22.

⁽²⁾ These amounts are included in AOCI on the Consolidated Statements of Financial Position.

⁽³⁾ The Company uses fair values of the assets at the beginning of the year for assets transferred into and out of Level 3 except for derivatives, where the Company uses fair value at the end of the year and at the beginning of the year, respectively.

Transfers into Level 3 primarily result from securities that were impaired during the year or securities where a lack of observable market data (versus the previous period) resulted in reclassifying assets into Level 3. Transfers from Level 3 primarily result from observable market data now being available for the entire term structure of the debt security.

Note 4 Derivative and Hedging Instruments

Derivatives are financial contracts, the value of which is derived from underlying interest rates, foreign exchange rates, other financial instruments, commodity prices or indices. The Company uses derivatives including swaps, forward and futures agreements, and options to manage current and anticipated exposures to changes in interest rates, foreign exchange rates, commodity prices and equity market prices, and to replicate permissible investments.

Swaps are over-the-counter (“OTC”) contractual agreements between the Company and a third-party to exchange a series of cash flows based upon rates applied to a notional amount. For interest rate swaps, counterparties generally exchange fixed or floating interest rate payments based on a notional value in a single currency. Cross currency swaps involve the exchange of principal amounts between parties as well as the exchange of interest payments in one currency for the receipt of interest payments in another currency. Total return swaps are contracts that involve the exchange of payments based on changes in the values of a reference asset, including any returns such as interest earned on these assets, in return for amounts based on reference rates specified in the contract.

Forward and futures agreements are contractual obligations to buy or sell a financial instrument, foreign currency or other underlying commodity on a predetermined future date at a specified price. Forward contracts are OTC contracts negotiated between counterparties, whereas futures agreements are contracts with standard amounts and settlement dates that are traded on regulated exchanges.

Options are contractual agreements whereby the holder has the right, but not the obligation, to buy (call option) or sell (put option) a security, exchange rate, interest rate, or other financial instrument at a predetermined price/rate within a specified time.

See variable annuity dynamic hedging strategy in the “Risk Management and Risk Factors” section of the Company’s 2021 MD&A for an explanation of the Company’s dynamic hedging strategy for its variable annuity product guarantees.

(a) Fair value of derivatives

The pricing models used to value OTC derivatives are based on market standard valuation methodologies and the inputs to these models are consistent with what a market participant would use when pricing the instruments. Derivative valuations can be affected by changes in interest rates, currency exchange rates, financial indices, credit spreads, default risk (including the counterparties to the contract), and market volatility. The significant inputs to the pricing models for most OTC derivatives are inputs that are observable or can be corroborated by observable market data and are classified as Level 2. Inputs that are observable generally include interest rates, foreign currency exchange rates and interest rate curves. However, certain OTC derivatives may rely on inputs that are significant to the fair value that are not observable in the market or cannot be derived principally from, or corroborated by, observable market data and these derivatives are classified as Level 3. Inputs that are unobservable generally include broker quoted prices, volatilities and inputs that are outside of the observable portion of the interest rate curve or other relevant market measures. These unobservable inputs may involve significant management judgment or estimation. Even though unobservable, these inputs are based on assumptions deemed appropriate

given the circumstances and consistent with what market participants would use when pricing such instruments. The Company's use of unobservable inputs is limited and the impact on derivative fair values does not represent a material amount as evidenced by the limited amount of Level 3 derivatives. The credit risk of both the counterparty and the Company are considered in determining the fair value for all OTC derivatives after considering the effects of netting agreements and collateral arrangements.

The following table presents gross notional amount and fair value of derivative instruments by the underlying risk exposure.

As at December 31,		2021			2020		
		Notional amount	Fair value		Notional amount	Fair value	
Type of hedge	Instrument type		Assets	Liabilities		Assets	Liabilities
Qualifying hedge accounting relationships							
Fair value hedges	Interest rate swaps	\$ -	\$ -	\$ -	\$ 82	\$ 1	\$ -
	Foreign currency swaps	57	1	1	57	-	4
Cash flow hedges	Foreign currency swaps	1,251	5	379	1,756	24	468
	Equity contracts	145	10	-	127	6	-
Net investment hedges	Forward contracts	671	9	-	628	1	10
Total derivatives in qualifying hedge accounting relationships		2,124	25	380	2,650	32	482
Derivatives not designated in qualifying hedge accounting relationships							
	Interest rate swaps	300,556	11,832	7,347	287,182	21,332	12,190
	Interest rate futures	11,944	-	-	16,750	-	-
	Interest rate options	10,708	514	-	11,622	663	-
	Foreign currency swaps	36,405	790	1,722	31,491	838	1,659
	Currency rate futures	3,086	-	-	3,467	-	-
	Forward contracts	45,295	2,674	562	38,853	3,833	565
	Equity contracts	18,577	1,667	27	15,738	1,092	66
	Credit default swaps	44	1	-	241	3	-
	Equity futures	11,359	-	-	10,984	-	-
Total derivatives not designated in qualifying hedge accounting relationships		437,974	17,478	9,658	416,328	27,761	14,480
Total derivatives		\$ 440,098	\$ 17,503	\$ 10,038	\$ 418,978	\$ 27,793	\$ 14,962

The total notional amount above includes \$258 billion (2020 – \$274 billion) which refer to interest rates impacted under the interest rate benchmark reform, with a significant majority to USD LIBOR, CDOR and JPY LIBOR. Exposures indexed to USD LIBOR represent derivatives with a maturity date beyond June 30, 2023 while exposures to CDOR and JPY LIBOR represent derivatives with a maturity date beyond December 31, 2021. The exposure in the Company's hedge accounting programs is primarily to USD LIBOR and CDOR benchmarks. Compared to the overall risk exposure, the effect of interest rate benchmark reform on existing accounting hedges is not significant. The Company continues to apply high probability and high effectiveness expectation assumptions for cash flows and there would be no automatic de-designation due to the impact from interest rate benchmark reform.

The following table presents the fair values of the derivative instruments by the remaining term to maturity. Fair values disclosed below do not incorporate the impact of master netting agreements (refer to note 8).

As at December 31, 2021	Remaining term to maturity				Total
	Less than 1 year	1 to 3 years	3 to 5 years	Over 5 years	
Derivative assets	\$ 2,500	\$ 1,803	\$ 1,000	\$ 12,200	\$ 17,503
Derivative liabilities	294	387	379	8,978	10,038

As at December 31, 2020	Remaining term to maturity				Total
	Less than 1 year	1 to 3 years	3 to 5 years	Over 5 years	
Derivative assets	\$ 1,656	\$ 3,524	\$ 1,228	\$ 21,385	\$ 27,793
Derivative liabilities	386	250	555	13,771	14,962

The following table presents gross notional amount by the remaining term to maturity, total fair value (including accrued interest), credit equivalent amount and capital requirement by contract type.

As at December 31, 2021	Remaining term to maturity (notional amounts)				Fair value			Credit equivalent amount ⁽¹⁾	Capital requirement ⁽²⁾
	Under 1 year	1 to 5 years	Over 5 years	Total	Positive	Negative	Net		
Interest rate contracts									
OTC swap contracts	\$ 4,554	\$ 21,884	\$ 90,592	\$ 117,030	\$ 12,112	\$ (7,717)	\$ 4,395	\$ 1,582	\$ 29
Cleared swap contracts	21,722	27,665	134,139	183,526	441	(453)	(12)	-	-
Forward contracts	14,636	15,791	741	31,168	2,625	(483)	2,142	299	5
Futures	11,944	-	-	11,944	-	-	-	-	-
Options purchased	1,406	2,789	6,513	10,708	515	-	515	113	9
Subtotal	54,262	68,129	231,985	354,376	15,693	(8,653)	7,040	1,994	43
Foreign exchange									
Swap contracts	1,941	8,869	26,903	37,713	801	(2,181)	(1,380)	1,302	25
Forward contracts	14,798	-	-	14,798	58	(79)	(21)	85	-
Futures	3,086	-	-	3,086	-	-	-	-	-
Credit derivatives	11	33	-	44	1	-	1	-	-
Equity contracts									
Swap contracts	669	323	-	992	57	(10)	47	29	-
Futures	11,359	-	-	11,359	-	-	-	-	-
Options purchased	10,974	6,716	40	17,730	1,616	(17)	1,599	766	8
Subtotal including accrued interest	97,100	84,070	258,928	440,098	18,226	(10,940)	7,286	4,176	76
Less accrued interest	-	-	-	-	723	(902)	(179)	-	-
Total	\$ 97,100	\$ 84,070	\$ 258,928	\$ 440,098	\$ 17,503	\$ (10,038)	\$ 7,465	\$ 4,176	\$ 76

As at December 31, 2020	Remaining term to maturity (notional amounts)				Fair value			Credit equivalent amount ⁽¹⁾	Capital requirement ⁽²⁾
	Under 1 year	1 to 5 years	Over 5 years	Total	Positive	Negative	Net		
Interest rate contracts									
OTC swap contracts	\$ 7,567	\$ 20,852	\$ 110,166	\$ 138,585	\$ 21,803	\$ (12,816)	\$ 8,987	\$ 2,607	\$ 73
Cleared swap contracts	2,314	18,784	127,581	148,679	432	(424)	8	-	-
Forward contracts	11,092	18,355	1,259	30,706	3,739	(462)	3,277	629	12
Futures	16,750	-	-	16,750	-	-	-	-	-
Options purchased	1,572	3,922	6,128	11,622	664	-	664	138	4
Subtotal	39,295	61,913	245,134	346,342	26,638	(13,702)	12,936	3,374	89
Foreign exchange									
Swap contracts	1,670	8,490	23,144	33,304	855	(2,195)	(1,340)	1,112	23
Forward contracts	8,741	34	-	8,775	95	(113)	(18)	56	-
Futures	3,467	-	-	3,467	-	-	-	-	-
Credit derivatives	192	49	-	241	3	-	3	-	-
Equity contracts									
Swap contracts	1,227	289	-	1,516	43	(51)	(8)	27	-
Futures	10,984	-	-	10,984	-	-	-	-	-
Options purchased	8,168	6,181	-	14,349	1,051	(15)	1,036	500	5
Subtotal including accrued interest	73,744	76,956	268,278	418,978	28,685	(16,076)	12,609	5,069	117
Less accrued interest	-	-	-	-	892	(1,114)	(222)	-	-
Total	\$ 73,744	\$ 76,956	\$ 268,278	\$ 418,978	\$ 27,793	\$ (14,962)	\$ 12,831	\$ 5,069	\$ 117

⁽¹⁾ Credit equivalent amount is the sum of replacement cost and the potential future credit exposure less any collateral held. Replacement cost represents the current cost of replacing all contracts with a positive fair value. The amounts take into consideration legal contracts that permit offsetting of positions. The potential future credit exposure is calculated based on a formula prescribed by OSFI.

⁽²⁾ Capital requirement represents the credit equivalent amount, weighted according to the creditworthiness of the counterparty, as prescribed by OSFI.

The total notional amount of \$440 billion (2020 – \$419 billion) includes \$121 billion (2020 – \$131 billion) related to derivatives utilized in the Company's variable annuity guarantee dynamic hedging and macro risk hedging programs. Due to the Company's variable annuity hedging practices, many trades are in offsetting positions, resulting in materially lower net fair value exposure to the Company than what the gross notional amount would suggest.

Fair value and the fair value hierarchy of derivative instruments

As at December 31, 2021	Fair value	Level 1	Level 2	Level 3
Derivative assets				
Interest rate contracts	\$ 14,971	\$ -	\$ 12,510	\$ 2,461
Foreign exchange contracts	854	-	854	-
Equity contracts	1,677	-	1,616	61
Credit default swaps	1	-	1	-
Total derivative assets	\$ 17,503	\$ -	\$ 14,981	\$ 2,522
Derivative liabilities				
Interest rate contracts	\$ 7,829	\$ -	\$ 7,419	\$ 410
Foreign exchange contracts	2,182	-	2,181	1
Equity contracts	27	-	17	10
Total derivative liabilities	\$ 10,038	\$ -	\$ 9,617	\$ 421

As at December 31, 2020	Fair value	Level 1	Level 2	Level 3
Derivative assets				
Interest rate contracts	\$ 25,735	\$ -	\$ 21,902	\$ 3,833
Foreign exchange contracts	957	-	957	-
Equity contracts	1,098	-	1,051	47
Credit default swaps	3	-	3	-
Total derivative assets	\$ 27,793	\$ -	\$ 23,913	\$ 3,880
Derivative liabilities				
Interest rate contracts	\$ 12,652	\$ -	\$ 12,271	\$ 381
Foreign exchange contracts	2,244	-	2,239	5
Equity contracts	66	-	15	51
Total derivative liabilities	\$ 14,962	\$ -	\$ 14,525	\$ 437

Level 3 roll forward information for net derivative contracts measured using significant unobservable inputs is disclosed in note 3(g).

(b) Hedging relationships

The Company uses derivatives for economic hedging purposes. In certain circumstances, these hedges also meet the requirements of hedge accounting. Risk management strategies eligible for hedge accounting are designated as fair value hedges, cash flow hedges or net investment hedges, as described below.

Fair value hedges

The Company uses interest rate swaps to manage its exposure to changes in the fair value of fixed rate financial instruments due to changes in interest rates. The Company also uses cross currency swaps to manage its exposure to foreign exchange rate fluctuations, interest rate fluctuations, or both.

The Company recognizes gains and losses on derivatives and the related hedged items in fair value hedges in investment income. These investment gains (losses) are shown in the following table.

	Hedged items in qualifying fair value hedging relationships	Gains (losses) recognized on derivatives	Gains (losses) recognized for hedged items	Ineffectiveness recognized in investment income
For the year ended December 31, 2021				
Interest rate swaps	Fixed rate liabilities	\$ -	\$ -	\$ -
Foreign currency swaps	Fixed rate assets	4	(2)	2
Total		\$ 4	\$ (2)	\$ 2
For the year ended December 31, 2020				
Interest rate swaps	Fixed rate liabilities	\$ 4	\$ (2)	\$ 2
Foreign currency swaps	Fixed rate assets	(2)	3	1
Total		\$ 2	\$ 1	\$ 3

Cash flow hedges

The Company uses interest rate swaps to hedge the variability in cash flows from variable rate financial instruments and forecasted transactions. The Company also uses cross currency swaps and foreign currency forward contracts to hedge the variability from foreign

currency financial instruments and foreign currency expenses. Total return swaps are used to hedge the variability in cash flows associated with certain stock-based compensation awards. Inflation swaps are used to reduce inflation risk generated from inflation-indexed liabilities.

The effects of derivatives in cash flow hedging relationships on the Consolidated Statements of Income and the Consolidated Statements of Comprehensive Income are shown in the following table.

	Hedged items in qualifying cash flow hedging relationships	Gains (losses) deferred in AOCI on derivatives	Gains (losses) reclassified from AOCI into investment income	Ineffectiveness recognized in investment income
For the year ended December 31, 2021				
Foreign currency swaps	Fixed rate assets	\$ (1)	\$ (1)	\$ -
	Floating rate liabilities	89	3	-
	Fixed rate liabilities	(19)	(21)	-
Equity contracts	Stock-based compensation	5	5	-
Total		\$ 74	\$ (14)	\$ -

	Hedged items in qualifying cash flow hedging relationships	Gains (losses) deferred in AOCI on derivatives	Gains (losses) reclassified from AOCI into investment income	Ineffectiveness recognized in investment income
For the year ended December 31, 2020				
Foreign currency swaps	Fixed rate assets	\$ 1	\$ -	\$ -
	Floating rate liabilities	(64)	14	-
	Fixed rate liabilities	(14)	(2)	-
Equity contracts	Stock-based compensation	(2)	16	-
Total		\$ (79)	\$ 28	\$ -

The Company anticipates that net losses of approximately \$42 will be reclassified from AOCI to net income within the next 12 months. The maximum time frame for which variable cash flows are hedged is 15 years.

Hedges of net investments in foreign operations

The Company primarily uses forward currency contracts, cross currency swaps and non-functional currency denominated debt to manage its foreign currency exposures to net investments in foreign operations.

The effects of net investment hedging relationships on the Consolidated Statements of Income and the Consolidated Statements of Other Comprehensive Income are shown in the following table.

	Gains (losses) deferred in AOCI	Gains (losses) reclassified from AOCI into investment income	Ineffectiveness recognized in investment income
For the year ended December 31, 2021			
Non-functional currency denominated debt	\$ 61	\$ -	\$ -
Forward contracts	59	-	-
Total	\$ 120	\$ -	\$ -
For the year ended December 31, 2020			
Non-functional currency denominated debt	\$ 161	\$ -	\$ -
Forward contracts	(53)	-	-
Total	\$ 108	\$ -	\$ -

(c) Derivatives not designated in qualifying hedge accounting relationships

Derivatives used in portfolios supporting insurance contract liabilities are generally not designated in qualifying hedge accounting relationships because the change in the value of the insurance contract liabilities economically hedged by these derivatives is recorded through net income. Since changes in fair value of these derivatives and related hedged risks are recognized in investment income as they occur, they generally offset the change in hedged risk to the extent the hedges are economically effective. Interest rate and cross currency swaps are used in the portfolios supporting insurance contract liabilities to manage duration and currency risks.

Investment income on derivatives not designated in qualifying hedge accounting relationships

For the years ended December 31,	2021	2020
Interest rate swaps	\$ (1,986)	\$ 2,423
Interest rate futures	(687)	894
Interest rate options	(133)	291
Foreign currency swaps	(166)	(55)
Currency rate futures	66	(47)
Forward contracts	(1,751)	3,785
Equity futures	(2,140)	(1,111)
Equity contracts	871	322
Credit default swaps	(2)	(4)
Total	\$ (5,928)	\$ 6,498

(d) Embedded derivatives

Certain insurance contracts contain features that are classified as embedded derivatives and are measured separately at FVTPL, including reinsurance contracts related to guaranteed minimum income benefits and contracts containing certain credit and interest rate features.

Certain reinsurance contracts related to guaranteed minimum income benefits contain embedded derivatives requiring separate measurement at FVTPL as the financial component contained in the reinsurance contracts does not contain significant insurance risk. As at December 31, 2021, reinsurance ceded guaranteed minimum income benefits had a fair value of \$734 (2020 – \$1,007) and reinsurance assumed guaranteed minimum income benefits had a fair value of \$86 (2020 – \$112). Claims recovered under reinsurance ceded contracts offset claims expenses and claims paid on the reinsurance assumed are reported as contract benefits.

The Company's credit and interest rate embedded derivatives promise to pay the returns on a portfolio of assets to the contract holder. These embedded derivatives contain credit and interest rate risks that are financial risks embedded in the underlying insurance contract. As at December 31, 2021, these embedded derivatives had a fair value of \$11 (2020 – \$(229)).

Other financial instruments classified as embedded derivatives but exempt from separate measurement at fair value include variable universal life and variable life products' minimum guaranteed credited rates, no lapse guarantees, guaranteed annuitization options, CPI indexing of benefits, and segregated fund minimum guarantees other than reinsurance ceded/assumed guaranteed minimum income benefits. These embedded derivatives are measured and reported within insurance contract liabilities and are exempt from separate fair value measurement as they contain insurance risk and/or are closely related to the insurance host contract.

Note 5 Goodwill and Intangible Assets

(a) Change in the carrying value of goodwill and intangible assets

The following table presents the change in carrying value of goodwill and intangible assets.

As at December 31, 2021	Balance, January 1	Net additions/ (disposals) ⁽¹⁾	Amortization expense	Effect of changes in foreign exchange rates	Balance, December 31
Goodwill	\$ 5,714	\$ (5)	\$ n/a	\$ (58)	\$ 5,651
Indefinite life intangible assets					
Brand	764	–	n/a	(3)	761
Fund management contracts and other ⁽²⁾	796	(3)	n/a	(5)	788
	1,560	(3)	n/a	(8)	1,549
Finite life intangible assets⁽³⁾					
Distribution networks	806	131	44	(5)	888
Customer relationships	738	(2)	48	(1)	687
Software	1,059	198	148	(18)	1,091
Other	52	2	6	1	49
	2,655	329	246	(23)	2,715
Total intangible assets	4,215	326	246	(31)	4,264
Total goodwill and intangible assets	\$ 9,929	\$ 321	\$ 246	\$ (89)	\$ 9,915
As at December 31, 2020	Balance, January 1	Net additions/ (disposals)	Amortization expense	Effect of changes in foreign exchange rates	Balance, December 31
Goodwill	\$ 5,743	\$ (5)	\$ n/a	\$ (24)	\$ 5,714
Indefinite life intangible assets					
Brand	779	–	n/a	(15)	764
Fund management contracts and other ⁽²⁾	805	(2)	n/a	(7)	796
	1,584	(2)	n/a	(22)	1,560
Finite life intangible assets⁽³⁾					
Distribution networks	801	59	42	(12)	806
Customer relationships	795	–	54	(3)	738
Software	991	262	189	(5)	1,059
Other	61	(9)	4	4	52
	2,648	312	289	(16)	2,655
Total intangible assets	4,232	310	289	(38)	4,215
Total goodwill and intangible assets	\$ 9,975	\$ 305	\$ 289	\$ (62)	\$ 9,929

⁽¹⁾ In December 2021, the Company purchased the Vietnamese operations of Aviva Plc including rights to an exclusive distribution agreement with VietinBank.

⁽²⁾ Fund management contracts are mostly allocated to Canada WAM and U.S. WAM CGUs with the carrying values of \$273 (2020 – \$273) and \$371 (2020 – \$373), respectively.

⁽³⁾ Gross carrying amount of finite life intangible assets was \$1,456 for distribution networks, \$1,132 for customer relationships, \$2,484 for software and \$124 for other (2020 – \$1,332, \$1,130, \$2,310 and \$123), respectively.

(b) Goodwill impairment testing

The Company completed its annual goodwill impairment testing in the fourth quarter of 2021 by determining the recoverable amounts of its businesses using valuation techniques discussed below (refer to notes 1(f) and 5(c)). The testing indicated that there was no impairment of goodwill in 2021 (2020 – \$nil).

The following tables present the carrying value of goodwill by CGU or group of CGUs.

As at December 31, 2021 CGU or group of CGUs	Balance, January 1	Net additions/ (disposals)	Effect of changes in foreign exchange rates	Balance, December 31
Asia				
Asia Insurance (excluding Japan)	\$ 159	\$ (5)	\$ (2)	\$ 152
Japan Insurance	433	-	(47)	386
Canada Insurance	1,955	-	-	1,955
U.S. Insurance	338	-	(2)	336
Global Wealth and Asset Management				
Asia WAM	185	-	(2)	183
Canada WAM	1,436	-	-	1,436
U.S. WAM	1,208	-	(5)	1,203
Total	\$ 5,714	\$ (5)	\$ (58)	\$ 5,651

As at December 31, 2020 CGU or group of CGUs	Balance, January 1	Net additions/ (disposals)	Effect of changes in foreign exchange rates	Balance, December 31
Asia				
Asia Insurance (excluding Japan)	\$ 159	\$ -	\$ -	\$ 159
Japan Insurance	420	-	13	433
Canada Insurance	1,957	-	(2)	1,955
U.S. Insurance	349	(5)	(6)	338
Global Wealth and Asset Management				
Asia WAM	187	-	(2)	185
Canada WAM	1,436	-	-	1,436
U.S. WAM	1,235	-	(27)	1,208
Total	\$ 5,743	\$ (5)	\$ (24)	\$ 5,714

The valuation techniques, significant assumptions and sensitivities, where applicable, applied in the goodwill impairment testing are described below.

(c) Valuation techniques

When determining if a CGU is impaired, the Company compares its recoverable amount to the allocated capital for that unit, which is aligned with the Company's internal reporting practices. The recoverable amounts were based on fair value less costs to sell ("FVLCS") for Asia Insurance (excluding Japan) and Asia WAM. For other CGUs, value-in-use ("VIU") was used.

Under the FVLCS approach, the Company determines the fair value of the CGU or group of CGUs using an earnings-based approach which incorporates forecasted earnings, excluding interest and equity market impacts and normalized new business expenses multiplied by an earnings-multiple derived from the observable price-to-earnings multiples of comparable financial institutions. The price-to-earnings multiple used by the Company for testing was 11.6 (2020 – 10.7). These FVLCS valuations are categorized as Level 3 of the fair value hierarchy (2020 – Level 3).

Under the VIU approach, used for CGUs with insurance business, an embedded appraisal value is determined from a projection of future distributable earnings derived from both the in-force business and new business expected to be sold in the future, and therefore, reflects the economic value for each CGU's or group of CGUs' profit potential under a set of assumptions. This approach requires assumptions including sales and revenue growth rates, capital requirements, interest rates, equity returns, mortality, morbidity, policyholder behaviour, tax rates and discount rates. For non-insurance CGUs, the VIU is based on discounted cash flow analysis which incorporates relevant aspects of the embedded appraisal value approach.

(d) Significant assumptions

To calculate embedded appraisal value, the Company discounted projected earnings from in-force contracts and valued 20 years of new business growing at expected plan levels, consistent with the periods used for forecasting long-term businesses such as insurance. In arriving at its projections, the Company considered past experience, economic trends such as interest rates, equity returns and product mix as well as industry and market trends. Where growth rate assumptions for new business cash flows were used in the embedded appraisal value calculations, they ranged from zero per cent to six per cent (2020 – zero per cent to 10 per cent).

Interest rate assumptions are based on prevailing market rates at the valuation date.

For 2021 and 2020, tax rates applied to the projections include the impact of internal reinsurance treaties and amounted to 28.0 per cent, 26.5 per cent and 21.0 per cent for the Japan, Canada and U.S. jurisdictions, respectively. Tax assumptions are sensitive to changes in tax laws as well as assumptions about the jurisdictions in which profits are earned. It is possible that actual tax rates could differ from those assumed.

Discount rates assumed in determining the value-in-use for applicable CGUs or group of CGUs ranged from 8.0 per cent to 10.1 per cent on an after-tax basis or 10.0 per cent to 12.7 per cent on a pre-tax basis (2020 – 8.0 per cent to 10.0 per cent on an after-tax basis or 10.0 per cent to 12.5 per cent on a pre-tax basis).

Key assumptions may change as economic and market conditions change, which may lead to impairment charges in the future. Adverse changes in discount rates (including from decline in interest rates) and growth rate assumptions for new business cash flow projections used in the determination of embedded appraisal values or reductions in market-based earnings multiples calculations may result in impairment charges in the future which could be material.

Note 6 Insurance Contract Liabilities and Reinsurance Assets

(a) Insurance contract liabilities and reinsurance assets

Insurance contract liabilities are reported gross of reinsurance ceded and the ceded liabilities are reported separately as reinsurance assets. Insurance contract liabilities include actuarial liabilities, benefits payable, provision for unreported claims and policyholder amounts on deposit. The components of gross and net insurance contract liabilities are shown below.

As at December 31,	2021	2020
Insurance contract liabilities	\$ 374,890	\$ 369,230
Benefits payable and provision for unreported claims	5,251	4,837
Policyholder amounts on deposit	12,134	11,487
Gross insurance contract liabilities	392,275	385,554
Reinsurance assets ⁽¹⁾	(44,531)	(45,769)
Net insurance contract liabilities	\$ 347,744	\$ 339,785

⁽¹⁾ Reinsurance assets of \$48 (2020 – \$67) are related to investment contract liabilities, refer to note 7(b).

Net insurance contract liabilities represent the amount which, together with estimated future premiums and net investment income, will be sufficient to pay estimated future benefits, policyholder dividends and refunds, taxes (other than income taxes) and expenses on policies in-force net of reinsurance premiums and recoveries.

Net insurance contract liabilities are determined using CALM, as required by the Canadian Institute of Actuaries.

The determination of net insurance contract liabilities is based on an explicit projection of cash flows using current assumptions for each material cash flow item. Investment returns are projected using the current asset portfolios and projected reinvestment strategies.

Each assumption is based on the best estimate adjusted by a margin for adverse deviation. For fixed income returns, this margin is established by scenario testing a range of prescribed and company-developed scenarios consistent with Canadian Actuarial Standards of Practice. For all other assumptions, this margin is established by directly adjusting the best estimate assumption.

Cash flows used in the net insurance contract liabilities valuation adjust the gross policy cash flows to reflect projected cash flows from ceded reinsurance. The cash flow impact of ceded reinsurance varies depending upon the amount of reinsurance, the structure of reinsurance treaties, the expected economic benefit from treaty cash flows and the impact of margins for adverse deviation. Gross insurance contract liabilities are determined by discounting gross policy cash flows using the same discount rate as the net CALM model discount rate.

The reinsurance asset is determined by taking the difference between the gross insurance contract liabilities and the net insurance contract liabilities. The reinsurance asset represents the benefit derived from reinsurance arrangements in force at the date of the Consolidated Statements of Financial Position.

The period used for the projection of cash flows is the policy lifetime for most individual insurance contracts. For other types of contracts, a shorter projection period may be used, with the contract generally ending at the earlier of the first renewal date on or after the Consolidated Statements of Financial Position date where the Company can exercise discretion in renewing its contractual obligations or terms of those obligations and the renewal or adjustment date that maximizes the insurance contract liabilities. For segregated fund products with guarantees, the projection period is generally set as the period that leads to the largest insurance contract liability. Where the projection period is less than the policy lifetime, insurance contract liabilities may be reduced by an allowance for acquisition expenses expected to be recovered from policy cash flows beyond the projection period used for the liabilities. Such allowances are tested for recoverability using assumptions that are consistent with other components of the actuarial valuation.

(b) Composition

The composition of insurance contract liabilities and reinsurance assets by the line of business and reporting segment is as follows.

Gross insurance contract liabilities

As at December 31, 2021	Individual insurance		Annuities and pensions	Other insurance contract liabilities ⁽¹⁾	Total, net of reinsurance ceded	Total reinsurance ceded	Total, gross of reinsurance ceded
	Participating	Non-participating					
Asia	\$ 64,586	\$ 36,387	\$ 6,869	\$ 3,590	\$ 111,432	\$ 2,749	\$ 114,181
Canada	13,518	44,320	16,554	14,981	89,373	430	89,803
U.S.	8,591	71,077	14,007	53,555	147,230	41,150	188,380
Corporate and Other	–	(676)	22	363	(291)	202	(89)
Total, net of reinsurance ceded	86,695	151,108	37,452	72,489	347,744	\$ 44,531	\$ 392,275
Total reinsurance ceded	8,144	20,767	14,681	939	44,531		
Total, gross of reinsurance ceded	\$ 94,839	\$ 171,875	\$ 52,133	\$ 73,428	\$ 392,275		

As at December 31, 2020	Individual insurance		Annuities and pensions	Other insurance contract liabilities ⁽¹⁾	Total, net of reinsurance ceded	Total reinsurance ceded	Total, gross of reinsurance ceded
	Participating	Non-participating					
Asia	\$ 55,262	\$ 36,930	\$ 7,114	\$ 3,652	\$ 102,958	\$ 2,127	\$ 105,085
Canada	12,796	44,468	18,462	14,620	90,346	443	90,789
U.S.	8,422	68,001	16,292	54,224	146,939	42,875	189,814
Corporate and Other	–	(684)	34	192	(458)	324	(134)
Total, net of reinsurance ceded	76,480	148,715	41,902	72,688	339,785	\$ 45,769	\$ 385,554
Total reinsurance ceded	8,780	19,944	16,065	980	45,769		
Total, gross of reinsurance ceded	\$ 85,260	\$ 168,659	\$ 57,967	\$ 73,668	\$ 385,554		

⁽¹⁾ Other insurance contract liabilities include group insurance and individual and group health including long-term care insurance.

Separate sub-accounts were established for participating policies in-force at the demutualization of MLI and John Hancock Mutual Life Insurance Company. These sub-accounts permit this participating business to be operated as separate “closed blocks” of participating policies. As at December 31, 2021, \$29,000 (2020 – \$29,480) of both reinsurance assets and insurance contract liabilities were related to these closed blocks of participating policies.

(c) Assets backing insurance contract liabilities, other liabilities and capital

Assets are segmented and matched to liabilities with similar underlying characteristics by product line and major currency. The Company has established target investment strategies and asset mixes for each asset segment supporting insurance contract liabilities which consider the risk attributes of the liabilities supported by the assets and expectations of market performance. Liabilities with rate and term guarantees are predominantly backed by fixed-rate instruments on a cash flow matching basis for a targeted duration horizon. Longer duration cash flows on these liabilities as well as on adjustable products such as participating life insurance are backed by a broader range of asset classes, including equity and alternative long-duration investments. The Company's capital is invested in a range of debt and equity investments, both public and private.

Changes in the fair value of assets backing net insurance contract liabilities, that the Company considers to be other than temporary, would have a limited impact on the Company's net income wherever there is an effective matching of assets and liabilities, as these changes would be substantially offset by corresponding changes in the value of net insurance contract liabilities. The fair value of assets backing net insurance contract liabilities as at December 31, 2021, excluding reinsurance assets, was estimated at \$354,587 (2020 – \$350,264).

As at December 31, 2021, the fair value of assets backing capital and other liabilities was estimated at \$571,431 (2020 – \$543,273).

The following table presents the carrying value of assets backing net insurance contract liabilities, other liabilities and capital.

As at December 31, 2021	Individual insurance		Annuities and pensions	Other insurance contract liabilities ⁽¹⁾	Other liabilities ⁽²⁾	Capital ⁽³⁾	Total
	Participating	Non-participating					
Assets							
Debt securities	\$ 43,278	\$ 82,050	\$ 19,575	\$ 36,207	\$ 10,723	\$ 32,306	\$ 224,139
Public equities	14,667	8,112	453	374	626	3,835	28,067
Mortgages	3,799	13,295	4,572	8,526	21,802	20	52,014
Private placements	6,005	17,741	7,370	9,775	1,723	228	42,842
Real estate	3,467	6,814	987	1,782	6	177	13,233
Other	15,479	23,096	4,495	15,825	469,014	29,439	557,348
Total	\$ 86,695	\$ 151,108	\$ 37,452	\$ 72,489	\$ 503,894	\$ 66,005	\$ 917,643

As at December 31, 2020	Individual insurance		Annuities and pensions	Other insurance contract liabilities ⁽¹⁾	Other liabilities ⁽²⁾	Capital ⁽³⁾	Total
	Participating	Non-participating					
Assets							
Debt securities	\$ 39,523	\$ 81,548	\$ 20,936	\$ 34,725	\$ 8,872	\$ 33,121	\$ 218,725
Public equities	12,365	6,971	461	310	402	3,213	23,722
Mortgages	3,069	12,536	4,923	8,315	21,338	26	50,207
Private placements	5,549	17,276	7,499	9,439	817	176	40,756
Real estate	3,385	6,466	1,027	1,697	57	200	12,832
Other	12,589	23,918	7,056	18,202	448,014	24,328	534,107
Total	\$ 76,480	\$ 148,715	\$ 41,902	\$ 72,688	\$ 479,500	\$ 61,064	\$ 880,349

⁽¹⁾ Other insurance contract liabilities include group insurance and individual and group health including long-term care insurance.

⁽²⁾ Other liabilities are non-insurance contract liabilities which include segregated funds, bank deposits, long-term debt, deferred tax liabilities, derivatives, investment contracts, embedded derivatives and other miscellaneous liabilities.

⁽³⁾ Capital is defined in note 12.

(d) Significant insurance contract liability valuation assumptions

The determination of insurance contract liabilities involves the use of estimates and assumptions. Insurance contract liabilities have two major components: a best estimate amount and a provision for adverse deviation.

Best estimate assumptions

Best estimate assumptions are made with respect to mortality and morbidity, investment returns, rates of policy termination, operating expenses and certain taxes. Actual experience is monitored to ensure that assumptions remain appropriate and assumptions are changed as warranted. Assumptions are discussed in more detail in the following table.

Nature of factor and assumption methodology		Risk management
Mortality and morbidity	<p>Mortality relates to the occurrence of death. Mortality is a key assumption for life insurance and certain forms of annuities. Mortality assumptions are based on the Company's internal experience as well as past and emerging industry experience. Assumptions are differentiated by sex, underwriting class, policy type and geographic market. Assumptions are made for future mortality improvements.</p> <p>Morbidity relates to the occurrence of accidents and sickness for insured risks. Morbidity is a key assumption for long-term care insurance, disability insurance, critical illness and other forms of individual and group health benefits. Morbidity assumptions are based on the Company's internal experience as well as past and emerging industry experience and are established for each type of morbidity risk and geographic market. Assumptions are made for future morbidity improvements.</p>	<p>The Company maintains underwriting standards to determine the insurability of applicants. Claim trends are monitored on an ongoing basis. Exposure to large claims is managed by establishing policy retention limits, which vary by market and geographic location. Policies in excess of the limits are reinsured with other companies.</p> <p>Mortality is monitored monthly and the overall 2021 experience was unfavourable (2020 – unfavourable) when compared to the Company's assumptions. Morbidity is also monitored monthly and the overall 2021 experience was favourable (2020 – favourable) when compared to the Company's assumptions.</p>

Nature of factor and assumption methodology	Risk management
<p data-bbox="154 184 279 241">Investment returns</p> <p data-bbox="316 184 885 451">The Company segments assets to support liabilities by business segment and geographic market and establishes investment strategies for each liability segment. Projected cash flows from these assets are combined with projected cash flows from future asset purchases/sales to determine expected rates of return on these assets for future years. Investment strategies are based on the target investment policies for each segment and the reinvestment returns are derived from current and projected market rates for fixed income investments and a projected outlook for other alternative long-duration assets.</p> <p data-bbox="316 472 885 577">Investment return assumptions include expected future credit losses on fixed income investments. Credit losses are projected based on past experience of the Company and industry as well as specific reviews of the current investment portfolio.</p> <p data-bbox="316 598 885 745">Investment return assumptions for each asset class and geographic market also incorporate expected investment management expenses that are derived from internal cost studies. The costs are attributed to each asset class to develop unitized assumptions per dollar of asset for each asset class and geographic market.</p>	<p data-bbox="917 184 1485 367">The Company's policy of closely matching asset cash flows with those of the corresponding liabilities is designed to mitigate the Company's exposure to future changes in interest rates. The interest rate risk positions in business segments are monitored on an ongoing basis. Under CALM, the reinvestment rate is developed using interest rate scenario testing and reflects the interest rate risk positions.</p> <p data-bbox="917 388 1485 514">In 2021, the movement in interest rates negatively (2020 – negatively) impacted the Company's net income. This negative impact was primarily due to increase in risk-free interest rates and the overall steepening of the yield curve in the U.S. and Canada.</p> <p data-bbox="917 535 1485 808">The exposure to credit losses is managed against policies that limit concentrations by issuer, corporate connections, ratings, sectors and geographic regions. On participating policies and some non-participating policies, credit loss experience is passed back to policyholders through the investment return crediting formula. For other policies, premiums and benefits reflect the Company's assumed level of future credit losses at contract inception or most recent contract adjustment date. The Company holds explicit provisions in actuarial liabilities for credit risk including provisions for adverse deviation.</p> <p data-bbox="917 829 1485 892">In 2021, credit loss experience on debt securities and mortgages was favourable (2020 – unfavourable) when compared to the Company's assumptions.</p> <p data-bbox="917 913 1485 1144">Equities, real estate and other alternative long-duration assets are used to support liabilities where investment return experience is passed back to policyholders through dividends or credited investment return adjustments. Equities, real estate, oil and gas and other alternative long-duration assets are also used to support long-dated obligations in the Company's annuity and pension businesses and for long-dated insurance obligations on contracts where the investment return risk is borne by the Company.</p> <p data-bbox="917 1165 1485 1354">In 2021, investment experience on alternative long-duration assets backing policyholder liabilities was favourable (2020 – unfavourable) primarily due to gains in private equities and real estate properties, partially offset by losses in timber and agriculture properties. In 2021, alternative long-duration asset origination did not exceed (2020 – did not exceed) valuation requirements.</p> <p data-bbox="917 1375 1485 1585">In 2021, for the business that is dynamically hedged, segregated fund guarantee experience on residual, non-dynamically hedged market risks were unfavourable (2020 – unfavourable). For the business that is not dynamically hedged, experience on segregated fund guarantees due to changes in the market value of assets under management was also unfavourable (2020 – unfavourable). This excludes the experience on the macro equity hedges.</p> <p data-bbox="917 1606 1485 1669">In 2021, investment expense experience was unfavourable (2020 – unfavourable) when compared to the Company's assumptions.</p>

Nature of factor and assumption methodology		Risk management
Policy termination and premium persistency	<p>Policies are terminated through lapses and surrenders, where lapses represent the termination of policies due to non-payment of premiums and surrenders represent the voluntary termination of policies by policyholders. Premium persistency represents the level of ongoing deposits on contracts where there is policyholder discretion as to the amount and timing of deposits. Policy termination and premium persistency assumptions are primarily based on the Company's recent experience adjusted for expected future conditions. Assumptions reflect differences by type of contract within each geographic market.</p>	<p>The Company seeks to design products that minimize financial exposure to lapse, surrender and premium persistency risk. The Company monitors lapse, surrender and persistency experience.</p> <p>In aggregate, 2021 policyholder termination and premium persistency experience was unfavourable (2020 – unfavourable) when compared to the Company's assumptions used in the computation of actuarial liabilities.</p>
Expenses and taxes	<p>Operating expense assumptions reflect the projected costs of maintaining and servicing in-force policies, including associated overhead expenses. The expenses are derived from internal cost studies projected into the future with an allowance for inflation. For some developing businesses, there is an expectation that unit costs will decline as these businesses grow.</p> <p>Taxes reflect assumptions for future premium taxes and other non-income related taxes. For income taxes, policy liabilities are adjusted only for temporary tax timing and permanent tax rate differences on the cash flows available to satisfy policy obligations.</p>	<p>The Company prices its products to cover the expected costs of servicing and maintaining them. In addition, the Company monitors expenses monthly, including comparisons of actual expenses to expense levels allowed for in pricing and valuation.</p> <p>Maintenance expenses for 2021 were unfavourable (2020 – unfavourable) when compared to the Company's assumptions used in the computation of actuarial liabilities.</p> <p>The Company prices its products to cover the expected cost of taxes.</p>
Policyholder dividends, experience rating refunds, and other adjustable policy elements	<p>The best estimate projections for policyholder dividends and experience rating refunds, and other adjustable elements of policy benefits are determined to be consistent with management's expectation of how these elements will be managed should experience emerge consistently with the best estimate assumptions used for mortality and morbidity, investment returns, rates of policy termination, operating expenses and taxes.</p>	<p>The Company monitors policy experience and adjusts policy benefits and other adjustable elements to reflect this experience.</p> <p>Policyholder dividends are reviewed annually for all businesses under a framework of Board-approved policyholder dividend policies.</p>
Foreign currency	<p>Foreign currency risk results from a mismatch of the currency of liabilities and the currency of the assets designated to support these obligations. Where a currency mismatch exists, the assumed rate of return on the assets supporting the liabilities is reduced to reflect the potential for adverse movements in foreign exchange rates.</p>	<p>The Company generally matches the currency of its assets with the currency of the liabilities they support, with the objective of mitigating the risk of loss arising from movements in currency exchange rates.</p>

The Company reviews actuarial methods and assumptions on an annual basis. If changes are made to assumptions (refer to note 6(h)), the full impact is recognized in income immediately.

(e) Sensitivity of insurance contract liabilities to changes in non-economic assumptions

The sensitivity of net income attributed to shareholders to changes in non-economic assumptions underlying insurance contract liabilities is shown below, assuming a simultaneous change in the assumption across all business units. The sensitivity of net income attributed to shareholders to a deterioration or improvement in non-economic assumptions for Long-Term Care ("LTC") as at December 31, 2021 is also shown below.

In practice, experience for each assumption will frequently vary by geographic market and business and assumption updates are made on a business/geographic specific basis. Actual results can differ materially from these estimates for a variety of reasons including the interaction among these factors when more than one changes; changes in actuarial and investment return and future investment activity assumptions; changes in business mix, effective tax rates and other market factors; and the general limitations of internal models.

Potential impact on net income attributed to shareholders arising from changes to non-economic assumptions⁽¹⁾

As at December 31,	Decrease in net income attributed to shareholders	
	2021	2020
Policy related assumptions		
2% adverse change in future mortality rates ^{(2),(4)}		
Products where an increase in rates increases insurance contract liabilities	\$ (500)	\$ (500)
Products where a decrease in rates increases insurance contract liabilities	(500)	(600)
5% adverse change in future morbidity rates (incidence and termination) ^{(3),(4),(5)}	(5,500)	(5,700)
10% adverse change in future policy termination rates ⁽⁴⁾	(2,400)	(2,600)
5% increase in future expense levels	(600)	(600)

⁽¹⁾ The participating policy funds are largely self-supporting and generate no material impact on net income attributed to shareholders as a result of changes in non-economic assumptions. Experience gains or losses would generally result in changes to future dividends, with no direct impact to shareholders.

⁽²⁾ An increase in mortality rates will generally increase policy liabilities for life insurance contracts whereas a decrease in mortality rates will generally increase policy liabilities for policies with longevity risk such as payout annuities.

⁽³⁾ No amounts related to morbidity risk are included for policies where the policy liability provides only for claims costs expected over a short period, generally less than one year, such as Group Life and Health.

⁽⁴⁾ The impacts of the adverse sensitivities on LTC for morbidity, mortality and lapse do not assume any partial offsets from the Company's ability to contractually raise premium rates in such events, subject to state regulatory approval. In practice, the Company would plan to file for rate increases equal to the amount of deterioration resulting from the sensitivities.

⁽⁵⁾ 5% deterioration in incidence rates and 5% deterioration in claim termination rates.

Potential impact on net income attributed to shareholders arising from changes to non-economic assumptions for Long-Term Care included in the above table^{(1),(2)}

As at December 31,	Decrease in net income attributed to shareholders	
	2021	2020
Policy related assumptions		
2% adverse change in future mortality rates	\$ (300)	\$ (300)
5% adverse change in future morbidity incidence rates	(2,000)	(2,100)
5% adverse change in future morbidity claims termination rates	(3,100)	(3,100)
10% adverse change in future policy termination rates	(400)	(400)
5% increase in future expense levels	(100)	(100)

⁽¹⁾ The impacts of the adverse sensitivities on LTC for morbidity, mortality and lapse do not assume any partial offsets from the Company's ability to contractually raise premium rates in such events, subject to state regulatory approval. In practice, the Company would plan to file for rate increases equal to the amount of deterioration resulting from the sensitivities.

⁽²⁾ The impact of favourable changes to all the sensitivities is relatively symmetrical.

(f) Provision for adverse deviation assumptions

The assumptions made in establishing insurance contract liabilities reflect expected best estimates of future experience. To recognize the uncertainty in these best estimate assumptions, to allow for possible misestimation of and deterioration in experience and to provide a greater degree of assurance that the insurance contract liabilities are adequate to pay future benefits, the Appointed Actuary is required to include a margin in each assumption.

Margins are released into future earnings as the policy is released from risk. Margins for interest rate risk are included by testing a number of scenarios of future interest rates. The margin can be established by testing a limited number of scenarios, some of which are prescribed by the Canadian Actuarial Standards of Practice, and determining the liability based on the worst outcome. Alternatively, the margin can be set by testing many scenarios, which are developed according to actuarial guidance. Under this approach the liability would be the average of the outcomes above a percentile in the range prescribed by the Canadian Actuarial Standards of Practice.

Specific guidance is also provided for other risks such as market, credit, mortality and morbidity risks. For other risks which are not specifically addressed by the Canadian Institute of Actuaries, a range is provided of five per cent to 20 per cent of the expected experience assumption. The Company uses assumptions within the permissible ranges, with the determination of the level set considering the risk profile of the business. On occasion, in specific circumstances for additional prudence, a margin may exceed the high end of the range, which is permissible under the Canadian Actuarial Standards of Practice. This additional margin would be released if the specific circumstances which led to it being established were to change.

Each margin is reviewed annually for continued appropriateness.

(g) Change in insurance contract liabilities

The change in insurance contract liabilities was a result of the following business activities and changes in actuarial estimates.

	Net actuarial liabilities	Other insurance contract liabilities ⁽¹⁾	Net insurance contract liabilities	Reinsurance assets	Gross insurance contract liabilities
For the year ended December 31, 2021					
Balance, January 1	\$ 325,408	\$ 14,377	\$ 339,785	\$ 45,769	\$ 385,554
New policies ⁽²⁾	5,947	-	5,947	276	6,223
Normal in-force movement ⁽²⁾	4,689	1,283	5,972	(1,812)	4,160
Changes in methods and assumptions ⁽²⁾	287	-	287	455	742
Reinsurance transactions	-	-	-	-	-
Impact of changes in foreign exchange rates	(4,059)	(188)	(4,247)	(157)	(4,404)
Balance, December 31	\$ 332,272	\$ 15,472	\$ 347,744	\$ 44,531	\$ 392,275

	Net actuarial liabilities	Other insurance contract liabilities ⁽¹⁾	Net insurance contract liabilities	Reinsurance assets	Gross insurance contract liabilities
For the year ended December 31, 2020					
Balance, January 1	\$ 296,589	\$ 13,219	\$ 309,808	\$ 41,353	\$ 351,161
New policies ⁽³⁾	3,166	-	3,166	481	3,647
Normal in-force movement ⁽³⁾	32,340	1,312	33,652	(3,030)	30,622
Changes in methods and assumptions ⁽³⁾	563	-	563	4,559	5,122
Reinsurance transactions ⁽⁴⁾	(3,360)	-	(3,360)	3,360	-
Impact of changes in foreign exchange rates	(3,890)	(154)	(4,044)	(954)	(4,998)
Balance, December 31	\$ 325,408	\$ 14,377	\$ 339,785	\$ 45,769	\$ 385,554

⁽¹⁾ Other insurance contract liabilities are comprised of benefits payable and provisions for unreported claims and policyholder amounts on deposit.

⁽²⁾ In 2021, the \$10,719 increase reported as the change in insurance contract liabilities on the Consolidated Statements of Income primarily consists of changes due to normal in-force movement, new policies and changes in methods and assumptions. These three items in the gross insurance contract liabilities were netted off by an increase of \$11,125, of which \$9,868 is included in the Consolidated Statements of Income increase in insurance contract liabilities and \$1,257 is included in gross claims and benefits. The Consolidated Statements of Income change in insurance contract liabilities also includes the change in embedded derivatives associated with insurance contracts.

⁽³⁾ In 2020, the \$36,982 increase reported as the change in insurance contract liabilities on the Consolidated Statements of Income primarily consists of changes due to normal in-force movement, new policies, associated embedded derivatives and changes in methods and assumptions. These three items in the gross insurance contract liabilities were netted off by an increase of \$39,391, of which \$37,876 is included in the Consolidated Statements of Income increase in insurance contract liabilities and \$1,515 is included in gross claims and benefits. The Consolidated Statements of Income change in insurance contract liabilities also includes the change in embedded derivatives associated with insurance contracts; however, these embedded derivatives are included in other liabilities on the Consolidated Statements of Financial Position.

⁽⁴⁾ On September 30, 2020, the Company, through its subsidiary John Hancock Life Insurance Company (U.S.A.), entered into a reinsurance agreement with Global Atlantic Financial Group Ltd to reinsure a block of legacy U.S. bank owned life insurance ("BOLI"). Under the terms of the transaction, the Company will maintain responsibility for servicing the policies with no expected impact to the BOLI policyholders. The transaction was structured such that the Company ceded policyholder contract liabilities and transferred invested assets backing these liabilities.

(h) Actuarial methods and assumptions

A comprehensive review of actuarial methods and assumptions is performed annually. The review is designed to reduce the Company's exposure to uncertainty by ensuring assumptions for both asset and liability related risks remain appropriate. This is accomplished by monitoring experience and selecting assumptions which represent a current best estimate view of expected future experience, and margins for adverse deviations that are appropriate for the risks assumed. While the assumptions selected represent the Company's current best estimates and assessment of risk, the ongoing monitoring of experience and changes in the economic environment are likely to result in future changes to the actuarial assumptions, which could materially impact the measurement of insurance contract liabilities.

This year's review of actuarial methods and assumptions did not reflect COVID-19 experience as it is too soon to assess the impact of COVID-19 on long-term assumptions. Experience related to COVID-19 will continue to be closely monitored, as well as emerging research on the long-term implications of COVID-19 on mortality and other assumptions.

2021 Review of Actuarial Methods and Assumptions

The completion of the 2021 annual review of actuarial methods and assumptions resulted in an increase in insurance contract liabilities of \$287, net of reinsurance, and a decrease in net income attributed to shareholders of \$41 post-tax.

For the year ended December 31, 2021	Change in insurance contract liabilities, net of reinsurance			Change in net income attributed to shareholders (post-tax)
	Total	Attributed to participating policyholders' account ⁽¹⁾	Attributed to shareholders' account	
U.S. variable annuity product review	\$ 51	\$ –	\$ 51	\$ (40)
Mortality and morbidity updates	350	–	350	(257)
Lapses and policyholder behaviour updates	686	18	668	(534)
Expense updates	(653)	(25)	(628)	503
Investment related updates	(257)	(2)	(255)	168
Other updates	110	231	(121)	119
Net impact	\$ 287	\$ 222	\$ 65	\$ (41)

⁽¹⁾ The change in insurance contract liabilities, net of reinsurance, attributable to the participating policyholders' account was primarily driven by a reduction in the expected long-term interest rates within the valuation models to reflect the low interest rate environment.

U.S. variable annuity product review

The review of the Company's variable annuity products in the U.S. resulted in a \$40 post-tax charge to net income attributed to shareholders.

The charge was primarily driven by updates to lapse assumptions to reflect emerging experience, partially offset by refinements to the Company's segregated fund guaranteed minimum withdrawal benefit valuation models.

Updates to mortality and morbidity

Mortality and morbidity updates resulted in a \$257 post-tax charge to net income attributed to shareholders.

The charge was driven by updates to older age mortality on certain products in the Company's U.S. life insurance business, mortality assumption updates in Indonesia to reflect recent experience, as well as from refining assumptions on several reinsurance arrangements in Canada.

Updates to lapses and policyholder behaviour

Updates to lapses and policyholder behaviour assumptions resulted in a \$534 post-tax charge to net income attributed to shareholders.

The Company completed a detailed review of lapse assumptions for non-participating policies within the Company's U.S. life insurance business including those for universal life, variable universal life, and term products. The Company observed a trend of low lapse rates on the protection-focused universal life insurance products as consumers continue to value the product guarantees in the prolonged low interest rate environment. The Company lowered the overall lapse assumptions for these products to reflect actual experience, which resulted in a post-tax charge to net income attributed to shareholders.

Other updates to lapse and policyholder behaviour assumptions were made across several products in Canada and Japan to reflect recent experience, resulting in a modest post-tax charge to net income attributed to shareholders.

Expense updates

Updates to expense assumptions resulted in a \$503 post-tax gain to net income attributed to shareholders.

The Company completed a detailed review of the investment expense assumptions across the Company. This resulted in a \$263 post-tax gain to net income attributed to shareholders, primarily driven by scale benefits.

The Company also completed a global expense study, which resulted in a \$256 post-tax gain to net income attributed to shareholders. The favourable result primarily reflects a reallocation of expenses across certain business lines to align with actual experience, as well as from expense savings related to various expense efficiency initiatives.

Investment related updates

Updates to investment return assumptions resulted in a \$168 post-tax gain to net income attributed to shareholders.

The primary driver of the gain was an update to the Company's corporate bond default rates to reflect recent experience; the Company reduced default assumptions for certain credit ratings in Canada, the U.S., and Japan. This was partially offset by a reduction to the Company's Canadian real estate investment return assumptions.

Other updates

Other updates resulted in a \$119 post-tax gain to net income attributed to shareholders.

This was primarily driven by Japan, whereby investment fees for certain mandates in the general account provided by affiliate investment managers were reviewed and updated to align with broader market levels.

2020 Review of Actuarial Methods and Assumptions

The 2020 annual review of actuarial methods and assumptions resulted in an increase in insurance contract liabilities of \$563, net of reinsurance, and a decrease in net income attributed to shareholders of \$198 post-tax.

For the year ended December 31, 2020	Change in insurance contract liabilities, net of reinsurance			Change in net income attributed to shareholders (post-tax)
	Total	Attributed to participating policyholders' account ⁽¹⁾	Attributed to shareholders' account	
Canada variable annuity product review	\$ (42)	\$ –	\$ (42)	\$ 31
Mortality and morbidity updates	(304)	(1)	(303)	232
Lapses and policyholder behaviour updates	893	–	893	(682)
Investment related updates	(212)	(153)	(59)	31
Other updates	228	455	(227)	190
Net impact	\$ 563	\$ 301	\$ 262	\$(198)

⁽¹⁾ The change in insurance contract liabilities, net of reinsurance, attributable to the participating policyholders' account was driven by refinements to the Company's valuation models, primarily due to annual updates to reflect market movements in the first half of 2020.

Canada variable annuity product review

The review of the Company's variable annuity product in Canada resulted in a \$31 post-tax gain to net income attributed to shareholders.

The gain was driven by refinements to the segregated fund guaranteed minimum withdrawal benefit valuation models, partially offset by updates to lapse assumptions to reflect emerging experience.

Updates to mortality and morbidity

Mortality and morbidity updates resulted in a \$232 post-tax gain to net income attributed to shareholders.

The gain was primarily driven by a review of the Company's reinsurance arrangements and mortality margins for preferred risk classes in Canada Individual Insurance business, as well as updates to the morbidity assumptions on certain products in Japan. This was partially offset by a charge from the review of mortality assumptions in the U.S. Insurance business, where emerging experience showed higher mortality at older attained ages.

Other updates to mortality and morbidity assumptions were made across several products, largely in Canada, to reflect recent experience resulting in a net post-tax gain to net income attributable to shareholders.

Updates to lapses and policyholder behaviour

Updates to lapses and policyholder behaviour assumptions resulted in a \$682 post-tax charge to net income attributed to shareholders.

The Company completed a detailed review of the lapse assumptions for universal life policies in Canada, including both yearly renewable term, and level cost of insurance products. The Company lowered the ultimate lapse assumptions due to the emergence of more recent data, which resulted in a post-tax charge of \$504 to net income attributed to shareholders, primarily driven by adverse experience on large policies.

Other updates to lapse and policyholder behaviour assumptions were made across several products to reflect recent experience resulting in a net post-tax charge to net income attributable to shareholders. The primary driver of the charge was adverse lapse experience from retail policies in Japan.

Investment related updates

Updates to investment return assumptions resulted in a \$31 post-tax gain to net income attributed to shareholders.

Other updates

Other updates resulted in a \$190 post-tax gain to net income attributed to shareholders. This incorporated several positive items including updates to the Company's U.S. segregated fund guaranteed minimum withdrawal benefit valuation models, as well as updates to the projection of the tax and liability cash flows in the U.S. to align with updated U.S. tax and statutory reporting standard changes, partially offset by refinements to the valuation models, primarily driven by annual updates to reflect market movements in the first half of 2020.

(i) Insurance contracts contractual obligations

Insurance contracts give rise to obligations fixed by agreement. As at December 31, 2021, the Company's contractual obligations and commitments relating to insurance contracts are as follows.

Payments due by period	Less than 1 year	1 to 3 years	3 to 5 years	Over 5 years	Total
Insurance contract liabilities ⁽¹⁾	\$ 12,793	\$ 10,977	\$ 17,091	\$ 868,749	\$ 909,610

⁽¹⁾ Insurance contract liability cash flows include estimates related to the timing and payment of death and disability claims, policy surrenders, policy maturities, annuity payments, minimum guarantees on segregated fund products, policyholder dividends, commissions and premium taxes offset by contractual future premiums on in-force contracts. These estimated cash flows are based on the best estimate assumptions used in the determination of insurance contract liabilities. These amounts are undiscounted and reflect recoveries from reinsurance agreements. Due to the use of assumptions, actual cash flows may differ from these estimates. Cash flows include embedded derivatives measured separately at fair value.

(j) Gross claims and benefits

The following table presents a breakdown of gross claims and benefits.

For the years ended December 31,	2021	2020
Death, disability and other claims	\$ 18,583	\$ 18,064
Maturity and surrender benefits	8,728	8,613
Annuity payments	3,276	3,560
Policyholder dividends and experience rating refunds	1,255	1,411
Net transfers from segregated funds	(732)	(1,515)
Total	\$ 31,110	\$ 30,133

(k) Reinsurance transactions

On November 15, 2021, the Company, through its subsidiary John Hancock Life Insurance Company (U.S.A.) ("JHUSA"), entered into a reinsurance agreement with Venerable Holdings, Inc. to reinsure a block of legacy U.S. variable annuity ("VA") policies. Under the terms of the transaction, the Company will retain responsibility for the maintenance of the policies with no intended impact to VA policyholders. The transaction was structured as coinsurance for the general fund liabilities and modified coinsurance for the segregated fund liabilities. The transaction closed on February 1, 2022 resulting in an estimated after-tax gain of \$750.

On September 30, 2020, the Company, through its subsidiary JHUSA, entered into a reinsurance agreement with Global Atlantic Financial Group Ltd to reinsure a block of legacy U.S. bank owned life insurance ("BOLI"). Under the terms of the transaction, the Company will maintain responsibility for servicing the policies with no expected impact to the BOLI policyholders. The transaction was structured such that the Company ceded policyholder contract liabilities and transferred invested assets backing these liabilities.

The transaction closed with an effective date of July 1, 2020. The Company recorded an after-tax gain of \$262, which includes an increase in reinsurance assets and ceded premiums of \$3.4 billion and \$3.3 billion, respectively, on the Consolidated Statements of Income.

Note 7 Investment Contract Liabilities

Investment contract liabilities are contractual obligations that do not contain significant insurance risk. These contracts are measured either at fair value or at amortized cost.

(a) Investment contract liabilities measured at fair value

Investment contract liabilities measured at fair value include certain investment savings and pension products sold primarily in Hong Kong and mainland China. The following table presents the movement in investment contract liabilities measured at fair value.

For the years ended December 31,	2021	2020
Balance, January 1	\$ 932	\$ 789
New policies	54	180
Changes in market conditions	(38)	90
Redemptions, surrenders and maturities	(138)	(108)
Impact of changes in foreign exchange rates	(8)	(19)
Balance, December 31	\$ 802	\$ 932

(b) Investment contract liabilities measured at amortized cost

Investment contract liabilities measured at amortized cost include several fixed annuity products sold in the U.S. and Canada that provide guaranteed income payments for a contractually determined period and are not contingent on survivorship.

The following table presents carrying and fair values of investment contract liabilities measured at amortized cost.

	2021		2020	
	Amortized cost, gross of reinsurance ceded ⁽¹⁾	Fair value	Amortized cost, gross of reinsurance ceded ⁽¹⁾	Fair value
As at December 31,				
U.S. fixed annuity products	\$ 1,380	\$ 1,602	\$ 1,361	\$ 1,680
Canadian fixed annuity products	935	1,016	995	1,086
Investment contract liabilities	\$ 2,315	\$ 2,618	\$ 2,356	\$ 2,766

⁽¹⁾ As at December 31, 2021, investment contract liabilities with the carrying value and fair value of \$48 and \$52, respectively (2020 – \$67 and \$76, respectively), were reinsured by the Company. The net carrying value and fair value of investment contract liabilities were \$2,267 and \$2,566 (2020 – \$2,289 and \$2,690), respectively.

The changes in investment contract liabilities measured at amortized cost was a result of the following business activities.

For the years ended December 31,	2021	2020
Balance, January 1	\$ 2,356	\$ 2,315
Policy deposits	92	202
Interest	71	61
Withdrawals	(191)	(194)
Fees	(1)	(1)
Other	(5)	-
Impact of changes in foreign exchange rates	(7)	(27)
Balance, December 31	\$ 2,315	\$ 2,356

Carrying value of fixed annuity products is amortized at a rate that exactly discounts the projected actual cash flows to the net carrying amount of the liability at the date of issue.

Fair value of fixed annuity products is determined by projecting cash flows according to the contract terms and discounting the cash flows at current market rates adjusted for the Company's own credit standing. As at December 31, 2021 and 2020, fair value of all investment contract liabilities was determined using Level 2 valuation techniques.

(c) Investment contracts contractual obligations

As at December 31, 2021, the Company's contractual obligations and commitments relating to the investment contracts are as follows.

Payments due by period	Less than 1 year	1 to 3 years	3 to 5 years	Over 5 years	Total
Investment contract liabilities ⁽¹⁾	\$ 292	\$ 486	\$ 489	\$ 3,542	\$ 4,809

⁽¹⁾ Due to the nature of the products, the timing of net cash flows may be before contract maturity. Cash flows are undiscounted.

Note 8 Risk Management

The Company's policies and procedures for managing risks of financial instruments are disclosed in denoted components of the "Risk Management and Risk Factors" section of the MD&A for the year ended December 31, 2021. These MD&A disclosures are in accordance with IFRS 7 "Financial Instruments: Disclosures" and are an integral part of these Consolidated Financial Statements.

(a) Credit risk

Credit risk is the risk of loss due to inability or unwillingness of a borrower, or counterparty, to fulfill its payment obligations. Worsening regional and global economic conditions, segment or industry sector challenges, or company specific factors could result in defaults or downgrades and could lead to increased provisions or impairments related to the Company's general fund invested assets, derivative financial instruments and reinsurance assets and an increase in provisions for future credit impairments that are included in actuarial liabilities.

The Company's exposure to credit risk is managed through risk management policies and procedures which include a defined credit evaluation and adjudication process, delegated credit approval authorities and established exposure limits by borrower, corporate connection, credit rating, industry and geographic region. The Company measures derivative counterparty exposure as net potential credit exposure, which takes into consideration mark-to-market values of all transactions with each counterparty, net of any collateral held, and an allowance to reflect future potential exposure. Reinsurance counterparty exposure is measured reflecting the level of ceded liabilities.

The Company also ensures where warranted, that mortgages, private placements and loans to Bank clients are secured by collateral, the nature of which depends on the credit risk of the counterparty.

An allowance for losses on loans is established when a loan becomes impaired. Allowances for loan losses are calculated to reduce the carrying value of the loans to estimated net realizable value. The establishment of such allowances takes into consideration normal historical credit loss levels and future expectations, with an allowance for adverse deviations. In addition, policy liabilities include general provisions for credit losses from future asset impairments. Impairments are identified through regular monitoring of all credit related exposures, considering such information as general market conditions, industry and borrower specific credit events and any other relevant trends or conditions. Allowances for losses on reinsurance contracts are established when a reinsurance counterparty becomes unable or unwilling to fulfill its contractual obligations. The allowance for loss is based on current recoverable amounts and ceded policy liabilities.

Credit risk associated with derivative counterparties is discussed in note 8(d) and credit risk associated with reinsurance counterparties is discussed in note 8(i).

(i) Credit exposure

The following table presents the gross carrying amount of financial instruments subject to credit exposure, without considering any collateral held or other credit enhancements.

As at December 31,	2021	2020
Debt securities		
FVTPL	\$ 189,722	\$ 183,061
AFS	33,097	35,663
Other	1,320	–
Mortgages	52,014	50,207
Private placements	42,842	40,756
Policy loans	6,397	6,398
Loans to Bank clients	2,506	1,976
Derivative assets	17,503	27,793
Accrued investment income	2,641	2,523
Reinsurance assets	44,579	45,836
Other financial assets	6,242	6,156
Total	\$ 398,863	\$ 400,369

As at December 31, 2021, 97% (2020 – 97%) of debt securities were investment grade-rated with ratings ranging between AAA to BBB.

(ii) Credit quality

Credit quality of commercial mortgages and private placements

Credit quality of commercial mortgages and private placements is assessed at least annually by using an internal rating based on regular monitoring of credit-related exposures, considering both qualitative and quantitative factors.

A provision is recorded when the internal risk ratings indicate that a loss represents the most likely outcome. These assets are designated as non-accrual and an allowance is established based on an analysis of the security and repayment sources.

The following table presents the credit quality of commercial mortgages and private placements.

As at December 31, 2021	AAA	AA	A	BBB	BB	B and lower	Total
Commercial mortgages							
Retail	\$ 113	\$ 1,340	\$ 5,179	\$ 1,936	\$ 228	\$ 2	\$ 8,798
Office	56	1,256	6,004	1,291	87	40	8,734
Multi-family residential	557	1,869	3,771	767	32	-	6,996
Industrial	47	376	2,808	328	-	-	3,559
Other	212	1,010	787	956	47	-	3,012
Total commercial mortgages	985	5,851	18,549	5,278	394	42	31,099
Agricultural mortgages	-	-	119	242	-	-	361
Private placements	976	5,720	16,147	16,220	1,161	2,618	42,842
Total	\$ 1,961	\$ 11,571	\$ 34,815	\$ 21,740	\$ 1,555	\$ 2,660	\$ 74,302

As at December 31, 2020	AAA	AA	A	BBB	BB	B and lower	Total
Commercial mortgages							
Retail	\$ 110	\$ 1,339	\$ 4,761	\$ 2,242	\$ 168	\$ 1	\$ 8,621
Office	66	1,297	5,948	1,174	164	20	8,669
Multi-family residential	613	1,675	2,896	582	33	-	5,799
Industrial	25	320	2,353	259	3	-	2,960
Other	238	966	914	984	355	7	3,464
Total commercial mortgages	1,052	5,597	16,872	5,241	723	28	29,513
Agricultural mortgages	-	-	127	77	106	-	310
Private placements	1,061	4,829	15,585	15,825	1,206	2,250	40,756
Total	\$ 2,113	\$ 10,426	\$ 32,584	\$ 21,143	\$ 2,035	\$ 2,278	\$ 70,579

Credit quality of residential mortgages and loans to Bank clients

Credit quality of residential mortgages and loans to Bank clients is assessed at least annually with the loan being performing or non-performing as the key credit quality indicator.

Full or partial write-offs of loans are recorded when management believes that there is no realistic prospect of full recovery. Write-offs, net of recoveries, are deducted from the allowance for credit losses. All impairments are captured in the allowance for credit losses.

The following table presents credit quality of residential mortgages and loans to Bank clients.

As at December 31,	2021			2020		
	Insured	Uninsured	Total	Insured	Uninsured	Total
Residential mortgages						
Performing	\$ 7,264	\$ 13,272	\$ 20,536	\$ 6,349	\$ 13,980	\$ 20,329
Non-performing ⁽¹⁾	6	12	18	9	46	55
Loans to Bank clients						
Performing	n/a	2,506	2,506	n/a	1,976	1,976
Non-performing ⁽¹⁾	n/a	-	-	n/a	-	-
Total	\$ 7,270	\$ 15,790	\$ 23,060	\$ 6,358	\$ 16,002	\$ 22,360

⁽¹⁾ Non-performing refers to payments that are 90 days or more past due.

The carrying value of government-insured mortgages was 14% of the total mortgage portfolio as at December 31, 2021 (2020 – 13%). Most of these insured mortgages are residential loans as classified in the table above.

(iii) Past due or credit impaired financial assets

The Company provides for credit risk by establishing allowances against the carrying value of impaired loans and recognizing impairment losses on AFS debt securities. In addition, the Company reports as impairment losses certain declines in the fair value of debt securities designated as FVTPL which it deems represent impairments due to non-recoverability of due amounts.

The following table presents past due but not impaired and impaired financial assets.

As at December 31, 2021	Past due but not impaired			Total impaired
	Less than 90 days	90 days and greater	Total	
Debt securities				
FVTPL	\$ 20	\$ -	\$ 20	\$ 2
AFS	-	-	-	-
Private placements	63	-	63	175
Mortgages and loans to Bank clients	61	-	61	51
Other financial assets	261	47	308	-
Total	\$ 405	\$ 47	\$ 452	\$ 228

As at December 31, 2020	Past due but not impaired			Total impaired
	Less than 90 days	90 days and greater	Total	
Debt securities				
FVTPL	\$ -	\$ -	\$ -	\$ 54
AFS	-	-	-	1
Private placements	30	-	30	170
Mortgages and loans to Bank clients	66	-	66	69
Other financial assets	56	58	114	2
Total	\$ 152	\$ 58	\$ 210	\$ 296

The following table presents gross carrying value and allowances for loan losses for impaired loans.

As at December 31, 2021	Gross carrying value	Allowances for loan losses	Net carrying value
	Private placements	\$ 197	\$ 22
Mortgages and loans to Bank clients	73	22	51
Total	\$ 270	\$ 44	\$ 226

As at December 31, 2020	Gross carrying value	Allowances for loan losses	Net carrying value
	Private placements	\$ 249	\$ 79
Mortgages and loans to Bank clients	97	28	69
Total	\$ 346	\$ 107	\$ 239

The following table presents movement of allowance for loan losses during the year.

For the years ended December 31,	2021			2020		
	Private placements	Mortgages and loans to Bank clients	Total	Private placements	Mortgages and loans to Bank clients	Total
Balance, January 1	\$ 79	\$ 28	\$ 107	\$ 4	\$ 16	\$ 20
Provisions	14	12	26	94	31	125
Recoveries	(58)	(16)	(74)	(6)	(6)	(12)
Write-offs ⁽¹⁾	(13)	(2)	(15)	(13)	(13)	(26)
Balance, December 31	\$ 22	\$ 22	\$ 44	\$ 79	\$ 28	\$ 107

⁽¹⁾ Includes disposals and impact of changes in foreign exchange rates.

(b) Securities lending, repurchase and reverse repurchase transactions

The Company engages in securities lending to generate fee income. Collateral exceeding the market value of the loaned securities is retained by the Company until the underlying security has been returned to the Company. The market value of the loaned securities is monitored daily and additional collateral is obtained or refunded as the market value of the underlying loaned securities fluctuates. As at December 31, 2021, the Company had loaned securities (which are included in invested assets) with a market value of \$564 (2020 – \$889). The Company holds collateral with a current market value that exceeds the value of securities lent in all cases.

The Company engages in reverse repurchase transactions to generate fee income to take possession of securities to cover short positions in similar instruments and to meet short-term funding requirements. As at December 31, 2021, the Company had engaged in reverse repurchase transactions of \$1,490 (2020 – \$716) which are recorded as short-term receivables. In addition, the Company had engaged in repurchase transactions of \$536 as at December 31, 2021 (2020 – \$353) which are recorded as payables.

(c) Credit default swaps

The Company replicates exposure to specific issuers by selling credit protection via credit default swaps (“CDS”) to complement its cash debt securities investing. The Company does not write CDS protection more than its government bond holdings. A CDS is a derivative instrument representing an agreement between two parties to exchange the credit risk of a single specified entity or an index based on the credit risk of a group of entities (all commonly referred to as the “reference entity” or a portfolio of “reference entities”), in return for a periodic premium. CDS contracts typically have a five-year term.

The following table presents details of the credit default swap protection sold by type of contract and external agency rating for the underlying reference security.

As at December 31, 2021	Notional amount ⁽¹⁾	Fair value	Weighted average maturity (in years) ⁽²⁾
Single name CDS⁽³⁾ – Corporate debt			
A	\$ 16	\$ –	1
BBB	28	1	2
Total single name CDS	\$ 44	\$ 1	2
Total CDS protection sold	\$ 44	\$ 1	2

As at December 31, 2020	Notional amount ⁽¹⁾	Fair value	Weighted average maturity (in years) ⁽²⁾
Single name CDS⁽³⁾ – Corporate debt			
A	\$ 136	\$ 2	1
BBB	105	1	2
Total single name CDS	\$ 241	\$ 3	1
Total CDS protection sold	\$ 241	\$ 3	1

⁽¹⁾ Notional amounts represent the maximum future payments the Company would have to pay its counterparties assuming a default of the underlying credit and zero recovery on the underlying issuer obligations.

⁽²⁾ The weighted average maturity of the CDS is weighted based on notional amounts.

⁽³⁾ Ratings are based on S&P where available followed by Moody's, DBRS, and Fitch. If no rating is available from a rating agency, an internally developed rating is used.

The Company held no purchased credit protection as at December 31, 2021 and 2020.

(d) Derivatives

The Company's point-in-time exposure to losses related to credit risk of a derivative counterparty is limited to the amount of any net gains that may have accrued with a particular counterparty. Gross derivative counterparty exposure is measured as the total fair value (including accrued interest) of all outstanding contracts in a gain position excluding any offsetting contracts in a loss position and the impact of collateral on hand. The Company limits the risk of credit losses from derivative counterparties by: using investment grade counterparties, entering into master netting arrangements which permit the offsetting of contracts in a loss position in the case of a counterparty default and entering into Credit Support Annex agreements whereby collateral must be provided when the exposure exceeds a certain threshold. All contracts are held with counterparties rated BBB+ or higher. As at December 31, 2021, the percentage of the Company's derivative exposure with counterparties rated AA- or higher was 17 per cent (2020 – 20 per cent). The Company's exposure to credit risk was mitigated by \$10,121 fair value of collateral held as security as at December 31, 2021 (2020 – \$16,696).

As at December 31, 2021, the largest single counterparty exposure, without taking into consideration the impact of master netting agreements or the benefit of collateral held, was \$2,132 (2020 – \$4,110). The net exposure to this counterparty, after taking into consideration master netting agreements and the fair value of collateral held, was \$nil (2020 – \$nil). As at December 31, 2021, the total maximum credit exposure related to derivatives across all counterparties, without taking into consideration the impact of master netting agreements and the benefit of collateral held, was \$18,226 (2020 – \$28,685).

(e) Offsetting financial assets and financial liabilities

Certain derivatives, securities lent and repurchase agreements have conditional offset rights. The Company does not offset these financial instruments in the Consolidated Statements of Financial Position, as the rights of offset are conditional.

In the case of derivatives, collateral is collected from and pledged to counterparties and clearing houses to manage credit risk exposure in accordance with Credit Support Annexes to swap agreements and clearing agreements. Under master netting agreements, the Company has a right of offset in the event of default, insolvency, bankruptcy or other early termination.

In the case of reverse repurchase and repurchase transactions, additional collateral may be collected from or pledged to counterparties to manage credit exposure according to bilateral reverse repurchase or repurchase agreements. In the event of default by a counterparty, the Company is entitled to liquidate the collateral held to offset against the same counterparty's obligation.

The following table presents the effect of conditional master netting and similar arrangements. Similar arrangements may include global master repurchase agreements, global master securities lending agreements, and any related rights to financial collateral.

As at December 31, 2021	Gross amounts of financial instruments ⁽¹⁾	Related amounts not set off in the Consolidated Statements of Financial Position			
		Amounts subject to an enforceable master netting arrangement or similar agreements	Financial and cash collateral pledged (received) ⁽²⁾	Net amount including financing entities ⁽³⁾	Net amounts excluding financing entities
Financial assets					
Derivative assets	\$ 18,226	\$ (8,410)	\$ (9,522)	\$ 294	\$ 294
Securities lending	564	-	(564)	-	-
Reverse repurchase agreements	1,490	(183)	(1,307)	-	-
Total financial assets	\$ 20,280	\$ (8,593)	\$ (11,393)	\$ 294	\$ 294
Financial liabilities					
Derivative liabilities	\$ (10,940)	\$ 8,410	\$ 2,250	\$ (280)	\$ (79)
Repurchase agreements	(536)	183	353	-	-
Total financial liabilities	\$ (11,476)	\$ 8,593	\$ 2,603	\$ (280)	\$ (79)

As at December 31, 2020	Gross amounts of financial instruments ⁽¹⁾	Related amounts not set off in the Consolidated Statements of Financial Position			
		Amounts subject to an enforceable master netting arrangement or similar agreements	Financial and cash collateral pledged (received) ⁽²⁾	Net amount including financing entities ⁽³⁾	Net amounts excluding financing entities
Financial assets					
Derivative assets	\$ 28,685	\$ (13,243)	\$ (15,323)	\$ 119	\$ 119
Securities lending	889	-	(889)	-	-
Reverse repurchase agreements	716	-	(715)	1	1
Total financial assets	\$ 30,290	\$ (13,243)	\$ (16,927)	\$ 120	\$ 120
Financial liabilities					
Derivative liabilities	\$ (16,076)	\$ 13,243	\$ 2,482	\$ (351)	\$ (71)
Repurchase agreements	(353)	-	353	-	-
Total financial liabilities	\$ (16,429)	\$ 13,243	\$ 2,835	\$ (351)	\$ (71)

⁽¹⁾ Financial assets and liabilities include accrued interest of \$725 and \$902, respectively (2020 – \$892 and \$1,114, respectively).

⁽²⁾ Financial and cash collateral exclude over-collateralization. As at December 31, 2021, the Company was over-collateralized on OTC derivative assets, OTC derivative liabilities, securities lending and reverse repurchase agreements and repurchase agreements in the amounts of \$599, \$875, \$36 and \$2, respectively (2020 – \$1,373, \$627, \$74 and \$nil, respectively). As at December 31, 2021, collateral pledged (received) does not include collateral-in-transit on OTC instruments or initial margin on exchange traded contracts or cleared contracts.

⁽³⁾ Includes derivative contracts entered between the Company and its financing entity which it does not consolidate. The Company does not exchange collateral on derivative contracts entered with this entity. Refer to note 17.

The Company also has certain credit linked note assets and variable surplus note liabilities which have unconditional offsetting rights. Under the netting agreements, the Company has rights of offset including in the event of the Company's default, insolvency, or bankruptcy. These financial instruments are offset in the Consolidated Statements of Financial Position.

A credit linked note is a fixed income instrument the term of which, in this case, is linked to a variable surplus note. A surplus note is a subordinated debt obligation that often qualifies as surplus (the U.S. statutory equivalent of equity) by some U.S. state insurance regulators. Interest payments on surplus notes are made after all other contractual payments are made. The following table presents the effect of unconditional netting.

	Gross amounts of financial instruments	Amounts subject to an enforceable netting arrangement	Net amounts of financial instruments
As at December 31, 2021			
Credit linked note ⁽¹⁾	\$ 1,054	\$ (1,054)	\$ -
Variable surplus note	(1,054)	1,054	-
As at December 31, 2020			
Credit linked note ⁽¹⁾	\$ 932	\$ (932)	\$ -
Variable surplus note	(932)	932	-

⁽¹⁾ As at December 31, 2021 and 2020, the Company had no fixed surplus notes outstanding, refer to note 18(g).

(f) Risk concentrations

The Company defines enterprise-wide investment portfolio level targets and limits to ensure that portfolios are diversified across asset classes and individual investment risks. The Company monitors actual investment positions and risk exposures for concentration risk and reports its findings to the Executive Risk Committee and the Risk Committee of the Board of Directors.

As at December 31,	2021	2020
Debt securities and private placements rated as investment grade BBB or higher ⁽¹⁾	97%	97%
Government debt securities as a per cent of total debt securities	36%	37%
Government private placements as a per cent of total private placements	11%	11%
Highest exposure to a single non-government debt security and private placement issuer	\$ 1,167	\$ 1,148
Largest single issuer as a per cent of the total equity portfolio	2%	2%
Income producing commercial office properties (2021 – 47% of real estate, 2020 – 53%)	\$ 6,244	\$ 6,745
Largest concentration of mortgages and real estate ⁽²⁾ – Ontario, Canada (2021 – 28%, 2020 – 28%)	\$ 18,253	\$ 17,367

⁽¹⁾ Investment grade debt securities and private placements include 39% rated A, 17% rated AA and 15% rated AAA (2020 – 40%, 16% and 16%) investments based on external ratings where available.

⁽²⁾ Mortgages and real estate investments are diversified geographically and by property type.

The following table presents debt securities and private placements portfolio by sector and industry.

As at December 31,	2021		2020	
	Carrying value	% of total	Carrying value	% of total
Government and agency	\$ 84,244	32	\$ 85,357	33
Utilities	48,372	18	47,902	18
Financial	38,905	15	35,656	15
Consumer	32,671	12	29,684	11
Energy	19,637	7	20,963	8
Industrial	24,727	9	22,070	9
Other	18,425	7	17,850	6
Total	\$ 266,981	100	\$ 259,482	100

(g) Insurance risk

Insurance risk is the risk of loss due to actual experience for mortality and morbidity claims, policyholder behaviour and expenses emerging differently than assumed when a product was designed and priced. A variety of assumptions are made related to these experience factors, for reinsurance costs, and for sales levels when products are designed and priced, as well as in the determination of policy liabilities. Assumptions for future claims are generally based on both Company and industry experience, and assumptions for future policyholder behaviour and expenses are generally based on Company experience. Such assumptions require significant professional judgment, and actual experience may be materially different than the assumptions made by the Company. Claims may be impacted unexpectedly by changes in the prevalence of diseases or illnesses, medical and technology advances, widespread lifestyle changes, natural disasters, large-scale man-made disasters and acts of terrorism. Policyholder behaviour including premium payment patterns, policy renewals, lapse rates and withdrawal and surrender activity are influenced by many factors including market and general economic conditions, and the availability and relative attractiveness of other products in the marketplace. Some reinsurance rates are not guaranteed and may be changed unexpectedly. Adjustments the Company seeks to make to Non-Guaranteed elements to reflect changing experience factors may be challenged by regulatory or legal action and the Company may be unable to implement them or may face delays in implementation.

The Company manages insurance risk through global policies, standards and best practices with respect to product design, pricing, underwriting and claim adjudication, and a global underwriting manual. Each business unit establishes underwriting policies and procedures, including criteria for approval of risks and claims adjudication policies and procedures. The current global life retention limit is US\$30 for individual policies (US\$35 for survivorship life policies) and is shared across businesses. Lower limits are applied in some markets and jurisdictions. The Company aims to further reduce exposure to claims concentrations by applying geographical aggregate retention limits for certain covers. Enterprise-wide, the Company aims to reduce the likelihood of high aggregate claims by operating globally, insuring a wide range of unrelated risk events, and reinsuring some risk.

(h) Concentration risk

The geographic concentration of the Company's insurance and investment contract liabilities, including embedded derivatives, is shown below. The disclosure is based on the countries in which the business is written.

As at December 31, 2021	Gross liabilities	Reinsurance assets	Net liabilities
U.S. and Canada	\$ 271,090	\$ (42,806)	\$ 228,284
Asia and Other	124,398	(1,773)	122,625
Total	\$ 395,488	\$ (44,579)	\$ 350,909

As at December 31, 2020	Gross liabilities	Reinsurance assets	Net liabilities
U.S. and Canada	\$ 273,848	\$ (44,645)	\$ 229,203
Asia and Other	114,878	(1,191)	113,687
Total	\$ 388,726	\$ (45,836)	\$ 342,890

(i) Reinsurance risk

In the normal course of business, the Company limits the amount of loss on any one policy by reinsuring certain levels of risk with other insurers. In addition, the Company accepts reinsurance from other reinsurers. Reinsurance ceded does not discharge the Company's liability as the primary insurer. Failure of reinsurers to honour their obligations could result in losses to the Company; consequently, allowances are established for amounts deemed uncollectible. To minimize losses from reinsurer insolvency, the Company monitors the concentration of credit risk both geographically and with any one reinsurer. In addition, the Company selects reinsurers with high credit ratings.

As at December 31, 2021, the Company had \$44,579 (2020 – \$45,836) of reinsurance assets. Of this, 94 per cent (2020 – 94 per cent) were ceded to reinsurers with Standard and Poor's ratings of A- or above. The Company's exposure to credit risk was mitigated by \$25,466 fair value of collateral held as security as at December 31, 2021 (2020 – \$27,360). Net exposure after considering offsetting agreements and the benefit of the fair value of collateral held was \$19,113 as at December 31, 2021 (2020 – \$18,476).

Note 9 Long-Term Debt

(a) Carrying value of long-term debt instruments

As at December 31,	Issue date	Maturity date	Par value	2021	2020
3.050% Senior notes ^{(1),(2)}	August 27, 2020	August 27, 2060	US\$ 1,155	\$ 1,455	\$ 1,460
4.70% Senior notes ^{(1),(3)}	June 23, 2016	June 23, 2046	US\$ 1,000	-	1,265
5.375% Senior notes ^{(1),(4)}	March 4, 2016	March 4, 2046	US\$ 750	939	943
2.396% Senior notes ^{(1),(4)}	June 1, 2020	June 1, 2027	US\$ 200	253	254
2.484% Senior notes ^{(1),(4)}	May 19, 2020	May 19, 2027	US\$ 500	630	632
3.527% Senior notes ^{(1),(4)}	December 2, 2016	December 2, 2026	US\$ 270	342	343
4.150% Senior notes ^{(1),(4)}	March 4, 2016	March 4, 2026	US\$ 1,000	1,263	1,267
Total				\$ 4,882	\$ 6,164

⁽¹⁾ These U.S. dollar senior notes have been designated as hedges of the Company's net investment in its U.S. operations which reduces the earnings volatility that would otherwise arise from the re-measurement of these senior notes into Canadian dollars.

⁽²⁾ MFC may redeem the notes in whole, but not in part, on August 27, 2025, and thereafter on every August 27 at a redemption price equal to par, together with accrued and unpaid interest. Issue costs are amortized to the earliest par redemption date.

⁽³⁾ The Company redeemed in full the 4.70% Senior notes at par on, June 23, 2021, the earliest par redemption date.

⁽⁴⁾ MFC may redeem the senior notes in whole or in part, at any time, at a redemption price equal to the greater of par and a price based on the yield of a corresponding U.S. Treasury bond, from redemption date to the respective maturity date, plus a specified number of basis points. The specified number of basis points is as follows: 5.375% - 40 bps, 2.396% - 30 bps, 2.484% - 30 bps, 3.527% - 20 bps, and 4.150% - 35 bps. Issue costs are amortized over the term of the debt.

The cash amount of interest paid on long-term debt during the year ended December 31, 2021 was \$210 (2020 – \$229).

(b) Fair value measurement

Fair value of long-term debt instruments is determined using the following hierarchy:

Level 1 – Fair value is determined using quoted market prices where available.

Level 2 – When quoted market prices are not available, fair value is determined with reference to quoted prices of similar debt instruments or estimated using discounted cash flows based on observable market rates.

The Company measures long-term debt at amortized cost in the Consolidated Statements of Financial Position. As at December 31, 2021, the fair value of long-term debt was \$5,439 (2020 – \$7,042). Fair value of long-term debt was determined using Level 2 valuation techniques (2020 – Level 2).

(c) Aggregate maturities of long-term debt

As at December 31	Less than 1 year	1 to 3 years	3 to 5 years	Over 5 years	Total
2021	\$ –	\$ –	\$ 1,605	\$ 3,277	\$ 4,882
2020	–	–	–	6,164	6,164

Note 10 Capital Instruments

(a) Carrying value of capital instruments

As at December 31,	Issuance date	Earliest par redemption date	Maturity date	Par value	2021	2020
JHFC Subordinated notes ^{(1),(2)}	December 14, 2006	n/a	December 15, 2036	\$ 650	\$ 647	\$ 647
2.818% MFC Subordinated debentures ^{(1),(3)}	May 12, 2020	May 13, 2030	May 13, 2035	\$ 1,000	995	995
4.061% MFC Subordinated notes ^{(1),(4),(5)}	February 24, 2017	February 24, 2027	February 24, 2032	US\$ 750	947	951
2.237% MFC Subordinated debentures ^{(1),(6)}	May 12, 2020	May 12, 2025	May 12, 2030	\$ 1,000	997	996
3.00% MFC Subordinated notes ^{(1),(7)}	November 21, 2017	November 21, 2024	November 21, 2029	S\$ 500	469	480
3.049% MFC Subordinated debentures ^{(1),(8)}	August 18, 2017	August 20, 2024	August 20, 2029	\$ 750	748	748
3.317% MFC Subordinated debentures ^{(1),(8)}	May 9, 2018	May 9, 2023	May 9, 2028	\$ 600	599	598
3.181% MLI Subordinated debentures ^{(1),(9)}	November 20, 2015	November 22, 2022	November 22, 2027	\$ 1,000	999	999
3.85% MFC Subordinated notes ⁽¹⁰⁾	May 25, 2016	May 25, 2021	May 25, 2026	S\$ 500	–	481
2.389% MLI Subordinated debentures ⁽¹¹⁾	June 1, 2015	January 5, 2021	January 5, 2026	\$ 350	–	350
7.375% JHUSA Surplus notes ⁽¹²⁾	February 25, 1994	n/a	February 15, 2024	US\$ 450	579	584
Total					\$ 6,980	\$ 7,829

⁽¹⁾ The Company is monitoring regulatory and market developments globally with respect to the interest rate benchmark reform. As these rates could potentially be discontinued in the future, the Company will take appropriate actions in due course to accomplish the necessary transitions or replacements. As at December 31, 2021, capital instruments of \$647 have interest rate referencing CDOR. In addition, capital instruments of \$4,338, \$947, and \$469 have interest rate reset in the future referencing CDOR, the USD Mid-Swap rate, and the SGD swap rate, respectively.

⁽²⁾ Issued by Manulife Holdings (Delaware) LLC (“MHDLL”), now John Hancock Financial Corporation (“JHFC”), a wholly owned subsidiary of MFC, to Manulife Finance (Delaware) LLC (“MFLLC”), a subsidiary of Manulife Finance (Delaware) L.P. (“MFLP”). MFLP and its subsidiaries are wholly owned unconsolidated related parties of the Company. The notes bear interest at a floating rate equal to the 90-day Bankers’ Acceptance rate plus 0.72%. With regulatory approval, JHFC may redeem the note, in whole or in part, at any time, at par, together with accrued and unpaid interest. Refer to note 17.

⁽³⁾ Issued by MFC, interest is payable semi-annually. After May 13, 2030, the interest rate will reset to equal the 90-day Bankers’ Acceptance rate plus 1.82%. With regulatory approval, MFC may redeem the debentures, in whole, or in part, on or after May 13, 2025, at a redemption price together with accrued and unpaid interest. If the redemption date is on or after May 13, 2025, but prior to May 13, 2030, the redemption price shall be the greater of: (i) the Canada yield price as defined in the prospectus; and (ii) par. If the redemption date is on or after May 13, 2030, the redemption price shall be equal to par.

⁽⁴⁾ On the earliest par redemption date, the interest rate will reset to equal the 5-Year US Dollar Mid-Swap Rate plus 1.647%. With regulatory approval, MFC may redeem the debentures, in whole, but not in part, on the earliest par redemption date, at a redemption price equal to par, together with accrued and unpaid interest.

⁽⁵⁾ Designated as a hedge of the Company’s net investment in its U.S. operations which reduces the earnings volatility that would otherwise arise from the re-measurement of the subordinated notes into Canadian dollars.

⁽⁶⁾ Issued by MFC, interest is payable semi-annually. After May 12, 2025, the interest rate will reset to equal the 90-day Bankers’ Acceptance rate plus 1.49%. With regulatory approval, MFC may redeem the debentures, in whole, or in part, on or after May 12, 2025, at a redemption price equal to par, together with accrued and unpaid interest.

⁽⁷⁾ On the earliest par redemption date, the interest rate will reset to equal the 5-Year Singapore Dollar Swap Rate plus 0.832%. With regulatory approval, MFC may redeem the debentures, in whole, but not in part, on the earliest par redemption date and thereafter on each interest payment date, at a redemption price equal to par, together with accrued and unpaid interest.

⁽⁸⁾ Interest is fixed for the period up to the earliest par redemption date, thereafter, the interest rate will reset to a floating rate equal to the 90-day Bankers’ Acceptance rate plus a specified number of basis points. The specified number of basis points is as follows: 3.049% – 105 bps, 3.317% – 78 bps. With regulatory approval, MFC may redeem the debentures, in whole or in part, on or after the earliest par redemption date, at a redemption price equal to par, together with accrued and unpaid interest.

⁽⁹⁾ Interest is fixed for the period up to the earliest par redemption date, thereafter the interest rate will reset to a floating rate equal to the 90-day Bankers’ Acceptance rate plus 1.57%. With regulatory approval, MLI may redeem the debentures, in whole or in part, on or after the earliest par redemption date, at a redemption price equal to par, together with accrued and unpaid interest.

⁽¹⁰⁾ MFC redeemed in full the 3.85% subordinated notes at par, on May 25, 2021, the earliest par redemption date.

⁽¹¹⁾ MLI redeemed in full the 2.389% subordinated debentures at par, on January 5, 2021, the earliest par redemption date.

⁽¹²⁾ Issued by John Hancock Mutual Life Insurance Company, now John Hancock Life Insurance Company (U.S.A.). Any payment of interest or principal on the surplus notes requires prior approval from the Department of Insurance and Financial Services of the State of Michigan. The carrying value of the surplus notes reflects an unamortized fair value increment of US\$9 (2020 – US\$13), which arose as a result of the acquisition of John Hancock Financial Services, Inc. The amortization of the fair value adjustment is recorded in interest expense.

(b) Fair value measurement

Fair value of capital instruments is determined using the following hierarchy:

Level 1 – Fair value is determined using quoted market prices where available.

Level 2 – When quoted market prices are not available, fair value is determined with reference to quoted prices of similar debt instruments or estimated using discounted cash flows based on observable market rates.

The Company measures capital instruments at amortized cost in the Consolidated Statements of Financial Position. As at December 31, 2021, the fair value of capital instruments was \$7,213 (2020 – \$8,295). Fair value of capital instruments was determined using Level 2 valuation techniques (2020 – Level 2).

Note 11 Equity Capital and Earnings Per Share

The authorized capital of MFC consists of:

- an unlimited number of common shares without nominal or par value; and
- an unlimited number of Class A, Class B and Class 1 preferred shares without nominal or par value, issuable in series.

(a) Preferred shares and other equity instruments

The following table presents information about the outstanding preferred shares and other equity instruments as at December 31, 2021 and 2020.

As at December 31, 2021	Issue date	Annual dividend rate/ interest rate ⁽¹⁾	Earliest redemption date ^{(2),(3)}	Number of shares (in millions)	Face amount	Net amount ⁽⁴⁾	
						2021	2020
Preferred shares							
Class A preferred shares							
Series 2	February 18, 2005	4.65%	n/a	14	\$ 350	\$ 344	\$ 344
Series 3	January 3, 2006	4.50%	n/a	12	300	294	294
Class 1 preferred shares							
Series 3 ^{(5),(6),(7)}	March 11, 2011	2.348%	June 19, 2026	7	163	160	155
Series 4 ^{(7),(8)}	June 20, 2016	floating	June 19, 2026	1	37	36	41
Series 5 ⁽⁹⁾	December 6, 2011	3.891%	December 19, 2021	8	200	–	195
Series 7 ^{(5),(6),(10)}	February 22, 2012	4.312%	March 19, 2022	10	250	244	244
Series 9 ^{(5),(6)}	May 24, 2012	4.351%	September 19, 2022	10	250	244	244
Series 11 ^{(5),(6)}	December 4, 2012	4.731%	March 19, 2023	8	200	196	196
Series 13 ^{(5),(6)}	June 21, 2013	4.414%	September 19, 2023	8	200	196	196
Series 15 ^{(5),(6)}	February 25, 2014	3.786%	June 19, 2024	8	200	195	195
Series 17 ^{(5),(6)}	August 15, 2014	3.80%	December 19, 2024	14	350	343	343
Series 19 ^{(5),(6)}	December 3, 2014	3.675%	March 19, 2025	10	250	246	246
Series 21 ⁽¹¹⁾	February 25, 2016	5.60%	June 19, 2021	17	425	–	417
Series 23 ^{(5),(6),(10)}	November 22, 2016	4.85%	March 19, 2022	19	475	467	467
Series 25 ^{(5),(6)}	February 20, 2018	4.70%	June 19, 2023	10	250	245	245
Other equity instruments							
Limited recourse capital notes							
Series 1 ⁽¹²⁾	February 19, 2021	3.375%	May 19, 2026	n/a	2,000	1,982	–
Series 2 ⁽¹³⁾	November 12, 2021	4.100%	February 19, 2027	n/a	1,200	1,189	–
Total				156	\$ 7,100	\$ 6,381	\$ 3,822

⁽¹⁾ Holders of Class A and Class 1 preferred shares are entitled to receive non-cumulative preferential cash dividends on a quarterly basis, as and when declared by the Board of Directors. Non-deferrable interest is payable to LRCN – Series 1 holders semi-annually at the Company's discretion.

⁽²⁾ Redemption of all preferred shares is subject to regulatory approval. MFC may redeem each series, in whole or in part, at par, on the earliest redemption date or every five years thereafter, except for Class A Series 2, Class A Series 3 and Class 1 Series 4 preferred shares. Class A Series 2 and Series 3 preferred shares are past their respective earliest redemption date and MFC may redeem these shares, in whole or in part, at par at any time, subject to regulatory approval, as noted. MFC may redeem the Class 1 Series 4, in whole or in part, at any time, at \$25.00 per share if redeemed on June 19, 2026 (the earliest redemption date) and on June 19 every five years thereafter, or at \$25.50 per share if redeemed on any other date after June 19, 2021, subject to regulatory approval, as noted.

⁽³⁾ Redemption of all LRCN series is subject to regulatory approval. MFC may at its option redeem each series in whole or in part, at a redemption price equal to par, together with accrued and unpaid interest. The redemption period for Series 1 is every five years during the period from May 19 and including June 19, commencing in 2026. The redemption period for Series 2 is every five years during the period from February 19 and including March 19, commencing in 2027.

⁽⁴⁾ Net of after-tax issuance costs.

⁽⁵⁾ On the earliest redemption date and every five years thereafter, the annual dividend rate will be reset to the five-year Government of Canada bond yield plus a yield specified for each series. The specified yield for Class 1 preferred shares is: Series 3 – 1.41%, Series 7 – 3.13%, Series 9 – 2.86%, Series 11 – 2.61%, Series 13 – 2.22%, Series 15 – 2.16%, Series 17 – 2.36%, Series 19 – 2.30%, Series 23 – 3.83% and Series 25 – 2.55%.

⁽⁶⁾ On the earliest redemption date and every five years thereafter, Class 1 preferred shares are convertible at the option of the holder into a new series that is one number higher than their existing series, and the holders are entitled to non-cumulative preferential cash dividends, payable quarterly if and when declared by the Board of Directors, at a rate equal to the three-month Government of Canada Treasury bill yield plus the rate specified in footnote 5 above.

- ⁽⁷⁾ MFC did not exercise its right to redeem all or any of the outstanding Class 1 Shares Series 3 and Class 1 Shares Series 4 on June 19, 2021 (the earliest redemption date). After taking into account all election notices, 812,380 of 6,335,831 Class 1 Shares Series 3 were converted on a one-for-one basis, into Floating Rate Class 1 Shares Series 4 on June 19, 2021; and 1,014,452 of 1,664,169 Class 1 Shares Series 4 were converted on a one-for-one basis, into Class 1 Shares Series 3 on June 19, 2021. As a result, 6,537,903 Class 1 Shares Series 3 and 1,462,097 Class 1 Shares Series 4 remain outstanding. The annual fixed dividend rate for the Class 1 Shares Series 3 was reset as specified in footnote 5 above to an annual fixed rate of 2.348% for a five-year period commencing on June 20, 2021.
- ⁽⁸⁾ The floating dividend rate for the Class 1 Shares Series 4 equals the three-month Government of Canada Treasury bill yield plus 1.41%.
- ⁽⁹⁾ MFC redeemed in full the Class 1 Series 5 at par, on December 19, 2021, the earliest redemption date.
- ⁽¹⁰⁾ Subsequent to December 31, 2021, the Company announced its intention to redeem the Class 1 Series 7 and Class 1 Series 23 at par, on March 19, 2022, the earliest par redemption date.
- ⁽¹¹⁾ MFC redeemed in full the Class 1 Shares Series 21 at par, on June 19, 2021, the earliest redemption date.
- ⁽¹²⁾ On February 19, 2021, MFC issued \$2,000 million aggregate principal amount of Limited Recourse Capital Notes – Series 1 (LRCN – Series 1), maturing on June 19, 2081. The LRCN – Series 1 bear interest at a fixed rate of 3.375% payable semi-annually, until June 18, 2026. On June 19, 2026 and every five years thereafter until June 19, 2076, the interest rate on the LRCN – Series 1 will be reset at an interest rate equal to the five-year Government of Canada yield as defined in the prospectus, plus 2.839%. Non-deferrable interest is payable semi-annually on the LRCN – Series 1 at the Company's discretion. Non-payment of interest or principal when due will result in a recourse event, with the noteholders' sole remedy being receipt of their proportionate share of Class 1 Series 27 preferred shares held in a newly formed consolidated trust (the Limited Recourse Trust). All claims of the holders of LRCN – Series 1 against MFC will be extinguished upon receipt of the corresponding trust assets. The Class 1 Series 27 preferred shares are eliminated on the Company's Consolidated Statements of Financial Position while being held within the Limited Recourse Trust.
- ⁽¹³⁾ On November 12, 2021, MFC issued \$1,200 million aggregate principal amount of Limited Recourse Capital Notes – Series 2 (LRCN – Series 2), maturing on March 19, 2082. The LRCN – Series 2 bear interest at a fixed rate of 4.10% payable semi-annually, until March 18, 2027. On March 19, 2027 and every five years thereafter until March 19, 2077, the interest rate on the LRCN – Series 2 will be reset at an interest rate equal to the five-year Government of Canada yield as defined in the prospectus, plus 2.704%. Non-deferrable interest is payable semi-annually on the LRCN – Series 2 at the Company's discretion. Non-payment of interest or principal when due will result in a recourse event, with the noteholders' sole remedy being receipt of their proportionate share of Class 1 Series 28 preferred shares held in a newly formed consolidated trust (the Limited Recourse Trust). All claims of the holders of LRCN – Series 2 against MFC will be extinguished upon receipt of the corresponding trust assets. The Class 1 Series 28 preferred shares are eliminated on the Company's Consolidated Statements of Financial Position while being held within the Limited Recourse Trust.

(b) Common shares

The following table presents changes in common shares issued and outstanding.

For the years ended December 31,	2021		2020	
	Number of shares (in millions)	Amount	Number of shares (in millions)	Amount
Balance, January 1	1,940	\$ 23,042	1,949	\$ 23,127
Repurchased for cancellation	-	-	(10)	(121)
Issued on exercise of stock options and deferred share units	3	51	1	36
Total	1,943	\$ 23,093	1,940	\$ 23,042

Normal Course Issuer Bid

On March 13, 2020, the Office of the Superintendent of Financial Institutions (“OSFI”) announced measures to support the resilience of financial institutions. Consistent with these measures, OSFI set the expectation for all federally regulated financial institutions that dividend increases and share buybacks should be halted for the time being. On November 4, 2021, OSFI announced that this expectation is no longer in place.

The Company announced on February 1, 2022 the launch of a normal course issuer bid (“NCIB”) permitting the purchase for cancellation of up to 97 million common shares, representing approximately 5% of the Company's issued and outstanding common shares. Purchases under the NCIB may commence through the Toronto Stock Exchange on February 3, 2022 and continue until February 2, 2023, when the NCIB expires, or such earlier date as the Company completes its purchases.

(c) Earnings per share

The following table presents basic and diluted earnings per common share of the Company.

For the years ended December 31,	2021	2020
Basic earnings per common share	\$ 3.55	\$ 2.94
Diluted earnings per common share	3.54	2.93

The following is a reconciliation of the number of shares in the calculation of basic and diluted earnings per share.

For the years ended December 31,	2021	2020
Weighted average number of common shares (in millions)	1,942	1,941
Dilutive stock-based awards ⁽¹⁾ (in millions)	4	2
Weighted average number of diluted common shares (in millions)	1,946	1,943

- ⁽¹⁾ The dilutive effect of stock-based awards was calculated using the treasury stock method. This method calculates the number of incremental shares by assuming the outstanding stock-based awards are (i) exercised and (ii) then reduced by the number of shares assumed to be repurchased from the issuance proceeds, using the average market price of MFC common shares for the year. Excluded from the calculation was a weighted average of nil (2020 – 18 million) anti-dilutive stock-based awards.

(d) Quarterly dividend declaration subsequent to year end

On February 9, 2022, the Company's Board of Directors approved a quarterly dividend of \$0.33 per share on the common shares of MFC, payable on or after March 21, 2022 to shareholders of record at the close of business on February 23, 2022.

The Board also declared dividends on the following non-cumulative preferred shares, payable on or after March 19, 2022 to shareholders of record at the close of business on February 23, 2022.

Class A Shares Series 2 – \$0.29063 per share	Class 1 Shares Series 13 – \$0.275875 per share
Class A Shares Series 3 – \$0.28125 per share	Class 1 Shares Series 15 – \$0.236625 per share
Class 1 Shares Series 3 – \$0.14675 per share	Class 1 Shares Series 17 – \$0.2375 per share
Class 1 Shares Series 4 – \$0.096965 per share	Class 1 Shares Series 19 – \$0.229688 per share
Class 1 Shares Series 7 – \$0.2695 per share	Class 1 Shares Series 23 – \$0.303125 per share
Class 1 Shares Series 9 – \$0.271938 per share	Class 1 Shares Series 25 – \$0.29375 per share
Class 1 Shares Series 11 – \$0.295688 per share	

Note 12 Capital Management

(a) Capital management

The Company monitors and manages its consolidated capital in compliance with the Life Insurance Capital Adequacy Test (“LICAT”) guideline, the capital framework issued by the Office of the Superintendent of Financial Institutions (“OSFI”). Under the capital framework, the Company's consolidated capital resources, including available capital, surplus allowance, and eligible deposits, are measured against the base solvency buffer, which is the risk-based capital requirement determined in accordance with the guideline.

The Company's operating activities are primarily conducted within MLI and its subsidiaries. MLI is also regulated by OSFI and is therefore subject to consolidated risk-based capital requirements using the OSFI LICAT framework.

The Company seeks to manage its capital with the objectives of:

- Operating with sufficient capital to be able to honour all commitments to its policyholders and creditors with a high degree of confidence;
- Retaining the ongoing confidence of regulators, policyholders, rating agencies, investors and other creditors in order to ensure access to capital markets; and
- Optimizing return on capital to meet shareholders' expectations subject to constraints and considerations of adequate levels of capital established to meet the first two objectives.

Capital is managed and monitored in accordance with the Capital Management Policy. The policy is reviewed and approved by the Board of Directors annually and is integrated with the Company's risk and financial management frameworks. It establishes guidelines regarding the quantity and quality of capital, internal capital mobility, and proactive management of ongoing and future capital requirements.

The capital management framework considers the requirements of the Company as a whole as well as the needs of each of the Company's subsidiaries. Internal capital targets are set above the regulatory requirements, and consider a number of factors, including expectations of regulators and rating agencies, results of sensitivity and stress testing and the Company's own risk assessments. The Company monitors against these internal targets and initiates actions appropriate to achieving its business objectives.

Consolidated capital, based on accounting standards, is presented in the table below for MFC. For regulatory reporting purposes under the LICAT framework, the numbers are further adjusted for various additions or deductions to capital as mandated by the guidelines used by OSFI.

Consolidated capital

As at December 31,	2021	2020
Total equity	\$ 58,869	\$ 53,006
Exclude AOCI gain/(loss) on cash flow hedges	(156)	(229)
Total equity excluding AOCI on cash flow hedges	59,025	53,235
Qualifying capital instruments	6,980	7,829
Consolidated capital	\$ 66,005	\$ 61,064

(b) Restrictions on dividends and capital distributions

Dividends and capital distributions are restricted under the Insurance Companies Act (“ICA”). These restrictions apply to both MFC and its primary operating subsidiary MLI. The ICA prohibits the declaration or payment of any dividend on shares of an insurance company if there are reasonable grounds for believing a company does not have adequate capital and adequate and appropriate forms of liquidity or the declaration or the payment of the dividend would cause the company to be in contravention of any regulation made under the ICA respecting the maintenance of adequate capital and adequate and appropriate forms of liquidity, or of any direction made to the company by OSFI. The ICA also requires an insurance company to notify OSFI of the declaration of a dividend at least 15 days prior to the date fixed for its payment. Similarly, the ICA prohibits the purchase for cancellation of any shares issued by an insurance company or the redemption of any redeemable shares or other similar capital transactions, if there are reasonable grounds for believing that the company does not

have adequate capital and adequate and appropriate forms of liquidity or the payment would cause the company to be in contravention of any regulation made under the ICA respecting the maintenance of adequate capital and adequate and appropriate forms of liquidity, or any direction made to the company by OSFI. These latter transactions would require the prior approval of OSFI.

The ICA requires Canadian insurance companies to maintain adequate levels of capital at all times.

Since MFC is a holding company that conducts all of its operations through regulated insurance subsidiaries (or companies owned directly or indirectly by these subsidiaries), its ability to pay future dividends will depend on the receipt of sufficient funds from its regulated insurance subsidiaries. These subsidiaries are also subject to certain regulatory restrictions under laws in Canada, the United States and certain other countries that may limit their ability to pay dividends or make other upstream distributions.

Note 13 Revenue from Service Contracts

The Company provides investment management services, administrative services, distribution and related services to proprietary and third-party investment funds, retirement plans, group benefit plans and other arrangements. The Company also provides real estate management services to tenants of the Company's investment properties.

The Company's service contracts generally impose single performance obligations, each consisting of a series of similar related services for each customer.

The Company's performance obligations within service arrangements are generally satisfied over time as the customer simultaneously receives and consumes the benefits of the services rendered, measured using an output method. Fees typically include variable consideration and the related revenue is recognized to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty is subsequently resolved.

Asset based fees vary with asset values of accounts under management, subject to market conditions and investor behaviours beyond the Company's control. Transaction processing and administrative fees vary with activity volume, also beyond the Company's control. Some fees, including distribution fees, are based on account balances and transaction volumes. Fees related to account balances and transaction volumes are measured daily. Real estate management service fees include fixed portions plus recovery of variable costs of services rendered to tenants. Fees related to services provided are generally recognized as services are rendered, which is when it becomes highly probable that no significant reversal of cumulative revenue recognized will occur. The Company has determined that its service contracts have no significant financing components as fees are collected monthly. The Company has no significant contract assets or contract liabilities.

The following tables present revenue from service contracts by service lines and reporting segments as disclosed in note 19.

For the year ended December 31, 2021	Asia	Canada	U.S.	Global WAM	Corporate and Other	Total
Investment management and other related fees	\$ 217	\$ 230	\$ 499	\$ 3,198	\$ (247)	\$ 3,897
Transaction processing, administration, and service fees	287	918	12	2,517	(11)	3,723
Distribution fees and other	251	20	65	799	(54)	1,081
Total included in other revenue	755	1,168	576	6,514	(312)	8,701
Revenue from non-service lines	941	168	1,248	(1)	75	2,431
Total other revenue	\$ 1,696	\$ 1,336	\$ 1,824	\$ 6,513	\$ (237)	\$ 11,132
Real estate management services included in net investment income	\$ 37	\$ 126	\$ 128	\$ -	\$ 7	\$ 298

For the year ended December 31, 2020	Asia	Canada	U.S.	Global WAM	Corporate and Other	Total
Investment management and other related fees	\$ 223	\$ 202	\$ 514	\$ 2,770	\$ (201)	\$ 3,508
Transaction processing, administration, and service fees	239	814	15	2,215	2	3,285
Distribution fees and other	187	16	67	718	(52)	936
Total included in other revenue	649	1,032	596	5,703	(251)	7,729
Revenue from non-service lines	697	(19)	2,115	7	62	2,862
Total other revenue	\$ 1,346	\$ 1,013	\$ 2,711	\$ 5,710	\$ (189)	\$ 10,591
Real estate management services included in net investment income	\$ 37	\$ 144	\$ 143	\$ -	\$ 8	\$ 332

Note 14 Stock-Based Compensation

(a) Stock options

The Company grants stock options under its Executive Stock Option Plan ("ESOP") to selected individuals. The options provide the holder the right to purchase MFC common shares at an exercise price equal to the higher of the prior day, prior five-day or prior ten-day average closing market price of the shares on the Toronto Stock Exchange on the date the options are granted. The options vest over a period not exceeding four years and expire not more than 10 years from the grant date. Effective with the 2015 grant, options may only be exercised after the fifth-year anniversary. A total of 73,600,000 common shares have been reserved for issuance under the ESOP.

Options outstanding

	2021		2020	
	Number of options (in millions)	Weighted average exercise price	Number of options (in millions)	Weighted average exercise price
For the years ended December 31,				
Outstanding, January 1	24	\$ 21.74	21	\$ 20.91
Granted	-	-	5	24.38
Exercised	(3)	18.34	(2)	18.17
Expired	-	24.73	-	24.27
Forfeited	-	23.96	-	23.73
Outstanding, December 31	21	\$ 22.09	24	\$ 21.74
Exercisable, December 31	8	\$ 18.94	6	\$ 19.52

	Options outstanding			Options exercisable		
	Number of options (in millions)	Weighted average exercise price	Weighted average remaining contractual life (in years)	Number of options (in millions)	Weighted average exercise price	Weighted average remaining contractual life (in years)
For the year ended December 31, 2021						
\$12.64—\$20.99	5	\$ 16.90	3.38	5	\$ 16.90	3.38
\$21.00—\$24.83	16	\$ 23.58	6.09	3	\$ 21.86	2.95
Total	21	\$ 22.09	5.49	8	\$ 18.94	3.20

No stock options were granted in 2021. The weighted average fair value of each option granted in 2020 was estimated at \$3.66 using the Black-Scholes option-pricing model. The pricing model used the following assumptions for the options granted in 2020: risk-free interest rate of 1.50%, dividend yield of 3.50%, expected volatility of 23.0% and expected life of 8 years. Expected volatility is estimated by evaluating a number of factors including historical volatility of the share price over multi-year periods.

Compensation expense related to stock options was \$9 for the year ended December 31, 2021 (2020 – \$14).

(b) Deferred share units

In 2000, the Company granted deferred share units (“DSUs”) on a one-time basis to certain employees under the ESOP. These DSUs vest over a three-year period and each DSU entitles the holder to receive one common share on retirement or termination of employment. When dividends are paid on common shares, holders of DSUs are deemed to receive dividends at the same rate, payable in the form of additional DSUs. The number of these DSUs outstanding was 188,000 as at December 31, 2021 (2020 – 285,000).

In addition, for certain employees and pursuant to the Company’s deferred compensation program, the Company grants DSUs under the Restricted Share Units (“RSUs”) Plan which entitle the holder to receive payment in cash equal to the value of the same number of common shares plus credited dividends on retirement or termination of employment. In 2021, the Company granted 34,000 DSUs to certain employees which vest after 36 months (2020 – 28,000). In 2021, 26,000 DSUs (2020 – 38,000) were granted to certain employees who elected to defer receipt of all or part of their annual bonus. These DSUs vested immediately. Also, in 2021, no DSUs (2020 – 2,600) were granted to certain employees to defer payment of all or part of their RSUs and/or Performance Share Units (“PSUs”). These DSUs vest immediately.

Under the Stock Plan for Non-Employee Directors, each eligible director may elect to receive his or her annual director’s retainer and fees in DSUs (which vest immediately) or common shares in lieu of cash. In 2021, 101,000 DSUs (2020 – 145,400) were issued under this arrangement. Upon termination of the Board service, an eligible director who has elected to receive DSUs will be entitled to receive cash equal to the value of the DSUs accumulated in his or her account, or at his or her direction, an equivalent number of common shares. The Company is allowed to issue up to one million common shares under this plan after which awards may be settled using shares purchased in the open market.

The fair value of 161,000 DSUs issued during the year was \$24.11 per unit as at December 31, 2021 (2020 – 214,000 at \$22.65 per unit).

For the years ended December 31,	2021	2020
Number of DSUs (in thousands)		
Outstanding, January 1	2,169	2,395
Issued	161	214
Reinvested	100	145
Redeemed	(345)	(576)
Forfeitures and cancellations	(6)	(9)
Outstanding, December 31	2,079	2,169

Of the DSUs outstanding as at December 31, 2021, 188,000 (2020 – 285,000) entitle the holder to receive common shares, 840,000 (2020 – 811,000) entitle the holder to receive payment in cash and 1,051,000 (2020 – 1,073,000) entitle the holder to receive payment in cash or common shares, at the option of the holder.

Compensation expense related to DSUs was \$6 for the year ended December 31, 2021 (2020 – \$5).

The carrying and fair value of the DSUs liability as at December 31, 2021 was \$46 (2020 – \$43) and was included in other liabilities.

(c) Restricted share units and performance share units

For the year ended December 31, 2021, 6.8 million RSUs (2020 – 6.7 million) and 1.5 million PSUs (2020 – 1.1 million) were granted to certain eligible employees under MFC's Restricted Share Unit Plan. The fair value of the RSUs and PSUs granted during the year was \$24.11 per unit as at December 31, 2021 (2020 – \$22.65 per unit). Each RSU and PSU entitles the holder to receive payment equal to the market value of one common share, plus credited dividends, at the time of vesting, subject to any performance conditions.

RSUs and PSUs granted in February 2021 will vest after 36 months from their grant date and the related compensation expense is recognized over this period, unless the employee is eligible to retire at the time of grant or will be eligible to retire during the vesting period, in which case the cost is recognized at the grant date or over the period between the grant date and the date on which the employee is eligible to retire, respectively. Compensation expense related to RSUs and PSUs was \$135 and \$31, respectively, for the year ended December 31, 2021 (2020 – \$140 and \$15, respectively).

The carrying and fair value of the RSUs and PSUs liability as at December 31, 2021 was \$362 (2020 – \$194) and was included in other liabilities.

(d) Global share ownership plan

The Company's Global Share Ownership Plan allows qualifying employees to apply up to five per cent of their annual base earnings toward the purchase of common shares. The Company matches a percentage of the employee's eligible contributions up to a maximum amount. The Company's contributions vest immediately. All contributions are used to purchase common shares in the open market on behalf of participating employees.

Note 15 Employee Future Benefits

The Company maintains defined contribution and defined benefit pension plans and other post-employment plans for employees and agents including registered (tax-qualified) pension plans that are typically funded, as well as supplemental non-registered (non-qualified) pension plans for executives, retiree welfare plans and disability welfare plans that are typically not funded.

(a) Plan characteristics

The Company's final average pay defined benefit pension plans and retiree welfare plans are closed to new members. All employees may participate in capital accumulation plans including defined benefit cash balance plans, 401(k) plans and/or defined contribution plans, depending on the country of employment.

All pension arrangements are governed by local pension committees or management, but significant plan changes require approval from the Company's Board of Directors.

The Company's funding policy for defined benefit pension plans is to make the minimum annual contributions required by regulations in the countries in which the plans are offered. Assumptions and methods prescribed for regulatory funding purposes typically differ from those used for accounting purposes.

The Company's remaining defined benefit pension and/or retiree welfare plans are in the U.S., Canada, Japan and Taiwan (China). There are also disability welfare plans in the U.S. and Canada.

The largest defined benefit pension and retiree welfare plans are the primary plans for employees in the U.S. and Canada. These are the material plans that are discussed in the balance of this note. The Company measures its defined benefit obligations and fair value of plan assets for accounting purposes as at December 31 each year.

U.S. defined benefit pension and retiree welfare plans

The Company operates a qualified cash balance plan that is open to new members, a closed non-qualified cash balance plan, and a closed retiree welfare plan.

Actuarial valuations to determine the Company's minimum funding contributions for the qualified cash balance plan are required annually. Deficits revealed in the funding valuations must generally be funded over a period of up to seven years. It is expected that there will be no required funding for this plan in 2022. There are no plan assets set aside for the non-qualified cash balance plan.

The retiree welfare plan subsidizes the cost of life insurance and medical benefits. The majority of those who retired after 1991 receive a fixed-dollar subsidy from the Company based on service. The plan was closed to all employees hired after 2004. While assets have been set aside in a qualified trust to pay future retiree welfare benefits, this funding is optional. Retiree welfare benefits offered under the plan coordinate with the U.S. Medicare program to make optimal use of available federal financial support.

The qualified pension and retiree welfare plans are governed by the U.S. Benefits Committee, while the non-qualified pension plan is governed by the U.S. Non-Qualified Plans Subcommittee.

Canadian defined benefit pension and retiree welfare plans

The Company's defined benefit plans in Canada include two registered final average pay pension plans, a non-registered supplemental final average pay pension plan and a retiree welfare plan, all of which have been closed to new members.

Actuarial valuations to determine the Company's minimum funding contributions for the registered pension plans are required at least once every three years. Deficits revealed in the funding valuation must generally be funded over a period of ten years. For 2022, the required funding for these plans is expected to be \$7. The non-registered supplemental pension plan is not funded.

The retiree welfare plan subsidizes the cost of life insurance, medical and dental benefits. These subsidies are a fixed-dollar amount for those who retired after April 30, 2013 and have been eliminated for those who retire after 2019. There are no assets set aside for this plan.

The registered pension plans are governed by Pension Committees, while the supplemental non-registered plan is governed by the Board of Directors. The retiree welfare plan is governed by management.

(b) Risks

In final average pay pension plans and retiree welfare plans, the Company generally bears the material risks which include interest rate, investment, longevity and health care cost inflation risks. In defined contribution plans, these risks are typically borne by the employee. In cash balance plans, the interest rate, investment and longevity risks are partially transferred to the employee.

Material sources of risk to the Company for all plans include:

- A decline in discount rates that increases the defined benefit obligations by more than the change in value of plan assets;
- Lower than expected rates of mortality; and
- For retiree welfare plans, higher than expected health care costs.

The Company has managed these risks through plan design and eligibility changes that have limited the size and growth of the defined benefit obligations. Investment risks for funded plans are managed by investing significantly in asset classes which are highly correlated with the plans' liabilities.

In the U.S., delegated committee representatives and management review the financial status of the qualified defined benefit pension plan at least monthly, and steps are taken in accordance with an established dynamic investment policy to increase the plan's allocation to asset classes which are highly correlated with the plan's liabilities and reduce investment risk as the funded status improves. As at December 31, 2021, the target asset allocation for the plan was 30% return-seeking assets and 70% liability-hedging assets.

In Canada, internal committees and management review the financial status of the registered defined benefit pension plans on at least a quarterly basis. As at December 31, 2021, the target asset allocation for the plans was 20% return-seeking assets and 80% liability-hedging assets.

The Company's long-term assumptions (e.g. mortality, inflation) have not been adjusted for the potential long-term impacts of COVID-19 as it is too soon to estimate them. Experience related to COVID-19 will continue to be closely monitored, as well as emerging research on the long-term implications of COVID-19 on mortality, inflation and other assumptions.

(c) Pension and retiree welfare plans

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2021	2020	2021	2020
Changes in defined benefit obligation:				
Opening balance	\$ 4,901	\$ 4,817	\$ 638	\$ 645
Current service cost	44	41	-	-
Interest cost	115	150	15	20
Plan participants' contributions	-	-	3	3
Actuarial losses (gains) due to:				
Experience	3	2	-	(14)
Demographic assumption changes	7	(67)	1	(12)
Economic assumption changes	(194)	333	(29)	49
Benefits paid	(303)	(318)	(42)	(45)
Impact of changes in foreign exchange rates	(13)	(57)	(2)	(8)
Defined benefit obligation, December 31	\$ 4,560	\$ 4,901	\$ 584	\$ 638

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2021	2020	2021	2020
Change in plan assets:				
Fair value of plan assets, opening balance	\$ 4,595	\$ 4,453	\$ 606	\$ 598
Interest income	109	140	14	19
Return on plan assets (excluding interest income)	70	310	(1)	33
Employer contributions	61	71	11	11
Plan participants' contributions	-	-	3	3
Benefits paid	(303)	(318)	(42)	(45)
Administration costs	(9)	(7)	(2)	(2)
Impact of changes in foreign exchange rates	(13)	(54)	(2)	(11)
Fair value of plan assets, December 31	\$ 4,510	\$ 4,595	\$ 587	\$ 606

(d) Amounts recognized in the Consolidated Statements of Financial Position

As at December 31,	Pension plans		Retiree welfare plans	
	2021	2020	2021	2020
Development of net defined benefit liability				
Defined benefit obligation	\$ 4,560	\$ 4,901	\$ 584	\$ 638
Fair value of plan assets	4,510	4,595	587	606
Deficit (surplus)	50	306	(3)	32
Effect of asset limit ⁽¹⁾	37	-	-	-
Deficit (surplus) and net defined benefit liability (asset)	87	306	(3)	32
Deficit is comprised of:				
Funded or partially funded plans	(600)	(446)	(154)	(134)
Unfunded plans	687	752	151	166
Deficit (surplus) and net defined benefit liability (asset)	\$ 87	\$ 306	\$ (3)	\$ 32

⁽¹⁾ In 2021, the Company recognized an impairment of \$37 on the net defined benefit asset for one of its registered pension plans in Canada. This was due to strong investment returns causing the surplus in that plan to increase above the present value of economic benefits that can be derived by the Company through reductions in future contributions. For the other funded pension plans, the present value of the economic benefits available in the form of reductions in future contributions to the plans remains greater than the current surplus.

(e) Disaggregation of defined benefit obligation

As at December 31,	U.S. plans				Canadian plans			
	Pension plans		Retiree welfare plans		Pension plans		Retiree welfare plans	
	2021	2020	2021	2020	2021	2020	2021	2020
Active members	\$ 537	\$ 551	\$ 17	\$ 27	\$ 184	\$ 211	\$ -	\$ -
Inactive and retired members	2,371	2,528	416	445	1,468	1,611	151	166
Total	\$ 2,908	\$ 3,079	\$ 433	\$ 472	\$ 1,652	\$ 1,822	\$ 151	\$ 166

(f) Fair value measurements

The major categories of plan assets and the allocation to each category are as follows.

As at December 31, 2021	U.S. plans ⁽¹⁾				Canadian plans ⁽²⁾			
	Pension plans		Retiree welfare plans		Pension plans		Retiree welfare plans	
	Fair value	% of total	Fair value	% of total	Fair value	% of total	Fair value	% of total
Cash and cash equivalents	\$ 90	3%	\$ 21	4%	\$ 14	1%	\$ -	-
Public equity securities ⁽³⁾	600	20%	57	10%	322	22%	-	-
Public debt securities	1,863	61%	501	85%	1,144	77%	-	-
Other investments ⁽⁴⁾	475	16%	8	1%	2	0%	-	-
Total	\$ 3,028	100%	\$ 587	100%	\$ 1,482	100%	\$ -	-

As at December 31, 2020	U.S. plans ⁽¹⁾				Canadian plans ⁽²⁾			
	Pension plans		Retiree welfare plans		Pension plans		Retiree welfare plans	
	Fair value	% of total	Fair value	% of total	Fair value	% of total	Fair value	% of total
Cash and cash equivalents	\$ 83	3%	\$ 30	5%	\$ 10	1%	\$ -	-
Public equity securities ⁽³⁾	593	19%	49	8%	339	22%	-	-
Public debt securities	2,009	66%	520	86%	1,186	77%	-	-
Other investments ⁽⁴⁾	373	12%	7	1%	2	0%	-	-
Total	\$ 3,058	100%	\$ 606	100%	\$ 1,537	100%	\$ -	-

⁽¹⁾ All the U.S. pension and retiree welfare plan assets have daily quoted prices in active markets, except for the private debt, infrastructure, private equity, timber and agriculture assets. In the aggregate, the latter assets represent approximately 7% of all U.S. pension and retiree welfare plan assets as at December 31, 2021 (2020 – 9%).

⁽²⁾ All the Canadian pension plan assets have daily quoted prices in active markets, except for the group annuity contract assets that represent approximately 0.1% of all Canadian pension plan assets as at December 31, 2021 (2020 – 0.1%).

⁽³⁾ Equity securities include direct investments in MFC common shares of \$1.2 (2020 – \$1.1) in the U.S. retiree welfare plan and \$nil (2020 – \$nil) in Canada.

⁽⁴⁾ Other U.S. plan assets include investment in REITs, private debt, infrastructure, private equity, timberland and agriculture, and managed futures. Other Canadian pension plan assets include investment in the group annuity contract.

(g) Net benefit cost recognized in the Consolidated Statements of Income

Components of the net benefit cost for the pension plans and retiree welfare plans were as follows.

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2021	2020	2021	2020
Defined benefit current service cost	\$ 44	\$ 41	\$ -	\$ -
Defined benefit administrative expenses	9	7	2	2
Service cost	53	48	2	2
Interest on net defined benefit (asset) liability	6	10	1	1
Defined benefit cost	59	58	3	3
Defined contribution cost	90	84	-	-
Net benefit cost	\$ 149	\$ 142	\$ 3	\$ 3

(h) Re-measurement effects recognized in Other Comprehensive Income

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2021	2020	2021	2020
Actuarial gains (losses) on defined benefit obligations due to:				
Experience	\$ (3)	\$ (2)	\$ -	\$ 14
Demographic assumption changes	(7)	67	(1)	12
Economic assumption changes	194	(333)	29	(49)
Return on plan assets (excluding interest income)	70	310	(1)	33
Change in effect of asset limit	(37)	5	-	-
Total re-measurement effects	\$ 217	\$ 47	\$ 27	\$ 10

(i) Assumptions

The key assumptions used by the Company to determine the defined benefit obligation and net benefit cost for the defined benefit pension plans and retiree welfare plans were as follows.

For the years ended December 31,	U.S. Plans				Canadian Plans			
	Pension plans		Retiree welfare plans		Pension plans		Retiree welfare plans	
	2021	2020	2021	2020	2021	2020	2021	2020
To determine the defined benefit obligation at end of year⁽¹⁾:								
Discount rate	2.7%	2.4%	2.7%	2.4%	3.1%	2.5%	3.2%	2.6%
Initial health care cost trend rate ⁽²⁾	n/a	n/a	7.0%	7.3%	n/a	n/a	5.4%	5.5%
To determine the defined benefit cost for the year⁽¹⁾:								
Discount rate	2.4%	3.2%	2.4%	3.2%	2.5%	3.1%	2.6%	3.1%
Initial health care cost trend rate ⁽²⁾	n/a	n/a	7.3%	7.5%	n/a	n/a	5.5%	5.6%

⁽¹⁾ Inflation and salary increase assumptions are not shown as they do not materially affect obligations and cost.

⁽²⁾ The health care cost trend rate used to measure the U.S. based retiree welfare obligation was 7.0% grading to 4.5% for 2032 and years thereafter (2020 – 7.3% grading to 4.5% for 2032) and to measure the net benefit cost was 7.3% grading to 4.5% for 2032 and years thereafter (2020 – 7.5% grading to 4.5% for 2032). In Canada, the rate used to measure the retiree welfare obligation was 5.4% grading to 4.8% for 2026 and years thereafter (2020 – 5.5% grading to 4.8% for 2026) and to measure the net benefit cost was 5.5% grading to 4.8% for 2026 and years thereafter (2020 – 5.6% grading to 4.8% for 2026).

Assumptions regarding future mortality are based on published statistics and mortality tables. The current life expectancies underlying the values of the obligations in the defined benefit pension and retiree welfare plans are as follows.

As at December 31, 2021	U.S.	Canada
Life expectancy (in years) for those currently age 65		
Males	22.0	23.8
Females	23.6	25.7
Life expectancy (in years) at age 65 for those currently age 45		
Males	23.4	24.8
Females	24.9	26.6

(j) Sensitivity of assumptions on obligations

Assumptions used can have a significant effect on the obligations reported for defined benefit pension and retiree welfare plans. The potential impact on the obligations arising from changes in the key assumptions is set out in the following table. The sensitivities assume all other assumptions are held constant. In actuality, inter-relationships with other assumptions may exist.

As at December 31, 2021	Pension plans	Retiree welfare plans
Discount rate:		
Impact of a 1% increase	\$ (417)	\$ (58)
Impact of a 1% decrease	492	70
Health care cost trend rate:		
Impact of a 1% increase	n/a	17
Impact of a 1% decrease	n/a	(15)
Mortality rates⁽¹⁾		
Impact of a 10% decrease	130	15

⁽¹⁾ If the actuarial estimates of mortality are adjusted in the future to reflect unexpected decreases in mortality, the effect of a 10% decrease in mortality rates at each future age would be an increase in life expectancy at age 65 of 0.8 years for U.S. and Canadian males and females, respectively.

(k) Maturity profile

The weighted average duration (in years) of the defined benefit obligations is as follows.

As at December 31,	Pension plans		Retiree welfare plans	
	2021	2020	2021	2020
U.S. plans	9.7	9.9	9.5	9.8
Canadian plans	12.4	12.5	13.3	14.3

(l) Cash flows – contributions

Total cash payments for all employee future benefits, comprised of cash contributed by the Company to funded defined benefit pension and retiree welfare plans, cash payments directly to beneficiaries in respect of unfunded pension and retiree welfare plans, and cash contributed to defined contribution pension plans, are as follows.

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2021	2020	2021	2020
Defined benefit plans	\$ 61	\$ 71	\$ 11	\$ 11
Defined contribution plans	90	84	-	-
Total	\$ 151	\$ 155	\$ 11	\$ 11

The Company's best estimate of expected cash payments for employee future benefits for the year ending December 31, 2022 is \$70 for defined benefit pension plans, \$93 for defined contribution pension plans and \$13 for retiree welfare plans.

Note 16 Income Taxes

(a) Income tax expense

The following table presents income tax expense (recovery) recognized in the Consolidated Statements of Income.

For the years ended December 31,	2021	2020
Current tax		
Current year	\$ 1,389	\$ 998
Adjustments related to prior years	(49)	(83)
Total current tax	1,340	915
Deferred tax		
Change related to temporary differences	(108)	253
Effects of changes in tax rates	(19)	27
Total deferred tax	(127)	280
Income tax expense	\$ 1,213	\$ 1,195

The following table discloses income tax expense (recovery) recognized directly in equity.

For the years ended December 31,	2021	2020
Recognized in other comprehensive income		
Current income tax expense (recovery)	\$ (3)	\$ (92)
Deferred income tax expense (recovery)	(61)	87
Total recognized in other comprehensive income	\$ (64)	\$ (5)
Recognized in equity, other than other comprehensive income		
Current income tax expense (recovery)	\$ 5	\$ 25
Deferred income tax expense (recovery)	(15)	(25)
Total income tax recognized directly in equity	\$ (10)	\$ -

(b) Current tax receivable and payable

As at December 31, 2021, the Company had approximately \$660 and \$357 of current tax receivable and current tax payable, respectively (2020 – \$993 and \$87).

(c) Tax reconciliation

The effective income tax rate reflected in the Consolidated Statements of Income varies from the Canadian tax rate of 26.50 per cent for the year ended December 31, 2021 (2020 – 26.50 per cent) for the items outlined in the following table.

For the years ended December 31,	2021	2020
Income before income taxes	\$ 8,125	\$ 6,770
Income tax expense at Canadian statutory tax rate	\$ 2,153	\$ 1,794
Increase (decrease) in income taxes due to:		
Tax-exempt investment income	(261)	(171)
Differences in tax rate on income not subject to tax in Canada	(917)	(528)
Adjustments to taxes related to prior years	(47)	(96)
Tax losses and temporary differences not recognized as deferred taxes	53	-
Tax rate change	(19)	27
Other differences	251	169
Income tax expense	\$ 1,213	\$ 1,195

(d) Deferred tax assets and liabilities

The following table presents the Company's deferred tax assets and liabilities reflected on the Consolidated Statement of Financial Position.

As at December 31,	2021	2020
Deferred tax assets	\$ 5,254	\$ 4,842
Deferred tax liabilities	(2,769)	(2,614)
Net deferred tax assets (liabilities)	\$ 2,485	\$ 2,228

The following table presents movement of deferred tax assets and liabilities.

As at December 31, 2021	Balance, January 1, 2021	Disposals	Recognized in Income Statement	Recognized in Other Comprehensive Income	Recognized in Equity	Translation and Other	Balance, December 31, 2021
Loss carryforwards	\$ 497	\$ (10)	\$ 22	\$ -	\$ -	\$ 8	\$ 517
Actuarial liabilities	9,372	-	(666)	-	-	(3)	8,703
Pensions and post-employment benefits	215	-	7	(61)	-	-	161
Tax credits	34	-	11	1	-	-	46
Accrued interest	1	-	-	-	-	-	1
Real estate	(1,033)	-	(145)	-	-	7	(1,171)
Securities and other investments	(5,950)	-	643	119	-	49	(5,139)
Sale of investments	(56)	-	16	-	-	-	(40)
Goodwill and intangible assets	(849)	-	29	-	-	16	(804)
Other	(3)	1	210	2	15	(14)	211
Total	\$ 2,228	\$ (9)	\$ 127	\$ 61	\$ 15	\$ 63	\$ 2,485

As at December 31, 2020	Balance, January 1, 2020	Disposals	Recognized in Income Statement	Recognized in Other Comprehensive Income	Recognized in Equity	Translation and Other	Balance, December 31, 2020
Loss carryforwards	\$ 705	\$ -	\$ (210)	\$ -	\$ -	\$ 2	\$ 497
Actuarial liabilities	8,443	-	1,063	-	-	(134)	9,372
Pensions and post-employment benefits	226	-	-	(10)	-	(1)	215
Tax credits	32	-	2	-	-	-	34
Accrued interest	1	-	-	-	-	-	1
Real estate	(1,046)	-	5	(2)	1	9	(1,033)
Securities and other investments	(4,704)	-	(1,254)	(59)	2	65	(5,950)
Sale of investments	(69)	-	13	-	-	-	(56)
Goodwill and intangible assets	(876)	-	24	-	-	3	(849)
Other	(110)	-	77	(16)	22	24	(3)
Total	\$ 2,602	\$ -	\$ (280)	\$ (87)	\$ 25	\$ (32)	\$ 2,228

The total deferred tax assets as at December 31, 2021 of \$5,254 (2020 – \$4,842) include \$942 (2020 – \$1,005) where the Company has suffered losses in either the current or preceding year and where the recognition is dependent on future taxable profits in the relevant jurisdictions and feasible management actions.

As at December 31, 2021, tax loss carryforwards available were approximately \$2,689 (2020 – \$2,479) of which \$2,514 expire between the years 2024 and 2041 while \$174 have no expiry date, and capital loss carryforwards available were approximately \$1 (2020 – \$21) and have no expiry date. A \$517 (2020 – \$497) tax benefit related to these tax loss carryforwards has been recognized as a deferred tax asset as at December 31, 2021, and a benefit of \$120 (2020 – \$99) has not been recognized. The Company has approximately \$200 (2020 – \$188) of tax credit carryforwards which will expire between the years 2026 and 2041 of which a benefit of \$154 (2020 – \$154) has not been recognized. In addition, the Company has not recognized a deferred tax asset of \$490 (2020 – \$96) on other temporary differences of \$1,867 (2020 – \$385).

The total deferred tax liability as at December 31, 2021 was \$2,769 (2020 – \$2,614). This amount includes the deferred tax liability of consolidated entities. The aggregate amount of taxable temporary differences associated with the Company's own investments in subsidiaries is not included in the Consolidated Financial Statements and was \$24,034 (2020 – \$22,782).

Note 17 Interests in Structured Entities

The Company is involved with both consolidated and unconsolidated structured entities (“SEs”) which are established to generate investment and fee income. The Company is also involved with SEs that are used to facilitate financing for the Company. These entities may have some or all the following features: control is not readily identified based on voting rights; restricted activities designed to achieve a narrow objective; high amount of leverage; and/or highly structured capital.

The Company only discloses its involvement in significant consolidated and unconsolidated SEs. In assessing the significance, the Company considers the nature of its involvement with the SE, including whether it is sponsored by the Company (i.e. initially organized and managed by the Company). Other factors considered include the Company's investment in the SE as compared to total investments, its returns from the SE as compared to total net investment income, the SE's size as compared to total funds under management, and its exposure to any other risks from its involvement with the SE.

The Company does not provide financial or other support to its SEs, when it does not have a contractual obligation to do so.

(a) Consolidated SEs

Investment SEs

The Company acts as an investment manager of timberlands and timber companies. The Company's general fund and segregated funds invest in many of these companies. The Company has control over one timberland company which it manages, Hancock Victoria Plantations Holdings PTY Limited (“HVPH”). HVPH is a SE primarily because the Company's employees exercise voting rights over it on behalf of other investors. As at December 31, 2021, the Company's consolidated timber assets relating to HVPH were \$979 (2020 – \$949). The Company does not provide guarantees to other parties against the risk of loss from HVPH.

Financing SEs

The Company securitizes certain HELOC collateralized by residential property. This activity is facilitated by consolidated entities that are SEs because their operations are limited to issuing and servicing the Company's funding. Further information regarding the Company's mortgage securitization program is included in note 3.

(b) Unconsolidated SEs

Investment SEs

The following table presents the Company's investments and maximum exposure to loss from significant unconsolidated investment SEs, some of which are sponsored by the Company. The Company does not provide guarantees to other parties against the risk of loss from these SEs.

As at December 31,	Company's investment ⁽¹⁾		Company's maximum exposure to loss ⁽²⁾	
	2021	2020	2021	2020
Leveraged leases ⁽³⁾	\$ 3,457	\$ 3,371	\$ 3,457	\$ 3,371
Timberland companies ⁽⁴⁾	842	776	842	776
Real estate companies ⁽⁵⁾	513	497	513	497
Total	\$ 4,812	\$ 4,644	\$ 4,812	\$ 4,644

⁽¹⁾ The Company's investments in these unconsolidated SEs are included in invested assets and the Company's returns from them are included in net investment income and AOCl.

⁽²⁾ The Company's maximum exposure to loss from each SE is limited to amounts invested in each, plus unfunded capital commitments, if any. The Company's investment commitments are disclosed in note 18. The maximum loss is expected to occur only upon the entity's bankruptcy/liquidation, or in case a natural disaster in the case of the timber companies.

⁽³⁾ These entities are statutory business trusts which use capital provided by the Company and senior debt provided by other parties to finance the acquisition of assets. These assets are leased to third-party lessees under long-term leases. The Company owns equity capital in these business trusts. The Company does not consolidate any of the trusts that are party to the lease arrangements because the Company does not have decision-making power over them.

⁽⁴⁾ These entities own and operate timberlands. The Company invests in their equity and debt. The Company's returns include investment income, investment advisory fees, forestry management fees and performance advisory fees. The Company does not control these entities because it either does not have the power to govern their financial and operating policies or does not have significant variable returns from them, or both.

⁽⁵⁾ These entities, which include the Manulife U.S. REIT, own and manage commercial real estate. The Company invests in their equity. The Company's returns include investment income, investment management fees, property management fees, acquisition/disposition fees and leasing fees. The Company does not control these entities because it either does not have the power to govern their financial and operating policies or does not have significant variable returns from them, or both.

Financing SEs

The Company's interests in and maximum exposure to loss from significant unconsolidated financing SEs are as follows.

As at December 31,	Company's interests ⁽¹⁾	
	2021	2020
Manulife Finance (Delaware), L.P. ⁽²⁾	\$ 850	\$ 931
Total	\$ 850	\$ 931

⁽¹⁾ The Company's interests include amounts borrowed from the SE; the Company's investment in its equity and subordinated capital; and foreign currency and interest rate swaps with it.

⁽²⁾ This entity is a wholly owned partnership used to facilitate the Company's financing. Refer to notes 10 and 18.

(i) Other invested assets

The Company has investment relationships with a variety of other entities, which result from its direct investment in their debt and/or equity and which have been assessed for control. These other entities' investments include but are not limited to investments in power and infrastructure, oil and gas, private equity, real estate and agriculture, organized as limited partnerships and limited liability companies. Most of these other entities are not sponsored by the Company. The Company's involvement with these other entities is not individually significant. As such, the Company neither provides summary financial data for these entities nor individually assesses whether they are SEs. The Company's maximum exposure to losses because of its involvement with these other entities is limited to its investment in them and amounts committed to be invested but not yet funded. The Company records its income from these entities in net investment income and AOCl. The Company does not provide guarantees to other parties against the risk of loss from these other entities.

(ii) Interest in securitized assets

The Company invests in mortgage/asset-backed securities issued by securitization vehicles sponsored by other parties, including private issuers and government sponsored issuers, to generate investment income. The Company does not own a controlling financial interest in any of the issuers. These securitization vehicles are SEs based on their narrow scope of activities and highly leveraged capital structures. Investments in mortgage/asset-backed securities are reported on the Consolidated Statements of Financial Position as debt securities and private placements, and their fair value and carrying value are disclosed in note 3. The Company's maximum loss from these investments is limited to amounts invested.

Commercial mortgage-backed securities ("CMBS") are secured by commercial mortgages and residential mortgage-backed securities ("RMBS") are secured by residential mortgages. Asset-backed securities ("ABS") may be secured by various underlying assets including credit card receivables, automobile loans and aviation leases. The mortgage/asset-backed securities that the Company invests in primarily originate in North America.

The following table presents investments in securitized holdings by the type and asset quality.

As at December 31,	2021				2020
	CMBS	RMBS	ABS	Total	Total
AAA	\$ 1,332	\$ 6	\$ 1,008	\$ 2,346	\$ 2,465
AA	-	-	11	11	32
A	53	3	585	641	661
BBB	-	-	227	227	208
BB and below	-	-	4	4	76
Total company exposure	\$ 1,385	\$ 9	\$ 1,835	\$ 3,229	\$ 3,442

(iii) Mutual funds

The Company sponsors and may invest in a range of public mutual funds with a broad range of investment styles. As sponsor, the Company organizes mutual funds that implement investment strategies on behalf of current and future investors. The Company earns fees which are at market rates for providing advisory and administrative services to these mutual funds. Generally, the Company does not control its sponsored mutual funds because either the Company does not have power to govern their financial and operating policies, or its returns in the form of fees and ownership interests are not significant, or both. Certain mutual funds are SEs because their decision-making rights are not vested in voting equity interests and their investors are provided with redemption rights.

The Company's relationships with these mutual funds are not individually significant. As such, the Company neither provides summary financial data for these mutual funds nor individually assesses whether they are SEs. The Company's interest in mutual funds is limited to its investment and fees earned, if any. The Company's investments in mutual funds are recorded as part of its investment in public equities within the Consolidated Statements of Financial Position. For information regarding the Company's invested assets, refer to note 3. The Company does not provide guarantees to other parties against the risk of loss from these mutual funds.

As sponsor, the Company's investment in ("seed") startup capital of mutual funds as at December 31, 2021 was \$1,361 (2020 – \$1,428). The Company's retail mutual fund assets under management as at December 31, 2021 were \$290,863 (2020 – \$238,068).

Note 18 Commitments and Contingencies

(a) Legal proceedings

The Company is regularly involved in legal actions, both as a defendant and as a plaintiff. The legal actions where the Company is a party ordinarily relate to its activities as a provider of insurance protection or wealth management products, reinsurance, or in its capacity as an investment adviser, employer, or taxpayer. Other life insurers and asset managers, operating in the jurisdictions in which the Company does business, have been subject to a wide variety of other types of actions, some of which resulted in substantial judgments or settlements against the defendants; it is possible that the Company may become involved in similar actions in the future. In addition, government and regulatory bodies in Canada, the United States, Asia and other jurisdictions where the Company conducts business regularly make inquiries and, from time to time, require the production of information or conduct examinations concerning the Company's compliance with, among other things, insurance laws, securities laws, and laws governing the activities of broker-dealers.

In June 2018, a class action was initiated against John Hancock Life Insurance Company (U.S.A.) ("JHUSA") and John Hancock Life Insurance Company of New York ("JHNY") in the U.S. District Court for the Southern District of New York on behalf of owners of approximately 1,500 Performance Universal Life ("UL") policies issued between 2003 and 2010 whose policies were subject to a Cost of Insurance ("COI") increase announced in 2018. The class, as defined, now covers approximately 1,300 of the 1,500 policies subjected to the COI increase. In addition to the class action, there are nine individual lawsuits opposing the Performance UL COI increases that also have been filed. Each of the lawsuits, except two, is brought by plaintiffs owning multiple policies and/or by entities managing them for investment purposes. Three of the non-class lawsuits are pending in New York state court; and six are pending in the U.S. District Court for the Southern District of New York. Discovery has commenced in these cases. No hearings on substantive matters have been scheduled. On January 5, 2022 the Court gave preliminary approval to a proposed settlement of the class litigation. It is too early to predict the range of potential outcomes for all of these lawsuits, and the Company intends to continue to vigorously defend these matters.

(b) Investment commitments

In the normal course of business, various investment commitments are outstanding which are not reflected in the Consolidated Financial Statements. There were \$12,233 (2020 – \$9,937) of outstanding investment commitments as at December 31, 2021, of which \$957 (2020 – \$638) mature in 30 days, \$3,205 (2020 – \$2,634) mature in 31 to 365 days and \$8,071 (2020 – \$6,665) mature after one year.

(c) Letters of credit

In the normal course of business, third-party relationship banks issue letters of credit on the Company's behalf. The Company's businesses utilize letters of credit for which third parties are the beneficiaries, as well as for affiliate reinsurance transactions between its subsidiaries. As at December 31, 2021, letters of credit for which third parties are beneficiary, in the amount of \$99 (2020 – \$103), were outstanding.

(d) Guarantees

(i) Guarantees regarding Manulife Finance (Delaware), L.P. (“MFLP”)

MFC has guaranteed the payment of amounts on the \$650 subordinated debentures due on December 15, 2041 issued by MFLP, a wholly owned unconsolidated partnership.

(ii) Guarantees regarding The Manufacturers Life Insurance Company

MFC has provided a subordinated guarantee for the \$1,000 subordinated debentures issued by MLI on November 20, 2015.

The following table presents certain condensed consolidated financial information for MFC and MFLP.

Condensed Consolidated Statements of Income Information

	MFC (Guarantor)	MLI consolidated	Other subsidiaries of MFC on a combined basis	Consolidation adjustments	Total consolidated amounts	MFLP
For the year ended December 31, 2021						
Total revenue	\$ 563	\$ 61,787	\$ 536	\$ (1,065)	\$ 61,821	\$ 41
Net income (loss) attributed to shareholders and other equity holders	7,105	7,342	(500)	(6,842)	7,105	3
For the year ended December 31, 2020						
Total revenue	\$ 547	\$ 78,929	\$ 520	\$ (1,088)	\$ 78,908	\$ 32
Net income (loss) attributed to shareholders	5,871	6,179	(500)	(5,679)	5,871	(1)

Condensed Consolidated Statements of Financial Position

	MFC (Guarantor)	MLI consolidated	Other subsidiaries of MFC on a combined basis	Consolidation adjustments	Total consolidated amounts	MFLP
As at December 31, 2021						
Invested assets	\$ 78	\$ 427,010	\$ 10	\$ -	\$ 427,098	\$ 3
Total other assets	68,866	91,412	3,203	(72,724)	90,757	1,088
Segregated funds net assets	-	399,788	-	-	399,788	-
Insurance contract liabilities	-	392,275	-	-	392,275	-
Investment contract liabilities	-	3,117	-	-	3,117	-
Segregated funds net liabilities	-	399,788	-	-	399,788	-
Total other liabilities	10,536	53,962	-	(904)	63,594	852
As at December 31, 2020						
Invested assets	\$ 47	\$ 410,919	\$ 11	\$ -	\$ 410,977	\$ 5
Total other assets	64,419	102,439	3	(64,925)	101,936	1,166
Segregated funds net assets	-	367,436	-	-	367,436	-
Insurance contract liabilities	-	385,554	-	-	385,554	-
Investment contract liabilities	-	3,288	-	-	3,288	-
Segregated funds net liabilities	-	367,436	-	-	367,436	-
Total other liabilities	12,131	59,683	-	(749)	71,065	936

(iii) Guarantees regarding John Hancock Life Insurance Company (U.S.A.) (“JHUSA”)

Details of guarantees regarding certain securities issued or to be issued by JHUSA are outlined in note 23.

(e) Pledged assets

In the normal course of business, the Company pledges its assets in respect of liabilities incurred, strictly for providing collateral to the counterparty. In the event of the Company’s default, the counterparty is entitled to apply the collateral to settle the liability. The pledged assets are returned to the Company if the underlying transaction is terminated or, in the case of derivatives, if there is a decrease in the net exposure due to market value changes.

The amounts pledged are as follows.

As at December 31,	2021		2020	
	Debt securities	Other	Debt securities	Other
In respect of:				
Derivatives	\$ 5,525	\$ 23	\$ 5,924	\$ 35
Secured borrowings	-	2,575	-	2,790
Regulatory requirements	367	78	452	80
Repurchase agreements	535	-	353	-
Non-registered retirement plans in trust	-	377	-	424
Other	2	414	2	302
Total	\$ 6,429	\$ 3,467	\$ 6,731	\$ 3,631

(f) Participating business

In some territories where the Company maintains participating accounts, there are regulatory restrictions on the amounts of profit that can be transferred to shareholders. Where applicable, these restrictions generally take the form of a fixed percentage of policyholder dividends. For participating businesses operating as separate “closed blocks”, transfers are governed by the terms of MLI’s and John Hancock Mutual Life Insurance Company’s plans of demutualization.

(g) Fixed surplus notes

A third-party contractually provides standby financing arrangements for the Company’s U.S. operations under which, in certain circumstances, funds may be provided in exchange for the issuance of fixed surplus notes. As at December 31, 2021, the Company had no fixed surplus notes outstanding.

Note 19 Segmented Information

The Company’s reporting segments are Asia, Canada, U.S., Global WAM and Corporate and Other. Each reporting segment is responsible for managing its operating results, developing products, defining strategies for services and distribution based on the profile and needs of its business and market. The Company’s significant product and service offerings by the reporting segments are mentioned below.

Wealth and asset management businesses (Global WAM) – include mutual funds and exchange-traded funds, group retirement and savings products, and institutional asset management services across all major asset classes. These products and services are distributed through multiple distribution channels, including agents and brokers affiliated with the Company, independent securities brokerage firms and financial advisors pension plan consultants and banks.

Insurance and annuity products (Asia, Canada and U.S.) – include a variety of individual life insurance, individual and group long-term care insurance and guaranteed and partially guaranteed annuity products. Products are distributed through multiple distribution channels, including insurance agents, brokers, banks, financial planners and direct marketing. Manulife Bank of Canada offers a variety of deposit and credit products to Canadian customers.

Corporate and Other Segment – comprised of investment performance of assets backing capital, net of amounts allocated to operating segments; costs incurred by the corporate office related to shareholder activities (not allocated to the operating segments); financing costs; Property and Casualty Reinsurance Business; and run-off reinsurance operations including variable annuities and accident and health.

Reporting segments

The following table presents results by reporting segments.

As at and for the year ended December 31, 2021	Asia	Canada	U.S.	Global WAM	Corporate and Other	Total
Revenue						
Life and health insurance	\$ 20,428	\$ 9,217	\$ 6,338	\$ -	\$ 147	\$ 36,130
Annuities and pensions	2,558	344	33	-	-	2,935
Net premium income	22,986	9,561	6,371	-	147	39,065
Net investment income (loss)	4,889	1,469	5,061	28	177	11,624
Other revenue	1,696	1,336	1,824	6,513	(237)	11,132
Total revenue	29,571	12,366	13,256	6,541	87	61,821
Contract benefits and expenses						
Life and health insurance	18,240	10,276	9,307	-	159	37,982
Annuities and pensions	2,638	(3,371)	(1,528)	101	-	(2,160)
Net benefits and claims	20,878	6,905	7,779	101	159	35,822
Interest expense	232	269	47	1	462	1,011
Other expenses	5,273	3,401	2,947	4,798	444	16,863
Total contract benefits and expenses	26,383	10,575	10,773	4,900	1,065	53,696
Income (loss) before income taxes	3,188	1,791	2,483	1,641	(978)	8,125
Income tax recovery (expense)	(445)	(336)	(385)	(233)	186	(1,213)
Net income (loss)	2,743	1,455	2,098	1,408	(792)	6,912
Less net income (loss) attributed to:						
Non-controlling interests	253	-	-	2	-	255
Participating policyholders	(567)	101	18	-	-	(448)
Net income (loss) attributed to shareholders and other equity holders	\$ 3,057	\$ 1,354	\$ 2,080	\$ 1,406	\$ (792)	\$ 7,105
Total assets	\$ 162,970	\$ 169,736	\$ 290,838	\$ 259,363	\$ 34,736	\$ 917,643

As at and for the year ended December 31, 2020	Asia	Canada	U.S.	Global WAM	Corporate and Other	Total
Revenue						
Life and health insurance	\$ 17,983	\$ 8,833	\$ 3,011	\$ -	\$ 140	\$ 29,967
Annuities and pensions ⁽¹⁾	2,496	334	120	-	-	2,950
Net premium income	20,479	9,167	3,131	-	140	32,917
Net investment income (loss)	6,630	8,458	17,519	39	2,754	35,400
Other revenue	1,346	1,013	2,711	5,710	(189)	10,591
Total revenue	28,455	18,638	23,361	5,749	2,705	78,908
Contract benefits and expenses						
Life and health insurance	17,997	10,385	16,099	-	(131)	44,350
Annuities and pensions	3,430	4,380	2,929	146	-	10,885
Net benefits and claims	21,427	14,765	19,028	146	(131)	55,235
Interest expense	269	342	54	2	514	1,181
Other expenses	5,123	3,141	2,714	4,329	414	15,721
Total contract benefits and expenses	26,819	18,248	21,796	4,477	797	72,137
Income (loss) before income taxes	1,636	390	1,565	1,272	1,908	6,771
Income tax recovery (expense)	(233)	(131)	(296)	(172)	(363)	(1,195)
Net income (loss)	1,403	259	1,269	1,100	1,545	5,576
Less net income (loss) attributed to:						
Non-controlling interests	250	-	-	-	-	250
Participating policyholders	(609)	64	-	-	-	(545)
Net income (loss) attributed to shareholders	\$ 1,762	\$ 195	\$ 1,269	\$ 1,100	\$ 1,545	\$ 5,871
Total assets	\$ 145,801	\$ 167,236	\$ 288,814	\$ 236,593	\$ 41,905	\$ 880,349

⁽¹⁾ In 2020, the Company ceded premiums to Global Atlantic Financial Group Ltd to reinsure a block of legacy U.S. BOLI business. Refer to note 6(k) for details.

Geographical location

The results of the Company's reporting segments differ from its geographical location primarily due to the allocation of Global WAM and Corporate and Other segments into the geographical location to which its businesses relate.

The following table presents results by geographical location.

For the year ended December 31, 2021	Asia	Canada	U.S.	Other	Total
Revenue					
Life and health insurance	\$ 20,515	\$ 8,905	\$ 6,340	\$ 370	\$ 36,130
Annuities and pensions	2,558	344	33	-	2,935
Net premium income	23,073	9,249	6,373	370	39,065
Net investment income (loss)	5,313	1,255	4,830	226	11,624
Other revenue	2,818	3,363	4,952	(1)	11,132
Total revenue	\$ 31,204	\$ 13,867	\$ 16,155	\$ 595	\$ 61,821

For the year ended December 31, 2020	Asia	Canada	U.S.	Other	Total
Revenue					
Life and health insurance	\$ 18,072	\$ 8,474	\$ 3,012	\$ 409	\$ 29,967
Annuities and pensions ⁽¹⁾	2,496	334	120	-	2,950
Net premium income	20,568	8,808	3,132	409	32,917
Net investment income (loss)	7,085	8,531	19,735	49	35,400
Other revenue	2,300	2,671	5,600	20	10,591
Total revenue	\$ 29,953	\$ 20,010	\$ 28,467	\$ 478	\$ 78,908

⁽¹⁾ In 2020, the Company ceded premiums to Global Atlantic Financial Group Ltd to reinsure a block of legacy U.S. BOLI business. Refer to note 6(k) for details.

Note 20 Related Parties

The Company enters into transactions with related parties in the normal course of business and at the terms that would exist in arm's-length transactions.

(a) Transactions with certain related parties

Transactions with MFLP, a wholly owned unconsolidated partnership, are described in notes 10, 17 and 18.

(b) Compensation of key management personnel

The Company's key management personnel are those personnel who have the authority and responsibility for planning, directing and controlling the activities of the Company. Directors (both executive and non-executive) and senior management are considered key management personnel. A summary of compensation of key management personnel is as follows.

For the years ended December 31,	2021	2020
Short-term employee benefits	\$ 65	\$ 69
Post-employment benefits	5	5
Share-based payments	57	57
Termination benefits	-	-
Other long-term benefits	2	3
Total	\$ 129	\$ 134

Note 21 Subsidiaries

The following is a list of Manulife's directly and indirectly held major operating subsidiaries.

As at December 31, 2021 (100% owned unless otherwise noted in brackets beside company name)	Equity Interest	Address	Description
The Manufacturers Life Insurance Company	\$ 67,375	Toronto, Canada	Leading Canadian-based financial services company that offers a diverse range of financial protection products and wealth management services
Manulife Holdings (Alberta) Limited	\$ 22,577	Calgary, Canada	Holding company
John Hancock Financial Corporation		Boston, Massachusetts, U.S.A.	Holding company
The Manufacturers Investment Corporation		Boston, Massachusetts, U.S.A.	Holding company
John Hancock Reassurance Company Ltd.		Boston, Massachusetts, U.S.A.	Captive insurance subsidiary that provides life, annuity and long-term care reinsurance to affiliates

As at December 31, 2021 (100% owned unless otherwise noted in brackets beside company name)	Equity Interest	Address	Description
John Hancock Life Insurance Company (U.S.A.)		Boston, Massachusetts, U.S.A.	U.S. life insurance company licensed in all states, except New York
John Hancock Subsidiaries LLC		Boston, Massachusetts, U.S.A.	Holding company
John Hancock Financial Network, Inc.		Boston, Massachusetts, U.S.A.	Financial services distribution organization
John Hancock Investment Management LLC		Boston, Massachusetts, U.S.A.	Investment advisor
John Hancock Investment Management Distributors LLC		Boston, Massachusetts, U.S.A.	Broker-dealer
Manulife Investment Management (US) LLC		Boston, Massachusetts, U.S.A.	Investment advisor
Manulife Investment Management Timberland and Agriculture Inc.		Boston, Massachusetts, U.S.A.	Manager of globally diversified timberland and agricultural portfolios
John Hancock Life Insurance Company of New York		New York, U.S.A.	U.S. life insurance company licensed in New York
John Hancock Variable Trust Advisers LLC		Boston, Massachusetts, U.S.A.	Investment advisor for open-end mutual funds
John Hancock Life & Health Insurance Company		Boston, Massachusetts, U.S.A.	U.S. life insurance company licensed in all states
John Hancock Distributors LLC		Boston, Massachusetts, U.S.A.	Broker-dealer
John Hancock Insurance Agency, Inc.		Boston, Massachusetts, U.S.A.	Insurance agency
Manulife Reinsurance Limited		Hamilton, Bermuda	Provides life and financial reinsurance to affiliates
Manulife Reinsurance (Bermuda) Limited		Hamilton, Bermuda	Provides life and annuity reinsurance to affiliates
Manulife Bank of Canada	\$ 1,686	Waterloo, Canada	Provides integrated banking products and service options not available from an insurance company
Manulife Investment Management Holdings (Canada) Inc.	\$ 1,236	Toronto, Canada	Holding company
Manulife Investment Management Limited		Toronto, Canada	Provides investment counseling, portfolio and mutual fund management in Canada
First North American Insurance Company	\$ 8	Toronto, Canada	Property and casualty insurance company
Manulife Securities Investment Services Inc.	\$ 77	Oakville, Canada	Mutual fund dealer for Canadian operations
Manulife Holdings (Bermuda) Limited	\$ 23,978	Hamilton, Bermuda	Holding company
Manufacturers P&C Limited		St. Michael, Barbados	Provides property and casualty reinsurance
Manulife Financial Asia Limited		Hong Kong, China	Holding company
Manulife (Cambodia) PLC		Phnom Penh, Cambodia	Life insurance company
Manulife Myanmar Life Insurance Company Limited		Yangon, Myanmar	Life insurance company
Manufacturers Life Reinsurance Limited		St. Michael, Barbados	Provides life and annuity reinsurance to affiliates
Manulife (Vietnam) Limited		Ho Chi Minh City, Vietnam	Life insurance company
Manulife Investment Fund Management (Vietnam) Company Limited		Ho Chi Minh City, Vietnam	Fund management company
Manulife International Holdings Limited		Hong Kong, China	Holding company
Manulife (International) Limited		Hong Kong, China	Life insurance company
Manulife-Sinochem Life Insurance Co. Ltd. (51%)		Shanghai, China	Life insurance company
Manulife Investment Management International Holdings Limited		Hong Kong, China	Holding company
Manulife Investment Management (Hong Kong) Limited		Hong Kong, China	Investment management and advisory company marketing mutual funds
Manulife Investment Management (Taiwan) Co., Ltd.		Taipei, Taiwan (China)	Investment management company
Manulife Life Insurance Company (Japan)		Tokyo, Japan	Life insurance company

As at December 31, 2021 (100% owned unless otherwise noted in brackets beside company name)	Equity Interest	Address	Description
Manulife Investment Management (Japan) Limited		Tokyo, Japan	Investment management and advisory company and mutual fund business
Manulife Holdings Berhad (60.9%)		Kuala Lumpur, Malaysia	Holding company
Manulife Insurance Berhad (60.9%)		Kuala Lumpur, Malaysia	Life insurance company
Manulife Investment Management (Malaysia) Berhad (60.9%)		Kuala Lumpur, Malaysia	Asset management company
Manulife (Singapore) Pte. Ltd.		Singapore	Life insurance company
Manulife Investment Management (Singapore) Pte. Ltd.		Singapore	Asset management company
The Manufacturers Life Insurance Co. (Phils.), Inc.		Makati City, Philippines	Life insurance company
Manulife Chinabank Life Assurance Corporation (60%)		Makati City, Philippines	Life insurance company
PT Asuransi Jiwa Manulife Indonesia		Jakarta, Indonesia	Life insurance company
PT Manulife Aset Manajemen Indonesia		Jakarta, Indonesia	Investment management and investment advisor
Manulife Investment Management (Europe) Limited	\$ 41	London, England	Investment management company for Manulife Financial's international funds
Manulife Assurance Company of Canada	\$ 69	Toronto, Canada	Life insurance company
EIS Services (Bermuda) Limited	\$ 1,057	Hamilton, Bermuda	Investment holding company
Berkshire Insurance Services Inc.	\$ 2,159	Toronto, Canada	Investment holding company
JH Investments (Delaware) LLC		Boston, Massachusetts, U.S.A.	Investment holding company
Manulife Securities Incorporated	\$ 132	Oakville, Canada	Investment dealer
Manulife Investment Management (North America) Limited	\$ 3	Toronto, Canada	Investment advisor

Note 22 Segregated Funds

The Company manages a number of segregated funds on behalf of policyholders. Policyholders are provided with the opportunity to invest in different categories of segregated funds that respectively hold a range of underlying investments. The Company retains legal title to the underlying investments; however, returns from these investments belong to the policyholders. Accordingly, the Company does not bear the risk associated with these assets outside of guarantees offered on certain variable life and annuity products. The "Risk Management and Risk Factors" section of the Company's 2021 MD&A provides information regarding the variable annuity and segregated fund guarantees.

The composition of net assets by categories of segregated funds was within the following ranges for the years ended December 31, 2021 and 2020.

Type of fund	Ranges in per cent	
	2021	2020
Money market funds	2% to 3%	2% to 3%
Fixed income funds	14% to 15%	14% to 16%
Balanced funds	22% to 23%	23% to 24%
Equity funds	60% to 62%	58% to 60%

Money market funds consist of investments that have a term to maturity of less than one year. Fixed income funds primarily consist of investments in fixed grade income securities and may contain smaller investments in diversified equities or high-yield bonds. Relative to fixed income funds, balanced funds consist of fixed income securities and a larger equity investment component. The types of equity funds available to policyholders range from low volatility equity funds to aggressive equity funds. Equity funds invest in a varying mix of Canadian, U.S. and global equities.

The underlying investments of the segregated funds consist of both individual securities and mutual funds (collectively "net assets"), some of which may be structured entities. The carrying value and change in segregated funds net assets are as follows. Fair value related information of segregated funds is disclosed in note 3(g).

Segregated funds net assets

As at December 31,	2021	2020
Investments at market value		
Cash and short-term securities	\$ 3,955	\$ 4,054
Debt securities	18,651	17,913
Equities	16,844	14,227
Mutual funds	354,882	326,889
Other investments	4,613	4,599
Accrued investment income	2,340	1,670
Other assets and liabilities, net	(1,089)	(1,543)
Total segregated funds net assets	\$ 400,196	\$ 367,809
Composition of segregated funds net assets		
Held by policyholders	\$ 399,788	\$ 367,436
Held by the Company	408	373
Total segregated funds net assets	\$ 400,196	\$ 367,809

Changes in segregated funds net assets

For the years ended December 31,	2021	2020
Net policyholder cash flow		
Deposits from policyholders	\$ 44,548	\$ 38,898
Net transfers to general fund	(732)	(1,515)
Payments to policyholders	(52,182)	(44,818)
	(8,366)	(7,435)
Investment related		
Interest and dividends	24,092	16,775
Net realized and unrealized investment gains (losses)	21,549	24,514
	45,641	41,289
Other		
Management and administration fees	(4,115)	(3,942)
Impact of changes in foreign exchange rates	(773)	(5,580)
	(4,888)	(9,522)
Net additions (deductions)	32,387	24,332
Segregated funds net assets, beginning of year	367,809	343,477
Segregated funds net assets, end of year	\$ 400,196	\$ 367,809

Segregated funds assets may be exposed to a variety of financial and other risks. These risks are primarily mitigated by investment guidelines that are actively monitored by professional and experienced portfolio advisors. The Company is not exposed to these risks beyond the liabilities related to guarantees associated with certain variable life and annuity products. Accordingly, the Company's exposure to loss from segregated fund products is limited to the value of these guarantees.

These guarantees are recorded within the Company's insurance contract liabilities. Assets supporting these guarantees are recognized in invested assets according to their investment type.

Note 23 Information Provided in Connection with Investments in Deferred Annuity Contracts and Signature Notes Issued or Assumed by John Hancock Life Insurance Company (U.S.A.)

The following condensed consolidated financial information, presented in accordance with IFRS, and the related disclosure have been included in these Consolidated Financial Statements with respect to JHUSA in compliance with Regulation S-X and Rule 12h-5 of the United States Securities and Exchange Commission (the "Commission"). These financial statements are incorporated by reference in the MFC and its subsidiaries registration statements that are described below and which relate to MFC's guarantee of certain securities to be issued by its subsidiaries.

JHUSA maintains a book of deferred annuity contracts that feature a market value adjustment, some of which are registered with the Commission. The deferred annuity contracts may contain variable investment options along with fixed investment period options, or may offer only fixed investment period options. The fixed investment period options enable the participant to invest fixed amounts of money for fixed terms at fixed interest rates, subject to a market value adjustment if the participant desires to terminate a fixed investment period before its maturity date. The annuity contract provides for the market value adjustment to keep the parties whole with respect to the fixed interest bargain for the entire fixed investment period. These fixed investment period options that contain a market value adjustment feature are referred to as "MVAs".

JHUSA may also sell medium-term notes to retail investors under its *SignatureNotes* program.

Effective December 31, 2009, John Hancock Variable Life Insurance Company (the “Variable Company”) and John Hancock Life Insurance Company (the “Life Company”) merged with and into JHUSA. In connection with the mergers, JHUSA assumed the Variable Company’s rights and obligations with respect to the MVAs issued by the Variable Company and the Life Company’s rights and obligations with respect to the *SignatureNotes* issued by the Life Company.

MFC fully and unconditionally guaranteed the payment of JHUSA’s obligations under the MVAs and under the *SignatureNotes* (including the MVAs and *SignatureNotes* assumed by JHUSA in the merger), and such MVAs and the *SignatureNotes* were registered with the Commission. The *SignatureNotes* and MVAs assumed or issued by JHUSA are collectively referred to in this note as the “Guaranteed Securities”. JHUSA is, and each of the Variable Company and the Life Company was, a wholly owned subsidiary of MFC.

MFC’s guarantees of the Guaranteed Securities are unsecured obligations of MFC and are subordinated in right of payment to the prior payment in full of all other obligations of MFC, except for other guarantees or obligations of MFC which by their terms are designated as ranking equally in right of payment with or subordinate to MFC’s guarantees of the Guaranteed Securities.

The laws of the State of New York govern MFC’s guarantees of the *SignatureNotes* issued or assumed by JHUSA and the laws of the Commonwealth of Massachusetts govern MFC’s guarantees of the MVAs issued or assumed by JHUSA. MFC has consented to the jurisdiction of the courts of New York and Massachusetts. However, because a substantial portion of MFC’s assets are located outside the United States, the assets of MFC located in the United States may not be sufficient to satisfy a judgment given by a federal or state court in the United States to enforce the subordinate guarantees. In general, the federal laws of Canada and the laws of the Province of Ontario, where MFC’s principal executive offices are located, permit an action to be brought in Ontario to enforce such a judgment provided that such judgment is subsisting and unsatisfied for a fixed sum of money and not void or voidable in the United States and a Canadian court will render a judgment against MFC in a certain dollar amount, expressed in Canadian dollars, subject to customary qualifications regarding fraud, violations of public policy, laws limiting the enforcement of creditor’s rights and applicable statutes of limitations on judgments. There is currently no public policy in effect in the Province of Ontario that would support avoiding the recognition and enforcement in Ontario of a judgment of a New York or Massachusetts court on MFC’s guarantees of the *SignatureNotes* issued or assumed by JHUSA or a Massachusetts court on guarantees of the MVAs issued or assumed by JHUSA.

MFC is a holding company. MFC’s assets primarily consist of investments in its subsidiaries. MFC’s cash flows primarily consist of dividends and interest payments from its operating subsidiaries, offset by expenses and shareholder dividends and MFC stock repurchases. As a holding company, MFC’s ability to meet its cash requirements, including, but not limited to, paying any amounts due under its guarantees, substantially depends upon dividends from its operating subsidiaries.

These subsidiaries are subject to certain regulatory restrictions under laws in Canada, the United States and certain other countries, which may limit their ability to pay dividends or make contributions or loans to MFC. For example, some of MFC’s subsidiaries are subject to restrictions prescribed by the ICA on their ability to declare and pay dividends. The restrictions related to dividends imposed by the ICA are described in note 12.

In the United States, insurance laws in Michigan, New York, and Massachusetts, the jurisdictions in which certain of MFC’s U.S. insurance company subsidiaries are domiciled, impose general limitations on the payment of dividends and other upstream distributions or loans by these insurance subsidiaries. These limitations are described in note 12.

In Asia, the insurance laws of the jurisdictions in which MFC operates either provide for specific restrictions on the payment of dividends or other distributions or loans by subsidiaries or impose solvency or other financial tests, which could affect the ability of subsidiaries to pay dividends in certain circumstances.

There can be no assurance that any current or future regulatory restrictions in Canada, the United States or Asia will not impair MFC’s ability to meet its cash requirements, including, but not limited to, paying any amounts due under its guarantees.

The following condensed consolidated financial information, presented in accordance with IFRS, reflects the effects of the mergers and is provided in compliance with Regulation S-X and in accordance with Rule 12h-5 of the Commission.

Condensed Consolidated Statement of Financial Position

As at December 31, 2021	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Assets					
Invested assets	\$ 78	\$ 116,705	\$ 310,679	\$ (364)	\$ 427,098
Investments in unconsolidated subsidiaries	68,655	9,107	20,788	(98,550)	-
Reinsurance assets	-	63,838	11,309	(30,568)	44,579
Other assets	211	18,085	49,956	(22,074)	46,178
Segregated funds net assets	-	204,493	197,220	(1,925)	399,788
Total assets	\$ 68,944	\$ 412,228	\$ 589,952	\$ (153,481)	\$ 917,643
Liabilities and equity					
Insurance contract liabilities	\$ -	\$ 166,535	\$ 257,044	\$ (31,304)	\$ 392,275
Investment contract liabilities	-	1,227	1,890	-	3,117
Other liabilities	899	21,806	50,836	(21,809)	51,732
Long-term debt	4,882	-	-	-	4,882
Capital instruments	4,755	579	1,646	-	6,980
Segregated funds net liabilities	-	204,493	197,220	(1,925)	399,788
Shareholders' and other equity holders' equity	58,408	17,588	80,855	(98,443)	58,408
Participating policyholders' equity	-	-	(1,233)	-	(1,233)
Non-controlling interests	-	-	1,694	-	1,694
Total liabilities and equity	\$ 68,944	\$ 412,228	\$ 589,952	\$ (153,481)	\$ 917,643

Condensed Consolidated Statement of Financial Position

As at December 31, 2020	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Assets					
Invested assets	\$ 47	\$ 112,735	\$ 298,524	\$ (329)	\$ 410,977
Investments in unconsolidated subsidiaries	64,209	8,078	17,194	(89,481)	-
Reinsurance assets	-	65,731	11,172	(31,067)	45,836
Other assets	210	25,489	52,648	(22,247)	56,100
Segregated funds net assets	-	191,955	178,224	(2,743)	367,436
Total assets	\$ 64,466	\$ 403,988	\$ 557,762	\$ (145,867)	\$ 880,349
Liabilities and equity					
Insurance contract liabilities	\$ -	\$ 167,453	\$ 249,909	\$ (31,808)	\$ 385,554
Investment contract liabilities	-	1,208	2,081	(1)	3,288
Other liabilities	718	25,594	52,761	(22,001)	57,072
Long-term debt	6,164	-	-	-	6,164
Capital instruments	5,249	584	1,996	-	7,829
Segregated funds net liabilities	-	191,955	178,224	(2,743)	367,436
Shareholders' equity	52,335	17,194	72,120	(89,314)	52,335
Participating policyholders' equity	-	-	(784)	-	(784)
Non-controlling interests	-	-	1,455	-	1,455
Total liabilities and equity	\$ 64,466	\$ 403,988	\$ 557,762	\$ (145,867)	\$ 880,349

Condensed Consolidated Statement of Income

For the year ended December 31, 2021	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Revenue					
Gross premiums	\$ -	\$ 7,782	\$37,563	\$ (1,001)	\$ 44,344
Premiums ceded to reinsurers	-	(3,243)	(3,031)	995	(5,279)
Net premium income	-	4,539	34,532	(6)	39,065
Net investment income (loss)	530	3,779	8,440	(1,125)	11,624
Other revenue	33	2,042	9,605	(548)	11,132
Total revenue	563	10,360	52,577	(1,679)	61,821
Contract benefits and expenses					
Net benefits and claims	-	6,478	28,467	877	35,822
Commissions, investment and general expenses	12	3,451	14,419	(1,436)	16,446
Other expenses	390	212	1,946	(1,120)	1,428
Total contract benefits and expenses	402	10,141	44,832	(1,679)	53,696
Income (loss) before income taxes	161	219	7,745	-	8,125
Income tax (expense) recovery	(28)	115	(1,300)	-	(1,213)
Income (loss) after income taxes	133	334	6,445	-	6,912
Equity in net income (loss) of unconsolidated subsidiaries	6,972	1,218	1,552	(9,742)	-
Net income (loss)	\$ 7,105	\$ 1,552	\$ 7,997	\$ (9,742)	\$ 6,912
Net income (loss) attributed to:					
Non-controlling interests	\$ -	\$ -	\$ 255	\$ -	\$ 255
Participating policyholders	-	(4)	(448)	4	(448)
Shareholders and other equity holders	7,105	1,556	8,190	(9,746)	7,105
	\$ 7,105	\$ 1,552	\$ 7,997	\$ (9,742)	\$ 6,912

Condensed Consolidated Statement of Income

For the year ended December 31, 2020	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Revenue					
Gross premiums	\$ -	\$ 8,057	\$ 34,459	\$ (1,108)	\$ 41,408
Premiums ceded to reinsurers	-	(6,585)	(3,014)	1,108	(8,491)
Net premium income	-	1,472	31,445	-	32,917
Net investment income (loss)	542	14,204	21,727	(1,073)	35,400
Other revenue	5	2,869	12,884	(5,167)	10,591
Total revenue	547	18,545	66,056	(6,240)	78,908
Contract benefits and expenses					
Net benefits and claims	-	14,804	44,293	(3,862)	55,235
Commissions, investment and general expenses	17	3,146	13,573	(1,396)	15,340
Other expenses	434	230	1,880	(982)	1,562
Total contract benefits and expenses	451	18,180	59,746	(6,240)	72,137
Income (loss) before income taxes	96	365	6,310	-	6,771
Income tax (expense) recovery	(26)	54	(1,223)	-	(1,195)
Income (loss) after income taxes	70	419	5,087	-	5,576
Equity in net income (loss) of unconsolidated subsidiaries	5,801	1,344	1,763	(8,908)	-
Net income (loss)	\$ 5,871	\$ 1,763	\$ 6,850	\$ (8,908)	\$ 5,576
Net income (loss) attributed to:					
Non-controlling interests	\$ -	\$ -	\$ 250	\$ -	\$ 250
Participating policyholders	-	-	(545)	-	(545)
Shareholders	5,871	1,763	7,145	(8,908)	5,871
	\$ 5,871	\$ 1,763	\$ 6,850	\$ (8,908)	\$ 5,576

Consolidated Statement of Cash Flows

For the year ended December 31, 2021	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Operating activities					
Net income (loss)	\$ 7,105	\$ 1,552	\$ 7,997	\$ (9,742)	\$ 6,912
Adjustments:					
Equity in net income of unconsolidated subsidiaries	(6,972)	(1,218)	(1,552)	9,742	-
Increase (decrease) in insurance contract liabilities	-	(562)	11,281	-	10,719
Increase (decrease) in investment contract liabilities	-	50	(6)	-	44
(Increase) decrease in reinsurance assets excluding coinsurance transactions	-	1,544	(790)	-	754
Amortization of (premium) discount on invested assets	-	57	124	-	181
Other amortization	16	124	389	-	529
Net realized and unrealized (gains) losses and impairment on assets	62	1,533	3,229	-	4,824
Deferred income tax expense (recovery)	34	190	(351)	-	(127)
Stock option expense	-	(2)	11	-	9
Cash provided by (used in) operating activities before undernoted items	245	3,268	20,332	-	23,845
Dividends from unconsolidated subsidiary	5,000	489	742	(6,231)	-
Changes in policy related and operating receivables and payables	(22)	424	(1,092)	-	(690)
Cash provided by (used in) operating activities	5,223	4,181	19,982	(6,231)	23,155
Investing activities					
Purchases and mortgage advances	-	(31,746)	(89,219)	-	(120,965)
Disposals and repayments	-	27,194	69,534	-	96,728
Changes in investment broker net receivables and payables	-	(202)	16	-	(186)
Investment in common shares of subsidiaries	(3,700)	-	-	3,700	-
Net cash flows from acquisition and disposal of subsidiaries and businesses	-	-	(19)	-	(19)
Capital contribution to unconsolidated subsidiaries	-	(1)	-	1	-
Return of capital from unconsolidated subsidiaries	-	1	-	(1)	-
Notes receivable from parent	-	-	(129)	129	-
Notes receivable from subsidiaries	(13)	-	-	13	-
Cash provided by (used in) investing activities	(3,713)	(4,754)	(19,817)	3,842	(24,442)
Financing activities					
Redemption of long-term debt	(1,250)	-	-	-	(1,250)
Redemption of capital instruments	(468)	-	(350)	-	(818)
Secured borrowings	-	-	26	-	26
Change in repurchase agreements and securities sold but not yet purchased	-	-	186	-	186
Changes in deposits from Bank clients, net	-	-	(164)	-	(164)
Lease payments	-	(7)	(117)	-	(124)
Shareholders' dividends and other equity distributions	(2,500)	-	-	-	(2,500)
Common shares issued, net	51	-	3,700	(3,700)	51
Preferred shares and other equity issued, net	3,171	-	-	-	3,171
Preferred shares redeemed, net	(612)	-	-	-	(612)
Contributions from (distributions to) non-controlling interests, net	-	-	(13)	-	(13)
Dividends paid to parent	-	(742)	(5,489)	6,231	-
Capital contributions by parent	-	-	1	(1)	-
Return of capital to parent	-	-	(1)	1	-
Notes payable to parent	-	-	13	(13)	-
Notes payable to subsidiaries	129	-	-	(129)	-
Cash provided by (used in) financing activities	(1,479)	(749)	(2,208)	2,389	(2,047)
Cash and short-term securities					
Increase (decrease) during the year	31	(1,322)	(2,043)	-	(3,334)
Effect of foreign exchange rate changes on cash and short-term securities	-	(20)	(299)	-	(319)
Balance, beginning of year	47	4,907	20,629	-	25,583
Balance, end of year	78	3,565	18,287	-	21,930
Cash and short-term securities					
Beginning of year					
Gross cash and short-term securities	47	5,213	20,907	-	26,167
Net payments in transit, included in other liabilities	-	(306)	(278)	-	(584)
Net cash and short-term securities, beginning of year	47	4,907	20,629	-	25,583
End of year					
Gross cash and short-term securities	78	4,087	18,429	-	22,594
Net payments in transit, included in other liabilities	-	(522)	(142)	-	(664)
Net cash and short-term securities, end of year	\$ 78	\$ 3,565	\$ 18,287	\$ -	\$ 21,930
Supplemental disclosures on cash flow information:					
Interest received	\$ 499	\$ 4,112	\$ 7,847	\$ (1,082)	\$ 11,376
Interest paid	396	73	1,594	(1,082)	981
Income taxes paid (refund)	-	(118)	689	-	571

Consolidated Statement of Cash Flows

For the year ended December 31, 2020	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Operating activities					
Net income (loss)	\$ 5,871	\$ 1,763	\$ 6,850	\$ (8,908)	\$ 5,576
Adjustments:					
Equity in net income of unconsolidated subsidiaries	(5,801)	(1,344)	(1,763)	8,908	-
Increase (decrease) in insurance contract liabilities	-	11,937	25,045	-	36,982
Increase (decrease) in investment contract liabilities	-	48	130	-	178
(Increase) decrease in reinsurance assets excluding coinsurance transactions	-	(3,133)	759	-	(2,374)
Amortization of (premium) discount on invested assets	-	54	100	-	154
Other amortization	7	145	504	-	656
Net realized and unrealized (gains) losses and impairment on assets	1	(9,420)	(13,102)	-	(22,521)
Deferred income tax expense (recovery)	25	(784)	1,039	-	280
Stock option expense	-	3	11	-	14
Cash provided by (used in) operating activities before undernoted items	103	(731)	19,573	-	18,945
Dividends from unconsolidated subsidiary	3,000	411	1,270	(4,681)	-
Changes in policy related and operating receivables and payables	91	8,459	(7,447)	-	1,103
Cash provided by (used in) operating activities	3,194	8,139	13,396	(4,681)	20,048
Investing activities					
Purchases and mortgage advances	-	(34,392)	(77,589)	-	(111,981)
Disposals and repayments	-	29,635	69,215	-	98,850
Changes in investment broker net receivables and payables	-	(431)	(586)	-	(1,017)
Investment in common shares of subsidiaries	(4,483)	-	-	4,483	-
Capital contribution to unconsolidated subsidiaries	-	(1)	-	1	-
Return of capital from unconsolidated subsidiaries	-	22	-	(22)	-
Notes receivable from parent	-	-	1,501	(1,501)	-
Notes receivable from subsidiaries	1,494	-	-	(1,494)	-
Cash provided by (used in) investing activities	(2,989)	(5,167)	(7,459)	1,467	(14,148)
Financing activities					
Issue of long-term debt, net	2,455	-	-	-	2,455
Redemption of long-term debt	(652)	-	-	-	(652)
Issue of capital instruments, net	1,990	-	-	-	1,990
Redemption of capital instruments	-	-	(1,250)	-	(1,250)
Secured borrowings	-	709	667	-	1,376
Change in repurchase agreements and securities sold but not yet purchased	-	-	24	-	24
Changes in deposits from Bank clients, net	-	-	(579)	-	(579)
Lease payments	-	(9)	(125)	-	(134)
Shareholders' dividends paid in cash	(2,340)	-	-	-	(2,340)
Contributions from (distributions to) non-controlling interests, net	-	-	(10)	-	(10)
Common shares repurchased	(253)	-	-	-	(253)
Common shares issued, net	36	-	4,483	(4,483)	36
Dividends paid to parent	-	(1,270)	(3,411)	4,681	-
Capital contributions by parent	-	-	1	(1)	-
Return of capital to parent	-	-	(22)	22	-
Notes payable to parent	-	-	(1,494)	1,494	-
Notes payable to subsidiaries	(1,501)	-	-	1,501	-
Cash provided by (used in) financing activities	(265)	(570)	(1,716)	3,214	663
Cash and short-term securities					
Increase (decrease) during the year	(60)	2,402	4,221	-	6,563
Effect of foreign exchange rate changes on cash and short-term securities	85	(59)	(554)	-	(528)
Balance, beginning of year	22	2,564	16,962	-	19,548
Balance, end of year	47	4,907	20,629	-	25,583
Cash and short-term securities					
Beginning of year					
Gross cash and short-term securities	22	3,058	17,220	-	20,300
Net payments in transit, included in other liabilities	-	(494)	(258)	-	(752)
Net cash and short-term securities, beginning of year	22	2,564	16,962	-	19,548
End of year					
Gross cash and short-term securities	47	5,213	20,907	-	26,167
Net payments in transit, included in other liabilities	-	(306)	(278)	-	(584)
Net cash and short-term securities, end of year	\$ 47	\$ 4,907	\$ 20,629	\$ -	\$ 25,583
Supplemental disclosures on cash flow information:					
Interest received	\$ 522	\$ 4,334	\$ 7,992	\$ (1,112)	\$ 11,736
Interest paid	426	109	1,765	(1,112)	1,188
Income taxes paid (refund)	(2)	721	639	-	1,358

Note 24 Comparatives

Certain comparative amounts have been reclassified to conform to the current year’s presentation.